Community College Pathways to Engineering Education and Careers for Women: A Challenge
to Gender Stereotypes?

Lois Joy, PhD, Senior Research Associate, Lisa Marco-Bujosa, M.Ed., Research Associate
Learning and Teaching Division
Education Development Center
43 Foundry Ave., Waltham, Massachusetts, USA
Contact: ljoy@edc.org
(413) 320-5599

Abstract

Do community college systems of support for engineering education and occupations reproduce
or challenge gender stereotypes? In this research, we examine if and how gender stereotypes are
woven into the institutional fabric of two (2-year) community colleges. Drawing from
interviews with administrators, faculty and students, as well as student surveys, we examine how
systems of support for community college education, in general, and engineering, in particular,
enhance or discourage women from entering engineering. We pay specific attention to the
recruitment, support, and progress of students through community college engineering and ask
whether (and how) community college leadership, administration, programs, and policies serve
women in engineering. Key findings show that while women are a persistently small minority of
the engineering majors, they are as likely as men to be satisfied with their education and
confident they will reach their academic and career goals. However, in order to be successful,
these women have had to (re)engineer for themselves (and others) what it means to be female,
particularly because being female contradicts with an engineering ethos of being "geek" (or
possessing traits that are considered important for success in engineering). Our research suggests
that pathways into engineering are harder for women to find because college programs and
policies are applied in ways that are not sensitive to the constraints women face entering
engineering.

I.   Introduction and Background

The mission of the US system of community college education, internationally unique in its structure, is to provide affordable access to post-secondary education to even the most marginal of students (White House Summit on Community College, 2011, AACC 2012). [1]   During the past 40 years, community college attendance has risen dramatically with greater proportions of students entering community college directly from high school (Adelman, 2005; Provasnik & Planty, 2008). According to federal reports, enrollment has increased by 47% between 1990 and 2010 (Perez-Pena, R. 2012). During this time period, while degrees conferred by public 4-year institutions grew by 41%, degrees conferred by 2-year public institutions grew 80% (Aud et al., 2012). In 2008, 35% of all college students attended a community college at some point during their post-secondary experience, and women outpaced men in community college attendance in higher proportions than in four-year institutions (58% and 51% respectively) (Provasnik & Planty, 2008; Kane & Rouse, 1999).   In 2010, women earned 57% of all 4 year bachelor degrees conferred from 2009-2010, and 62% of all associate's degrees in the same time frame (Aud et al., 2012).   In recognition of the importance of community colleges for workforce development and retraining for the unemployed and underemployed, President Obama recently committed $12 billion in federal funding to community college education. [2]

Despite the increased importance of community colleges in preparing individuals for further engineering educational and occupational pursuits, little is known about women's (and men's) pathways through community college engineering programs. Our limited understanding arises, in part, from a lack of attention given by researchers and policy makers to community colleges as viable and increasingly important platforms to develop and promote engineering education and careers (Calcagno et al., 2007).

In this paper, we consider community college pathways through engineering education for women and men. A key question of our analysis is how do systems of support for community college engineering education serve women and what can community colleges do to broaden women's participation in engineering education? To answer these questions, we conducted case study quantitative and qualitative research of two community college engineering programs. Key findings show that women face four barriers to entering and completing a community college engineering program, including: (1) a lack of knowledge about what engineering careers entail; (2) pathways through community college engineering programs that are harder for women to find and navigate; (3) contradictions associated with "being geek" and "being female," that are challenging to adjudicate and; (4) an intimidating male-dominated culture.

II.   Data and Methodology

We applied a mixed methods quantitative/qualitative approach to our analysis of gender in community college engineering programs. Two community colleges with strong programs in engineering were chosen for our case study analysis. Qualitative data were collected through interviews with administrators and faculty associated with science, technology, and engineering

---

[1] In 2010, the average annual cost of attending a 2-year public institution was $8,000 to $15,000 while the cost of attending a 4-year public institution was $13,000 to $22,000. Private 4-year institutions cost as much $32,000 to $40,000 for attendance (Aud et al., 2012).

