Thoughts on demographics

dem·o·graph·ics
ˌdeməˈgrafiks/
noun
plural noun: demographics
statistical data relating to the population and particular groups within it.
"the demographics of book buyers"

GL Slater, Ohio Space Grant
2014 Midwest Mtg, Des Moines, IA
Sept 20, 2014
Demographics

• Important in census data
• Raises concern over equity in
  – Employment
  – Sports
  – Education (Space Grant!)
US Statistics 2010 census

• The US: 308.7M people
  – 63.7% White/caucasian-not hispanic
  – 13.7% Black + combination
  – 16% Hispanic

• Ohio: 11.5M
  – 82.8% White/caucasian
  – 12.3% Black
  – 3% Hispanic

• Iowa: 3.0M
  – 87.6% white
  – 3.3% black
  – 5.5% Hispanic
• Ohio is similar demographically to US—except for much smaller Hispanic population
• Hispanic population is mainly in south/west US
  – Most rapidly growing demographic—grew by 43% from 2000 to 2010!
  – Significant age differences:
    • 7.8% of Over 65
    • 24.6% of under 15
“Concerns” about demographics

Army brass largely white, with a lack of blacks in line to lead

Problem most acute in U.S. combat units

Tom Vanden Brook
@tvandenbrook
USA TODAY

WASHINGTON Command of the Army’s main combat units — its pipeline to top leadership — is virtually devoid of black officers. The problem is most acute in its main combat units: infantry, armor and artillery. In 2014, there was not a single black colonel among those 25 brigades, the Army's main fighting unit of about 4,000 soldiers. Brigades consist of three to four battalions of 800 to 1,000 soldiers led by lieutenant colonels.

Why there aren’t more public affairs. Lewis is a helicopter pilot who has commanded at the battalion and brigade levels and is African-American. “The leadership does have an action plan in place.”

The Army does have black four-star generals, such as Gen. Lloyd Austin, an infantry officer, who leads Central Command, arguably the military’s most critical

USA Today  9/12/14
STEM areas are “female deficient” (and minority deficient)
• **Aerospace Industry Chief Decries Lack Of Graduates And Diversity.**

• [Reuters](http://www.reuters.com) (9/12, Walker) reports on criticisms of STEM industry failures to attract young graduates, women, and minorities from Aerospace Industries Association Chief Executive Officer Marion Blakey at the Reuters Summit. Blakey blames many factors, including poor portrayal of the field to young audiences. Blakey cites urgent needs to increase recruitment, with significant industry growth and a large wave of expected retirements impending. Blakey’s comments follow US Navy Secretary Ray Mabus’ announced intent to bolster women’s service in the Navy and Marine Corps, currently at 18% and 8% respectively.
One caution about statistics

10 million
Number of Americans who changed how they identify their race or ethnicity when asked by the Census Bureau over the course of a decade
Demographics in sports

• Racial and gender diversity in our sports is obvious and has attracted a lot of comments and news stories

<table>
<thead>
<tr>
<th></th>
<th>Black</th>
<th>Hispanic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gen. Population</td>
<td>13%</td>
<td>16%</td>
</tr>
<tr>
<td>ML Baseball</td>
<td>9%</td>
<td>27%</td>
</tr>
<tr>
<td>NFL</td>
<td>67%</td>
<td>1%</td>
</tr>
<tr>
<td>NBA</td>
<td>78%</td>
<td>4%</td>
</tr>
</tbody>
</table>
"The share of black MLB players reached a high of 18.7 percent in 1981, . In 2014, on opening day rosters 8.3% were black. Before the most recent decade's decline, the last time baseball had such a small share of black players was 1958."
NCAA Statistics

Espn.go.com 6/22/14
Div 1 coaches: 18.6% minority
Div IPlayers: 57.2% black
Athletic Director: 89% white (8.3% female)

2010 study (U Penn)
6 major Div I conferences:
Between 2007 and 2010, Black men were 2.8% of full-time, degree-seeking undergraduate students, but
57.1% of football teams and
64.3% of basketball teams
26% track & field scholarships
What about education?

