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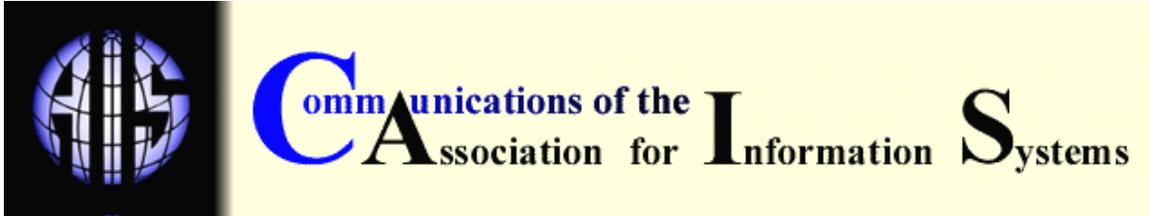Follow this and additional works at: https://aisel.aisnet.org/cais

PERCEPTIONS OF GENDER BALANCE OF IS JOURNAL EDITORIAL POSITIONS

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ABSTRACT

An analysis of 18,854 editorial positions on IS journals was undertaken to examine the perceived gender balance of those positions as an indication of their contribution towards a positive role model for females considering an IS academic career. The nature and extent of perceived gender balance is examined in terms of overall composition of editorial positions, journal prestige and the specific area within IS covered by a journal. The results indicate that perceived gender balance of editorial positions reflects that of ICT academia generally, and that female representation appears to be concentrated in journals covering areas that are traditionally seen as female occupations, e.g., health, education, librarianship. As such, little or no encouragement is given to females considering an IS academic career.

Keywords: statistical analysis, gender, diversity, journals, editorial positions

I. INTRODUCTION

The motivation for this work was the ongoing concern over the lack of female involvement in the ICT sector. This was highlighted in Tracy Camp's seminal[1] work "The Incredible Shrinking Pipeline" [Camp 1997].

One factor influencing female participation might be the conspicuous existence of successful females in the sector, acting as role models. Attitudes and expectations are often influenced by the way reality is perceived. If females presently employed in ICT are perceived as successful, then that should attract new female entrants to the sector. A converse perception would discourage new female entrants.

Research literature in this area mentions the scarcity of role models and perceptions about what it is like to be an IT worker [e.g., Freeman and Aspray 1999] and the need for role models or mentors that are both male and female [e.g., Verbick 2002]. One study reported that "… many responses indicated the strong impact that role models or mentors played in the participants' lives" [Smith 2000]. Presence of role models has also been noted as a significant factor in women choosing an IT career [Maser 2006]. Cahoon and Aspray [2006] also mention the importance of role models as a positive and negative influence. A role comprising incessant work and no time

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[1] A term, which in itself, is evidence of the gender-based ontological commitments in our society.

for a personal life would be an unacceptable role model, whereas conspicuous success would be an acceptable role model.

Within academia, success is often measured by a person's research profile. A highly visible surrogate for this measure is appointment to editorial positions. This line of thought led me to consider how a person looking at the occupants of IS journal editorial positions would perceive gender balance in that sector. Gender balance in IS editorial positions has attracted little attention, compared to gender based analyses of IS publication rates.

Some investigation has been done on gender and editorial positions in law [McBrier 2003], sociolinguistics and linguistic anthropology [McElhinny et al. 2003], sociology [Grant and Ward 1991; ASA 2004] and psychology [Over 1981; Boice et al. 1985; and White 1985]. The emphasis of these investigations has been on editors as gatekeepers or the role of such positions in reputation building, rather than an examination of role models.

This paper examines how the gender balance of IS journal editorial positions could be perceived to be constituted, i.e., how would gender balance be perceived by inspection of names of occupants of IS journal editorial positions?

II. METHODOLOGY

This is a study of perceived gender balance. It is important to note this at the outset, because the scope of the study, 18,854 positions on 453 IS journals may, incorrectly, lead the reader to think that it is simply a statistical survey. The fundamental issue being addressed by this paper is how would gender balance be perceived by inspection of names of occupants of IS journal editorial positions? This question is further refined into three sub-questions:

i)   How would the overall gender balance on IS journals be perceived?

ii)   Is there any relationship between the prestige of a journal and the perceived gender balance of its editorial board?

iii)   Is the perceived gender balance of editorial boards evenly distributed over research areas within IS?

