

WHAT DO THEY KNOW?

Community College Students
and Computer Skills



The Institution

- Location: 30 miles north of Seattle
- Enrollment: Approximately 8,000 full- and part-time students
- 90% of new students test below college level in one or more areas—math, reading, writing
- Average age is 31.6
- Racial diversity is 85.6% white, 5.8% Asian, 4.7% Hispanic or Latino, and 3% fairly evenly divided between Native American, Alaska Native, and African American



Study conducted because...

- Some administrators at institution want to implement a campus-wide computer literacy assessment supporting new institutional outcomes
 - Recognizing need for computer skills in both school and life
 - Wanting to insure students being accurately advised re computer skills classes
- Institution's Instructional Council felt that students were accurately assessing computer skills and no need for another assessment
- Pilot study of students in Business Technology and Computer Science approved



CSP chosen because...

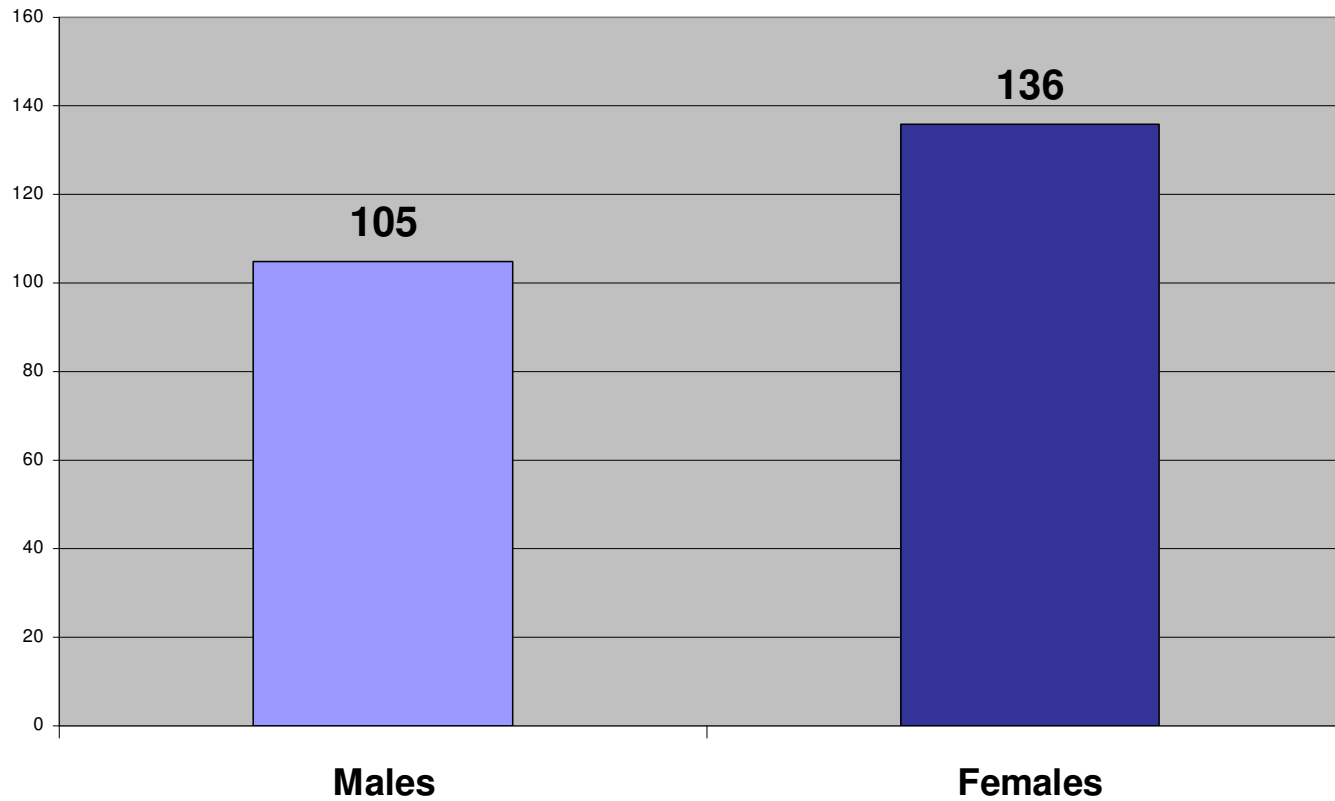
- *Authentic*—has been through validity and reliability studies
- *Comprehensive*—covers seven modules of computer skills
- *Efficient*—can be done within a reasonable time limit
- *Realistic*—multiple methods counted as correct (i.e., all the different methods for copying)
- *Reputation*—company developing the assessment well known and accepted in technical and business communities



The Sample


- Non-random from students enrolled in business technology or computer science programs
- 22 classes ranging from computer literacy to computer programming, advanced networking and advanced applications
- Students could opt out of either self-assessment or computer assessment

Who are they?



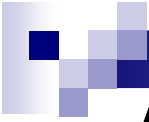
Note: Out of 242 records, one gender field blank and unknown.

