

In this issue:

- 4. Use of Artificial Intelligence to Grade Student Discussion Boards: An Exploratory Study**
Stephen M. Rutner, Georgia College and State University
Rebecca A. Scott, University of North Carolina Wilmington

- 19. The Role of Task Value and Online Learning Strategies in an Introductory Computer Programming Course**
Pratibha Menon, California University of Pennsylvania

- 32. Comparison of Information Technology Professionals' Perception of Job Satisfaction and Inclusion by Gender: Insights for Recruitment and Retention of Female Students**
Leah Schultz, Tarleton State University
Mark Adams, Tarleton State University

- 45. Redesigning Assessment in the Computer Science Program at a Regional University**
Ernst Bekkering, Northeastern State University
Patrick Harrington, Northeastern State University

- 89. Against "Flexibility": Tightening the Cage of Academic Rigor with Instructors' Responsibility and Rationality Student Group Satisfaction Perceptions using**
Yaojie Li, Columbus State University
Jason Xiong, Appalachian State University
Jennifer Pitts, Columbus State University
Scott Hunsinger, Appalachian State University

- 97. Upskilling and Reskilling for the Future of Work: A Typology of Digital Skills Initiatives**
Guido Lang, Quinnipiac University
Tamilla Triantoro, Quinnipiac University

The **Information Systems Education Journal** (ISEDJ) is a double-blind peer-reviewed academic journal published by **ISCAP** (Information Systems and Computing Academic Professionals). Publishing frequency is six times per year. The first year of publication was 2003.

ISEDJ is published online (<https://isedj.org>). Our sister publication, the Proceedings of EDSIGCON (<https://proc.iscap.info>) features all papers, panels, workshops, and presentations from the conference.

The journal acceptance review process involves a minimum of three double-blind peer reviews, where both the reviewer is not aware of the identities of the authors and the authors are not aware of the identities of the reviewers. The initial reviews happen before the EDSIGCON conference. At that point papers are divided into award papers (top 15%), other journal papers (top 25%), unsettled papers, and non-journal papers. The unsettled papers are subjected to a second round of blind peer review to establish whether they will be accepted to the journal or not. Those papers that are deemed of sufficient quality are accepted for publication in the ISEDJ journal. Currently the target acceptance rate for the journal is under 40%.

Information Systems Education Journal is pleased to be listed in the Cabell's Directory of Publishing Opportunities in Educational Technology and Library Science, in both the electronic and printed editions. Questions should be addressed to the editor at editor@isedj.org or the publisher at publisher@isedj.org. Special thanks to members of ISCAP/EDSIG who perform the editorial and review processes for ISEDJ.

2022 ISCAP Board of Directors

Eric Breimer Siena College President	Jeff Cummings Univ of NC Wilmington Vice President	Jeffry Babb West Texas A&M Past President/ Curriculum Chair
Jennifer Breese Penn State University Director	Amy Connolly James Madison University Director	Niki Kunene Eastern CT St Univ Director/Treasurer
RJ Podeschi Millikin University Director	Michael Smith Georgia Institute of Technology Director/Secretary	Tom Janicki Univ of NC Wilmington Director / Meeting Facilitator
Anthony Serapiglia St. Vincent College Director/2022 Conf Chair	Xihui "Paul" Zhang University of North Alabama Director/JISE Editor	

Copyright © 2022 by Information Systems and Computing Academic Professionals (ISCAP). Permission to make digital or hard copies of all or part of this journal for personal or classroom use is granted without fee provided that the copies are not made or distributed for profit or commercial use. All copies must bear this notice and full citation. Permission from the Editor is required to post to servers, redistribute to lists, or utilize in a for-profit or commercial use. Permission requests should be sent to Paul Witman, Editor, editor@isedj.org.

INFORMATION SYSTEMS EDUCATION JOURNAL

Editors

Paul Witman
Editor
California Lutheran
University

Thomas Janicki
Publisher
U of North Carolina
Wilmington

Donald Colton
Emeritus Editor Brigham
Young University
Hawaii

Dana Schwieger
Associate Editor
Southeast Missouri
State University

Ira Goldman
Teaching Cases
Co-Editor
Siena College

Michelle Louch
Teaching Cases
Co-Editor
Carlow College

Brandon Brown
Cyber Education
Co-Editor
Coastline College

Anthony Serapiglia
Cyber Education
Co-Editor
St. Vincent College

Comparison of Information Technology Professionals' Perception of Job Satisfaction and Inclusion by Gender: Insights for Recruitment and Retention of Female Students

Leah Schultz
lschult@tarleton.edu

Mark Adams
madams@tarleton.edu

Marketing and Computer Information Systems
Tarleton State University
Stephenville, Texas 76401, USA

Abstract

This paper examines responses to questions about job satisfaction and inclusion from professionals in the information technology field. Responses from over 10,000 professionals were analyzed to determine if there were differences in response to these questions based on gender of respondent. This information, along with previous research on inclusion of women in higher education and industry, are discussed to determine similarities with previous research. Results from the study are used to suggest ways that educators can use the responses to improve recruitment and retention of females in technology majors and minors.

Keywords: Women in technology, recruitment, retention, job satisfaction, inclusion.

1. INTRODUCTION

Jobs in information technology (IT) continue to grow in the United States and new jobs are predicted to increase by 11%, adding approximately half a million new jobs by 2029 (Bureau of Labor Statistics, 2021). In 2015, only 25% of computing jobs in the United States were occupied by women which declined sharply since the 1990's but has been holding steady in recent years (Ashcraft, McLain, & Eger, 2016). In rapidly growing fields within IT such as information security analysis, jobs are projected to grow at a staggering rate of 31% over the next 10 years with only 16.8% of jobs in the area held by women (Women's Bureau, n.d.). Retention of female employees in IT related fields is dismal with more than 50% of women leaving the field

(Hewlett, Luca, Servon, Serbin, Shiller, Sosnovich & Sumberg, 2008). There are many factors leading to this underrepresentation, starting with fewer women choosing information technology careers in college and large numbers leaving the field for various reasons.

In order to increase participation by women in the technology field, it is important to understand why women choose or do not choose to major in information technology related fields in college and why they choose to leave their careers in large numbers. Understanding these factors may help educators recruit and prepare female students for IT careers and aid employers in retaining employees.

The purpose of this study is to look at various aspects of job satisfaction and inclusion for professionals in IT careers and determine if there are differences in these beliefs between genders. This study will compare responses to male counterparts whereas many previous studies on women in the workplace are studied as a standalone population. Comparing the two populations will provide insight into whether certain factors are considered differently across gender or if there are factors of job dissatisfaction that are shared by both males and females.