A benchmark on the gender balance of IS academia was sought, against which the gender balance of IS journal editorial positions could be compared. A listing of current IS journals and the URLs for their web sites was obtained from the *Index of Information Systems Journals* [Lamp 2004]. Using this data, the journal web sites were accessed during July 2006, and the pages containing editorial positions were printed. Each printout was examined and the names colour coded and tabulated according to gender.

The question of overall gender balance was approached in two ways. Firstly a breakdown was made of the number of editors, associate editors and editorial board members of each gender. Secondly, the number of journals with males only or females only at the editor level was recorded.

Two measures of journal prestige were used to examine any relationship between journal prestige and perceived gender balance: continuity of publication, and inclusion in the *Master Journal List*. Continuity of publication is a widely regarded measure of achievement. The perceived gender balance of a journal's current editorial board was compared with its year of first publication. Inclusion in the Thomson-ISI *Master Journal List* [Thomson-ISI 2007] is also regarded as a significant achievement. The various citation indices and journal impact factors calculated by Thomson-ISI are derived from the publishing history of journals on their *Master Journal List*. The perceived gender balance of journals on this list was compared with that of all IS journals.

Thirdly, IS journals which were perceived to have no female representation were identified, as were IS journals perceived to have no male representation. The areas within the IS discipline which these journals covered were then compared.

III. DATA COLLECTION

While overall statistics on the gender balance of IS academia could not be found, a number of different measures [ABS[2] 2006; CRA[3] 2006; Carrington and Pratt; 2003] were located that looked at similar cohorts (Table 1).

An initial data extraction from the *Index of Information Systems Journals* gave data on 537 journals, of which 493 journals displayed editorial position information on their web site (See Table 2 following). Forty journals had no gender identifiable positions. The remaining 453 journals had 18,854 gender identifiable positions. This data set was used to examine the overall gender balance. For comparison between journals, the dataset was further refined to limit inclusion to journals with ten or more gender identifiable positions, in order to reduce the influence of outliers.

Table 1. Measures of Gender Balance in the ICT Area

Survey	Country	Year	Males	Females
ABS Labour Market	Aust	2006	85%	15%
CRA (inc CS[4])	USA	2004-5	85%	15%
Carrington & Pratt All Academics	Aust	2002	62%	38%
Carrington & Pratt Post Grad IT	Aust	2002	76%	24%

Table 2. Summary of Data Extraction

537	journals extracted
-44	journals with no editorial information
493	journals with editorial information
-40	journals with no gender identifiable positions
453	journals with 18,854 gender identifiable positions
-104	journals with less than 10 gender identifiable positions
349	Journals with 14,843 gender identifiable positions

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[2] Australian Bureau of Statistics

[3] Computing Research Association

[4] Computer Science

Two problems were immediately encountered: the variation in the organisation of journal editorial positions; and the number of positions where it was not possible to perceive the gender of the occupant.

The organisational structure of editorial positions reported by journal web sites differed, as did the nomenclature employed to describe the positions. Most journals seemed to use a three-level structure which, for the purposes of this study, I named and defined as follows:

- **Editors** – The senior decision making level. 474 journals had five or less people at this level. Ten journals simply reported the existence of an editorial board and did not identify an editor. *Lecture Notes in Computer Science* reported the highest number of editors at fourteen.
- **Associate Editors** – An identifiable group of lesser rank than editor, but a greater rank than that of an editorial board. Often responsible for a specific topic or geographic area. 166 journals did not report this intermediate level. 324 journals had a group of less than 30 people at this level. Two journals identified over 40 people as associate editors, however, neither of those journals had an editorial board.
- **Editorial Board Members** – An identifiable group of lesser rank than associate editors. Sixty-eight journals did not report an editorial board. membership of editorial boards varied from four to 240 people, with 410 journals reporting an editorial board of less than 100 persons.