Gender

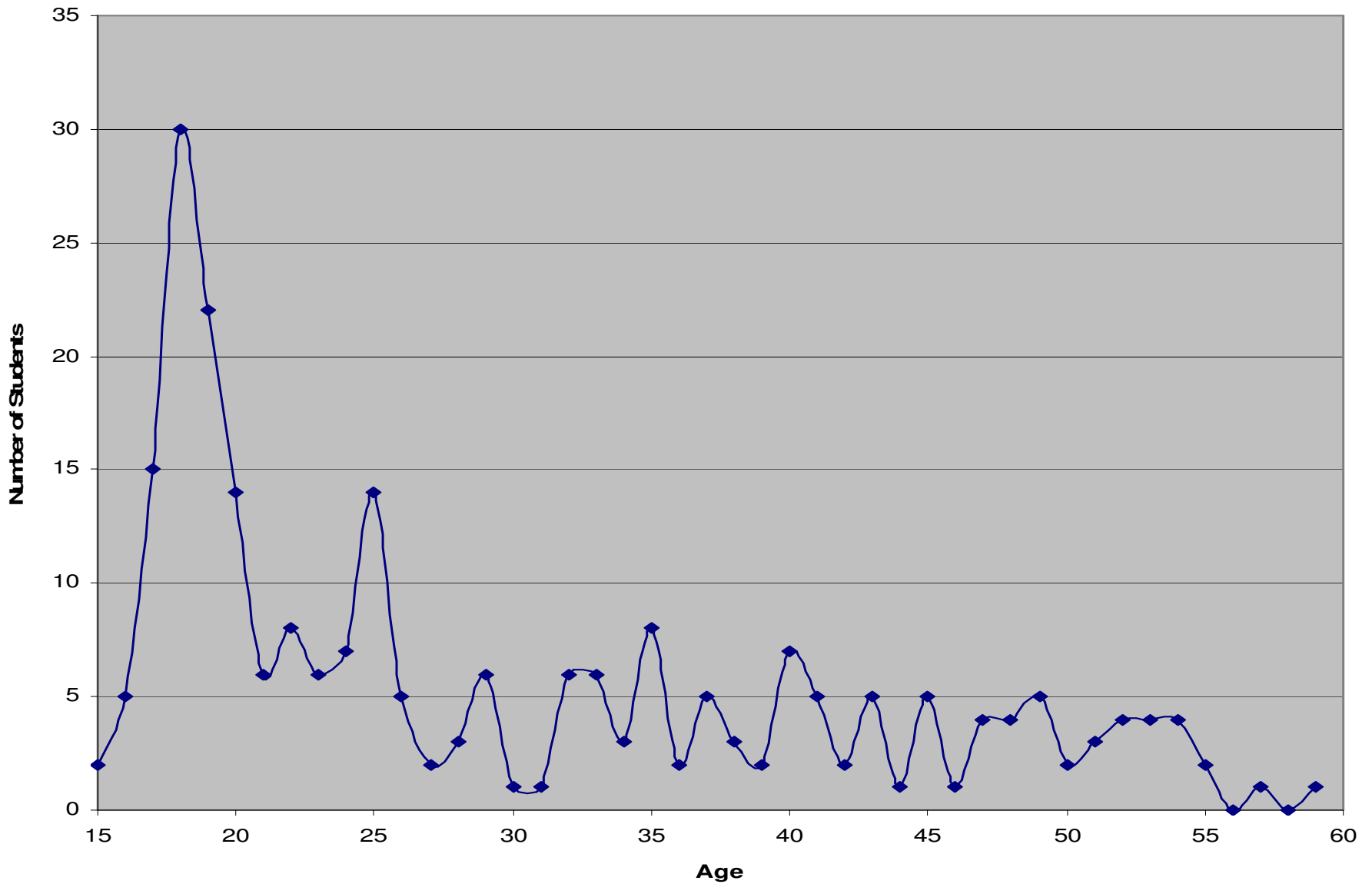


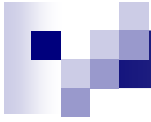
Some more numbers describing the students...

- 242 Total
- Average age is 30
- Median age is 25 (the mid-point of the 242)
- Mode is 18 (more 18 year olds than any other age)
- Oldest student is 59
- Youngest student is 15

