

# ENCOURAGING GENDER BALANCE: A SURVEY OF EUROPEAN ART MUSEUM WEBSITES

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**Abstract – A previous survey by Moss and Gunn has investigated gender imbalance in UK university websites. In this paper, we use the same criteria for thirty art museum websites in each of four Europe major countries, namely France, Italy, Spain and the United Kingdom. We present the most important results in graphical form. It seems that in general the gender bias is less in countries with a greater proportion of female Internet users. For the future, it would be interesting to extend this survey to further countries and other types of museum.**

## INTRODUCTION

At the *Museums and the Web* 2005 conference, a professional forum for open discussion was held on museum websites and gender issues [1]. Subsequently the general field of gender issues and HCI (Human-Computer Interfaces) has been surveyed [2]. In addition, a survey of UK university websites has been undertaken with respect to their aesthetics from the point of view of male and female users [13]. Here we combine these efforts to survey art museum websites using the same criteria as was previously used for UK university websites across a number of European countries, namely Italy, Spain, France and the United Kingdom. The set of criteria covers navigational issues (e.g., consistency, content), language, visual aspects and themes. This survey will help to judge whether there is a gender bias in general for art museum websites and if there is significant variation between different countries.

As the World Wide Web increases in size [5] and rate of expansion [17], and as men and women attain parity in terms of web usage [7], it becomes critical to examine these issues. Research in the US [7] revealed that similar proportions of men and women use the web, while UK usage revealed female usage to be equivalent to 42% of those online. The criticality of this examination is enhanced by an understanding of the criticality of non-price methods of differentiation such as visuals. Recent work in this field has laid bare the importance of perceived visual attractiveness and its influence on the perceptions of the usefulness, enjoyment and ease-of-use of a particular site [18] as well the satisfaction derived from the use of the site [17].

For the future, the data collected in this survey via the web could be correlated with information obtained by surveying personnel at the museums concerned. For example, it could be possible to discover the gender balance of actual museum visitors and web visitors for some of the museums. In addition, information on the gender balance and understanding of the web developers could be assessed.

## WORLD WIDE WEB

The World Wide Web is estimated to double in size roughly every two to three months [5] with Internet web usage growing at a rate of 20% per year [17]. The Computer Industry Almanac estimates that the Internet user population reached 934 million people worldwide in 2004 and is likely to increase to 1.35 billion in 2007 [3]. It has powerful role to play in product promotion, sales and distribution [10]. Further advantages include facilitation of customer retention [17].

In terms of customer profiles, recent surveys reveal both men and women to be important users of the web. In the US similar proportions of men and women are said to be using the web [7], with women accounting for about 51% of the total online adult population. European usage revealed female usage of the web to be an average of 38% [7] with usage at 42% in the UK. This average is higher in Sweden (at 46%) but lower in Germany and France (at 39%), Italy (31%) and Spain (29%).

Achieving marketing objectives relies on informing, persuading and reminding users as well as sustaining traffic, e.g., attracting the casual surfer to linger [16] and to revisit the site [6]. Given the competition for the user's attention as well as the shift to consumer-controlled interaction, it is important to understand the factors that might lead users to stay or move away from a site.

Perceived visual attractiveness and content of the website can influence perceptions as to the site's usefulness, enjoyment, ease-of-use [18] and satisfaction [17]. Relevant factors are likely to relate to technical issues (e.g., speed of loading), content [6] or form [8][16]. Where the visual element is concerned, graphics is listed as one of ten factors causing dissatisfaction with users in the USA and the Netherlands [17] leading Human Computer Interaction (HCI) specialists to attempt to understand the elements (visual and content) in web design that are valued and those that currently produce a deficit between expectations and experience.

Unfortunately, quantitatively rigorous studies of web aesthetics [8][16][18] have been rooted in the universalist position and have consequently failed to test for an interactionist effect. By contrast, many of the studies conducted in the interactionist paradigm [4][9][11][15] have some serious methodological flaws. A recent study (Moss, Gunn and Heller, in press) appears to overcome many of the limitations of previous studies insofar as it compares normal sample sizes of male and female-produced websites, rating these systematically against 23 characteristics. Of these, 14 showed evidence of statistically significant differences between the male and female websites. Subsequent studies by some of these authors, analysing the production aesthetic of websites from a variety of industries, targeting audiences consisting either largely of men or women or a mixture of the two, revealed that the majority of websites were produced using a male production aesthetic [13][14]. The question as to where on the male and female aesthetic continuum museum websites lie is the object of the research reported here.

The focus in this article is on art museums. The sample studied includes museums from the UK and continental Europe (France, Italy and Spain). These countries were selected on the basis that the average web usage of women in these countries shows stepwise declines, with average female usage highest in the UK (at 42%), followed by France (at 39%), Italy (31%) and Spain (29%). Assuming museum websites to be optimally designed (i.e., designed according to the mirroring principle) and targeted at an average cross-section of web-users, one might expect that the museum websites in the UK would, given the relatively high proportion of women as web users in that country, show the most significant manifestations of a female aesthetic. A less significant manifestation of the female aesthetic could be expected from France, Italy or Spain, given the lower proportion of women as web users in those countries.

