

# Attraction of young, diverse communities to entomology

Jessica Hartshorn, PhD  
Forest Health Specialist  
Minnesota DNR, Division of Forestry

Molly Darr  
Ph.D. Candidate  
Virginia Tech, Department of Entomology



New Hartford Schools



Atelier.net

# Generations

- “Baby Boomers” – 1946 – 1964
  - Post-war homecoming
  - Nearly doubled the previous generation
  - Largest generation in history
- “Generation X” – 1965 – 1985
  - First generation with more women than men in college
  - Increase in foreign-born immigrants
  - Delayed marriage and parenthood

MAY 20, 2013

Obama's New Boss / Syria face-off / McCain vs. Brzezinski / PLUS: Summer's best movies & more

# TIME

## THE ME ME ME GENERATION

Millennials are lazy, entitled narcissists  
who still live with their parents

Why they'll save us all

BY JOEL STEIN



time.com

GENERATION Z:  
CONNECTED FROM BIRTH.

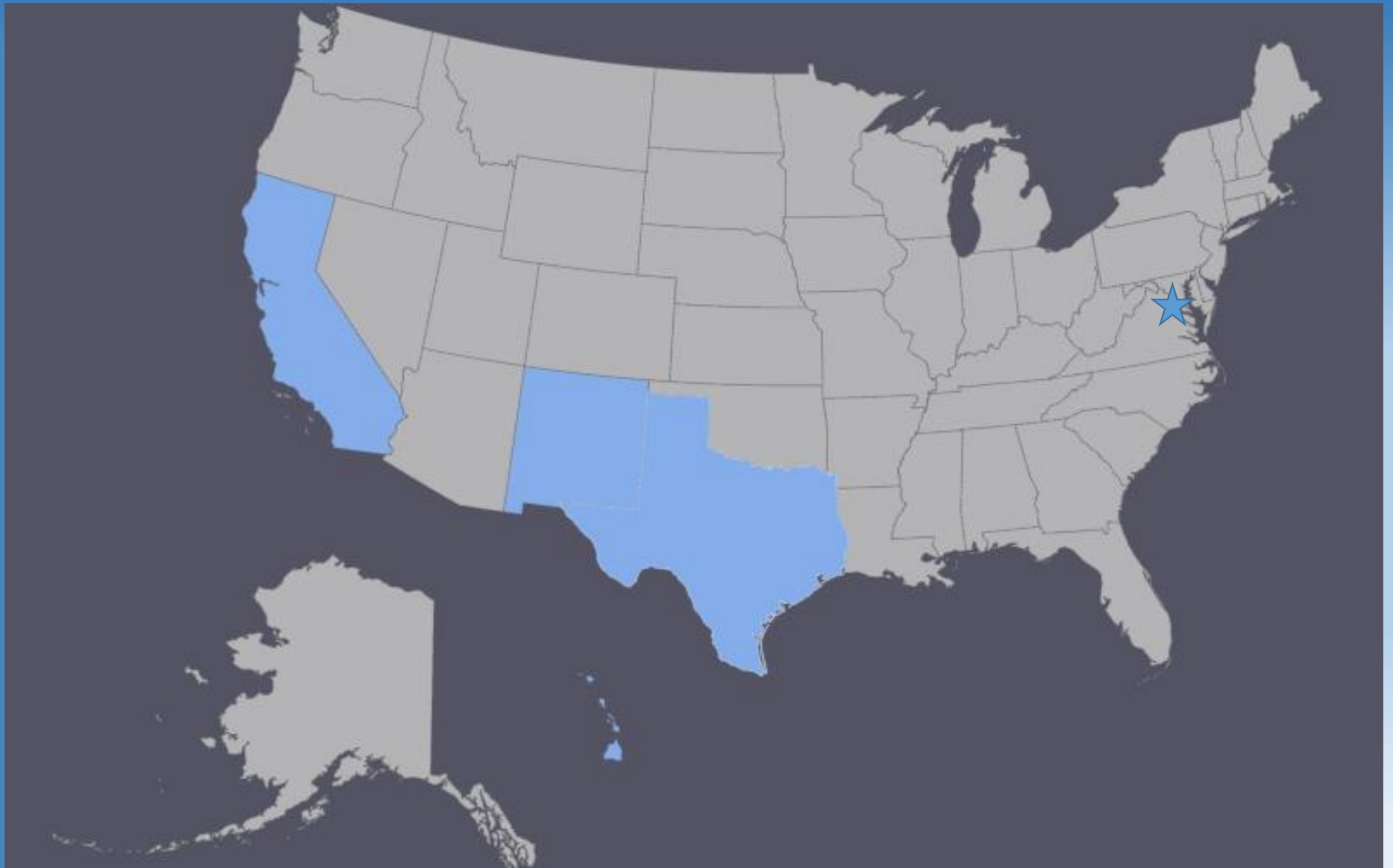
Born mid-1990s to 2010.