2. BACKGROUND INFORMATION

Fewer Women Entering the Field

In 2019, more 18-24 year old females were enrolled in colleges and universities than males with 57% compared to 43%, respectively (National Center for Education Statistics, 2021a). This trend has held steady since 2010 and graduation rates show similar differences with 66% of female students earning a baccalaureate degree within 6 years of enrollment compared with 60% of male students (National Center for Education Statistics, 2021c). However, in IT related fields these numbers vary greatly. At the associate's degree level in computer and information sciences, 80% of the degrees were awarded to male students. In 2018 and 2019, 63,703 bachelor's degrees in computer and information science were awarded to male students and 15,894 awarded to female students during the same time period. Even though female populations in four-year schools continue to exceed those of males, degrees awarded in computer related fields are significantly skewed towards males (National Center for Education Statistics, 2021b).

Reasons why females are underrepresented in baccalaureate programs have been studied by many researchers over the years with hopes of mitigating the problem. Serapiglia & Lenox (2010) discussed a complex decision-making process for women pursuing computer information systems degrees. They found that male role models, positive introduction to computers and technology, the opportunity for earnings, and natural talent at problem solving were some factors that lead women to choose CIS as a major. Lack of female role models in IT, media perceptions, parental guidance as well as previous programming experience also potentially play a role in selection of computer related majors (Jung, Clark, Patterson & Pence, 2017). In countries where females are more represented in technology fields like Malaysia, lack of female role models is not a problem as it

is for students in the United States and Europe (Othman & Latih, 2006).

Socialization and early education have also been studied as possible reasons women do not pursue careers in STEM fields and computer science, in particular. An increasing lack of confidence and fear of failure in technical fields as female students progress through their education has been cited by many researchers as a deterrent for choosing computer related fields as a career (Jung, et al., 2017; McGee, 2018; Serapiglia & Lenox, 2010). Lack of female role models and stereotypes of "geeks only" mindsets have also been cited as reasons female students do not enroll in technology related degree programs (Serapiglia & Lenox, 2010). Preconceptions deterring women from studying computer science indicate that many believe computer science is a male dominated field and that women who work or study computers have low self-worth, are unattractive, and are different or atypical (Berg, Sharpe, & Aitkin, 2018).

Fewer Women Remaining or Advancing in Field

Once women decide to pursue educational opportunities in computer related fields, they face many barriers in the workplace that lead to problems with retention. In 2008, technology fields had the highest rate of abandonment of the STEM fields with over 50% of women leaving the field and at a higher rate than their male counterparts (DuBow, & Gonzalez, 2020). Research has shown that five areas of concern are responsible for many women leaving the field. Bias, isolation, supervisory issues, promotion opportunity and process, and other external life issues are the often cited reasons for women leaving technology (Hewlett, et.al, 2008).

While many women remain in technology careers, those that leave discuss multiple factors influencing their decision. Mentioned in their report on brain drain in STEM fields, Hewlett and colleagues (2008) found a significant number of women who quit in their thirties due to lack of support at their job and challenges with work/life balance. In addition to these, women also mentioned male-dominant attitudes, isolation, undefined career paths, and reward systems based on risk-taking as barriers confronted in the technology workplace. In focus groups investigating workplace barriers and voluntary turnover, Allen, et al., (2006) found that women left their jobs due to problems with flexibility in scheduling, family issues, stress, and workplace policy issues.

Once in field, many women report feelings of career “stall”, where they feel they are no longer getting ahead at work. In 2014, approximately 33% of Asian, Hispanic, and Caucasian women reported feelings of career “stall” and a staggering 48% of African American women felt that their careers had stalled (Hewlett, Sherbin, Dieudonné, Fargnoli, & Fredman, 2014).

Advancement opportunities for women in technology fields have also lagged behind opportunities for men. In 2016, only 20% of the Chief Information Officer positions in Fortune 100 companies were held by women (Shein, 2018). While some attribute this to the relative numbers of women in the field, other researchers have proposed other barriers for women. In her article on the influence of gender and race of advancement in IT, McGee (2018) reviewed a large body of literature that found women’s views towards IT culture were not favorable. Common themes throughout the research presented, described the field as “predominately male and white, anti-social, individualistic, competitive, hostile toward women, misogynistic, and sexist.” Roldan, Soe, and Yakura (2004) believe that this masculine environment is not conducive to career advancement for women and results in high turnover, in general, for female employees.

Although women receive similar job performance ratings in IT, evidence suggests that the effect of job performance ratings on advancement is skewed in favor of men (Igbaria & Baroudi, 1995). Women also cite lack of respect, ageism, stress, and scheduling flexibility as barriers to advancement in their careers (Allen, et al., 2006). Other researchers have investigated structural barriers around formal and informal networking as well as lack of mentors as another impediment to women advancing in technology careers (Armstrong & Reimenschneider, 2014; Roldan, Soe, & Yakura, 2004). Many of the interventions by major tech companies wishing to increase retention of diverse work forces center on support structures and networks (Barker, Mancha, & Ashcroft., 2014). The importance and improvement of professional networking for women in IT has been studied in depth and has been shown to be an important part in retention and advancement of women in IT (Bapna & Funk, 2021; Ahuja, 2002; Kleinbaum, Stuart, & Tushman, 2013).

Importance of Gender Diversity in Workforce

There are social as well as economic reasons that businesses and society at large should be interested in increasing diversity in the IT

workplace. From a social aspect, women should be encouraged to find employment in a field that offers significant opportunity in terms of salary as well as impact of work. In 2020, the average annual salary of \$91,250 for computer related careers more than doubled the national average salary of \$41,950 (Bureau of Labor Statistics, 2021). Salaries and job security are still attractive incentives for women in the workforce, even though the pay gap in technology related fields is wider than other sectors (Chamberlain, 2016).

In their research review of the importance of diversity in the tech workplace, Barker, Mancha & Ashcraft (2014) found that companies perform better when women hold leadership positions. They found superior team dynamics and increased productivity. Research from the report indicates that diverse teams are more likely to stay on schedule and on budget. Collaboration is improved when teams represent both genders (Bear & Wooley, 2011).

Because innovation is critical in many areas of IT, impact of diverse working groups should be of interest to businesses. When groups are diverse, there is an increased level of experimentation and efficiency (Lehman Brothers Centre for Women in Business, 2007).

From an economic standpoint, companies should consider diversity in terms of coming, costly labor shortages. With the expected demand for computer related talent discussed in the introduction, industry should be grooming and recruiting talented labor from all walks of life and should work at avoiding the costly brain drain on their workforce as women continue to leave the field and retention efforts flounder.