## **METHODOLOGY**

A normal sample of art museum websites (thirty) were selected from each of France, Italy, Spain and the UK. These sites were rated against the fourteen features that emerged as significant in the earlier study of UK male and female-produced websites (Moss, Gunn and Heller, in press). Those carrying out the rating were all trained in the application of the rating system and were all fluent in the relevant languages of the target websites. Care was taken to ensure that the websites selected were directly associated with the museums concerned, and not simply one of a series of websites produced by a larger unit, say a municipality. Museum websites that fell into this category were discounted, since they could not be said to be wholly representative of the museum concerned.

A number of tests were applied to the data obtained after rating the websites. In order to determine the significant differences that existed between the variables under consideration, a one way ANOVA test was employed. Where there were more than two categories in the variables, the Scheffe post hoc test was employed to determine the country that was using the variable under consideration most frequently. The mean values for the variables were calculated for each country. In addition to the monitoring of individual variables by country, an overall 'gender bias coefficient' was calculated for the Museum websites of each country. This provided an objective measure as to whether an HEI home page would be deemed to be feminine-oriented, masculine-oriented, or neutral. In order to estimate the female orientation, the number of female factors was divided by the total number of male and female factors. To estimate the male orientation, the same calculation was carried out, using this time the number of male factors for each website. The neutral factors were excluded on the basis that only those factors based upon gender are likely to influence our judgment.

## **RESULTS**

In terms of the 'gender bias coefficient' the results indicate that the average male aesthetic coefficient across the four countries is 66.9%. This shows that, overall, the websites project an aesthetic that is close to the masculine end of the male production aesthetic continuum than it is to a female production aesthetic continuum. The extent to which this is the case varies by country. This for the UK, the figure is 62.2%, for Spain 57.4%, for Italy 72.5% and for France 75.5%. These results reveal the UK and Spain to have lower male web production aesthetic coefficients than Italy or France.

The extent to which the UK or Spain are set apart from Italy and France is apparent from data showing the mean values for the variables displayed for each country. When displayed graphically (as in figures 1–6 on the next two pages) they provide an easy to view measure of where the mean value of one country compares to that of the other.

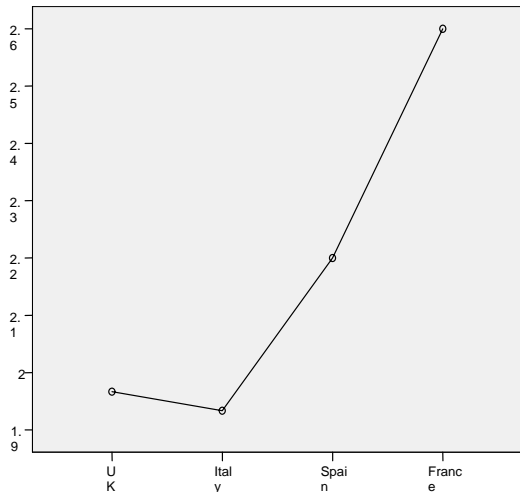


Figure 1: Number of separate subjects to which the website is linked (with the low numbers on the vertical axis corresponding to high numbers of subject links, a trait that is associated more with the male than female aesthetic).

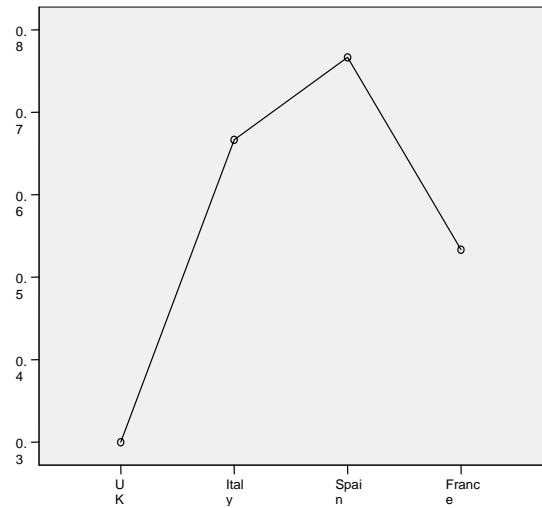


Figure 3: Whether a crest used, with a number approaching 0 showing the use of a crest (a trait more associated with the male than female aesthetic).

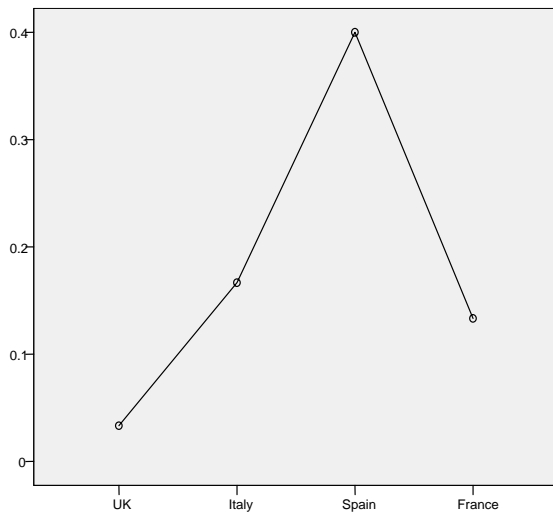


Figure 2: Amount of expert language used, with a low number indicating a low use of expert language (a trait more associated with the female than male aesthetic).