[2] President Barack Obama speech on July 14, 2009, about the American Graduation Initiative, Warren, MI. Available at: http://www.whitehouse.gov/the_press_office/Excerpts-of-the-Presidents-remarks-in-Warren-Michigan-and-fact-sheet-on-the-American-Graduation-Initiative

as well as administrators in charge of selected student services including admissions, academic advising, career counseling, counseling services, registrar, financial aid, tutoring, and child care services. We also interviewed male and female students enrolled in engineering to gain perspectives on their engagement in and progress through their STEM community college education. In the quantitative portion of the research, we gained further information through an online survey of students enrolled in the engineering programs under investigation. We used results from our student survey to develop and guide our interview protocols.[3]

III.   Decision to Enter a Community College Engineering Program

With few exceptions, male and female students alike claimed their decision to study engineering was made prior to entering community college. While past studies have shown this is also true for students entering four-year engineering programs, we did not know if this was the case for community college engineering. Because students could use their early community college experience to build math and English language skills and learn about engineering, there was the potential, at least, that students might find their way into engineering *after* beginning a more general program of study. For the men and women in our case study schools, however, this was not the case. With very few exceptions, the men and women we spoke to and surveyed knew before enrolling that engineering was the field they wanted to pursue.

> *I knew back in middle school [I'd have] the option to go to a technical high school. I thought I wanted to be a chef but at open house saw engineer seminars, different trades, found electrical stuff interesting. Went to pre-engineering program in high school.* **CC1, Male[4]**

> *I wanted to be an engineer at 8.* **CC1, Female**

The reasons women chose engineering were mostly similar to the reasons given by men with some notable differences. Women as well as men chose engineering because they liked to solve problems, were curious to "know how things work," and had an affinity towards mathematics – even if their math skills were not strong. These students sought to understand the nature of the world through basic science. Importantly, both men and women yearned to obtain skills that would enable them to solve social problems through science, engineering and technology. Men, though, were more likely than women to have developed a love of building or technology through playing with toys like Legos and computer games or working with cars.

In our interviews with the engineering majors, we were struck with the number women and men who had family members who were engineers. Several of the engineering majors described how their love of mathematics, building things, and problem solving stemmed from sharing these experiences with a family member. In our survey, women were ten percentage points more

---

[3] We are nearing the end of the data collection phase of the project. To date, at case study school 1 (CC1) we have completed all data collection and at case study school 2 (CC2) all student survey and interview data and are partway to completing administrator and faculty interviews. Since data collection and analysis is thus still in process, results presented here are by definition still preliminary.

[4] Direct quotes from interview subjects unless otherwise noted which illustrate the broader themes presented in each section.

likely than men to select a parent as a key influencer of their decision to major in engineering (24% versus 14%).

> *I am full of a family of engineers and I fell in love with engineering when I took science and math and physics, problem solving. I just enjoyed everything with engineering…. I have two amazing parents who have been helping me. They are both engineers and if I didn't have them I wouldn't be here today.* **CC1, Female**

> *My Dad taught me a love for math.* **CC1, Female**

Middle or high school participation in a robotics club also came up as an early influencer of interest in engineering along with attending a technical high school.

> *I went to technical high school, never thought I'd be into this stuff. Robotics club got my interest and I gave it a try. I did all 4 years and decided to continue with it in college.* **CC1, Male**

> *I knew [I wanted to be] an engineer when I was sophomore in high school because I was in math and robotics team and it went pretty well and we finished pretty well. Engineering is what I liked to do.* **CC1, Female**

Once the decision to study engineering was made, men and women chose to matriculate at a community college for mainly financial, academic, and geographic reasons.

> *[M]y brother came here. A lot of Ghanaians here from church. Took classes here while I was only a junior in high school.* **CC1, Female**

> *[I] planned on four year [college] …. The applications I sent to college weren't great, also I just came to US. English was my second language. [This] was one of the last options so I studied at [this community college]. If I had been accepted to university, it could have been worse, I might have lost my confidence at a four year school, to catch up there in English, which I could do here…. That saved me a lot of money as well, and I still have options, transfer to other universities.* **CC1, Male**

Given the low numbers of women entering engineering (14% of the major at CC1 and 8% at CC2),[5] we wanted to explore what, if anything, our case study schools did to recruit women into engineering. Our interviews with administrators and faculty (still preliminary at this time) revealed that at both schools gender was not a consideration in the recruitment, support, or engagement of students in engineering. For example, a high level administrator responsible for STEM education at CC2 and as well as the chair of engineering, when showed their institutions data on engineering students, was surprised to learn how few women were majoring in the engineering program. The administrator, somewhat embarrassed by the dearth of women in engineering, expressed dismay at the lack of time and resources available to them to recruit more women into the program. This administrator told us that, "Just keeping up with the educational

---

[5] Nationally, in 2004, women were 14% (and men 86%) of students who began college in a CC engineering program (Joy 2012).

goals for the students already in the program was difficult enough," and "Recent budget cuts enacted at the college made recruitment and retention of all students, not just women, more difficult."