Printmediacentr.com



# Generations

- “Millennials” – Born 1982-2000
  - 83.1 million
  - > ¼ entire U.S. population
  - Exceeds the number of Boomers
  - Diverse generation: 44.2% minorities
- “Generation Z” – After 2000
  - Majority-minority: 50.2% minorities
- Both generations are globally connected



# Shifting Demographics

- Five states (or equivalent) are “majority-minority”
  - Hawaii – 77%
  - D.C. – 64.2%
  - California – 61.5%
  - New Mexico – 61.1%
  - Texas – 56.5%
- >11% counties are majority-minority
  - Five new additions in 2013: Russell (AL), Newton (GA), Eddy (NM), Brazoria (TX), Suffolk City (VA)
- Demographic switch is happening across the US and shows no sign of slowing down or reversing







# What Millennials Expect

- Women more likely to obtain some college, equally likely to obtain Bachelors
- Educational attainment has increased for all race and Hispanic origin groups since 1940
- As of 2015:
  - >50% Asians over 25 obtain Bachelors
  - 36% non-Hispanic whites
  - 22% Blacks
  - 15% Hispanics
- Used to a diverse environment where anyone has the ability to do anything – clashes with older generations who expect more rigid hierarchical organization

Juvenioia (n): The fear or hostility directed by an older generation toward a younger one, or toward youth culture in general.

# Juvenonia

- Term coined by David Finkelhor in 2010, an American sociologist known for working on crimes against children.
- Trend has been around for centuries
- Examples exist in literature from 1700s and earlier

millennials are **lazy**  
millennials are **stupid**  
millennials are **the worst**

## U.S. Millennials



**Note:** Size of word indicates frequency of response.

# Juvenioia

- From my Millennial perspective, we are:
  - Hardworking
  - Innovative
  - Resourceful
  - Facing issues that could never have been predicted
- From other perspective, we are:
  - Lazy
  - Entitled
  - Etc...



No jobs were found for this search.



# What do Millennials need?

- Ask someone who IS NOT a Millennial what we need...
  - Constant contact
  - Technological advances
  - Social media
  - “There are no jobs”
- What do our interviews and experiences say?

Entomology- Entomological Society of America

Entomology- Entomological Society of America

@entsoc

Home

About

Reviews

Likes

Photos

Videos

Events

Posts

Create a Page

Entomological Society of America

Entomology- Entomological Society of America

1 hr ·

Video of "The Entomology Word Association Game – 2016 Edition" at the 2016 International Congress of Entomology -- <https://entomologytoday.org/.../the-entomology-word-associat.../>

The Entomology Word Association Game – 2016 Edition

Home

Moments

Search Twitter

Have an account? Log in

Entomological Society of America

Entomology Society

@EntsocAmerica

The Entomological Society of America is the world's largest organization serving the needs of insect scientists. Publisher of American Entomologist.

entsoc.org

Joined December 2010

TWEETS

FOLLOWING

FOLLOWERS

LIKES

LISTS

15.2K

1,037

12.4K

39

1

Follow

Tweets

Tweets & replies

Media

Entomology Society Retweeted

Marianne Alleyne @Cotesia1 · Sep 16

Attend our symposium on #bioinspiration at #ICE2016 if you are craving something a little different by Thursday AM.

