



Information & Communication Technology: Shared Prosperity in the Digital Age

Overview

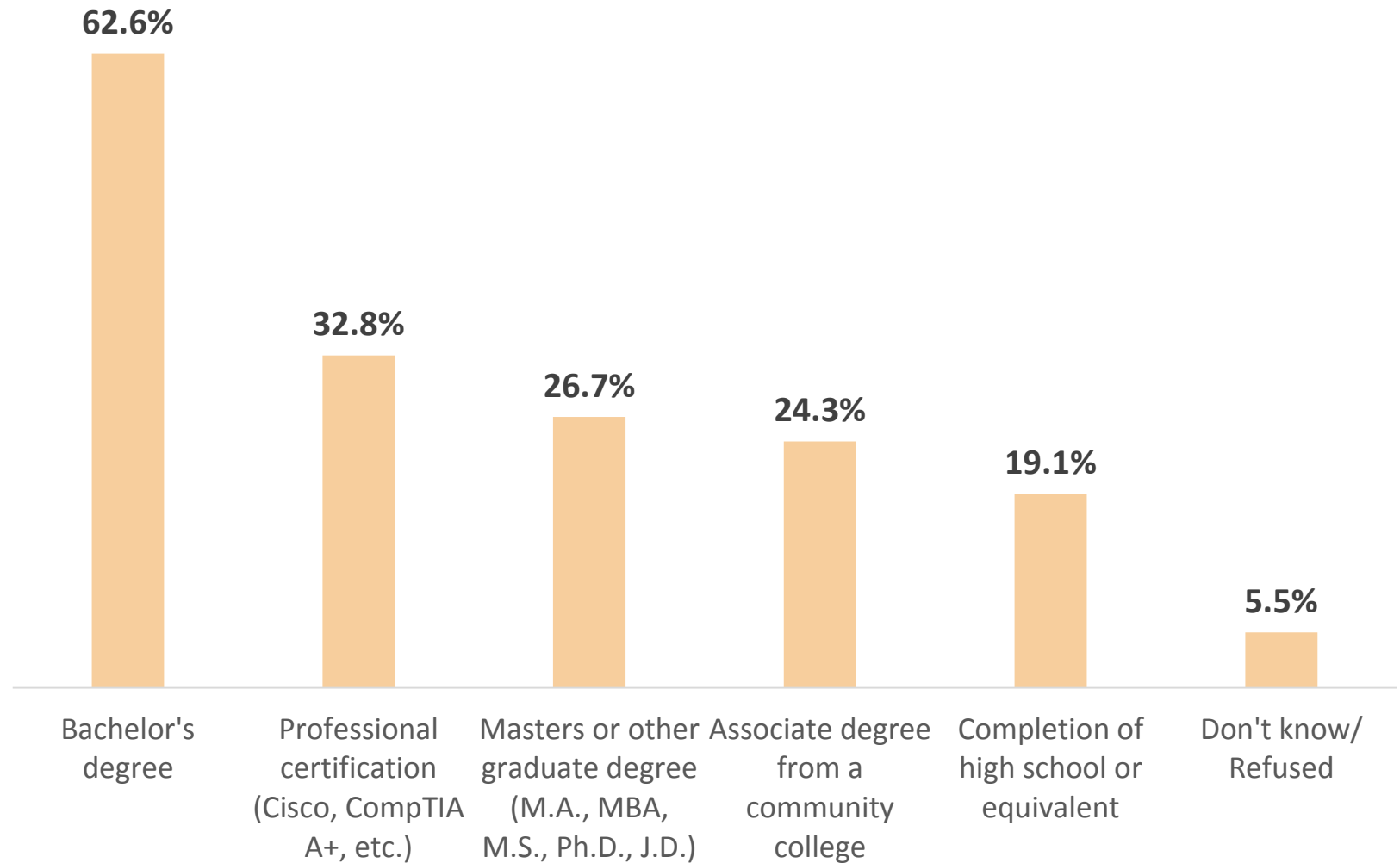
- Massachusetts has an exceptionally high concentration of computer and mathematical occupations
- All 20 occupations are more concentrated in MA compared to national average—seven of these are >50% concentrated
- High concentration of ICT employment opportunity, but misaligned educational requirements, insufficient critical thinking, problem-solving, and analytical skills, as well as lack of diversity
- Addressing gaps in diversity and critical thinking/ problem solving skills can address talent shortages