Neither of the engineering programs we studied had set department goals or strategies to increase women's participation in engineering. A typical response from administrators in admissions, academic advising, and engineering faculty to the question, "Why are there so few women in engineering?" was "I am not sure. Women just don't seem interested."[6]

Despite a lack of attention to recruiting more women into engineering, the recent addition of biomedical engineering track at CC1 may have an inadvertent effect of attracting more women to engineering.[7] Biomedical engineering combines engineering theory and problem solving with medical issues related to diagnosis, medical equipment, and treatments. At CC1, women comprise the majority of students in the biomedical track.

IV.   **Satisfaction, Self-Efficacy, and Hard Work in Community College STEM**
Once they entered the community college engineering program, the women in our sample expressed strong satisfaction with the engineering program and their studies. Despite being in the minority to the point of often being the only "token" women in the class and having to struggle with very demanding STEM classes, the women in our samples were as likely as men to feel confident in their abilities to complete their educational goals, to work hard with determination and dedication, and to find support to help them reach their goals. Women were often more confident in their math ability than the men in our sample, and as likely as men to expect that they would successfully transfer to a 4-year engineering program and enter an engineering career. On the other hand, women were more likely than men to think that women's lack of representation in STEM occupations *would* make an engineering career *more* challenging for women.

> *[There is] no challenge that I can't overcome and more women should join engineering, too. Women don't like math and science and I have a passion for it and I want to influence more women to join.* **CC2, Female**

> *Especially with the classes that you may have to teach yourself, you realize what you're capable of. When you're forced in a situation like that, you realize how dedicated you can be towards something and how much work you can put into something. CC1, Male*

> *People are afraid to attempt it, but they should pursue it. People drop it because they slow down in their studies. I feel silly because I'm studying so much… It's a*

---

[6] This lack of interest in recruiting more women into STEM community college programs appears to be more widespread than just our case study schools. At a recent presentation of research at the national community college association, out of about 100 panels, only two were focused on women, in general, and one on women in STEM.

[7] A two-year biomedical engineering technology track is in the beginning stages of development at CC2 with the indirect goal of recruiting more women into the engineering technology field (note these are two year terminal engineering degrees not transfer degrees.)

bit discouraging that I have to work hard…My social life depleted because I needed to study. I make it a priority. **CC2, Female**

According to our student survey, gender differences in ratings of self-efficacy in engineering courses were not significantly different. Surprisingly, while women were more likely than men to believe that they will "feel part the group in engineering" and not an outsider due to their under representation as females, women were more likely than men to think that being a woman would make succeeding in engineering a challenge.

V. Retention in Community College Engineering
Both the men and women we surveyed found faculty support and the quality of teaching to be important factors in their retention in the engineering program. However, women were significantly more likely than men to rate the quality of faculty advising higher.

Other factors contributing to men and women's decision to stay in community college engineering were finding the workload manageable, getting good grades in STEM classes and having a strong interest in STEM content. Women's higher rating for workload and interest in STEM was significant at the 90% or greater level.

Some social factors also turned up as important factors for both men and women's desire to remain in their community college engineering program. Women were slightly more likely than men to find a friendly class climate and positive interactions with design teams as important while men rated friendly students as more important although none of these differences were significantly different from zero. Overall, women and men were highly satisfied with their course of study (97% female, 96%) male and committed to finishing (97% female and male).

VI. Institutional and Faculty Systems of Support
When it comes to questions concerning community college systems of support for students, to a surprising degree, neither female nor male engineering students used the services provided at their community college including the library, health services, registrar, career services, academic advising, tutoring, disability services, counseling, and child care. Of those services that students did frequent, including the financial aid office, academic and career advising, and tutoring, students gave mixed reviews of their helpfulness depending on the school under consideration. Students at CC1, for example, found the math and physics tutoring services extremely helpful in preparing them for exams and to complete coursework. At CC1, the tutors were often alumni of the engineering program so very familiar with both coursework and professor's teaching style and requirements. Several students at CC1 (female and male alike) attributed their ability to "get through the math or engineering classes" to their tutors. Students at CC2 found tutors to be less helpful mainly because there were no tutors for the advanced mathematics or physics classes.