Symposium: Bioinspiration Crossing Disciplinary Borders

Room W315 A (Convention Center)

Moderators and Organizers: Marianne Alleyne and Catherine Loudon, Univ. of Illinois, Champaign, IL, Univ. of California, Irvine, CA

9:15 2812 Insect-inspired robots as tools for robot-

ABOUT

3 Park Pl, Ste 307

Annapolis, MD 21401

Save

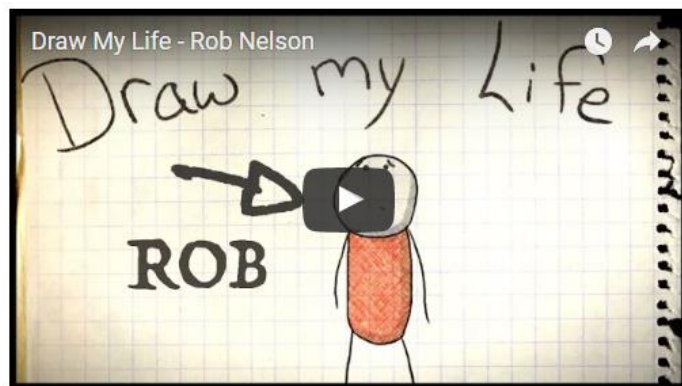
# What do Millennials need?

- Technology is great but...
  - Never mentioned as a reason to leave science, ESA etc...
  - ESA already has great social media presence, blog
  - May be a great recruiting tool, however...
  - It's the science that brings students/young professionals in, not the media

Crew Rob Nelson

## Rob Nelson - Biologist, Filmmaker and Educator

Rob Nelson is a biologist and [Emmy award winning](#) science communicator who currently acts as the director of Untamed Science. He is the lead producer for the videos produced from the US and on this site. He also writes and coordinates much of the content for the website. Rob's real in educating people about the natural world and helping people tell their own stories about passions have led him to take [Untamed Science into classrooms](#) via Pearson Publishing (nearly 6 million students a year), on Youtube via their [science channel](#) and via [science film tutorials](#).



### Education

University of Miami	B.S.	Dual Major Biology and Marine Science minor in Chemistry
James Cook University - Australia	-	One year exchange program specializing in tropical marine and coral reef ecology
University of North Texas	-	One semester aquatic biology graduate specialty
University of Hawaii Manoa	M.S.	Masters Degree - Behavioral and Pop. Ecology of Marine Fishes
Montana State University	M.F.A.	Masters of Fine Arts in Science and Natural History Filmmaking

Home About Infographics Media & Publications Contact

### About

The Next Gen Scientist was formed with the idea that scientists can and should utilize all available resources to communicate what they are doing and why it is important. It's more critical than ever to convince policymakers and the public that scientific innovation must be nurtured to help tackle the biggest problems that humanity faces now and in the future.

It's an interesting time to be a young scientist. Technology is advancing rapidly and dropping in cost. We have the ability to connect with others on a global scale through the internet. Social media can be utilized to share and communicate with others at little to no cost. What will all of this mean for the future of scientists? What will this mean for young people with an interest in science? What will this mean for the future of our planet?

About the creators and contributors to the NGS web page:

# What do Millennials need?

- Jobs are not increasing at the rate that students are graduating
- Still not a reason people say they've considered leaving science
- The “dream” of tenured prof right out of your Ph.D. is not as real today
- Aaron Pomerantz said “we are making our own jobs”
- Millennials are diversifying the job market in unthinkable ways
  - Social media pros who do EcoTourism
  - Outreach professionals who write for mainstream outlets



# *Harassment in Science, Replicated*

By CHRISTIE ASCHWANDEN AUG. 11, 2014

SCIENCE

## Sexual Harassment Case Shines Light On Science's Dark Secret

October 16, 2015 · 4:33 AM ET  
Heard on Morning Edition

MICHAEELEEN DOUCLEFF 

Fewer international science students come to 'unwelcoming' UK

ISSUES

## Where Are All the Disabled Scientists?

I decided to talk to some disabled researchers, academics, and more to find out more about the specific problems disabled STEMers face -- and how to fix them.

S.E. SMITH · MAY 1, 2012



# What do Millennials need?

- Harassment and an unwelcoming environment are common reasons people give for thinking of leaving science, ESA
- STEM harassment is a hot topic right now
- Commonly experienced, especially by women and minorities
- Unwelcoming environment may not be harassment but may be just as effective at “kicking out” young talent
- Remember that Millennials are raised in diverse groups being told they can accomplish anything...