College as a Proxy

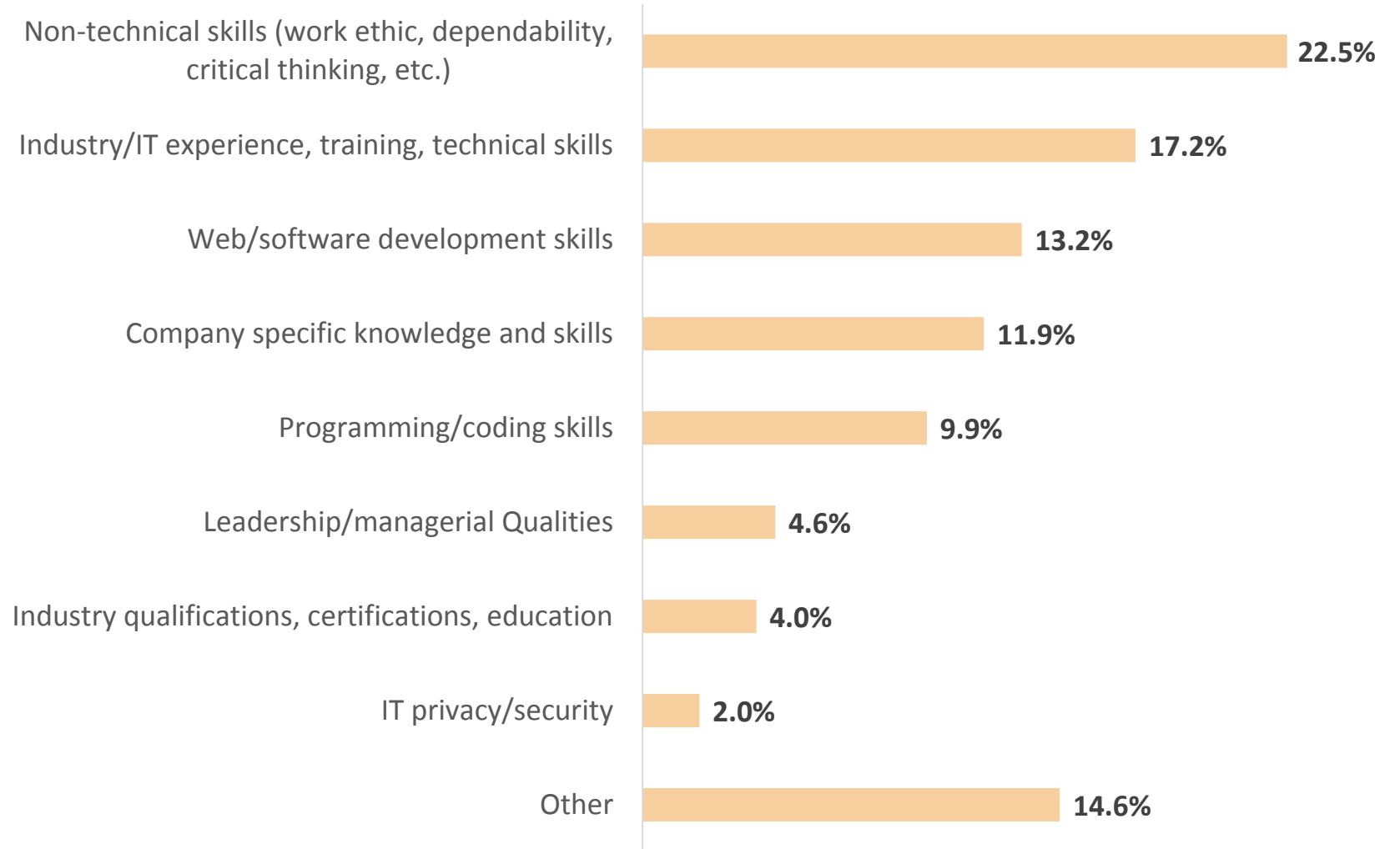
College degrees are preferred, but not necessary to develop the important non-technical skills most applicants lack

- Workforce is largely comprised of college-educated individuals
- But about half of those degrees are in subject areas unrelated to ICT
- Employers are using college as a proxy for knowledge, communication, and teamwork skills
- But still note deficiency among non-entry-level applicants in critical thinking, problem-solving, and other non-technical skills such as work ethic