It was not always possible to identify the gender of a person named in the journal Web pages for three reasons:

- **Initials only recorded** – a number of journals, including most journals published by Elsevier, did not provide full names of editorial people.

- **Inherent gender ambiguity** – names such as Jean, Chris and Dale could equally be applied to males or females.

- **My ethnic inadequacy** – my lack of universal knowledge of personal names also contributed to being unable to identify a number of names as being associated with males or females.

The first two limitations would apply to anyone undertaking this study. The third limitation would probably impact on most people replicating this study. The actual set of indeterminate names would vary from person to person, but the overall number of such names may not vary significantly between researchers.

IV. DATA ANALYSIS

PERCEPTION OF GENDER BALANCE OVER ALL JOURNALS

The overall perceived gender balance of IS editorial positions is presented in Table 3. The percentages shown under "ICT Sector" are those reported by the ABS [2006] and CRA [2006] and are shown for comparison. It should be noted that both of those surveys are regional and neither are based on global surveys, whereas the *Index of Information Systems Journals* does attempt to provide global coverage.

Table 3. Overall Gender Balance in IS Journal Editorial Positions (N=453)

Gender	ICT Sector	Editor	Associate Editor	Editorial Board
male	85%	81%	77%	78%
female	15%	19%	23%	22%

A frequency polygon showing the distribution of the number of journals according to the percentage of female representation is shown in Figure 1. Twenty-five journals had no female representation on their editorial positions. The median representation was 19 percent.
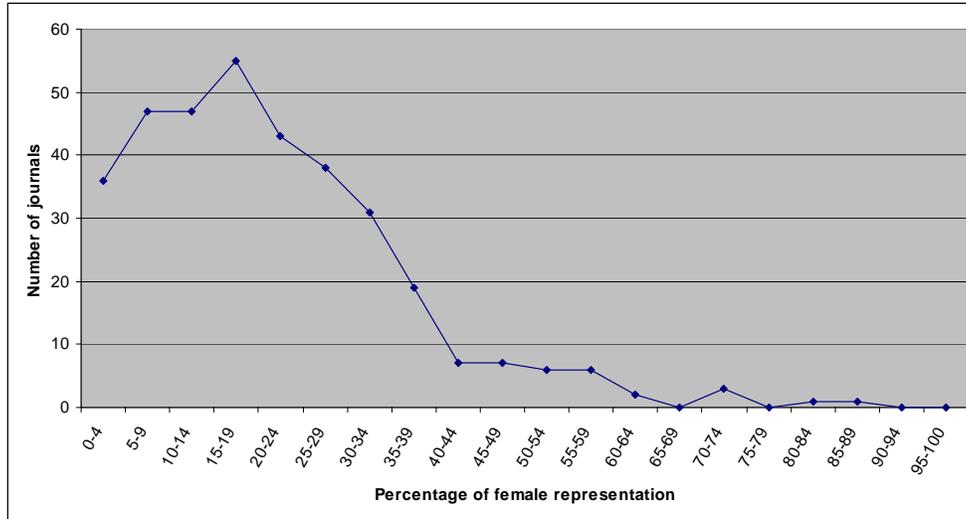

Figure 1. Perceived Gender Balance – All Editorial Positions (N=349)

Looking at the editor level only, there were 279 IS journals with at least one gender identifiable position, 205 journals (73 percent) were exclusively male and 26 journals (9 percent) were exclusively female (Table 4).

Table 4. IS Journals with Females Only at the Editor Level

Journal
Academy of Management Journal
BMC Medical Informatics and Decision Making
Canadian Journal of Learning and Technology
Computer
Decision Sciences Journal
Decision Sciences Journal of Innovative Education
Electronic Journal of e-Learning
electronic Journal of Health Informatics
Group and Organization Management
Informatics in Primary Care
International Journal of Design Computing
International Journal of Pervasive Computing and Communications
International Journal of Web Engineering and Technology
International Journal of Web-Based Learning and Teaching Technologies
Journal of Computer-Mediated Communication