Students found academic advising to be most effective when it came from a faculty member in the engineering program rather than the community college academic advising center. Engineering faculty, according to students, were in the best position to guide students through their courses of study, to help ensure they would meet requirements to complete the major in a timely fashion, and to transfer with sophomore second-semester standing into a 4-year program. On the other hand, students who had relied on the community college academic advisers spoke of being led "off track" by their advisers and "wasting time and money" in courses that in the

end did not help them complete their major requirements or would not be accepted as transfer credits.

Overall, the most important point of contact students had in their community college was with the engineering faculty. Faculty were for the most part rated very highly by students for providing good support with course work, helpful and timely feedback, and clear expectations. On the whole, women and men alike felt the faculty consistently went out of their way to be available outside of class for extra support, were understanding and flexible when a student's job or family responsibilities made attending classes or turning in homework challenging, and providing mentoring about future educational and career opportunities.

> *Good support [from faculty]. [Faculty] adviser will support you if you are doing well. Great support from students and teachers if you do well.* **CC1, Female**

> *Yes, a lot of helpful feedback, if you shoot them an email, they respond in an hour, at any time. And they give a detailed account.* **CC2, Male**

VII.   **Negotiating Gender**
Through the course of our interviews with students, it became apparent that a key factor in women's decision to enter and succeed in community college engineering was their ability to negotiate the contradictory roles of being female and being "geek." Both the men and the women we interviewed described themselves as being "geek-like" when it came to their engineering studies and interests. Terms used to describe "geek" included the following: an obsession or love for technology, liking to build things, take things apart and put them together and frequent playing of computer games. When describing personal factors that contributed to their wanting to be engineers, men and women alike used characteristics typically associated with the "geek" stereotype, including a strong desire to know how things work, high interest in mathematical and scientific thinking, and not as interested in socializing as compared with their non-STEM friends.[8]

When asked, "what was the most surprising thing they had learned since starting their program of study?" the most common answer given was that it was "hard work." We heard over and over again how all-consuming the engineering program was, how it required a single-minded focus, long hours of study every day, a determination to really learn the material and not just be satisfied with getting a passing grade. This kind of all-consuming focus on engineering and STEM courses fit with the geek stereotype which students proudly identified and bonded over as they made their way through the program. In general, we found the determination that some students showed to complete their community college program of study and transfer to a 4-year program to be startling.

What is relevant here in terms of gender is how both the women and men described being "geek" – devoted to their STEM education – as contradicting to being "typically female." Being appropriately "female" was described in traditional terms including being concerned with one's appearance, wanting to be attractive to men, and choosing a career that involved caring,

---

[8] To be sure, students also used other factors to explain their interest in engineering including, a desire to contribute to positive social change through technological development.

nurturing, and helping those in need. Given the importance of "being geek" to succeed in engineering, it follows that "being female" had to be suppressed, overcome or (re)engineered in order for a student to be interested and successful in engineering.

> *What other characteristics make a good engineer? Type A, not artsy, more logically based, systematic, not flashy, have to follow rules. Can do creative things but on the side.* **CC1, Male**

> *I think it's once they go out into the world, people look at a female engineer as not feminine. At least that's the way I've felt. I have a couple friends that are female engineers and that's generally what happens.* **CC1, Male**

For the most part, the women we met did not find it difficult to reconcile their femaleness with their interest in engineering, a process that appeared to occur before they entered post-secondary engineering.

> *Women are less secure about their abilities because engineering is more challenging. Stereotypes of nerd types but I like this. Girls not [as] interested in video games or robotics as guys.* **CC1, Female**

> *I've always been an against the grain kind of person. I think it's* (engineering) *fantastic, it's male dominated, you can see it in the classes, and it's funny when you're one or two women. We just want to show what we can do. We are powerful strong women working together to do this.* **CC1, Female**

> *When I first entered the engineering program in high school I was a little intimidated by being a girl I kind of got picked on a little bit, but I never took it seriously. I wanted to better myself. But some women are intimidated because they don't want to be different or stick out as a sore.* **CC1, Female**

There were at least two factors mitigating the contradiction between being geek and being female that made it easier for some women to reconcile themselves as engineers. First, several of the women in our interview sample were born in other countries or had parents who had emigrated from other countries including South America, the Middle East, South East Asia, and Asia. For these women, rather than detracting from femaleness, in their cultural heritage an engineering education enhanced (or at least did not detract from) their attractiveness as women and potential wives.