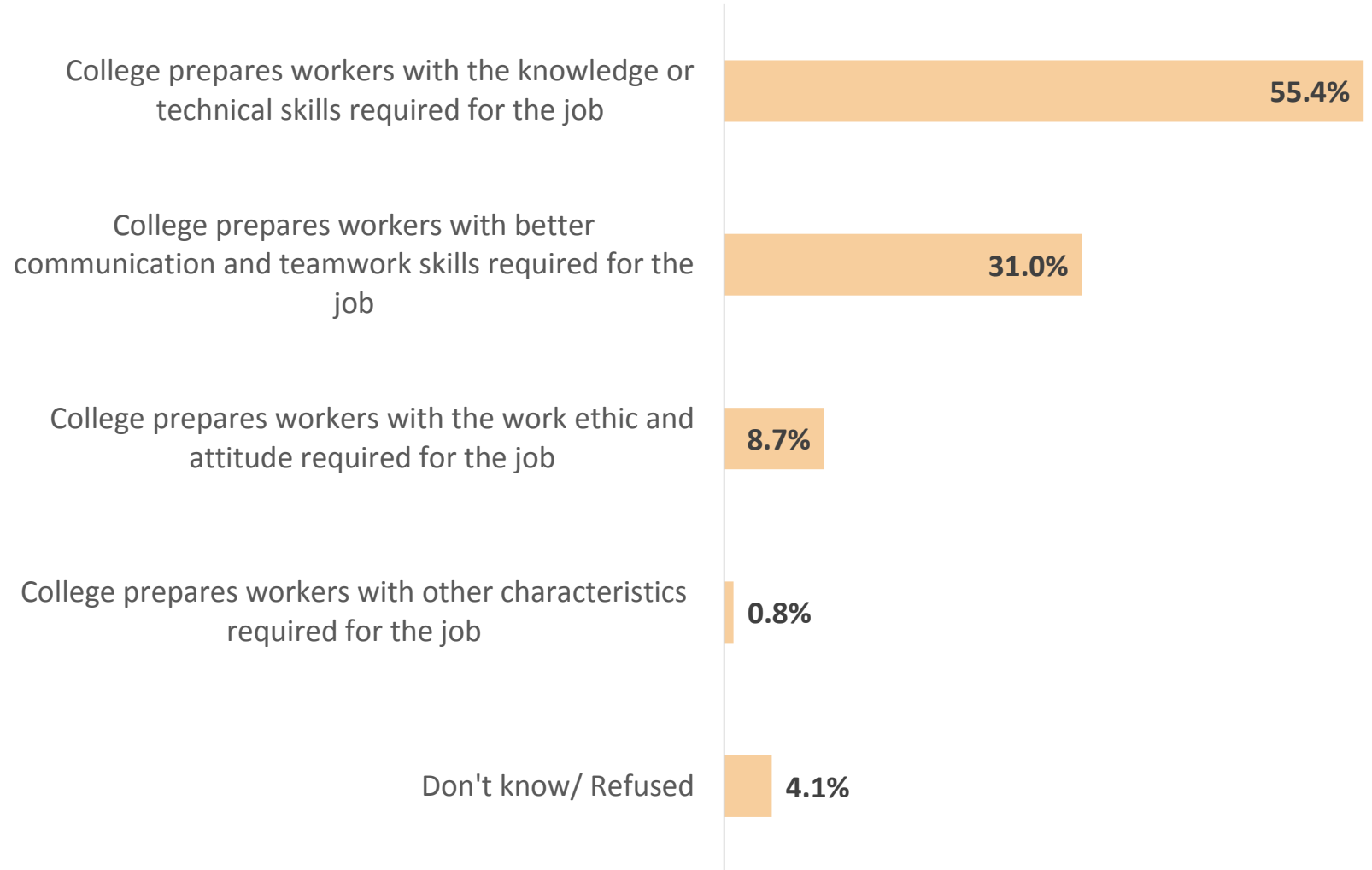
The majority of ICT positions typically require higher education



Employers report that non-technical skills are most difficult to find among non-entry-level workers



Firms note that college does not instill the non-technical skills required for employment