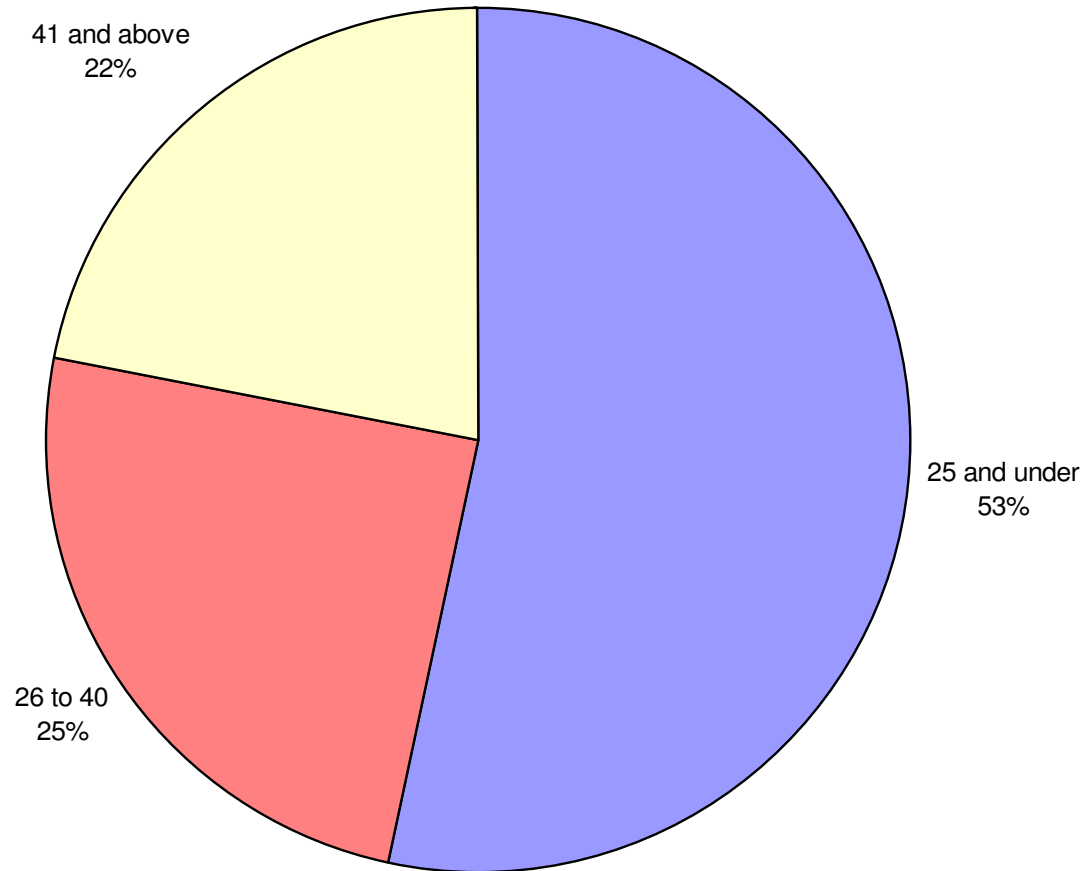


Age Distribution





Age Groupings





Administration of Assessments

- Faculty read scripts both days for consistency
- First day of quarter students were given the self assessment in class and NOT told about computer assessment the following day
- Second day of quarter students took the CSP during class
- Faculty did not tell students the self-assessment results would be compared to CSP results



The Self-Assessment

- Designed to gather demographic data in addition to self-assessment scores
- Self-assessment scores mimic the test scores, i.e., scale of 0 to 10 because each section of the CSP has 10 questions
- Students not told of computer assessment to take place the following day

Survey Form—both sides

Student ID: _____ Year graduated high school: _____

I have used computers for (check all that apply):

- | | | |
|--|--|---|
| <input type="checkbox"/> hobby | <input type="checkbox"/> school/homework | <input type="checkbox"/> work |
| <input type="checkbox"/> e-mail | <input type="checkbox"/> playing games | <input type="checkbox"/> download music |
| <input type="checkbox"/> surf the internet | <input type="checkbox"/> chatting | <input type="checkbox"/> don't use it |

I have taken previous computer classes (any school or work classes count): yes no

The hours I spend **weekly** on a computer are: 0—5 6—10 11—15 16—20 21+

I spend **most** of this time (check one):

- | | | |
|--|--|---|
| <input type="checkbox"/> hobby | <input type="checkbox"/> school/homework | <input type="checkbox"/> work |
| <input type="checkbox"/> e-mail | <input type="checkbox"/> playing games | <input type="checkbox"/> download music |
| <input type="checkbox"/> surf the internet | <input type="checkbox"/> chatting | <input type="checkbox"/> don't use it |

I spend the **least amount** of this time (check one):

- | | | |
|--|--|---|
| <input type="checkbox"/> hobby | <input type="checkbox"/> school/homework | <input type="checkbox"/> work |
| <input type="checkbox"/> e-mail | <input type="checkbox"/> playing games | <input type="checkbox"/> download music |
| <input type="checkbox"/> surf the internet | <input type="checkbox"/> chatting | <input type="checkbox"/> don't use it |

The years I have been using a computer are: 0—2 3—5 6—8 9+

Over all, as a computer user, I consider myself to be a(n):

- beginner beginner/intermediate intermediate intermediate/experienced experienced user

When I need to learn a new computer skill, I find it:

- very easy easy somewhat easy somewhat hard hard very hard

I prefer to learn new computer skills (please choose one):

- in a computer classroom with an instructor
 in a computer lab
 with the help of my friends
 on my own

It has been _____ years since I was in school—either high school or college (please put 0 if you were enrolled in *any* school last year).

Family members who have a bachelor's degree or higher are (check all that apply):

- mother father brother/sister me no one

I learn new computer skills:

- very fast fast somewhat fast somewhat slow slow very slow

I have someone at home to help me when I have computer questions: yes no

I rate my skills in the following areas as:

	None					Experienced					
	0	1	2	3	4	5	6	7	8	9	10
General computer concepts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Using Windows and managing files	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Word processing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Spreadsheets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Databases	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Presentation software	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Internet and communication	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

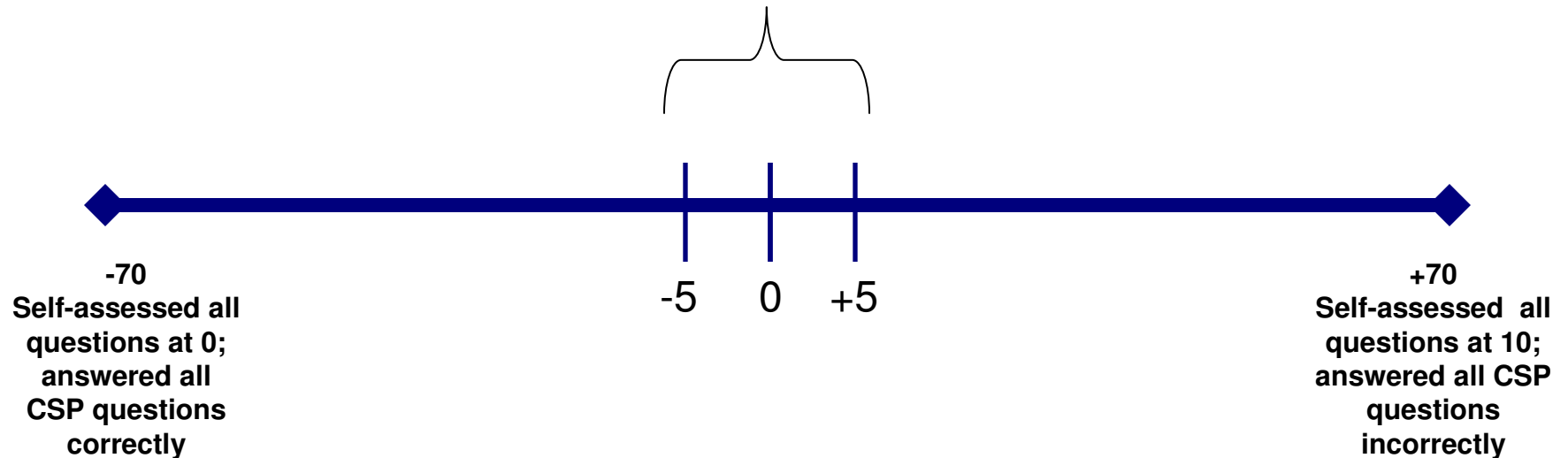


CSP: Computer Skills Placement

- Seven categories with 10 questions each:
 - General computer concepts
 - Using Windows and managing files
 - Word processing
 - Spreadsheets
 - Databases
 - Presentation software
 - Internet and communication