• 2012 Ohio State University CoE report
  – 3.7% Black; 2.9% hispanic

• University of Cincinnati CoE:2013
  – 2.3% Black; 1.4% hispanic

Note: Because of enrollment practices, these two schools may not be representative of all Ohio engineering schools.
Is this a problem? – and if so what to

Bachelor’s Degrees by Ethnicity, 2011*

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black or Afr. American</td>
<td>5.4%</td>
<td>5.1%</td>
<td>5.1%</td>
<td>5.3%</td>
<td>5.0%</td>
<td>4.9%</td>
<td>4.7%</td>
<td>4.6%</td>
<td>4.5%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>5.5%</td>
<td>5.4%</td>
<td>5.6%</td>
<td>5.8%</td>
<td>6.0%</td>
<td>6.2%</td>
<td>6.5%</td>
<td>6.6%</td>
<td>7.0%</td>
</tr>
<tr>
<td>Other</td>
<td>7.3%</td>
<td>7.2%</td>
<td>8.0%</td>
<td>8.6%</td>
<td>8.5%</td>
<td>8.3%</td>
<td>8.9%</td>
<td>11.0%</td>
<td>1.2%</td>
</tr>
<tr>
<td>Asian American</td>
<td>14.2%</td>
<td>14.0%</td>
<td>14.2%</td>
<td>14.1%</td>
<td>13.8%</td>
<td>13.3%</td>
<td>13.0%</td>
<td>12.4%</td>
<td>12.2%</td>
</tr>
<tr>
<td>White</td>
<td>67.6%</td>
<td>68.3%</td>
<td>67.1%</td>
<td>66.2%</td>
<td>66.7%</td>
<td>67.3%</td>
<td>66.9%</td>
<td>65.4%</td>
<td>69.8%</td>
</tr>
<tr>
<td>Unknown</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<td>-</td>
<td>-</td>
<td>5.3%</td>
</tr>
</tbody>
</table>

*American Indians (0.5%), Hawaiian/Pacific Islanders (0.1%) and Two or More (1.1%) are combined under Other.
When is gender important?

• When questioned about being the 50th female in space, Astronaut Karen Nyberg replied (my paraphrase) “Won’t it be nice when we don’t count.”
In spite of recruitment efforts, females in traditional engineering areas are not changing much!

Females in Aerospace, Mechanical, and Electrical Engineering at University of Cincinnati
But some areas are more attractive to females

- UC 2013 Enrollment statistics (OSU very similar numbers)
- Program Total  Female %Female
  - ASE 304  19   6.3
  - CE 299  40   13.4
  - CompE 160  7   4.4
  - CS 175  16   9.1
  - EE 264  16   9.1
  - ME 540  65   12.0
  - BME 272  97   35.7
  - ChE 432 111  25.7
  - TOTAL 2446 371  15.2

ASEE reports women received 18.4% of BS degrees 2010
ASEE data 2011

Percentage of Bachelor's Degrees Awarded to Women by Discipline: 18.4% of Total
Other traditional “male dominated” professions are seeing significant increase in females

• Med school enrollments -- ~45% (Ohio)
• Law school enrollments-- ~50% applicants
• Veterinary school – 78% female! (2010)

http://www.americanbar.org/content/dam/aba/publishing/perspectives_magazine/women_perspectives_spring10_turning_backs_law_school.authcheckdam.pdf

www.veterinarypracticenews.com/May.../Women-In-Veterinary-Medicine...

May 4, 2010 - This year, women hold 78 percent of veterinary school seats, according to the Association of American Veterinary Medical Colleges
What can we (SG) do to increase female and minority numbers?

• Accept that there are differences in attitudes
• Recruit more in life/biological sciences
• Blatantly discriminate!
• Start a long term project in K-12
  – is that a SG project?
• Or? ...
What can we do now?

• Search out/encourage applications from qualified minorities

• Make sure that all special groups (ethnic/gender/veteran/..) are treated fairly and equally—*and welcomed*
  
  – No discrimination
  
  – No harassment
  
  – Allow for special needs and background
A final word

"I have a dream that my four little children will one day live in a nation where they will not be judged by the color of their skin, but by the content of their character. I have a dream today!"

Martin Luther King, Jr. on August 28, 1963,