CRACKING THE CODE: NAVIGATING AND SUBVERTING DOMINANT CLASS RULE IN COMPUTER SCIENCE AND ENGINEERING [1]


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My dissertation investigates the reproduction of gender-differentiated outcomes in sites of technology production and why Computer Science and Engineering (CSE) remains highly segregated. Computer technology both reflects and manufactures social values and the reproduction of systems of power in the US. I use ethnographic methods and media analysis to explore the social construction of gender, race and technology and their co-constitution of cultural norms governing labor segregation in CSE. I rely on and contribute to feminist theory from a variety of orientations - anthropology, Marxism, science and technology studies and critical race studies - to argue the overrepresentation of white males in CSE is a matter of reproductive and economic justice. My cross-sectional method illuminates barriers women face at three different stages of a CSE career. At the heart of this research are the stories of women who persist in CSE, the barriers to desegregating the field and their ideological justifications and the broad cultural domains that shape and are shaped by the product, practices and applications of computer technology. In my dissertation, I advance five related arguments. First, women who navigate, resist, and subvert male hegemony to persist as workers in CSE have a unique standpoint in US society and have the potential to transform, institutionally and interpersonally, unjust social relations. Second, rites of passage (Davis Floyd 1992) in CSE, for example, interviews, long hours, precision questioning, combative work styles and the valorization of logical and abstract approaches to knowledge production over creative, material ones reproduce the ideological union between masculine ideals and competency in the field. These rituals also serve to indoctrinate CSE workers' to the core values in computing commodity production, including constant observation, intense evaluations of others, and the devaluation of sociality. Third, participants' emotions allowed me to locate and interpret the conflicts and contradictions of women CSE professionals. Many of these contradictions signal a rupture, women's struggle to navigate the bifurcated nature of their workplace role - participants privileged to be agents in a powerful field and marginalized members of this field (Smith 1990). These sites of rupture are areas ripe for social change activism. Fourth, the majority of my participants have social change aspirations. They want to use their CSE skills to make the world a better place. These aspirations correlate with a commitment to support other women in CSE. Navigating the experience of rupture, combined with a yearning for social justice, may ignite feminist consciousness in women CSE workers, which can lead to collective action in pursuit not only of equality in CSE but also in broader cultural domains. Finally, I argue that social change aspirations are a collective form of reproductive aspirations and CSE workers can effectively organize around the shared yearning to contribute to the reproduction of the collective well being of society. These findings elucidate the causes of women's underrepresentation in CSE and the consequences of denying women of all ethnicities the opportunity to influence the design and application of technology. My research is meant to inform strategies that eradicate the barriers excluding women from Computer Science and Engineering and transform the powers of technology to advance social justice.
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