3. METHODOLOGY

Anonymized data were used from an online developer survey conducted by Stack Overflow under their Open Database License program. Stack Overflow is a website dedicated to question and answer communities covering a wide range of information technology topics. The survey was completed by over 65,000 participants worldwide in February 2019. Data that were submitted where participants spent less than three minutes on the survey were omitted. Participants were recruited by Stack Overflow through its various online sites and the survey methodology indicates that there is a potential bias of participation from users who are highly engaged in Stack Overflow online properties (Stack Overflow, 2020).

For the purposes of this study, a subset of responses from participants were filtered to include only respondents in the United States and those that indicated a binary gender (male or female). Participants that indicated non-binary or selected more than one gender were excluded but warrant further study in future analysis. Data were further filtered to only include responses from currently employed respondents. Both part time and full-time respondents were included and student and hobbyist respondents were excluded. The final number of responses collected totaled 10,148 but all respondents did not respond to all of the selected questions.

Because the survey covers a wide range of topics, questions that related to work environment, participation, and job satisfaction were selected for the purposes of this study. Likert questions were combined into one construct for analysis around the idea of job satisfaction and participation. Additional questions that required participants to select one or more items from a list were analyzed separately. Questions used for analysis are presented in the appendix. In a few instances, such as computer major and education level, responses were grouped to create a subset that was of interest to the study.

Data were imported into SPSS for analysis of selected criteria related to job satisfaction, participation, and inclusion.

4. RESULTS

Education and Computer Related Majors

Women responding to the survey were more likely to have a college degree than their male counterparts with 86% of women reporting degree completion compared to 79% of male respondents. However, when looking at field of study in degrees, 67% of male respondents had an information technology related degree compared to female respondents who reported in field degrees at 51%.

When asked about the importance of formal education, such as a degree in computer science, there was no statistical difference in how men and women responded. Most of the responses for the question indicated that both genders indicated it to be somewhat important with very few respondents believing that it was either critically or not important at all.

Job Satisfaction and Participation

A series of Likert scale questions were analyzed to determine differences in attitudes towards job satisfaction and participation. Questions used a

range from 1 to 5 with five representing a more positive response to the question. Results indicate that women and men do have statistically different attitudes towards their current job as well as their roles and participation in professional activities, $t(1187)=-9.38, p<.001$.

Reasons to Initiate a Job Search

When asked to select from a list of issues that might cause respondents to search for a new job, there were many shared reasons and some significant differences between men and women. Both were as likely to job hunt out of curiosity, a desire to share accomplishments, leadership issues, or for no reason at all. Men were more likely to select compensation issues, $t(1038)=-4.05, p<.001$, and desire to work with new technologies, $t(1060)=-4.40, p<.001$, as reasons to consider switching jobs.

Women were more likely to job hunt after having a bad day, $t(1033)=4.20, p<.001$, relocation $t(1039)=3.09, p=.002$, trouble with manager, $t(1024)=4.93, p<.001$, trouble with teammates, $t(991)=6.22, p<.001$, and issues with work/life balance, $t(1060)=2.04, p=.041$. Women were also more likely to select interest in growth opportunities as a reason to initiate a job search, $t(1076)=2.84, p=.004$.

Problem Solving in the Workplace

When asked how respondents reacted to getting "stuck on a problem", there were many shared strategies among women and men. Both genders were equally likely to consult online communities like Stack Overflow, watch help videos, or do other distracting activities such as meditate or walk. Men were more likely to indicate they would play games while working through a problem, $t(1391)=-2.47, p=.013$. Women were more likely to indicate that they would ask a coworker for help, $t(1347)=3.66, p<.001$, focus on other work as a distraction, $t(1399)=6.29, p<.001$, or panic, $t(1229)=8.63, p<.001$.

Criteria for Job Search

When asked which three factors were important when deciding between two theoretical jobs with similar pay, benefits, and location, there were some factors that were selected equally by both genders and some that were significant to a respective gender. Selecting factors such as ability to work remotely, professional development, department or team, flex time, and family friendliness were as likely to be selected as one of the three most important factors in a job search by both sexes.

Men were more likely to indicate that the following three factors were most important to consider: financial performance of a company, $t(1421)=-5.51$, $p<.001$, impact of contributions, $t(1304)=-2.79$, $p=.005$, industry, and technologies used, $t(1296)=-9.06$, $p<.001$. Women were more likely to select office environment/company culture, $t(1269)=2.63$, $p<.001$, and company diversity, $t(1486)=10.86$, $p<.001$, as reasons to distinguish between two jobs.

Other factors that were not selected at significant levels between men and women include remote work options, professional development, specific department or team assignment, flexible schedules and family friendliness.

5. DISCUSSION

Overall, results from the survey were similar to findings from previous studies (Allen, et al., 2006; Berg, Sharpe, & Aitkin, 2018), and support the idea that women are less satisfied and participate less in their IT jobs than their male counterparts. Looking at reasons that might cause employees to look for other jobs or criteria used in selecting jobs provides further insight into why some of these differences may exist.

From a general standpoint, the importance of interpersonal relationships appeared to have more importance in women's responses than men. Company culture, diversity, problems in the workplace regarding team members and managers were more likely to be cited as reasons to search for a new job by women, whereas more concrete issues of salary and new technologies tended to be more likely to be cited by men. While both men and women turned to colleagues for help when stuck on a problem, women were more likely to rely on other people for help than men.

What was surprising, however, was that issues that have appeared to carry importance in other research were not present in this study. Issues such as flexible schedules, remote work schedules, and family friendliness were of similar importance to both men and women respondents. Additional data about family status and current work environments weren't available in this study but could provide additional insights about the results. Additionally, this survey was conducted in February of 2020, right before the pandemic shutdowns began, which significantly changed work environments in all industries.

From an education perspective, it is not surprising that women were more likely to have a bachelor's

degree than male respondents given the general statistics about female vs. male enrollment in US colleges and universities. Of the respondents that did have a bachelor's degree, men were more likely to have majored in a computer related field with almost half of the respondents coming from other areas of study. This also mirrors the findings reported by the National Center for Education Statistics (2021b).

So, what, as educators, can we take away from this snapshot of men and women in the workplace? Can we do something to increase diversity recruitment and retention of female technologists? There are a few areas from previous research that are supported by this research as well.