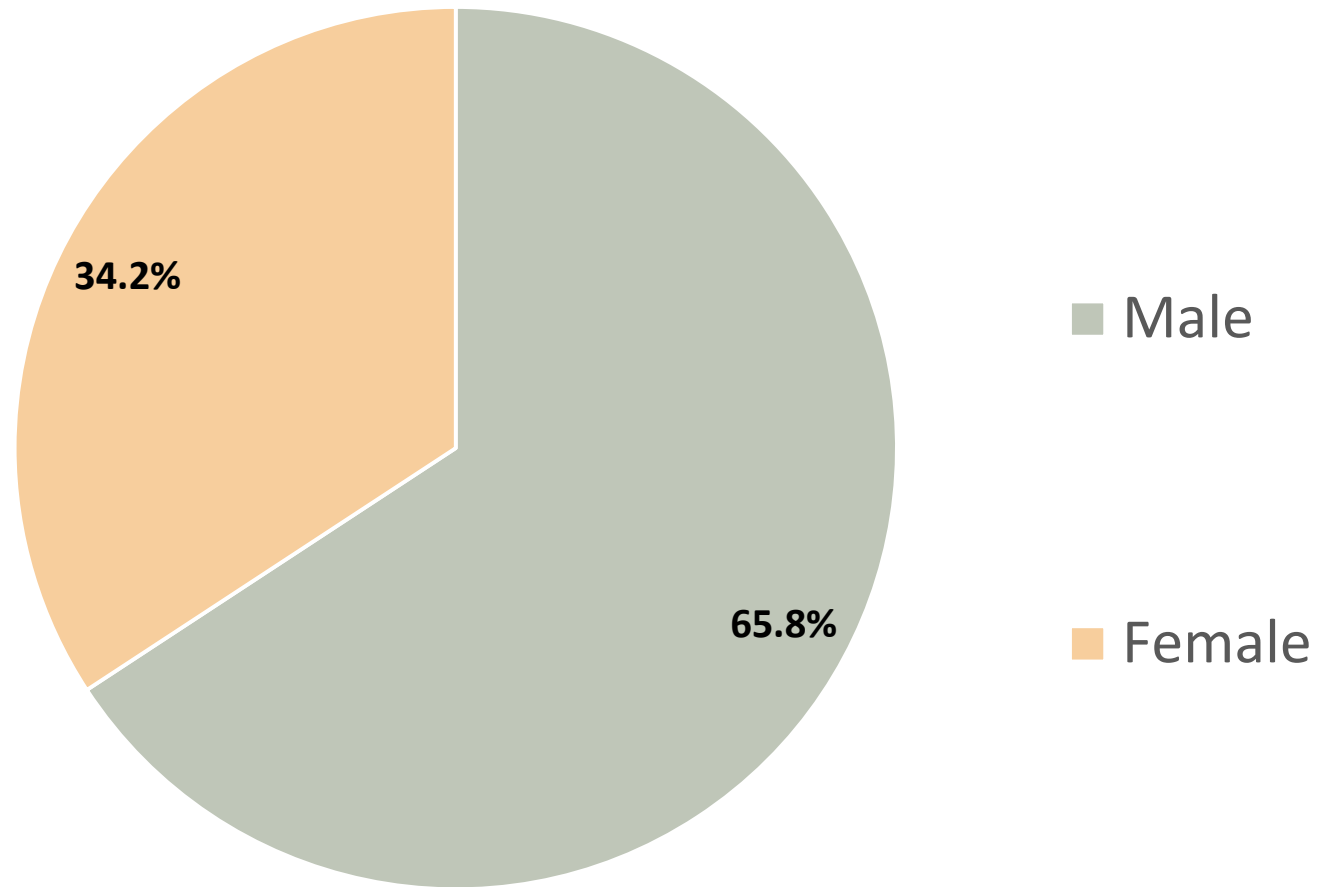
Workforce Diversity

Of the 4.4 million computer and mathematical occupations in the U.S.,

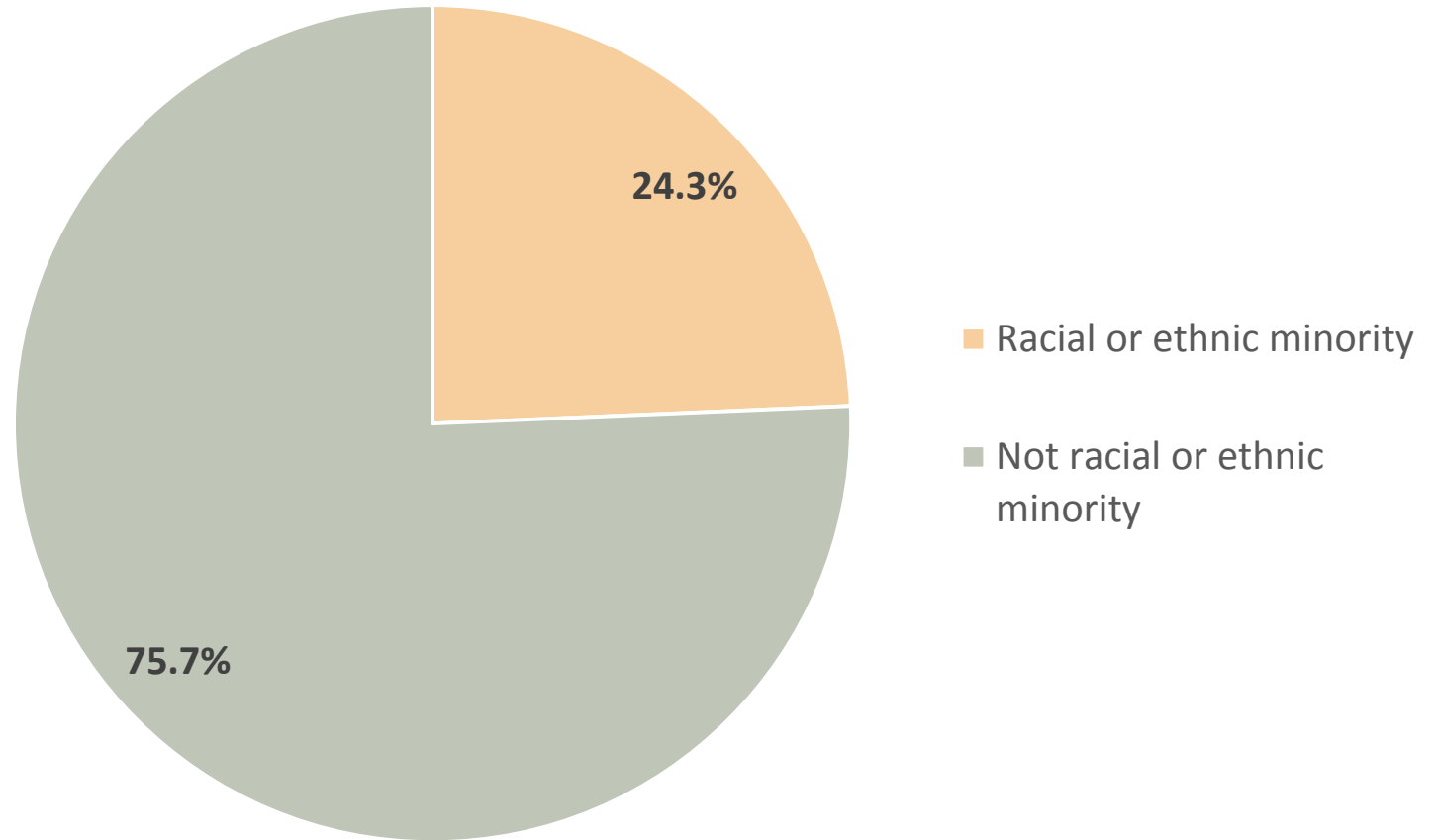
Only 9% are Black or African American and 7% are Hispanic or Latino

- Diversity is even lower across management occupations
- Not only are women and ethnic minorities underrepresented, those with same/ more education or experience are earning fewer than male, non-minorities – also less likely to make meaningful career advancement
- Mentorship, professional networking, and other career navigation activities—self-assessment, relationship management, organizational reading—are especially important for women and minorities

