European Highly Cited Scientists’ Presence in the Social Web

Amalia Mas-Bleda1, Mike Thelwall2, Kayvan Kousha3 and Isidro F. Aguillo4

1 amalia.mas@cchs.csic.es
Spanish National Research Council (CSIC), Institute of Public Goods and Policies, The Cybermetrics Lab, C/Albasanz 6-28, 28037, Madrid (Spain)

2 M.Thelwall@wlv.ac.uk
University of Wolverhampton, School of Technology, Statistical Cybermetrics Research Group, Wulfruna Street, WV1 1LY, Wolverhampton (United Kingdom)

3 K.Kousha@wlv.ac.uk
University of Wolverhampton, School of Technology, Statistical Cybermetrics Research Group, Wulfruna Street, WV1 1LY, Wolverhampton (United Kingdom)

4 isidro.aguillo@cchs.csic.es
Spanish National Research Council (CSIC), Institute of Public Goods and Policies, The Cybermetrics Lab, C/Albasanz 6-28, 28037, Madrid (Spain)

Introduction

The web has given academics new ways to collect and disseminate the scholarly information (Chen et al. 2009; Pitzek 2002) and they have taken advantage of this in many different ways (Barjak, 2006, Mas-Bleda & Aguillo, in press; Mas-Bleda et al, in press). Scientists’ web presences have also been investigated to some extent, often through personal websites (Barjak, Li & Thelwall, 2007). A survey of UK academics found these people willing to try free new social web sites but did not ask about specific services (Procter et al., 2010) and another survey confirmed that most were positive about social web initiatives (Ponte & Simon, 2011). Another study of a convenience sample survey found that academics using one type of social media site were more likely to also use another, and that younger researchers were a little more likely to use the social web than older researchers (Nicholas & Rowlands, 2011). It is unclear, however, how wide the scholarly uptake of web tools is, which ones are used, and whether they are popular amongst the senior and most influential researchers.

Research questions

The objective of this work is to identify if an influential group of researchers, highly cited scientists working at European institutions, have different types of web presences: personal websites and research group websites as well as profiles in Google Scholar, Microsoft Academic Search (MAS), Mendeley, Academia.edu and LinkedIn. The questions guiding the research are:
- What proportion of European Highly Cited (EHC) scientists have these web presences?
- Are there differences among disciplines?
- Are younger scientists more likely to have each kind of web presence?

Method

EHC scientists were identified using the online directory of highly cited researchers and the previous version of this database, both created by ISI/Thomson Reuters (www.highlycited.com/). Only 5% were women, so Microsoft Academic Search was used to increase this percentage. A total of 1,583 EHC researchers were identified. Deceased researchers were removed to give a final population of 1,517 scientists, 1,360 (90%) men and 157 (10%) women. The scientists were then grouped into five broad disciplines: engineering, physical sciences (in which maths is included), health sciences, life sciences and social sciences. These data were taken from a previous study (Mas-Bleda et al, in press) and then updated. Finally, the web presences of the scientists were manually searched for between Nov. 2012 and March 2013.

Results

Table 1 shows the proportion of living researchers with different web presences for each discipline. Overall, this group of scientists had a low web presence, except for personal websites and for Microsoft Academic Search. Perhaps the most surprising result was the very low use of Academia, especially for researchers from hard sciences, health sciences, life sciences and social sciences. Concerning disciplines, social scientists had the most personal websites (83%), but fewest research group websites (1%), suggesting a lack of cooperation among researchers in this discipline. This group also had the largest proportion of Google Scholar profiles. Independent samples median tests were conducted to see if the average age of the scientists having a web presence differed from the average age of the scientists not having a web presence. EHC
researchers with a personal website or a profile in Google Scholar or LinkedIn, tended to be younger than those who did not (Sig. 0.000 for the first two and Sig. 0.006 for LinkedIn). The difference in medians was not large, however, at only three years in most cases except for personal websites (6 years) and Google Scholar profiles (6 years).

Table 1. Percentage of EHC scientists with different web presences for each discipline.

<table>
<thead>
<tr>
<th>Web presences</th>
<th>Discipline</th>
<th>Eng. (n=241)</th>
<th>Physical (n=353)</th>
<th>Health (n=435)</th>
<th>Life (n=413)</th>
<th>Soc. (n=75)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal website</td>
<td></td>
<td>78.0%</td>
<td>76.5%</td>
<td>53.6%</td>
<td>52.5%</td>
<td>82.7%</td>
</tr>
<tr>
<td>Res. group website</td>
<td></td>
<td>12.4%</td>
<td>14.7%</td>
<td>18.2%</td>
<td>22.0%</td>
<td>1.3%</td>
</tr>
<tr>
<td>G. Scholar</td>
<td></td>
<td>15.4%</td>
<td>8.8%</td>
<td>6.4%</td>
<td>7.0%</td>
<td>24.0%</td>
</tr>
<tr>
<td>MAS</td>
<td></td>
<td>99.2%</td>
<td>99.2%</td>
<td>98.4%</td>
<td>98.5%</td>
<td>97.3%</td>
</tr>
<tr>
<td>Mendeley</td>
<td></td>
<td>6.2%</td>
<td>4.2%</td>
<td>6.0%</td>
<td>7.7%</td>
<td>8.0%</td>
</tr>
<tr>
<td>Academia</td>
<td></td>
<td>4.1%</td>
<td>0.6%</td>
<td>0.7%</td>
<td>0.7%</td>
<td>5.3%</td>
</tr>
<tr>
<td>Linkedin</td>
<td></td>
<td>27.0%</td>
<td>18.4%</td>
<td>29.0%</td>
<td>19.6%</td>
<td>25.3%</td>
</tr>
</tbody>
</table>

Chi-square tests were also conducted to for significant differences between types of web presence for each discipline. In engineering, researchers with profiles in LinkedIn also tended to have personal website and profile in Google Scholar and Academia (p < 0.05), and those with profiles in Google Scholar also tended to have profiles in Mendeley and LinkedIn. In the physical sciences, researchers with Google Scholar profiles also tended to have personal websites and profile in Mendeley. In health sciences, researchers with personal websites tended to also have Google Scholar and LinkedIn profiles. In life sciences, researchers with profiles in Mendeley also tended to have profiles in Google Scholar and LinkedIn. In social sciences, researchers with profiles in Google Scholar also tended to have profiles in Academia and LinkedIn.

Conclusions

The results show that EHC scientists tend to have personal websites (created by themselves or by their institution) and Microsoft Academic Search profiles (created by Microsoft), but few have created a profile in any of the other academic sites investigated. Perhaps surprisingly, the only non-academic site in the list, LinkedIn, was the most popular social web site. Nevertheless, this presence is much less widespread than it found in a previous study (Bar-Ilan et al, 2012).

Unsurprisingly, however, there were disciplinary differences in the most popular types of site used and younger researchers were more likely to have a presence than older researchers in most types of site. Finally, researchers having one type of profile were more likely to have another in many cases, suggesting that scientists tend not to restrict themselves to just one type of social web presence, if they choose to create one at all.

Acknowledgments

This work is supported by ACUMEN (Academic Careers Understood through Measurement and Norms) project, grant agreement number 266632, under the Seventh Framework Program of the EU.

References


Mas-Bleda, A. & Aguillo. (in press). Can a personal website be useful as an information source to assess individual scientists? The case of European highly cited researchers. *Scientometrics*.