Recruitment of Female Students in IT Careers

As shown by many other studies, there are many reasons women do not choose IT as a major and there are as many studies trying to change that. Perhaps the answer does not lie in recruiting women to the IT field but in bringing IT to their chosen fields. Almost 50% of women tech professionals responding to the survey had college degrees in areas other than IT. They eventually discover, either through interest or necessity or other life circumstances, that they can be interested and successful in the IT field. Departments that are looking to increase gender diversity in their classrooms might consider minors or certificate programs in conjunction with other majors in the university. This exposes more students to information technology education and potentially opens the door of opportunity for more women to choose careers in IT.

If circumstances and resources allow, creating cohort groups in introductory computing classes that require students from all majors to explore how technology is used specifically in their chosen field of study could be helpful. Not only will this benefit students in that field but potentially will spark an interest in students that might not have considered a career in information technology. Doing so may allow many women to receive the technical training and confidence in their skills that might transition them to an IT career, sooner than later. Presenting different problems across multiple disciplines could help disperse the "geeky" stereotypes of computer nerds writing code only to solve science problems and broaden horizons to include how technology plays an important role in all fields from business to the arts and humanities.

Retention of Female Students in IT Programs

Because issues like panic in the face of a problem, as well as dissatisfaction or issues with interpersonal relationships at work were significant concerns of female respondents, a strong support system for women in IT should be instituted at the educational as well as professional level. Participation in student groups and professional memberships should be strongly encouraged for all students, and women in particular. Participation in these activities will allow them to practice their networking skills, both formal and informal, that can help mitigate advancement issues they may encounter in the workplace.

In addition, there are case studies supporting the formulation of women specific professional organizations to make selection of IT as a career more appealing (Wang, Goldgof, & Christensen, 2019; Heistand-Tupper, Leitherer, Sorkin, & Gore 2010). Encouraging female participation in student or professional groups for women allows students to find mentors and build networks that will help them in their future career. If there aren't that many or any female faculty in a department, consider teaming up with other STEM related departments on campus or encourage participation in local or national organizations intended to promote women in computer related fields. Also consider encouraging female students to participate more in online communities like Stackflow or other industry specific communities at an early stage to normalize this behavior and open networking and help opportunities that may benefit them in the workplace.

Interpersonal Skills

While interpersonal skills rarely appear in the curriculum, there are ways to consider preparing our students, both male and female, how to be successful in the workplace and this carries on beyond pure technical skills. Many programs emphasize concepts such as group work, written ability, and public speaking. When considering these soft skills, also consider some of the issues presented in this study. When assigning group projects, try to create diverse groups when possible. If assigning roles within the group, give female students a chance to lead her male colleagues and give male students the chance to interact in meaningful ways with their female colleagues. If recruitment efforts in higher education are successful and women choose computer related majors with more frequency, the ability to interact and become familiar with colleagues of all genders, races, and backgrounds

should mitigate some of the issues currently faced by women in the technology field.

Future Studies

While this study is just a snapshot of some opinions held by professionals in the workplace, it gives us a glimpse of some of the issues that affect a woman's satisfaction and success in her career. A broader, more nuanced look at some of these issues would provide even more information on how the industry is changing and can reveal other steps that can be made to improve women's place in IT.

This study did not examine any aspect beyond gender. Other factors such as women of color help increase the diversity of our field, yet they are even rarer participants than the scope of this study. While women are chronically underrepresented in this field, other groups such as African-American women make a small fraction of the technology workforce and tend to leave at greater rates. These issues, along with gender should also be studied to increase participation and diversity.

Another aspect that limits this study is the concept of gender, in general. This study looked at binary genders only for ease and clarity of results. Respondents that indicated non-binary or multiple gender affiliations were not included. With the increase and acceptance of gender fluidity of younger generations, the research done in this field to this point could see major shifts as younger people reconceptualize the concept of gender overall.

6. CONCLUSION

As mentioned before, this study gives a snapshot of women's feelings about their jobs in IT fields, but it is just that, a snapshot. It gives us ideas of where problems might lurk and where opportunity exists. This study supports findings from many previous areas of research but also provides some surprising divergence. Issues that many times are considered "women's issues" such as family support and flexible work schedules, really are employee concerns across all genders. With a growing demand for technical talent, higher education and the tech industry should focus on encouraging and including women to increase participation in areas of technical expertise. Researchers should continue to identify strategies to recruit women to the field and retention strategies to retain and advance women to make IT a richer, more inclusive industry.

7. REFERENCES

- Allen, M.W., Armstrong, D.J., Riemenschneider, C.K., & Reid, M.F. (2006). Making sense of the barriers women face in the information technology work force: standpoint theory, self-disclosure, and causal maps. *Sex Roles*, 54, 831-844.
- Ashcraft, C., McLain, B. & Eger, E. (2016). Women in tech: the facts 2016 Update. National Center for Women and Information Technology. https://wpassets.ncwit.org/wp-content/uploads/2021/05/13193304/ncwit_women-in-it_2016-full-report_final-web06012016.pdf
- Bapna, S., & Funk, R. J. (2021). Interventions for Improving Professional Networking for Women: Experimental Evidence from the IT Sector. *MIS Quarterly*, 45(2), 593-636.
- Barker, L., Mancha, C. & Ashcroft, C. (2014). What is the impact of gender diversity on technology performance? Research summary. National Center for Women & Information Technology. <https://www.ncwit.org/businesscase>
- Bear, J. B., & Woolley, A. W. (2011). The role of gender in team collaboration and performance. *Interdisciplinary Science Reviews*, 36(2), 146-153.
- Berg, T., Sharpe, A., Aitkin, E. (2018). Females in computing: understanding stereotypes through collaborative picturing. *Computers & Education*, 126(2018), 105-114.
- Bureau of Labor Statistics (2021). Occupational Outlook Handbook, Computer and Information Technology Occupations. U.S. Department of Labor. <https://www.bls.gov/ooh/computer-and-information-technology/home.htm>
- Chamberlain, A. (2016). The widest gender pay gaps in IT. Glassdoor Economic Research. <https://www.glassdoor.com/research/gender-pay-gap-in-tech/>
- DuBow, W. & Gonzalez, J.J. (2020) NCWIT Scorecard: The Status of Women in Technology. Boulder, CO: NCWIT. <https://ncwit.org/resource/scorecard/>
- Heistand-Tupper, D., Leitherer, B., Sorkin, S., & Gore, M.E. (2010). Strategies for increasing IT enrollment: recruiting, retaining, and encouraging the transfer of women and underrepresented groups to four-year colleges. *Information Systems Education Journal*, 8(54), 3-21. <http://www.isedj.org/8/54/>
- Hewlett, S.A., Luca, C.B., Servon, L.J., Serbin, L., Shiller, P., Sosnovich, E. & Sumberg, K. (2008). The Athena Factor: Reversing the Brain Drain in Science, Engineering, and Technology. Center for Work-Life. Harvard Business Review.
- Hewlett, S.A., Sherbin, L., Dieudonné, F., Fagnoli, C., & Fredman, C. (2014). Athena Factor 2.0: Accelerating female talent in science, engineering, & technology. New York: Center for Talent Innovation. <https://coqual.org/reports/athena-factor-2-0-accelerating-female-talent-in-science-engineering-technology/>
- Igbaria, M., & Baroudi, J.J. (1995). The impact of job performance evaluations on career advancement prospects: an examination of gender differences in the IS workplace. *MIS Quarterly*, 19(1), 107-123.
- Jung, L., Clark, U., Patterson, L., & Pence, T. (2017). Closing the gender gap in the technology major. *Information Systems Education Journal*, 15(1), 26-41. <http://www.isedj.org>
- Kleinbaum, A.M., Stuart, T.E., & Tushman, M.L. (2013). Discretion within constraint: Homophily and structure in a formal organization. *Organization Science* 24(5), 1316-1336.
- McGee, K. (2017). The influence of gender, and race/ethnicity on advancement in information technology (IT). *Information and Organization*, 28(1), 1-36.
- National Center for Education Statistics (2021a). College enrollment rates. <https://nces.ed.gov/programs/coe/indicator/cpb>.
- National Center for Education Statistics (2021b). Undergraduate degree fields. <https://nces.ed.gov/programs/coe/indicator/cta>.
- National Center for Education Statistics (2021c). Undergraduate retention and graduation rates. <https://nces.ed.gov/programs/coe/indicator/ctr>.
- Othman, M., & Latih, R. (2006). Women in computer science: no shortage here! *Communications of the ACM*, 49(3), 111-114.
- Serapiglia, C.P., & Lenox, T.L. (2010). Factors affecting women's decisions to pursue an IS

