Who is Prize-d in Cognitive and Developmental Psychology?

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What determines who receives awards and prizes?

- Individual characteristics? (e.g., sex, discipline)
- Institutional factors? (e.g., prestige of PhD, first job, or current location)
- Publication quantity?
- Publication influence? (e.g., $h$, citations)
Percent female recipients of the APA Distinguished Scientific Contribution Award

Year

% Women


0 10 20 30 40 50 60 70 80 90 100

Gender Equity Project
Percent female presenters of APS Invited Addresses

Year

% Women

GENDER EQUITY PROJECT
Sample

- Sex: 70 women (41%); 99 men
- PhD: M = 1975 (1960 – 1994)
- Discipline: 99 (59%) cognitive, 70 developmental
- Status: 1 Assoc Prof, 106 Full Prof, 62 Distinguished or named Prof
Criterion measure: Awards Score

- 20 psychologists rated prestige of awards
- range from 1 to 5
- NAS member = 5; APS fellow = 2
- Awards Score = total awards X perceived prestige rating (M = 7.63; Range = 2 – 36)
Awards Scores

Frequency

Awards Score

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40
Hierarchical regression: model 1

Individual factors
  PhD year and discipline

  total $R^2 = .10$
Hierarchical regression: model 2

PhD year and discipline:  total $R^2 = .10$

+ Institutional factors
  - Prestige of PhD institution
  - Prestige of first job location
  - Prestige of current job location
  
  total $R^2 = .22$
Hierarchical regression: model 3

PhD year and discipline:  total $R^2 = .10$
+ Institutional factors:  total $R^2 = .22$
+ Total publications
  M = 122.2; Range = 6-1371
  total $R^2 = .37$
Influence factors

One of:

• $h$ (M = 24.34; Range = 4-61)
• Highest cite (M = 415.76; Range = 31-2452)
• Total cites (M = 2813.27; Range = 112-11732)
• 200 cites (M = 2.12; Range = 0-15)
Productivity and citations: No sex differences
Productivity and citations (cont'd): No sex differences

- Mean productivity for women vs. men
- 200 cites comparison
- Graph showing no significant sex differences in productivity and citations
Influence measures

• + h: $B = .06$, ns; no increase in $R^2$ of .37
• + hi cites: $B = 1.72$, $p < .003$; increase in total $R^2$ to .41
• + total cites: $B = .001$, $p < .001$; increase in total $R^2$ to .43
• + 200 cites: $B = .84$, $p < .001$; increase in total $R^2$ to .46
200 Cites

Frequency

200 Cites
Hierarchical regression: model 4

Individual factors: total $R^2 = .10$
+ Institutional factors: total $R^2 = .22$
+ Total publications: total $R^2 = .37$

+ 200 cites: total $R^2 = .46$
Gatekeepers’ sensitivity

- Prestige of a person's locations
- Total publications
- Number of publications that have been "best sellers"
Why, then, do women psychologists as a whole have a smaller percentage of awards than men psychologists?

Hypothesis: prestige of location of first job
IF

• Women work in resource-rich locations (students, space, colleagues, physical plant)
• Women publish frequently
• Women’s publications are cited often

Women will be as successful as men
Hurdles on the path to awards

- PhD location
- First job location
- Current location

Women are underrepresented at resource-rich institutions
Hurdles on the path to awards

- Publications
  Sex differences in institutional resources to support research?
  Sex differences in likelihood of having publications accepted?

- Grants
  Sex differences in likelihood of receiving funding (at NIH)
Conclusions

• Awards can be predicted
  – Total pubs plus 200 cites

• Initial location of women in teaching-intensive schools results in lower productivity and lower opportunities for citations

• Fewer publications + fewer citations = fewer awards
Faculty: Help your students get the best possible first job

Students: Aim for the best possible first job
Analysis
Hierarchical regressions: model 4

1. PhD year and discipline: total $R^2 = .10$
2. + Institutional factors: total $R^2 = .22$
3. + Total publications: total $R^2 = .37$
4. + Influence measure ($h$ OR highest cite OR total cites OR 200 cites)
Prestige of PhD location:
No sex differences

ARWU Rank (8=highest)

Frequency

Women

Men
Institutional Factors

Prestige* of location of
– PhD school
– first job
– job at time of study

*ARWU: Academic Rankings of World Universities,
Shanghai Jiao Tong University, 2010
Prestige of first job location: No sex differences

<table>
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<th>ARWU Rank</th>
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<th>Men</th>
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<td>8</td>
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Prestige of job location at time of study: No sex differences

ARWU Rank

Frequency

Women

Men

1 2 3 4 5 6 7 8

Gender Equity Project
Analysis
Hierarchical regressions: 4 models

1. PhD year and discipline: total $R^2 = .10$
2. + Institutional factors: total $R^2 = .22$
3. + Total publications: total $R^2 = .37$
4. + Influence measure ($h$ OR highest cite OR total cites OR 200 cites)
Awards Score: No sex difference
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162
### Step 1: Individual

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Step 2: Institutional Factors

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Step 3: Total Publications

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## Step 4: Influence Measures

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<td>+ .11</td>
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## Best Model: 200 Cites

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.46
Total Publications

The graph shows the frequency of publications categorized by total publications ranging from 1-50, 51-100, 101-150, 151-200, 201-300, 301-400, 401-500, and >500. The highest frequency is in the 51-100 range, followed by the 101-150 range.
Test of location hypothesis

Is there a sex difference in the location of APS non-Fellows? If women are overrepresented among lower-ranked schools in the non-Fellow category, then their initial location is one barrier to their worldly success.

Alternatively, women could be less interested in research.
Method

- **Sex** (determined by name on CV and/or Google search)
- APS Membership Location
  - Universities
  - 4-yr college
  - 2-yr college
- compare F and M percentages of non-Fellows at universities
Sex differences among non-Fellows in % at universities (vs. 2- or 4-year colleges)

* $p < .05$, ** $p < .01$
No sex difference among Fellows

![Graph showing percent at universities for Cognitive, Developmental, and Other categories for women and men. Women have comparable percentages across categories.](image)
Location at a top institution is close to a necessary condition for awards

The majority of individuals in our sample have their first jobs at the top 100 universities (57% of women and 65% of men); a large majority have their first jobs at the top 500 universities (84% of women and 83% of men)
Gatekeepers

• What do gatekeepers (implicitly) pay attention to in deciding who is prizeworthy?
Percent female recipients of the APS James McKeen Cattell Award

- 1993
- 1995
- 1997
- 1999
- 2001
- 2003
- 2005
- 2007
- 2009
- 2011

Year

% Women

0
10
20
30
40
50
60
70
80
90
100

Gender Equity Project
Percent female recipients of the APS William James Award

Year

% Women
Sample

• 280 cognitive and developmental psychologists eligible for sampling
• Criteria: Fellow status in APS, PhD ≥ 1960, work in the U.S. or Canada
• 169 in final sample (59% via email, 41% via web)
• Sample similar to population