> *My husband encouraged me to study electrical engineering.* **CC1, (Chinese) Female**

Second, most of the women we surveyed or interviewed received strong encouragement and support from a close family member usual a father to excel in mathematics. One woman described a weekly ritual of solving math problems with her father around the kitchen table which endeared her to the subject. In addition to passing on his love of mathematics to her, she learned that mathematics and science were appropriate subjects for girls to embrace.

> *When I was younger, my Dad's an engineer so he influenced me.* **CC2, Female**

8

I have two amazing parents who have been helping me they are both engineers and if I didn't have them I wouldn't be here today. **CC1, Female**

For whatever reason, the women in the engineering programs did such a good job playing down typical "female" characteristics or playing up their "geekness" that the men in the program no longer viewed them as female. For their part, the men in our sample felt that the women did such a good job "fitting in" to the male-dominated culture they often described the women as "not like other women" or "just one of the guys."

We are all geeks. This is the only place where I see everyone as just somebody. Not male or female, pretty or not, just an engineer. I see I can teach you and you can teach me. All equals. Age not an issue. **CC1, Male**

Not a problem here but out in the world women engineers not seen as feminine. Men are intimidated by smart women. But we accept the girls here in this program. **CC1, Male**

[The woman I worked with] was just like one of the guys. **CC1, Male**

Because students received some of the most important support from other peers in study groups, the women's ability to "fit in" to these groups was a key factor in their success and enjoyment in the engineering program. From this perspective, "fitting in", then, was about more than being liked and was a key strategy of success.

While many of the women enjoyed working in a male-dominated environment, motivated by the challenge of academic competition, especially when their academic skills might be questioned *because of* their gender, there still could be instances when "fitting in" was hard work or not possible. "Fitting in" was most challenging in relation to male-dominated cultural factors that included "boy talk" which some women and men found offensive to women. Several administrators and faculty spoke of this "offensive" male-dominated culture as being a problem that they did not know how (or have the power) to fix. Women spoke of needing "thick skin" to deal with inappropriate discussions or behavior that occurred in labs and work groups which made the atmosphere feel, at time, hostile or offensive to women.

If I were a woman, I would be intimidated. The women in engineering say I want to be an engineer. But if not interested will choose nursing. Women are hardcore wanting engineering. **CC1, Male**

It's more challenging for women because they have the fact that they're a woman to get over because it's a male dominated field. **CC2, Male**

Even though the women in community college engineering felt that they were "different" from other women in their identity and capacity for work in advanced mathematics, physics, engineering and computer science – and men felt that women in their programs were highly capable and like "one of the guys" - women, unlike men, felt they still had to prove their academic strengths and capacity for long focused work to be fully accepted by the men they

studied with. In addition to doing academic and gender work, then, women had to work to be seen as competent.

VIII.   **Breaking Gender Stereotypes Through Organizational Change**
In answer to our original questions, our research suggests that community college efforts to support women and men already in engineering majors is gender neutral in that policies and programs to support STEM education are applied the same to both women and men. For the most part, these programs, policies, and practices which include strong ties between engineering faculty and students, clearly articulated transfer agreements with 4-year engineering programs, flexible and manageable financial aid assistance, and tutoring were rated the same by the men and women in our samples. As a result of this support, and student's individual drive, women as well as men at both community colleges had high levels of satisfaction, connection to faculty, confidence in their scientific and mathematical thinking, and self-efficacy in reaching their educational and career goals.

However, in addition to the academic work needed to be successful, women but not men also had to work to overcome contradictions between being female and being geek. This work involved redefining for themselves and others what it meant to be female – often setting themselves apart from the typical stereotypes associated with femaleness, proving their academic determination and capability, and fitting into peer groups as "one of the guys." This work involved making the men around them feel comfortable being around them to the point where their femaleness was not longer apparent. Administrators and faculty, for their part, expressed the idea that whatever "made" someone want to be an engineer happened before they came to community college although the "making" of an engineer in this sense was assumed to have more to do with liking math and technology rather than the (re)engineering of gender.

In contrast to this view, however, our research suggests that rather than a lack of interest or aptitude in math and technology that women's under representation in community college engineering is related to their extra burden of having to appearing like "one of the guys" in order to "fit in". While the data show that the academic and financial bar to entering engineering at the community college level are the same for men and women, the work women are required to do to "fit in" and "be seen as competent" makes it much harder for women to see engineering as a viable career path.