- degree: a case study. *Information Systems Education Journal*, 8(12).
<http://isedj.org/8/12/>
- Shein, E. (2018). Broadening the path for women in STEM. *Communications of the ACM*, 61(8), 19-21.
- Stack Overflow. (2020). 2020 Developer Survey. <https://insights.stackoverflow.com/survey/2020>
- Roldan, M., Soe, L., & Yakura, E. (2004). Perceptions of chilly IT organizational contexts and their effect on the retention and promotion of women in IT. *SIGMIS CPR '04*.
- Women's Bureau (n.d). Occupations with the largest projected increase in jobs by share of women in the occupation. U.S. Department of Labor. <https://www.dol.gov/agencies/wb/data/high-demand-occupations>.

Appendix A

Survey Questions (Stack Overflow, 2020)

1. Which of the following best describes the highest level of formal education that you've completed?
I never completed any formal education; Primary/elementary school; Secondary school (e.g. American high school, German Realschule or Gymnasium, etc.); Some college/university study without earning a degree; Associate degree (A.A., A.S., etc.); Bachelor's degree (B.A., B.S., B.Eng., etc.); Master's degree (M.A., M.S., M.Eng., MBA, etc.); Professional degree (JD, MD, etc.) Other doctoral degree (Ph.D., Ed.D., etc.); Other (please specify):
2. What was your primary field of study?
Computer science, computer engineering, or software engineering; *Web development or web design; *Information systems, information technology, or system administration; Mathematics or statistics; Another engineering discipline (such as civil, electrical, mechanical, etc.); A business discipline (such as accounting, finance, marketing, etc.); A health science (such as nursing, pharmacy, radiology, etc.); A humanities discipline (such as literature, history, philosophy, etc.); A natural science (such as biology, chemistry, physics, etc.); A social science (such as anthropology, psychology, political science, etc.); Fine arts or performing arts (such as graphic design, music, studio art, etc.); I never declared a major
3. How important is a formal education, such as a university degree in computer science, to your career?
4. Which of the following best describes your current employment status?
Employed full-time; Employed part-time; Independent contractor, freelancer, or self-employed; Not employed, but looking for work; Not employed, and not looking for work; Student; Retired; I prefer not to say
5. Imagine that you are deciding between two job offers with the same compensation, benefits, and location. Of the following factors, which 3 are MOST important to you?
Remote work options, Office environment or company culture, Financial performance or funding status of the company or organization, Opportunities for professional development, Diversity of the company or organization, How widely used or impactful my work output would be, Industry that I'd be working in, Specific department or team I'd be working on, Flex time or a flexible schedule, Languages, frameworks, and other technologies I'd be working with, Family friendliness
6. In general, what drives you to look for a new job? Select all that apply.
Curious about other opportunities, Better compensation, Having a bad day (or week or month) at work, Wanting to share accomplishments with a wider network, Looking to relocate, Just because, Trouble with my direct manager, Better work/life balance, Wanting to work with new technologies, Growth or leadership opportunities, Trouble with my teammates, Trouble with leadership at my company
7. What do you do when you get stuck on a problem? Select all that apply
Visit Stack Overflow, Call a coworker or friend, Play games, Meditate, Go for a walk or other physical activity, Watch help / tutorial videos, Do other work and come back later, Panic, Visit another developer community (please name)

Likert Scale Questions with Response Ranges from 1-5 with 5 being positive response

8. How satisfied are you with your current job? (If you work multiple jobs, answer for the one you spend the most hours on.)
9. How often do you work overtime or beyond the formal time expectation of your job?
10. What level of influence do you, personally, have over new technology purchases at your organization?
11. Do you consider yourself a member of the Stack Overflow community?
12. How frequently would you say you participate in Q&A on Stack Overflow? By participate we mean ask, answer, vote for, or comment on questions.
- 13.** Compared to last year, how welcome do you feel on Stack Overflow?

Appendix B

Statistical Results

Descriptive Statistics of Satisfaction Construct

Gender	N	Mean	Std. Deviation	Std. Error Mean
Male	8033	2.7682	.49902	.01640
Female	926	2.6043	.53842	.00601

Independent Samples Test of Satisfaction Construct (Equal Variances not Assumed)

t-test for Equality of Means							
t	df	Sig. One-Sided	Sig. Two-Sided	Mean Difference	Std. Error Difference	95% Confidence Interval if the Difference Lower	95% Confidence Interval if the Difference Upper
9.384	1187.456	<.001	<.001	-.1737	.02141	-.21522	-.13111

Question: Imagine that you are deciding between two job offers with the same compensation, benefits, and location. Of the following factors, which 3 are MOST important to you?