Committee on Diversity and Inclusion (D&I)

## ESA's Statement on Diversity & Inclusion

The Environmental Science Association (ESA) is committed to creating a diverse and inclusive environment for all members and staff. We believe that diversity and inclusion are essential to our success and to the advancement of the field. We are committed to creating a workplace where all members and staff feel valued, respected, and able to contribute their full potential.

ESA's commitment to diversity and inclusion is reflected in our policies, practices, and programs. We have established a Diversity and Inclusion Committee to oversee our efforts and to ensure that we are meeting our goals. We also have a variety of programs in place to support our members and staff, including mentorship programs, training opportunities, and employee resource groups.

12:30 PM - 01:15 PM

📍 Convention Center - West Hall F2 (WF2)

**293** Lunch and Learn: No Means No: How to Stop Harassment in Professional Settings

## ESA's Code of Conduct

The Environmental Science Association (ESA) is committed to creating a diverse and inclusive environment for all members and staff. We believe that diversity and inclusion are essential to our success and to the advancement of the field. We are committed to creating a workplace where all members and staff feel valued, respected, and able to contribute their full potential.

ESA's Code of Conduct outlines the expectations for all members and staff. It is a set of guidelines that define the standards of behavior that are required for all members and staff to follow. The Code of Conduct is designed to create a safe and respectful environment for all members and staff, and to ensure that all members and staff are treated fairly and with respect.

The Code of Conduct covers a wide range of topics, including harassment, discrimination, and workplace safety. It also outlines the consequences for members and staff who violate the Code of Conduct. The Code of Conduct is a living document, and it is subject to review and revision as needed.

ESA's Code of Conduct is a commitment to creating a diverse and inclusive environment for all members and staff. It is a set of guidelines that define the standards of behavior that are required for all members and staff to follow. The Code of Conduct is designed to create a safe and respectful environment for all members and staff, and to ensure that all members and staff are treated fairly and with respect.

# What can ESA do?

- ESA already has a Committee on Diversity and Inclusion
- Symposia, Women in Entomology breakfast, Lunch and Learn groups...
- Code of Conduct for meetings
  - By attending you are agreeing to the code of conduct
  - One of only a few societies with such an agreement in place

## Student Resources

For students interested in becoming a member, please contact the Student Resources team at [studentresources@uofa.ca](#). The team will provide you with a membership application form and a list of the benefits of becoming a member. The team will also provide you with a list of the resources available to members. The team will also provide you with a list of the resources available to members.

The team will also provide you with a list of the resources available to members. The team will also provide you with a list of the resources available to members. The team will also provide you with a list of the resources available to members. The team will also provide you with a list of the resources available to members.

## Member Resources


For members interested in becoming a member, please contact the Member Resources team at [memberresources@uofa.ca](#). The team will provide you with a membership application form and a list of the benefits of becoming a member. The team will also provide you with a list of the resources available to members. The team will also provide you with a list of the resources available to members.

## Fayetteville Policies and Procedures 418.0

[U of A](#) / [VCFA](#) / [Policies](#) / [Fayetteville Policies and Procedures](#) / [OEOC](#) / [Sexual Harassment](#)

### Sexual Harassment

The original PDF version of this policy is linked from the revised date below.

 Print this policy

POLICY DOCUMENTS

[Appendix A](#)

# What can ESA do?

- Simple answer:
  - Take materials already in place and make them more visible
  - Sticky on resource pages, regular reminders through email, Twitter etc...
- A little less simple:
  - Compiling material by other institutions to have a resources page for harassment or discrimination
  - Many people don't realize that there are rules in place at every institution
  - Do not think to record things that help the process (e.g. time, place of event, were there witnesses?)
  - Lets people know that resources are available







# What can ESA do?

- Conference networking often happens at the bar
  - Traditionally masculine environment
  - May be physically difficult for differently abled people
  - May be impossible for people with hearing difficulties
  - International students/professionals may also find it difficult to be understood or hear others over loud environment
  - Many people do not drink or want to be around others drinking
  - Generally unwelcoming to many people
- ESA can offer other networking opportunities not centered around alcohol
  - Example: Change receptions to have tickets for FroYo
  - Example: Offer non-alcoholic student mixer in addition