Journal of Computing in Higher Education

Journal of Design Communication

Journal of Electronic Publishing

Journal of Librarianship and Information Science

Journal of Research on Technology in Education

Literary and Linguistic Computing

MIS Quarterly

Online Journal of Nursing Informatics

Organization Science

Team Performance Management

The Electronic Journal of Communication

JOURNAL PRESTIGE AND PERCEIVED GENDER BALANCE

The first measure of journal prestige used was continuity of publication. In order to investigate any relationship between the number of years a journal had been in existence and the current perceived gender balance, a scatter diagram was created (Figure 2) comparing the year of first publication with the percentage of females perceived to be current occupants of editorial positions. No relationship between these variables can be seen in the scatter diagram.
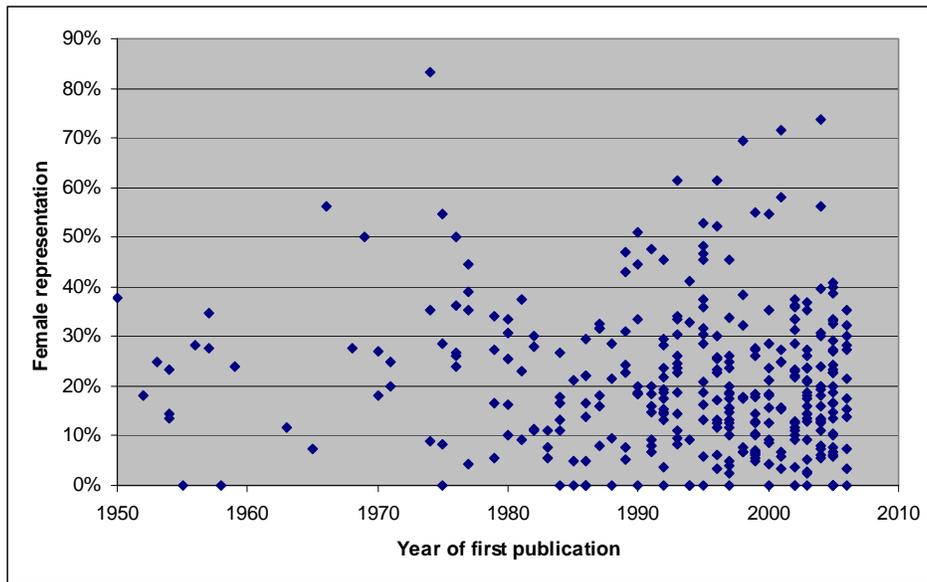
Figure 2. Prestige and Perceived Gender Balance –Year of First Publication (N=349)

The second measure of journal prestige was inclusion in the Thomson-ISI *Master Journal List*. A frequency polygon was created to compare the perceived level of female representation in all IS journals with those IS journals included in the *Master Journal List* (Figure 3). The two plots show a very high degree of coincidence, suggesting that there is no difference in perceived female representation in these two populations.
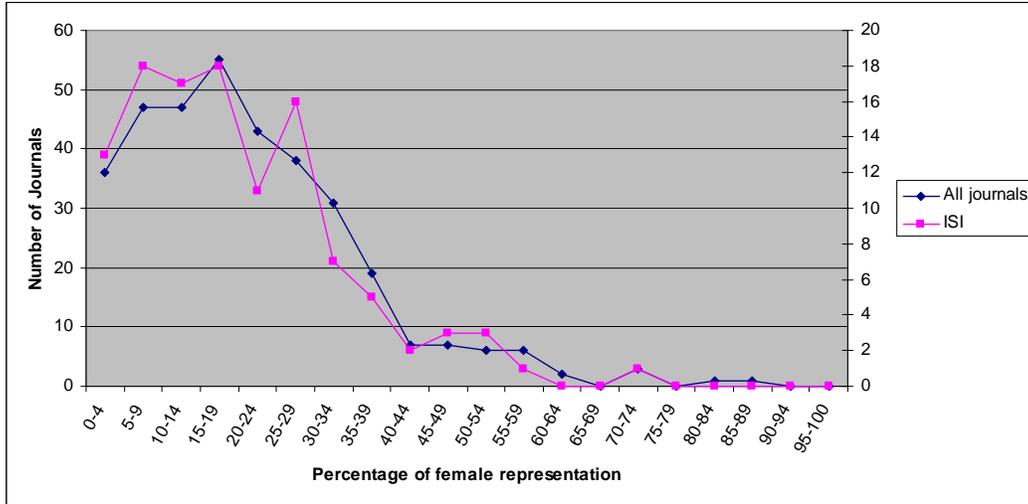
Figure 3. Prestige and Perceived Gender Balance – *Master Journal List* (N=349)