Option	Gender	N	Mean	SD	Diff(F-M)	t	df	p
Remote work options	F	1014	0.38	0.4867443	0.0146986	0.91	1265	0.363
	M	8410	0.37	0.4828106				
Office environment or company culture	F	1014	0.52	0.4999314	0.043673	2.63	1269	0.008*
	M	8410	0.47	0.4993573				
Financial performance or funding status of the company or organization	F	1014	0.08	0.2697086	-0.0508311	-5.51	1421	<.001*
	M	8410	0.13	0.3360223				
Opportunities for professional development	F	1014	0.33	0.4705801	-0.0061294	-0.39	1272	0.695
	M	8410	0.34	0.4725417				
Diversity of the company or organization	F	1014	0.28	0.4473046	0.2125194	14.86	1086	<.001*
	M	8410	0.06	0.2440799				
How widely used or impactful my work output would be	F	1014	0.20	0.4010827	-0.037461	-2.79	1304	0.005*
	M	8410	0.24	0.4262803				
Industry that I'd be working in	F	1014	0.14	0.3471992	-0.0250022	-2.15	1308	0.031*
	M	8410	0.17	0.3712402				
Specific department or team I'd be working on	F	1014	0.15	0.36003	-0.0073065	-0.61	1279	0.542
	M	8410	0.16	0.3667822				
Flex time or a flexible schedule	F	1014	0.43	0.4957269	0.0227129	1.38	1265	0.168
	M	8410	0.41	0.4919038				
Languages, frameworks, and other technologies I'd be working with	F	1014	0.35	0.4766114	-0.1442638	-9.06	1296	<.001*
	M	8410	0.49	0.4999718				
Family friendliness	F	1014	0.11	0.3160458	-0.0169438	-1.60	1304	0.109
	M	8410	0.13	0.3356287				

Question: In general, what drives you to look for a new job? Select all that apply.

