AAS Membership Demographics

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The AAS – 1973

• Initial survey of membership
• First action by Working Group on the Status of Women in Astronomy, founded August 1972
• 2,800 sample size, 27% response rate
• Overall female membership was only 8%
• Evidence for ‘youth peak’ for women
• Women prize winners and AAS leadership numbers low relative to % membership
Demographics – 1973

1973 AAS Membership Distribution

- 1973 Men
- 1973 Women

Age (5 year bins)
Demographics – 1973

1973 AAS Membership – Age Distribution
Difference by Gender

![Graph showing age distribution by gender for 1973 AAS membership. The x-axis represents age (5 year bins), and the y-axis represents the percent of gender at each age. The graph compares men (yellow) and women (teal).]
The AAS – 1990

• Complete membership survey
  – Expensive ~ $25,000 in 1990 dollars

• Response rate good : 42%
  – Implies reliability of +/- 1.6%

• Overall female membership increased since 1973
  – 12.6% vs. 8%

• More young female members than male
  – Peak of age distribution ~ 30 vs. 45
Demographics – 1990

1990 AAS Membership – Age Distribution Difference by Gender
The AAS – 1995

• Partial Membership Survey
  – 30% response rate, ~1,000 member sample
• Overall female membership increased
  – 16.5% vs. 12.6% (1990 Membership Survey)
• Number of women shows episodic growth
  – Causes?
Demographics – 1995

1995 AAS Membership – Age Distribution
Difference by Gender

Percent of Gender at Age

Age (5 year bins)

18 23 28 33 38 43 48 53 58 63 68 73 78 83

Men
Women
An accelerating demographic
1995 Data

Demographics – 1995

Upper limit for age bin (cumulative)
Demographics 2003

• Snapshot of AAS membership database as of 6/23/03
• Includes all member types except publisher affiliates: Lifetime, Emeritus, Full, Associate, Junior, Division, Division Affiliates
• Birth date is optional information provided at time of joining => total sample is 5,962
Demographics 2003

AAS Membership Distribution

Age (5 year bins)

Percent

2003 − Men

2003 − Women
Other Surveys

• A variety of surveys
  – PHD+8, but focused on career outcomes in general
  – Institutional surveys of Urry et al. (1998) and Hoffman et al. (2003) **SEE POSTER!**
  – AIP surveys, regular and systematic, mildly tailored to astronomy needs
  – NSF, but lags by a few years
  – Miscellaneous personal efforts: H. Dinerstein, J. Price, A. Preston, Y. Ournamehere etc.

• Note: Past AAS surveys have come about because of volunteer effort and/or expenditure of membership $$$, no current membership–wide survey planned.
Interlude: Comments on the 1990 survey from AAS members

• Please make it a five-year event.
• I am happy that my dues are being used in such a concrete way, questionnaire is one of the best I’ve seen.
• AAS has tried, with some success, to make the questionnaire look legitimate.
• I usually HATE questionnaires. This one is sensible.
• Reading this questionnaire has raised my level of awareness.
Interlude: Comments on the 1990 survey from AAS members

• How much did this questionnaire cost?
• Disappointed in this questionnaire, which seems to ignore all critical issues in astronomy.
• Waste of time and money.
• Whose dues are paying for this questionnaire?
• Don’t waste funds on surveys!
• How much did this study cost? Too much of this questionnaire stuff is dangerous and costly.
• Ego–stroking at our expense is not a proper use of AAS funds.
• Do not try this again too often.
AAS Actions

• Formation of WGSWA – 1972
  – 1973 report recommendations (BAAS v6.3)
    • Creation of list of women astronomers
    • Encouragement of women at undergrad and grad levels
    • Employment concerns & report dissemination
  – Formation of CSWA June 1979
  – Endorsed Baltimore Charter:
  – 1990 & 1995 demographics surveys
  – Continued support of CSWA activities, e.g. sponsor of this meeting
AAS Prize Trends

• 1990 membership survey included analysis of awards by gender
  – As of 1990:

<table>
<thead>
<tr>
<th>Name</th>
<th>Men</th>
<th>Women</th>
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<tr>
<td>Russell</td>
<td>41</td>
<td>2</td>
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<tr>
<td>Warner</td>
<td>38</td>
<td>1</td>
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<tr>
<td>Pierce</td>
<td>15</td>
<td>3</td>
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<tr>
<td>Tinsley</td>
<td>3</td>
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<tr>
<td>Heineman</td>
<td>10</td>
<td>1</td>
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</table>
AAS Prize Trends

• Prize lists published in each directory
  – Since 1990:

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Russell</td>
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<td>Heinema</td>
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</tbody>
</table>
AAS Leadership Trends

• President
  – As of 1990, the AAS had had only one female president
  – Since 1990, the AAS has had 4 female and 4 male presidents

• Vice Presidents
  – As of 1990, the AAS had had only about 9% women as members of ex–com, in aggregate
  – Since 1990, the AAS has had 3 women VPs for an aggregate ex–com percentage of 28%
Conclusions

• AAS membership demographics are changing rapidly
• The Baltimore Charter impacted the number of women elected to leadership positions in the AAS
• More women should be winning AAS prizes, especially those geared towards early-career astronomers
Resources

AIP Statistical Research Center: http://www.aip.org/statistics/
Sigma Xi Postdoc Survey: http://postdoc.sigmaxi.org/overview/supporting_research
NRC Report, Enhancing the Postdoctoral Experience: http://www7.nationalacademies.org/postdoc/AAS_web_pages_and
CSWA page: http://www.aas.org/cswa/Myself: marvel@aas.org

Interesting book in process: Leaving Science: An Analysis of Occupational Exit of Men and Women from Science and Engineering by Anne Preston; online chapters at: http://www.haverford.edu/econ/faculty/preston_research.html