“Margin of Accuracy”

Scores falling within this range are considered accurate self-assessment

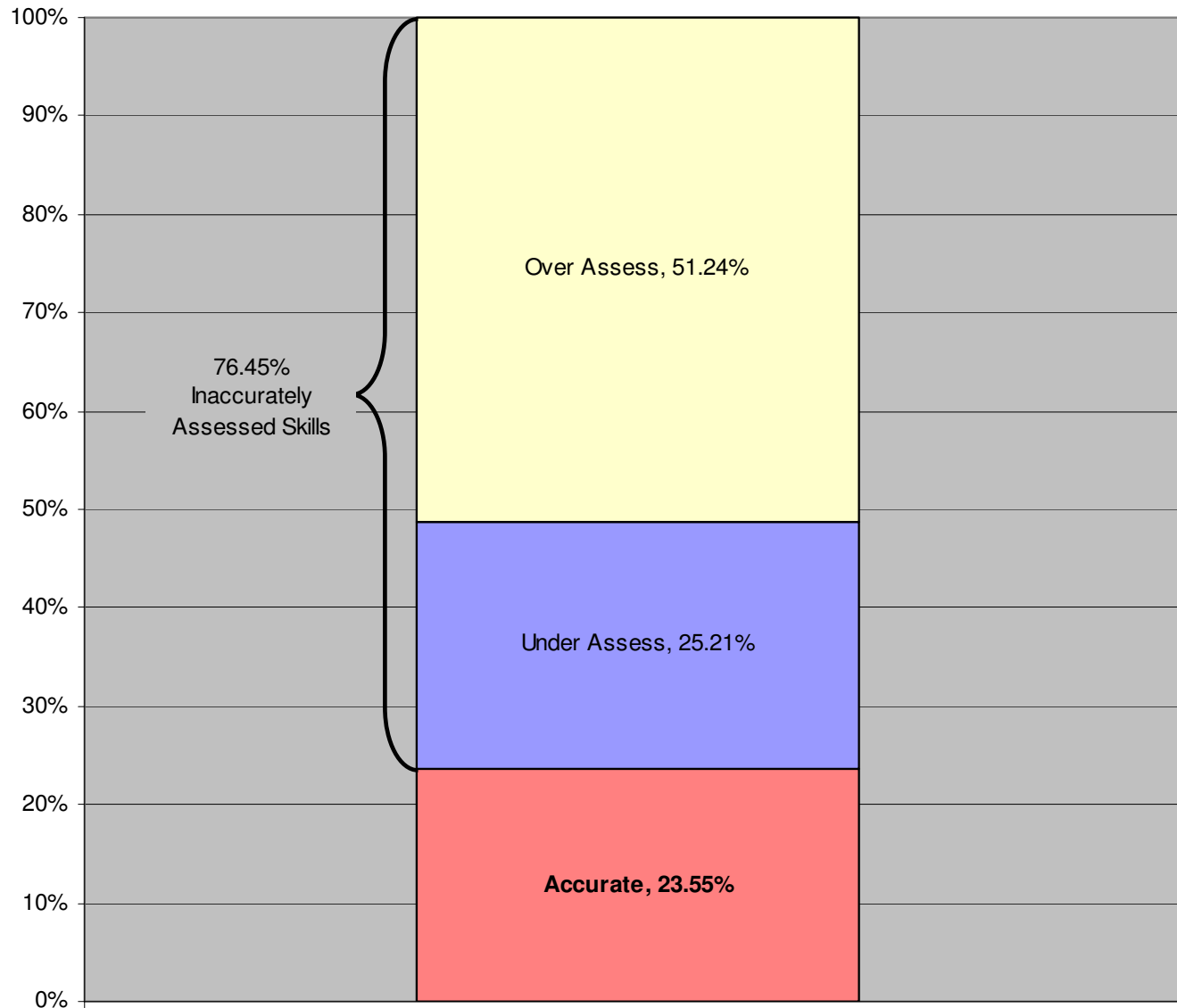




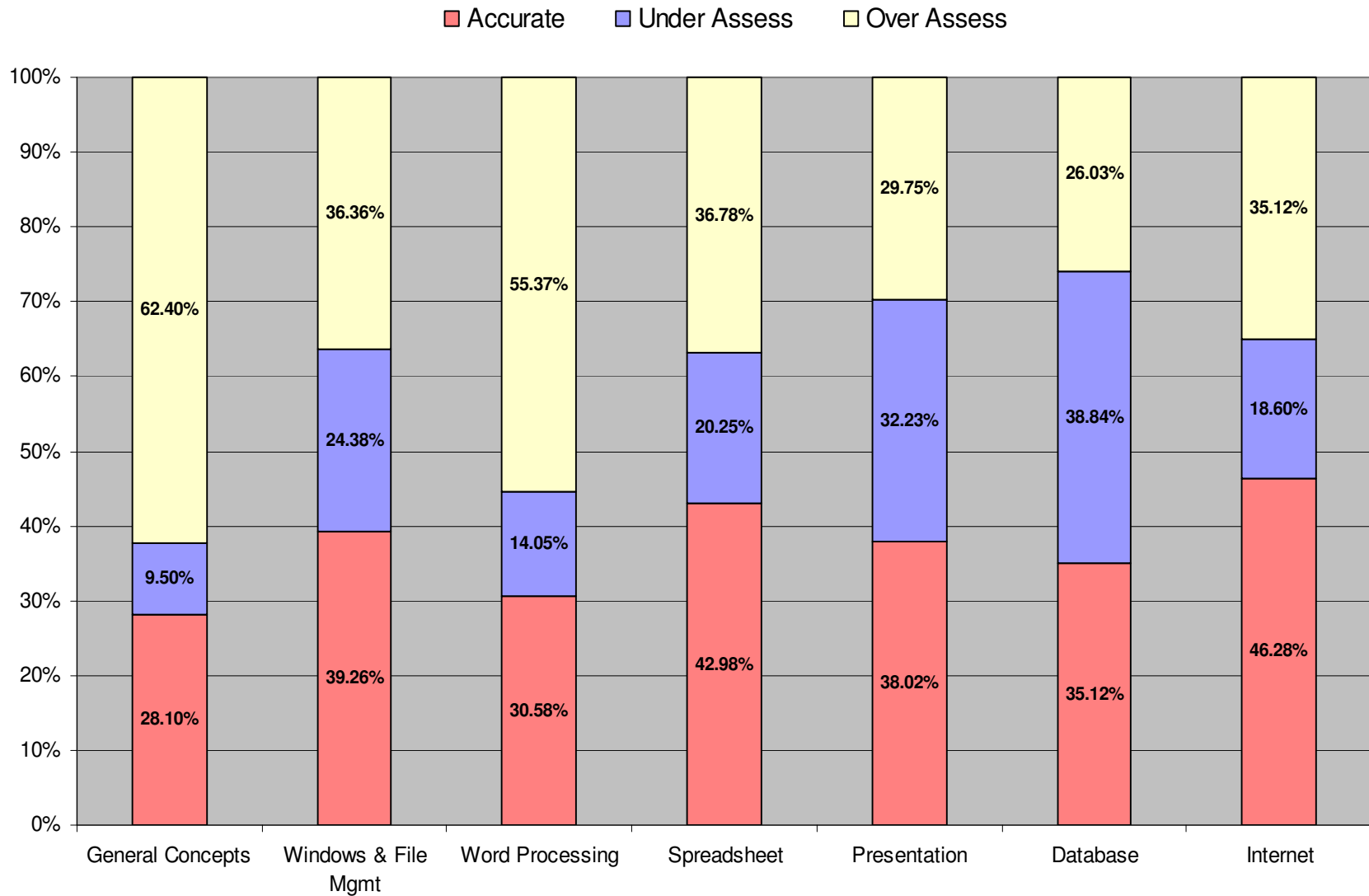
The bottom line...

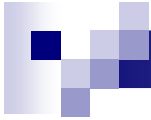
- 76.45% incorrectly assessed computer skills:
 - 51.24% over-estimated skills
 - 25.21% under-estimated skills
- 23.55% fell within the margin of accuracy