# Final thought...

- Most people do not want to leave or report the person in question
- People recognize ignorance rather than malicious intent and simply want someone to talk to
- Huge stigma against therapy and asking for help
- Symposia discussing mental health and inclusiveness go a long way
  - Validate people's feelings
  - Connect a group of people looking for help
  - Make people feel less alone
  - Puts these issues out in the open, removes the stigma





# Conclusions

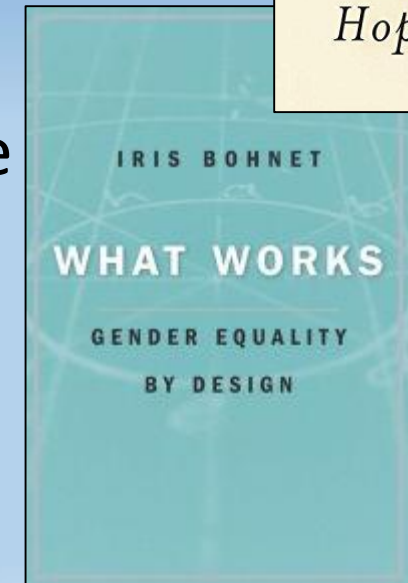
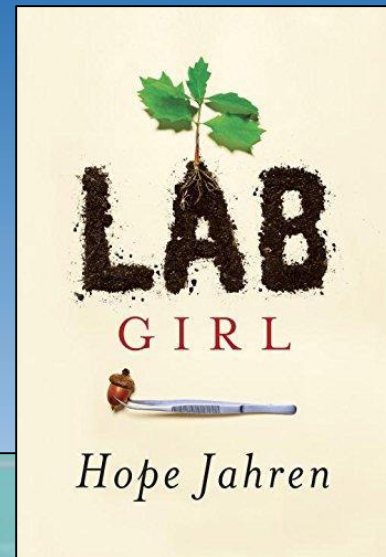
- Millennials and Gen Z present unique challenges
- ESA already making headway in their efforts to be more inclusive and welcoming
- Always room for improvement
  - Make materials more visible
  - Create resources page specifically for harassment/hostile environment
  - Offer more mixer and reception options that are more welcoming
  - Continue symposia talking about these issues
    - Take these symposia to the local and regional levels
    - Take them to other societies, open up discussion

# Resources

- Ento Allies
  - [entoallies.wordpress.com](http://entoallies.wordpress.com)
- American Association for the Advancement of Science
  - [aaas.org](http://aaas.org)
- Feminist Forester
  - [feministforester.com](http://feministforester.com)

## ENTO-ALLIES

Making our Professional Meetings Safe



## The Feminist Forester

A place for tree people who stand for equality.

## AAAS Annual Meeting Code of Conduct

AAAS is committed to making the Annual Meeting an inclusive space for sharing ideas and knowledge. The Board approved the following code of conduct in October 2015.



# Selected References

**Aschwanden, C.** (2014). "Harassment in science, replicated". New York Times.

**Bingham, S. G., & Scherer, L. L.** (2001). The unexpected effects of a sexual harassment educational program. *Journal of Applied Behavioral Science*, 37(2), 125-153.

**Census Bureau.** (2015). "Millenials outnumber baby boomers and are far more diverse, Census Bureau reports". Release Number: CB15-113.

**Ganzel, R.** (1998). What Sexual-Harassment Training Really Prevents. (cover story). *Training*, 35(10), 86.

**Goldberg, C. B.** (2007). The impact of training and conflict avoidance on responses to sexual harassment. *Psychology of Women Quarterly*, 31(1), 62-72.

**Perry, E. L., Kulik, C. T., Bustamante, J., & Golom, F. D.** (2010). The impact of reason for training on the relationship between 'Best Practices' and sexual harassment training effectiveness. *Human Resource Development Quarterly*, 21(2), 187-208.

**Rawski, S. L.** 2016. Understanding Employees' Reactions to Sexual Harassment Training: Interactional Disruptions, Identity Threats, and Negative Training Outcomes. University of Arkansas, Ph.D. Dissertation.

**Ryan, C. L. and Bauman, K.** (2016) "Educational attainment in the United States: 2015, Population Characteristics". Census Bureau.