Option	Gender	N	Mean	SD	Diff (M-F)	t	df	p																																																																																																																																										
Curious about other opportunities	F	860	0.60	0.4904191	0.0047673	0.27	1065	0.787																																																																																																																																										
	M	7521	0.59	0.4911038					Better compensation	F	860	0.67	0.4709888	0.0682654	4.05	1038	<.001*	M	7521	0.74	0.4403616	Having a bad day (or week or month) at work	F	860	0.31	0.4629533	0.0695397	4.20	1033	<.001*	M	7521	0.24	0.4276736	Wanting to share accomplishments with a wider network	F	860	0.06	0.2341433	0.0123298	1.45	1107	0.147	M	7521	0.07	0.2559534	Looking to relocate	F	860	0.29	0.4527234	0.0500068	3.09	1039	0.002*	M	7521	0.24	0.4253957	Just because	F	860	0.13	0.3405503	0.0085474	0.70	1076	0.486	M	7521	0.14	0.3493483	Trouble with my direct manager	F	860	0.29	0.4554139	0.0800197	4.93	1024	<.001*	M	7521	0.21	0.4094574	Better work/life balance	F	860	0.45	0.4976649	0.036525	2.04	1060	0.041*	M	7521	0.41	0.4922835	Wanting to work with new technologies	F	860	0.49	0.5002247	-0.079872	4.44	1060	<.001*	M	7521	0.57	0.4948606	Growth or leadership opportunities	F	860	0.65	0.4783308	0.0489847	2.84	1076	0.004*	M	7521	0.60	0.4904289	Trouble with my teammates	F	860	0.22	0.41433	0.0910612	6.22	991	<.001*	M	7521	0.13	0.3348968	Trouble with leadership at my company	F	860	0.38	0.4851463	0.0314105	1.80	1056
Better compensation	F	860	0.67	0.4709888	0.0682654	4.05	1038	<.001*																																																																																																																																										
	M	7521	0.74	0.4403616					Having a bad day (or week or month) at work	F	860	0.31	0.4629533	0.0695397	4.20	1033	<.001*	M	7521	0.24	0.4276736	Wanting to share accomplishments with a wider network	F	860	0.06	0.2341433	0.0123298	1.45	1107	0.147	M	7521	0.07	0.2559534	Looking to relocate	F	860	0.29	0.4527234	0.0500068	3.09	1039	0.002*	M	7521	0.24	0.4253957	Just because	F	860	0.13	0.3405503	0.0085474	0.70	1076	0.486	M	7521	0.14	0.3493483	Trouble with my direct manager	F	860	0.29	0.4554139	0.0800197	4.93	1024	<.001*	M	7521	0.21	0.4094574	Better work/life balance	F	860	0.45	0.4976649	0.036525	2.04	1060	0.041*	M	7521	0.41	0.4922835	Wanting to work with new technologies	F	860	0.49	0.5002247	-0.079872	4.44	1060	<.001*	M	7521	0.57	0.4948606	Growth or leadership opportunities	F	860	0.65	0.4783308	0.0489847	2.84	1076	0.004*	M	7521	0.60	0.4904289	Trouble with my teammates	F	860	0.22	0.41433	0.0910612	6.22	991	<.001*	M	7521	0.13	0.3348968	Trouble with leadership at my company	F	860	0.38	0.4851463	0.0314105	1.80	1056	0.071	M	7521	.35	0.4758853								
Having a bad day (or week or month) at work	F	860	0.31	0.4629533	0.0695397	4.20	1033	<.001*																																																																																																																																										
	M	7521	0.24	0.4276736					Wanting to share accomplishments with a wider network	F	860	0.06	0.2341433	0.0123298	1.45	1107	0.147	M	7521	0.07	0.2559534	Looking to relocate	F	860	0.29	0.4527234	0.0500068	3.09	1039	0.002*	M	7521	0.24	0.4253957	Just because	F	860	0.13	0.3405503	0.0085474	0.70	1076	0.486	M	7521	0.14	0.3493483	Trouble with my direct manager	F	860	0.29	0.4554139	0.0800197	4.93	1024	<.001*	M	7521	0.21	0.4094574	Better work/life balance	F	860	0.45	0.4976649	0.036525	2.04	1060	0.041*	M	7521	0.41	0.4922835	Wanting to work with new technologies	F	860	0.49	0.5002247	-0.079872	4.44	1060	<.001*	M	7521	0.57	0.4948606	Growth or leadership opportunities	F	860	0.65	0.4783308	0.0489847	2.84	1076	0.004*	M	7521	0.60	0.4904289	Trouble with my teammates	F	860	0.22	0.41433	0.0910612	6.22	991	<.001*	M	7521	0.13	0.3348968	Trouble with leadership at my company	F	860	0.38	0.4851463	0.0314105	1.80	1056	0.071	M	7521	.35	0.4758853																					
Wanting to share accomplishments with a wider network	F	860	0.06	0.2341433	0.0123298	1.45	1107	0.147																																																																																																																																										
	M	7521	0.07	0.2559534					Looking to relocate	F	860	0.29	0.4527234	0.0500068	3.09	1039	0.002*	M	7521	0.24	0.4253957	Just because	F	860	0.13	0.3405503	0.0085474	0.70	1076	0.486	M	7521	0.14	0.3493483	Trouble with my direct manager	F	860	0.29	0.4554139	0.0800197	4.93	1024	<.001*	M	7521	0.21	0.4094574	Better work/life balance	F	860	0.45	0.4976649	0.036525	2.04	1060	0.041*	M	7521	0.41	0.4922835	Wanting to work with new technologies	F	860	0.49	0.5002247	-0.079872	4.44	1060	<.001*	M	7521	0.57	0.4948606	Growth or leadership opportunities	F	860	0.65	0.4783308	0.0489847	2.84	1076	0.004*	M	7521	0.60	0.4904289	Trouble with my teammates	F	860	0.22	0.41433	0.0910612	6.22	991	<.001*	M	7521	0.13	0.3348968	Trouble with leadership at my company	F	860	0.38	0.4851463	0.0314105	1.80	1056	0.071	M	7521	.35	0.4758853																																		
Looking to relocate	F	860	0.29	0.4527234	0.0500068	3.09	1039	0.002*																																																																																																																																										
	M	7521	0.24	0.4253957					Just because	F	860	0.13	0.3405503	0.0085474	0.70	1076	0.486	M	7521	0.14	0.3493483	Trouble with my direct manager	F	860	0.29	0.4554139	0.0800197	4.93	1024	<.001*	M	7521	0.21	0.4094574	Better work/life balance	F	860	0.45	0.4976649	0.036525	2.04	1060	0.041*	M	7521	0.41	0.4922835	Wanting to work with new technologies	F	860	0.49	0.5002247	-0.079872	4.44	1060	<.001*	M	7521	0.57	0.4948606	Growth or leadership opportunities	F	860	0.65	0.4783308	0.0489847	2.84	1076	0.004*	M	7521	0.60	0.4904289	Trouble with my teammates	F	860	0.22	0.41433	0.0910612	6.22	991	<.001*	M	7521	0.13	0.3348968	Trouble with leadership at my company	F	860	0.38	0.4851463	0.0314105	1.80	1056	0.071	M	7521	.35	0.4758853																																															
Just because	F	860	0.13	0.3405503	0.0085474	0.70	1076	0.486																																																																																																																																										
	M	7521	0.14	0.3493483					Trouble with my direct manager	F	860	0.29	0.4554139	0.0800197	4.93	1024	<.001*	M	7521	0.21	0.4094574	Better work/life balance	F	860	0.45	0.4976649	0.036525	2.04	1060	0.041*	M	7521	0.41	0.4922835	Wanting to work with new technologies	F	860	0.49	0.5002247	-0.079872	4.44	1060	<.001*	M	7521	0.57	0.4948606	Growth or leadership opportunities	F	860	0.65	0.4783308	0.0489847	2.84	1076	0.004*	M	7521	0.60	0.4904289	Trouble with my teammates	F	860	0.22	0.41433	0.0910612	6.22	991	<.001*	M	7521	0.13	0.3348968	Trouble with leadership at my company	F	860	0.38	0.4851463	0.0314105	1.80	1056	0.071	M	7521	.35	0.4758853																																																												
Trouble with my direct manager	F	860	0.29	0.4554139	0.0800197	4.93	1024	<.001*																																																																																																																																										
	M	7521	0.21	0.4094574					Better work/life balance	F	860	0.45	0.4976649	0.036525	2.04	1060	0.041*	M	7521	0.41	0.4922835	Wanting to work with new technologies	F	860	0.49	0.5002247	-0.079872	4.44	1060	<.001*	M	7521	0.57	0.4948606	Growth or leadership opportunities	F	860	0.65	0.4783308	0.0489847	2.84	1076	0.004*	M	7521	0.60	0.4904289	Trouble with my teammates	F	860	0.22	0.41433	0.0910612	6.22	991	<.001*	M	7521	0.13	0.3348968	Trouble with leadership at my company	F	860	0.38	0.4851463	0.0314105	1.80	1056	0.071	M	7521	.35	0.4758853																																																																									
Better work/life balance	F	860	0.45	0.4976649	0.036525	2.04	1060	0.041*																																																																																																																																										
	M	7521	0.41	0.4922835					Wanting to work with new technologies	F	860	0.49	0.5002247	-0.079872	4.44	1060	<.001*	M	7521	0.57	0.4948606	Growth or leadership opportunities	F	860	0.65	0.4783308	0.0489847	2.84	1076	0.004*	M	7521	0.60	0.4904289	Trouble with my teammates	F	860	0.22	0.41433	0.0910612	6.22	991	<.001*	M	7521	0.13	0.3348968	Trouble with leadership at my company	F	860	0.38	0.4851463	0.0314105	1.80	1056	0.071	M	7521	.35	0.4758853																																																																																						
Wanting to work with new technologies	F	860	0.49	0.5002247	-0.079872	4.44	1060	<.001*																																																																																																																																										
	M	7521	0.57	0.4948606					Growth or leadership opportunities	F	860	0.65	0.4783308	0.0489847	2.84	1076	0.004*	M	7521	0.60	0.4904289	Trouble with my teammates	F	860	0.22	0.41433	0.0910612	6.22	991	<.001*	M	7521	0.13	0.3348968	Trouble with leadership at my company	F	860	0.38	0.4851463	0.0314105	1.80	1056	0.071	M	7521	.35	0.4758853																																																																																																			
Growth or leadership opportunities	F	860	0.65	0.4783308	0.0489847	2.84	1076	0.004*																																																																																																																																										
	M	7521	0.60	0.4904289					Trouble with my teammates	F	860	0.22	0.41433	0.0910612	6.22	991	<.001*	M	7521	0.13	0.3348968	Trouble with leadership at my company	F	860	0.38	0.4851463	0.0314105	1.80	1056	0.071	M	7521	.35	0.4758853																																																																																																																
Trouble with my teammates	F	860	0.22	0.41433	0.0910612	6.22	991	<.001*																																																																																																																																										
	M	7521	0.13	0.3348968					Trouble with leadership at my company	F	860	0.38	0.4851463	0.0314105	1.80	1056	0.071	M	7521	.35	0.4758853																																																																																																																													
Trouble with leadership at my company	F	860	0.38	0.4851463	0.0314105	1.80	1056	0.071																																																																																																																																										
	M	7521	.35	0.4758853																																																																																																																																														

Question: What do you do when you get stuck on a problem? Select all that apply.