Overall Self-Assessment Accuracy



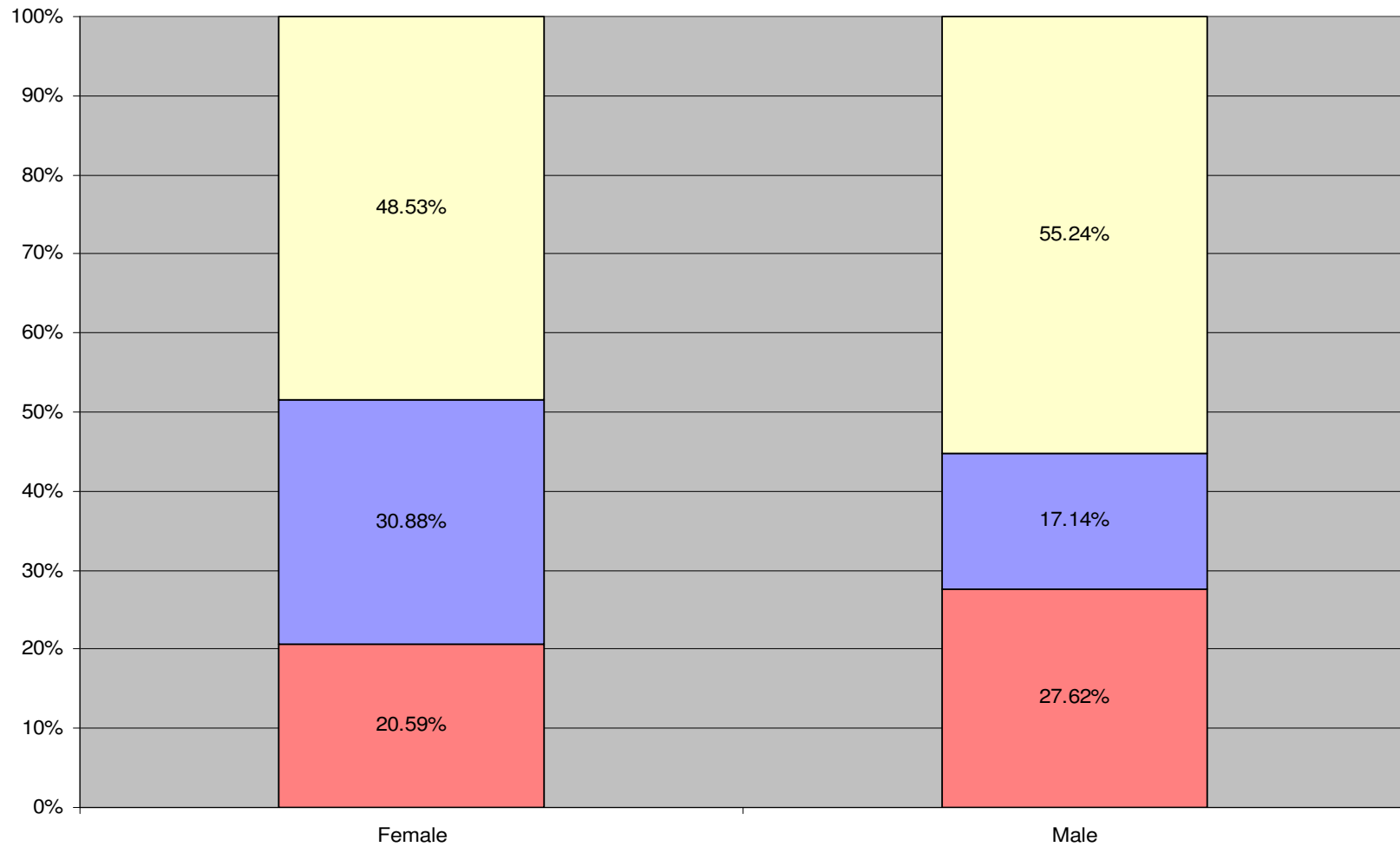
Accuracy by Module



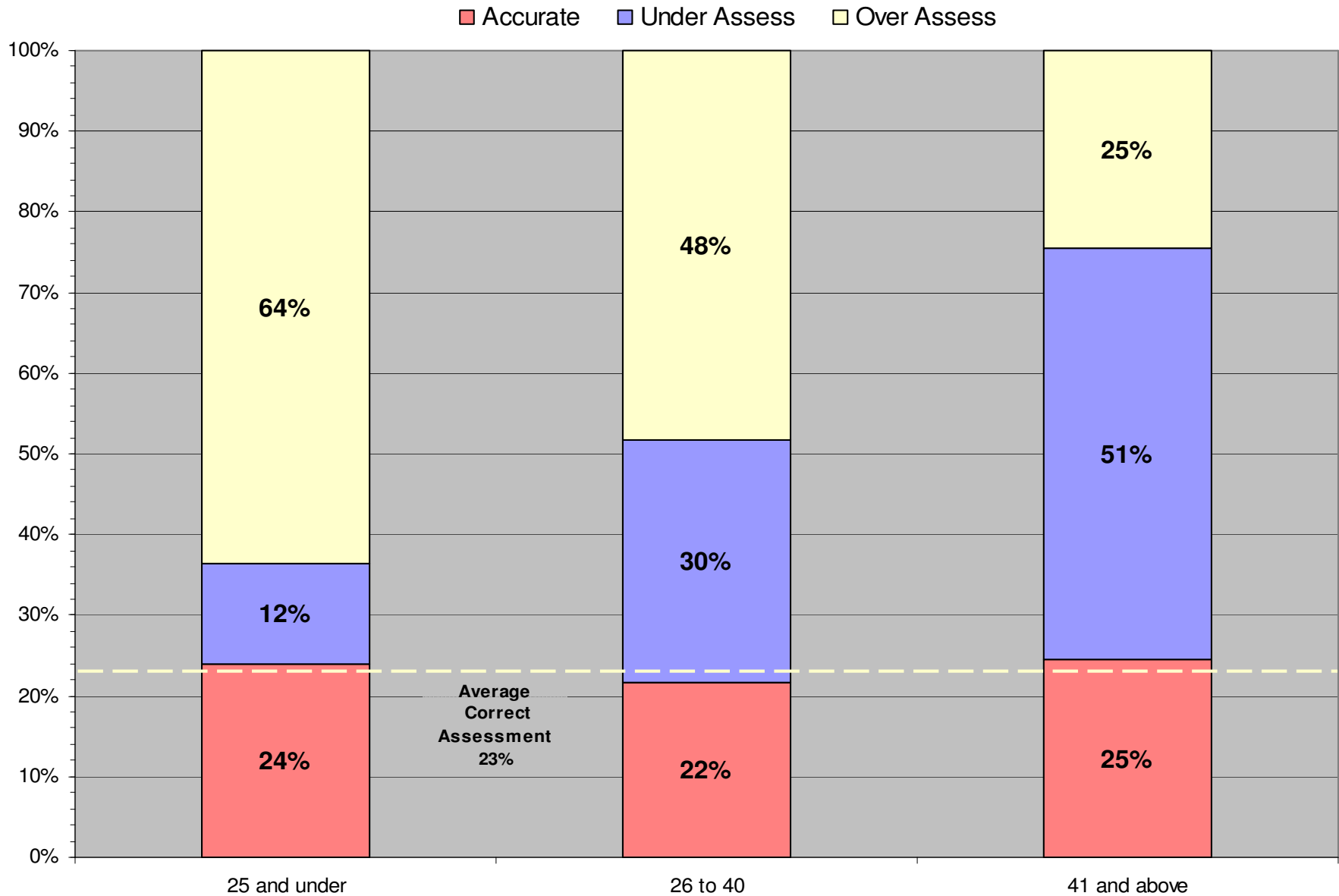


Accuracy by Gender

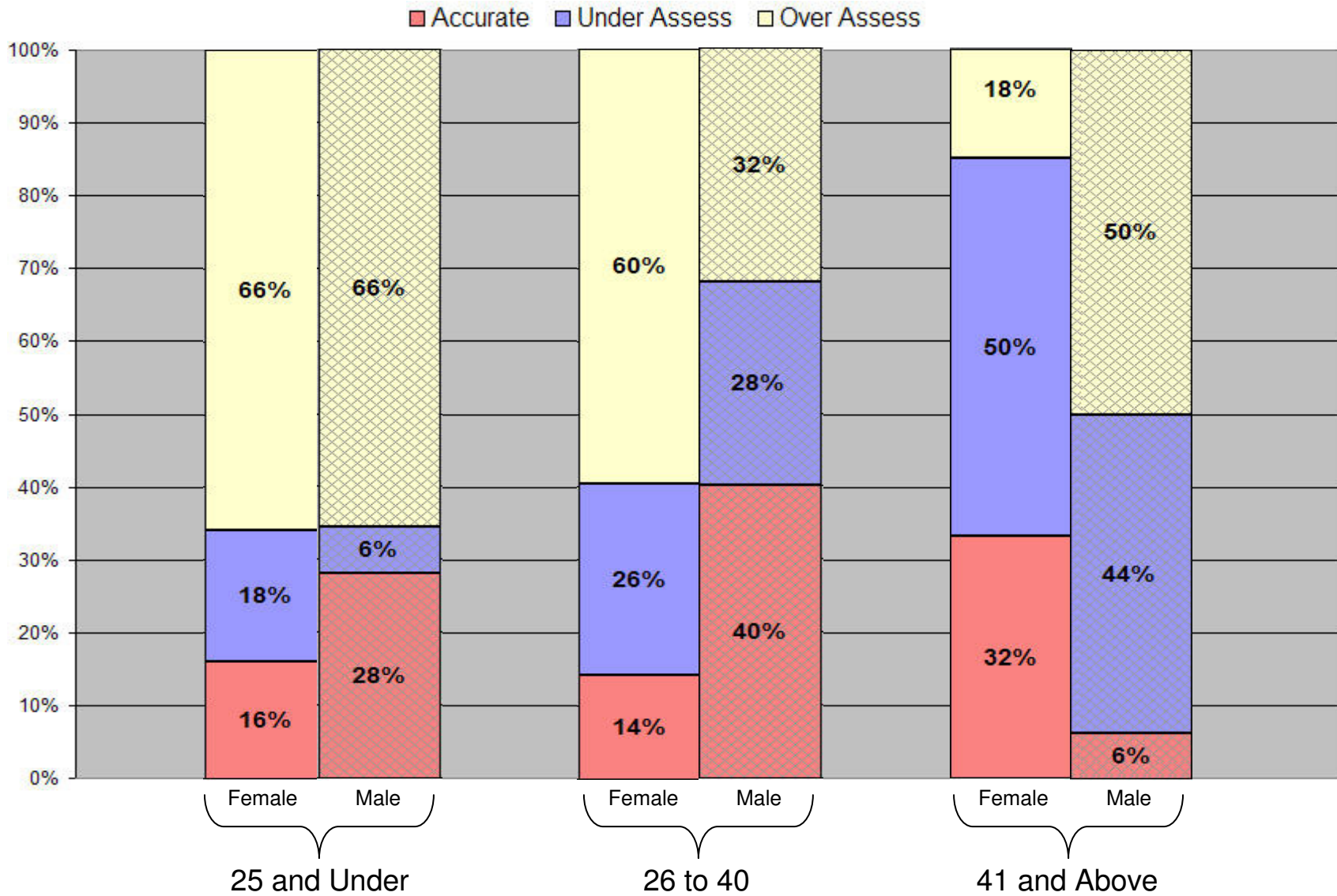
■ Accurate ■ Under Assess ■ Over Assess



Accuracy by Age Group



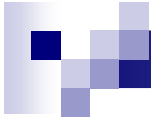
Accuracy by Age Group & Gender



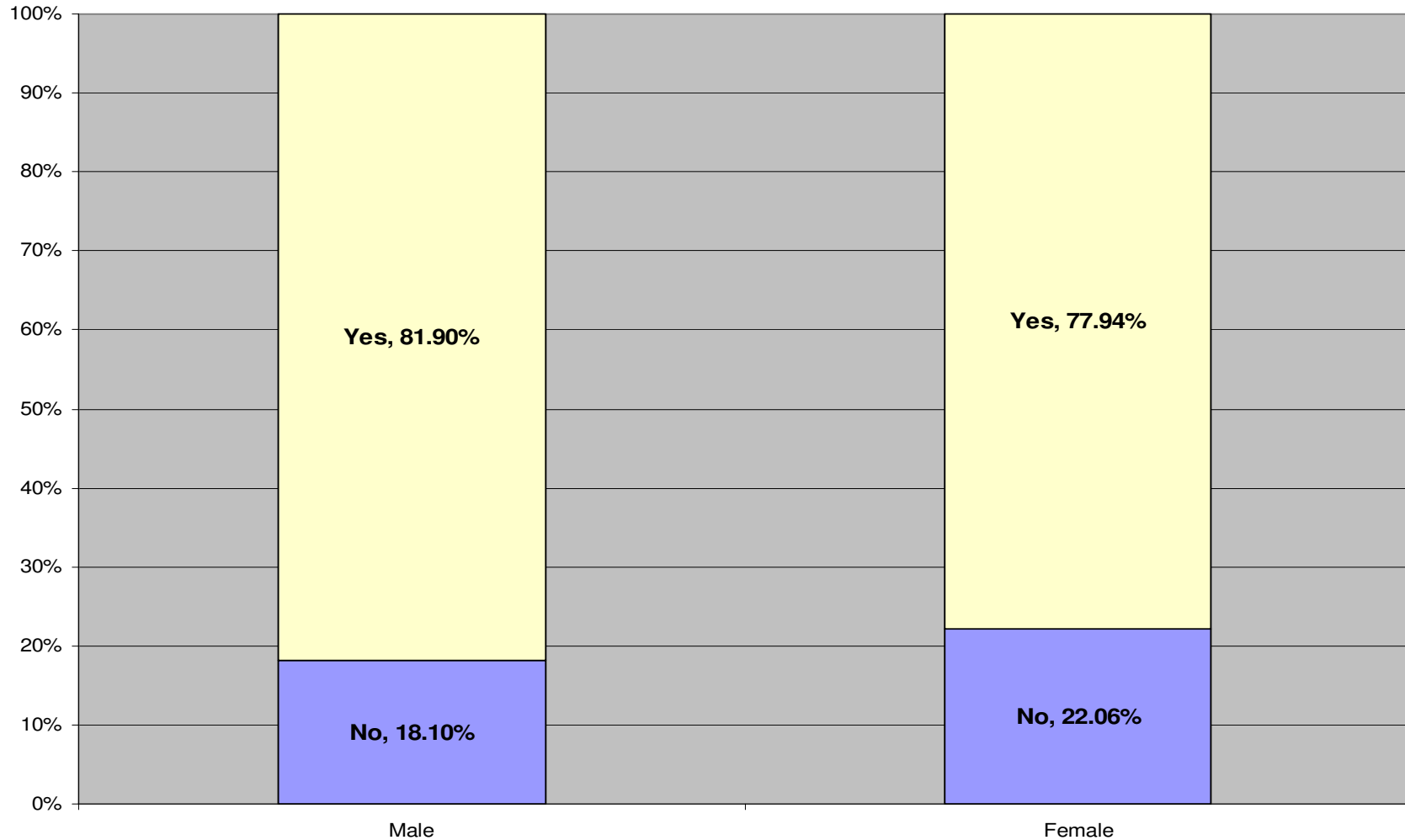