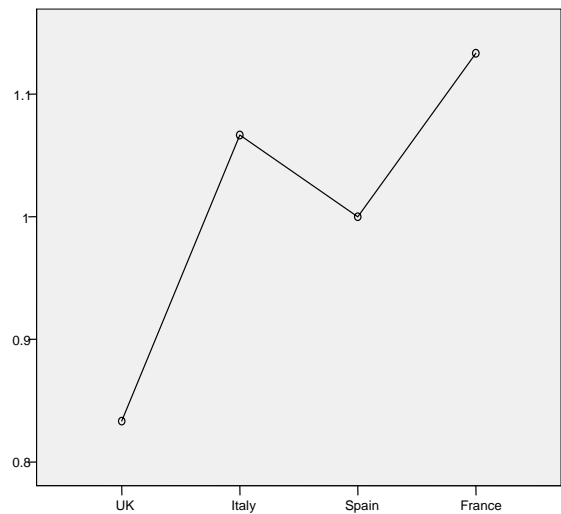


Figure 4: Type of shapes used, with a number up to 1 indicating a tendency to straight lines (a trait more associated with the male than female aesthetic).

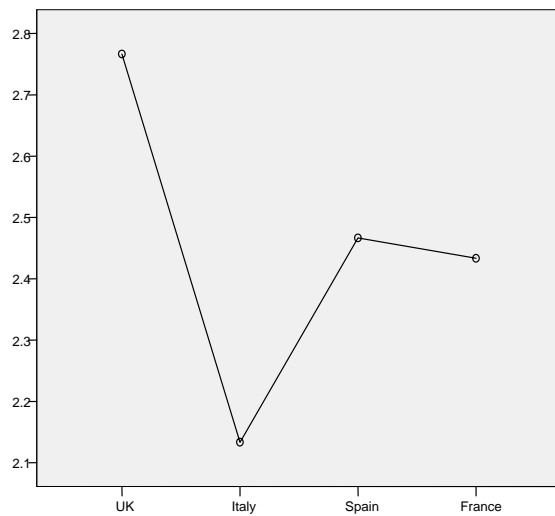


Figure 5: Number of typeface colours used, with a higher number indicating a greater number of typeface colours (a trait more associated with the female than male aesthetic).

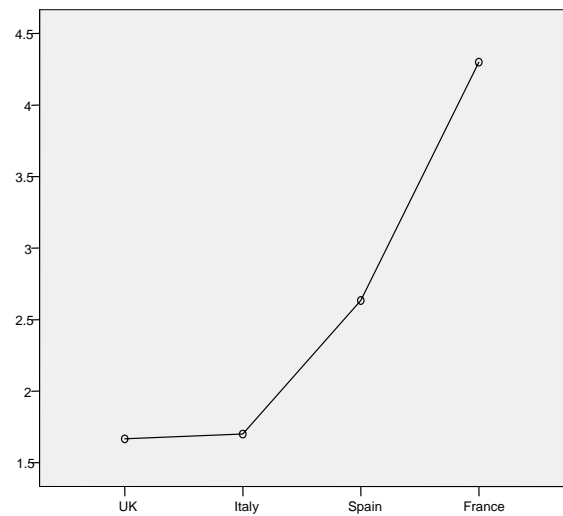


Figure 6: Extent of formality or informality in the images, with increasing values denoting increasing degrees of informality, and values above 3 denoting a mixture of formal and informal values (informality being a trait more associated with the female than male aesthetic).

## CONCLUSION AND FUTURE WORK

The results show that the museums websites across the four countries of Europe are more likely, on balance, to display elements of a male web aesthetic than of a female. This is a question of degree however, and the UK and Spain have the lowest relative use of the male design aesthetic, and Italy and France the highest. The results for three of these countries (the UK, Italy and France) are in line with our hypotheses concerning the nature of the aesthetic in these countries' websites given the relative usage of the Internet there by men and women. The results for Spain are anomalous in this respect however since they show the lowest male web production coefficient results (57.4%), all the while coming from a country where female Internet usage is, according to figures from 2002 [7], the lowest of the four countries represented here (29%). However, it is possible that Spain has a relatively high percentage of women in the cultural field since women are more accepted in this area compared to others, and this make have an effect on the design of Spanish museum websites.

It would be interesting to establish the extent to which the market (online and offline) for art museums, by gender, corresponds with the average usage of the Internet by country, and to find updated figures for Internet usage in the countries represented in the above countries. If figures for the gender balance of museum professionals and web designers could be obtained for the countries covered, this could make an interesting comparison. It would also be worthwhile to compare similar samples of science museum websites and establish whether the balance of the aesthetic displayed there is similar to that displayed in the websites of art museums.

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