The gender hurdle that women are confronted by in community college engineering does not have to do with mathematical or scientific reasoning skills. On the contrary, community colleges offered both women and men opportunities to build their math skills up from a remedial level in order to enter the program and offered strong math tutoring. For women, barriers to entry and had more to do with negotiating their femaleness in a male-dominated culture that marginalized stereotypical characteristics and devalued women's scientific capabilities, determination, and drive. While the women we surveyed and interviewed had made this leap, it is unlikely that more women will enter engineering without recognition by community colleges of how contradictions between gender and geek stereotypes and the challenges for women in male-dominated educational cultures close off educational opportunities for women in their institutions.

From our data, we learned that most of the women and men decided on engineering *prior* to beginning their community college education. The community colleges had no policies, programs, or practices in place to help direct other potential students into engineering. Importantly, this gender neutral lack of career and educational counseling services inevitably impacts women more so than men. Because of gender stereotypes and socialization, men naturally come across more opportunities than women to explore engineering experiences - through play, engagement with family members, school, extra-curricular activities, and summer programs. Pathways for women into engineering are harder to find since this entails breaking with the dominant gender paradigm. Complacent with the notion that, "Women are just not interested in studying engineering," the community colleges fail to recognize the large untapped pool of science or even health focused women who may with some guidance be eager to find a pathway into this male-dominated field of study. The biomedical engineering program at CC1 may be the start of such a "bridge" program that with attentive faculty guidance could attract women into the field.

More than gender sensitive guidance counseling, however, is needed for change. Our research suggests that the women who enter engineering already passed a very high bar in terms of their interest, commitment, and determination to graduate in a highly male-dominated area of study. Their high levels of self-efficacy, we conjecture, come not from the programs themselves - which do not pay attention to gender in terms of recruitment, curriculum, mentoring, or career guidance - but from factors outside the institution. If these colleges want to serve as agents of change and successfully recruit more women into engineering, they may have to cultivate the institutional will to address the fact that "Women are not interested in engineering," by considering how the programs themselves – and pathways into them - could be altered and made more relevant and inviting for women.

We conclude that the best chances of breaking down barriers to women's participation in community college engineering are policies, programs, and approaches that are embedded into the overall mission and services of the community college and well-coordinated across departments and which address the specific ways in which women's participation in engineering is challenged. Given the social and cultural constraints that women face in entering engineering, treating women and men as the same, as is the status quo, will not (has not) lead to the meaningful and full participation of women into community college engineering.

References

Adelman, C. (2005). Moving into town—and moving on: The community college in the lives of traditional-age students. Washington, DC: U.S. Department of Education. Retrieved from http://www2.ed.gov/rschstat/research/pubs/comcollege/index.html?exp=3

American Association of Community Colleges (AACC). (2012). Reclaiming the American dream: Community colleges and the nation's future. A report from the 21st-Century Commission on the Future of Community Colleges. Washington, DC: Author. Retrieved from http://www.aacc.nche.edu/AboutCC/21stcenturyreport/index.html

Aud, S., Hussar, W., Johnson, F., Kena, G., Roth, E., Manning, E., Wang, X., and Zhang, J. (2012). The Condition of Education 2012 (NCES 2012-045). Washington, DC: National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education. Retrieved from http://nces.ed.gov/pubsearch.

Calcagno, J. C., Crosta, P., Bailey, T., & Jenkins, D. (2007). Stepping stones to a degree: The impact of enrollment pathways and milestones on community college student outcomes. *Research in Higher Education*, 48, 755-801.

Joy, L. (2012, July). *Community college pathways to STEM education for women: A challenge to gender stereotypes?* Paper presented at the 2012 European Group on Organization Studies, Helsinki, Finland.

Kane, T. J., & Rouse, C. E. (1999). The community college: Educating students at the margin between college and work. *Journal of Economic Perspectives,* 13(1), 63-84.

Perez-Pena, R. (2012). The new community college try. *The New York Times*, July 20, 2012. Retrieved from http://www.nytimes.com/2012/07/20/education/edlife/the-new-community-college-cunys-multimillion-dollar-experiment-in-education.html?pagewanted=all&_r=0

Provasnik, S. & Planty., M. (2008). Community colleges: Special supplement to the condition of education 2008 (NCES 2008-033). Washington, DC: National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education. Retrieved from http://nces.ed.gov/pubs2008/2008033.pdf

The White House Summit on Community Colleges. (2011, June). *The White House Summit on Community Colleges, Summit Report*. Washington, DC. Retrieved from http://www.whitehouse.gov/sites/default/files/uploads/community_college_summit_report.pdf