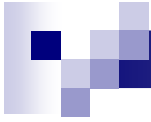
Research says...

- In general, the less experienced a student is in a topic, the more that student will tend to over-assess his or her skill level
- A more experienced student will sometimes tend to under-estimate his or her skill level

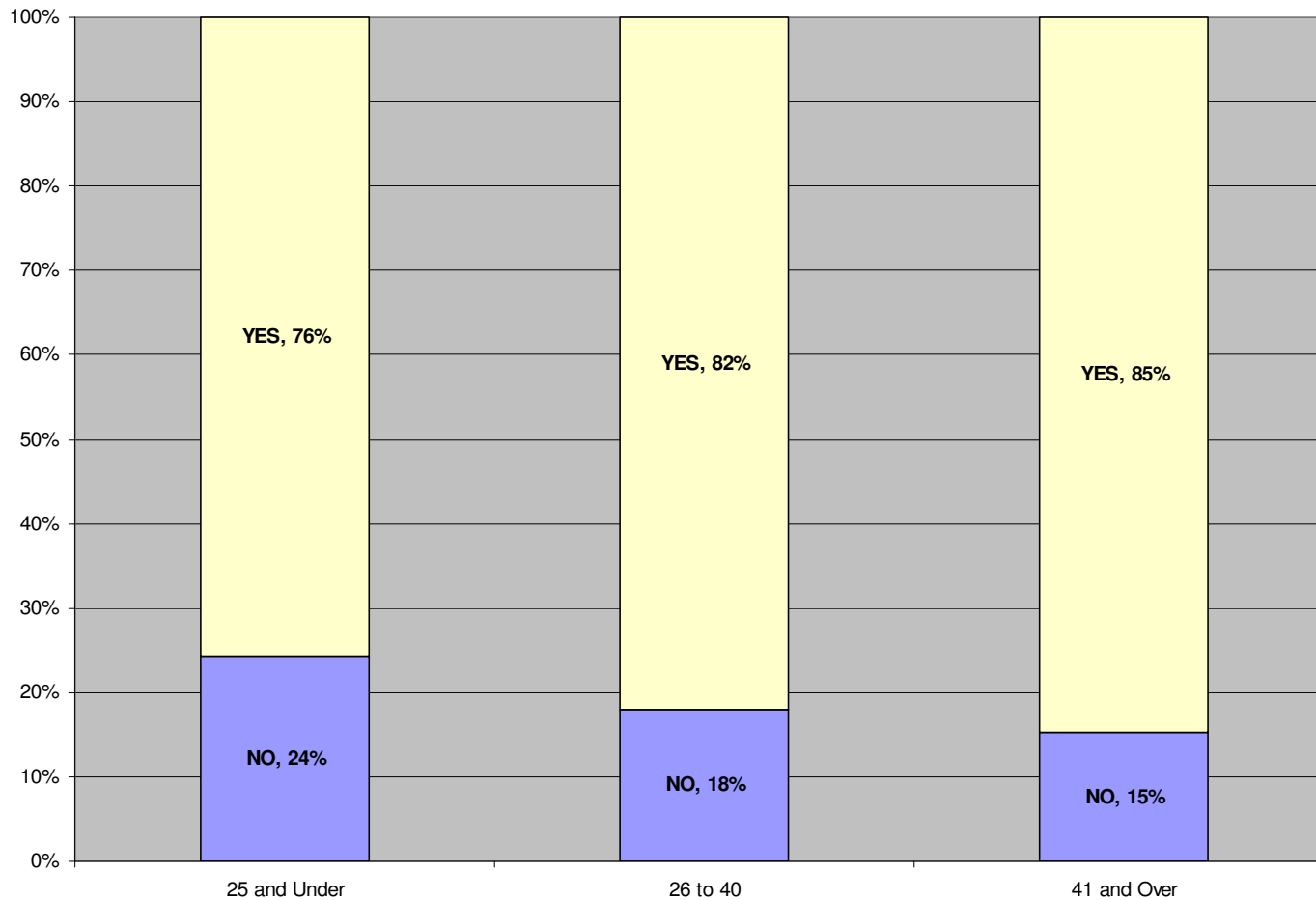


Prior Computer Classes by Gender





Prior Computer Classes by Age Group





Wrapping up...

- Assumptions that younger students have adequate computer assessment skills may not be accurate
- The youngest group (25 and under) tended to over-assess skills more than other groups
- The oldest group (41 and over) tended to under-assess skills more than other groups
- Prior computer classes do not seem to impact tendency to over-assess



More Research...

- Results of this study may not be generalizable to other institutions because of the non-random sample and overall student population
- Similar research at other institutions is necessary to gain a more accurate picture
- Research into cultural assumptions of what constitutes computer literacy may help explain age group differences



- THANK YOU!
- Please e-mail me at llahore@everettcc.edu for further information.