IS RESEARCH AREAS AND PERCEIVED GENDER BALANCE

An examination was made of IS journals with no perceived female representation in an editorial position at any level. There were 25 such journals, of which eight were in the *Master Journal List*. There were no IS journals perceived as having exclusively female occupants of editorial positions at all levels. A general categorisation of the journals with no perceived female representation is given in Table 5.

Table 5. IS Journals with no Female Representation

Category	All journals	In *Master Journal List*
Technical	12	2
Management	5	2
Mathematical	3	2
AI	2	2
Social	2	0
Ecommerce	1	0

An examination of the ten IS journals with the greatest perceived female representations was also undertaken (Table 6). Only two journals were included in the *Master Journal List*.

V. DISCUSSION

The overall perceived gender balance of occupants of IS journal editorial positions is generally consistent with the surveyed gender balance in the ICT academic positions. In the absence of definitive, consistently applied measures of gender balance in ICT academic positions, it is not possible to draw any more precise conclusion. Interestingly, perceived gender balance is remarkably consistent between high status journals and the general journal population, whether judged by inclusion in the *Master Journal List* or by continuity of publication.

There did appear to be a difference in perceived gender balance based on the topic of an individual journal. High female representation is associated with journals focused on areas

perceived as traditional female occupations. High male representation is associated with journals focused on areas perceived as highly technical. As has been commented, "Women academics tend to be heavily represented in the broad fields of teaching, nursing, arts, humanities and social sciences" [Carrington and Pratt 2003]. It would appear that even within a discipline, this divergence of representation may appear.

Table 6. IS Journals with the Greatest Female Representation

Journal	Female represent-ation	In *Master Journal List*
Annual Review of Information Science and Technology	56%	Yes
SCRIPT-ed	56%	
Journal of Research on Technology in Education	58%	
Journal of Informatics Education and Research	62%	
Online Journal of Nursing Informatics	62%	
Autonomous Agents and Multi-Agent Systems	70%	Yes
Archival Science	71%	
InterActions: UCLA Journal of Education and Information Studies	74%	
American Society for Information Science and Technology Bulletin	83%	
Journal of American Health Information Management Association	85%	

A limitation of this study was the data extraction, resulting from journals without gender identifiable positions. Using a panel of culturally different people to evaluate gender could produce a larger sample.

VI. CONCLUSIONS

Little comfort can be drawn from the results of this investigation. While it could be argued that the perceived gender balance of editorial positions on IS journals merely reflects the actual gender balance of the ICT area generally, that latter situation is also deplorable. The concentration of female IS academics in journals focused on areas perceived as traditional female occupations, confirms journal publication as a microcosm of the wider problem of gender and diversity in the ICT sector.

Given that it is ten years since the publication of "The Incredible Shrinking Pipeline," this suggests that there has been a distinct lack of success in attracting and retaining female ICT academics. The arguments supporting greater diversity do not require rehearsing, and appear to attract agreement from most ICT academics. Action, rather than agreement, is required.

ACKNOWLEDGEMENTS

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[5] http://www.auswit.org/

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Editor's Note: The following reference list contains hyperlinks to World Wide Web pages. Readers who have the ability to access the Web directly from their word processor or are reading the paper on the Web, can gain direct access to these linked references. Readers are warned, however, that:
1. These links existed as of the date of publication but are not guaranteed to be working thereafter.
2. The contents of Web pages may change over time. Where version information is provided in the References, different versions may not contain the information or the conclusions referenced.
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