Combating Implicit Gender Bias in Introductory Computer Programming Courses

Laura K. Alford (NA&ME), Valeria Bertacco (CSE), Mary Lou Dorf (CSE), Sophia Kotov (LSA:CS)

WORK IN PROGRESS

goals to gender diversity in the computer science and computer engineering undergraduate programs

<table>
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<th>stereotype</th>
<th>climate</th>
<th>self-efficacy</th>
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<td>women experiences in freshman and sophomore-level courses are often negative (isolation, harassment, etc.), with the result that many decide to change majors, hence the poor retention rate</td>
<td>women have lower self-efficacy in STEM fields than their male peers, e.g. women view an A-/B+ as an indicator they are not performing at a level sufficient to complete the degree successfully</td>
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GOAL remove obstacles that hinder enrollment and retention of female students in the CSE program

entry survey
assess confidence in programming skills and perceptions of the CSE environment

staff training
GSIs and IAs are led through a 1 hour workshop focused on bettering teaching skills through knowledge of implicit bias

Implicit Association Test
students take Harvard’s Gender-Science IAT and submit form reflecting on taking the IAT, but do not submit their results

implicit bias presentation
lecture given to all classes revisiting implicit bias, why we took the IAT, interviews with women from industry, interactive story sharing in lecture and via online form

exit survey
re-assess confidence in programming skills and perceptions of the CSE environment

IMPLICATIONS
improved understanding of student experiences in CSE classes will provide guidance on creating and sustaining a welcoming environment for all students

in progress: comparing all data to assess impacts of these strategies

analysis will drive improvements to the program & future studies

THEORY

raising awareness of implicit bias will improve the climate of the CSE program

HOW

a series of interactive exercises on implicit gender bias in CSE

WHY

to encourage a more welcoming atmosphere for women (and everyone!)

DATA

ENGR 101/151
EECS 183/280
Fall 2015 (collected, processing)
Winter 2016 (collecting now)

FUTURE

track female student enrollment in CSE; long term study on implicit bias

COMPUTING CARES Directive #3: Improve climate and conduct among the student population in the entry-level courses.