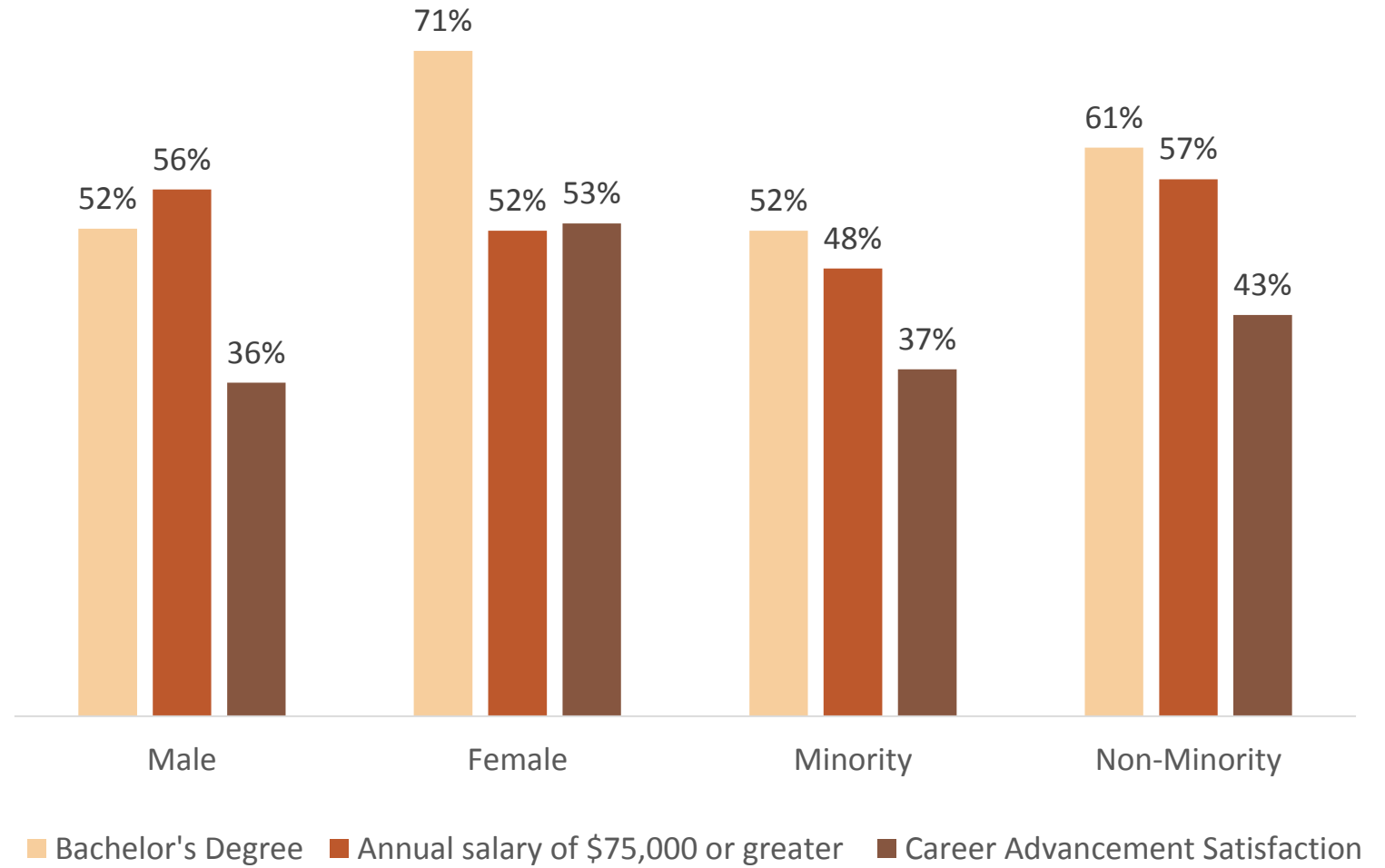
The majority of ICT workers are male—over two thirds



Few ICT employees identify themselves as racial or ethnic minorities



Demographic Assessment



Keys to Success

- Higher education, work experience, and on-the-job training are most important for successful career navigation
- Self-awareness, networking, and relationship management are rated very important for career advancement by over half of IT professionals
- Lack of sufficient mentorship is perceived as the greatest obstacle to career development
- Yet few participate in formal mentoring program as either mentor or mentee

Recommendations

1. Develop career exposure and experience programs that focus on diversity
2. Integrate problem-solving and critical thinking into all ICT training
3. Provide expanded networking and mentorship opportunities
4. Work with job-seekers to show-case their talent
5. Engage employers to explore non-traditional hiring sources and internship opportunities



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