Option	Gender	N	Mean	SD	Diff (M-F)	t	df	p																																																																																																			
Visit Stack Overflow	F	1077	0.90	0.2942281	0.0049818	0.52	1357	0.600																																																																																																			
	M	9064	0.90	0.3008386					Call a coworker or friend	F	1077	0.55	0.4977574	0.0587218	3.66	1347	<.001*	M	9064	0.49	0.4999457	Play games	F	1077	0.13	0.34149	0.0274365	2.47	1391	0.013*	M	9064	0.16	0.3685351	Meditate	F	1077	0.11	0.3147985	0.0120348	1.18	1370	0.238	M	9064	0.12	0.3289774	Go for a walk or other physical activity	F	1077	0.60	0.4909058	0.0236157	1.49	1349	0.136	M	9064	0.57	0.4947454	Watch help / tutorial videos	F	1077	0.53	0.4990179	0.0306265	1.90	1345	0.057	M	9064	0.50	0.50001	Do other work and come back later	F	1077	0.75	0.4325414	0.0885393	6.29	1399	<.001*	M	9064	0.66	0.4728414	Panic	F	1077	0.23	0.4229732	0.1150054	8.63	1229	<.001*	M	9064	0.12	0.3226844	Visit another developer community (please name)	F	1077	0.13	0.3323153	0.0222387	2.09	1301
Call a coworker or friend	F	1077	0.55	0.4977574	0.0587218	3.66	1347	<.001*																																																																																																			
	M	9064	0.49	0.4999457					Play games	F	1077	0.13	0.34149	0.0274365	2.47	1391	0.013*	M	9064	0.16	0.3685351	Meditate	F	1077	0.11	0.3147985	0.0120348	1.18	1370	0.238	M	9064	0.12	0.3289774	Go for a walk or other physical activity	F	1077	0.60	0.4909058	0.0236157	1.49	1349	0.136	M	9064	0.57	0.4947454	Watch help / tutorial videos	F	1077	0.53	0.4990179	0.0306265	1.90	1345	0.057	M	9064	0.50	0.50001	Do other work and come back later	F	1077	0.75	0.4325414	0.0885393	6.29	1399	<.001*	M	9064	0.66	0.4728414	Panic	F	1077	0.23	0.4229732	0.1150054	8.63	1229	<.001*	M	9064	0.12	0.3226844	Visit another developer community (please name)	F	1077	0.13	0.3323153	0.0222387	2.09	1301	0.036*	M	9064	0.10	0.3053266								
Play games	F	1077	0.13	0.34149	0.0274365	2.47	1391	0.013*																																																																																																			
	M	9064	0.16	0.3685351					Meditate	F	1077	0.11	0.3147985	0.0120348	1.18	1370	0.238	M	9064	0.12	0.3289774	Go for a walk or other physical activity	F	1077	0.60	0.4909058	0.0236157	1.49	1349	0.136	M	9064	0.57	0.4947454	Watch help / tutorial videos	F	1077	0.53	0.4990179	0.0306265	1.90	1345	0.057	M	9064	0.50	0.50001	Do other work and come back later	F	1077	0.75	0.4325414	0.0885393	6.29	1399	<.001*	M	9064	0.66	0.4728414	Panic	F	1077	0.23	0.4229732	0.1150054	8.63	1229	<.001*	M	9064	0.12	0.3226844	Visit another developer community (please name)	F	1077	0.13	0.3323153	0.0222387	2.09	1301	0.036*	M	9064	0.10	0.3053266																					
Meditate	F	1077	0.11	0.3147985	0.0120348	1.18	1370	0.238																																																																																																			
	M	9064	0.12	0.3289774					Go for a walk or other physical activity	F	1077	0.60	0.4909058	0.0236157	1.49	1349	0.136	M	9064	0.57	0.4947454	Watch help / tutorial videos	F	1077	0.53	0.4990179	0.0306265	1.90	1345	0.057	M	9064	0.50	0.50001	Do other work and come back later	F	1077	0.75	0.4325414	0.0885393	6.29	1399	<.001*	M	9064	0.66	0.4728414	Panic	F	1077	0.23	0.4229732	0.1150054	8.63	1229	<.001*	M	9064	0.12	0.3226844	Visit another developer community (please name)	F	1077	0.13	0.3323153	0.0222387	2.09	1301	0.036*	M	9064	0.10	0.3053266																																		
Go for a walk or other physical activity	F	1077	0.60	0.4909058	0.0236157	1.49	1349	0.136																																																																																																			
	M	9064	0.57	0.4947454					Watch help / tutorial videos	F	1077	0.53	0.4990179	0.0306265	1.90	1345	0.057	M	9064	0.50	0.50001	Do other work and come back later	F	1077	0.75	0.4325414	0.0885393	6.29	1399	<.001*	M	9064	0.66	0.4728414	Panic	F	1077	0.23	0.4229732	0.1150054	8.63	1229	<.001*	M	9064	0.12	0.3226844	Visit another developer community (please name)	F	1077	0.13	0.3323153	0.0222387	2.09	1301	0.036*	M	9064	0.10	0.3053266																																															
Watch help / tutorial videos	F	1077	0.53	0.4990179	0.0306265	1.90	1345	0.057																																																																																																			
	M	9064	0.50	0.50001					Do other work and come back later	F	1077	0.75	0.4325414	0.0885393	6.29	1399	<.001*	M	9064	0.66	0.4728414	Panic	F	1077	0.23	0.4229732	0.1150054	8.63	1229	<.001*	M	9064	0.12	0.3226844	Visit another developer community (please name)	F	1077	0.13	0.3323153	0.0222387	2.09	1301	0.036*	M	9064	0.10	0.3053266																																																												
Do other work and come back later	F	1077	0.75	0.4325414	0.0885393	6.29	1399	<.001*																																																																																																			
	M	9064	0.66	0.4728414					Panic	F	1077	0.23	0.4229732	0.1150054	8.63	1229	<.001*	M	9064	0.12	0.3226844	Visit another developer community (please name)	F	1077	0.13	0.3323153	0.0222387	2.09	1301	0.036*	M	9064	0.10	0.3053266																																																																									
Panic	F	1077	0.23	0.4229732	0.1150054	8.63	1229	<.001*																																																																																																			
	M	9064	0.12	0.3226844					Visit another developer community (please name)	F	1077	0.13	0.3323153	0.0222387	2.09	1301	0.036*	M	9064	0.10	0.3053266																																																																																						
Visit another developer community (please name)	F	1077	0.13	0.3323153	0.0222387	2.09	1301	0.036*																																																																																																			
	M	9064	0.10	0.3053266																																																																																																							