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## Students' and Professionals' Responses to Sexist Comments in Engineering

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## **Abstract:**

Although there is evidence that most women with long-term careers in STEM will face some form of sexism, there is little research on how to handle such behaviors. Some situations require intervention by those with authority, some can be confronted directly by individuals, and still others should be ignored. To better understand how students and faculty should respond to sexist comments made by one student to another, we interviewed engineering students, professionals, and faculty, asking them to respond to two different real-life scenarios containing sexist comments.

We found that three-fourths of professionals and over one-third of students had experienced inappropriate behaviors that could be labeled as sexist. Furthermore, we found major differences in how students and others perceive particular behaviors. For instance, while close to half of professionals and faculty perceived a sexual joke as “completely inappropriate,” most students indicated that they would either ignore the comment or joke back because the speaker was not serious and had no malicious intent. By contrast, students were more inclined to confront a comment that most professionals perceived as a minor irritation and not worth the effort of responding.

Our findings also indicate that faculty members were both concerned about students encountering inappropriate sexist behaviors and confused about what to do. We did find evidence, though, that sexual harassment training can help faculty respond more effectively to such situations. The faculty at one campus that mandates harassment training every two years were more likely than others to take action and were much more aware of HR policies and proper professional expectations.

## **Introduction:**

Although many perceive less sexism in the workplace today than in the past<sup>1</sup>—to the extent that female engineers often deny sexism exists in their field<sup>2</sup>—if a reader peruses blogs or popular media, she will find many anecdotes of sexism or sexual harassment amongst engineers and scientists<sup>3,4,5</sup>. In fact, a recent report found that fully 63% of women with degrees in science, engineering, and technology have experienced sexual harassment in their corporate jobs.<sup>6</sup> These encounters with sexism and harassment extend to undergraduate experiences<sup>7</sup>, with studies revealing sexism in engineering textbooks<sup>8,2</sup> and in the culture in engineering programs.<sup>9</sup>

Sexism and sexual harassment are serious issues that need to be addressed, as they are not only unprofessional, but can contribute to high attrition of female engineering students and professionals. In fact, the Committee on Women in Science and Engineering specifically cites sexual harassment as one of the barriers to women in engineering<sup>10</sup>. However, despite evidence of an often sexist culture in engineering school<sup>9, 11, 12</sup>, students are eager to deny or minimize their encounters with sexism or sexual harassment. A report by WECE found that female engineering students feel that “gender-based discrimination existed in their parents’ generation all but has been eliminated” (p. 180).<sup>11</sup> Moreover, Powell, Bagilhole, and Dainty found that undergraduate women “were reluctant to admit they had been discriminated against, frequently seeking ways to justify their colleagues’ actions”<sup>13</sup>. One student they interviewed said about her male colleagues, “You get the obvious, you know, bits of perv and stuff like that, but you’ve just got to learn to take it in the spirit that it’s meant”<sup>13</sup>.

Is this tendency to deny or minimize sexist or sexual behaviors an appropriate—perhaps necessary—strategy for surviving in a male-dominated field? If not, how should female engineering students handle such behaviors? How should they decide which behaviors cross the line, and which ones can be ignored? And what role should faculty play in confronting sexism or harassment among students? While there seems to be a consensus that women should be prepared to handle these issues in the workplace<sup>11</sup>, most research has been more focused on documenting instances of sexism than on understanding the best response for confronting these behaviors.

To better understand how undergraduate engineering students should respond to sexist behaviors, we asked engineering students, faculty, and professionals about perceptions of two specific borderline scenarios involving inappropriate comments made by a male student to a female peer. The first scenario involves explicit sexual comments and can be perceived as implying sexual intimidation; the second accuses a female student of receiving special treatment because of her gender. Our ultimate goal is to help female engineering students better understand what behavior should and should not be tolerated and to formulate the most effective response to this behavior.

## **Methods:**

### *Overview:*

The results in this paper come from a much larger, multi-stage study on gender and interpersonal communication in engineering, where we conducted interviews with engineering professionals, faculty, and students. These interviews averaged 75 minutes and consisted of a mix of open-ended questions and prompted responses to scenarios describing specific problems (see “discourse completion tasks below”). In this paper, we report on the scenarios and open-ended questions related to issues of sexual harassment.

### *Participants:*

A total of 96 subjects participated in this study, although not every participant responded to every scenario. We have clarified the numbers of participants responding to each scenario in the results section. Participants consisted of engineering students (19 female; 14 male), faculty members (19 female; 14 male), and professionals (27 female; 11 male). Students and faculty

were recruited from universities ranging from research 1 to smaller, liberal arts schools. Students were predominantly sophomores and juniors, while faculty members all had 5+ years of experience. Professionals were recruited from a variety of companies and organizations across the U.S., both corporate and government, and ranging in size. Professionals had 5+ years of experience.

*Open-ended questions:*

All participants responded to open-ended questions such as, “Have you ever been judged by how you look rather than by your skills?” and “Have you noticed differences between how men and women communicate?”

*Discourse completion scenarios:*

The discourse completion tasks consisted of two scenarios that included scripted responses. Participants were asked to comment on pros and cons of the responses as well as express their own response. The discourse completion task methodology is commonly used in sociolinguistics and applied linguistics research<sup>14, 15, 16</sup>, as it allows for researchers to gain insights into exact phrasings they would use to respond to a situation.

The two scenarios we chose are actual situations that students mentioned in an earlier stage of our study. Accompanying these scenarios are potential responses, also based upon student comments in an earlier stage of this study. Participants were invited to comment on their overall thoughts about the scenario, describe whether they had any similar personal experiences, and comment on the appropriateness of the different potential responses. If a participant was not satisfied with any of the potential responses, we asked them to articulate the best way to respond.

We chose these two scenarios because students in our earlier research seemed unclear on how they should be handled. Thus, both represent borderline situations. Moreover, these two scenarios represent different types of sexism. The “you just got that grade because you’re a girl” scenario represents a situation in which a student’s gender is being used to call her competence into question. The second “sexual joke” scenario explicitly presents the student as a sexual object and could be perceived as threatening or intimidating.

Scenario 1: “You just got that grade because you’re a girl”

People will just make crude comments sometimes. “Well, you just got an A because you’re a girl.” You just got an A because of something you wore, or you just got an A because you spent too much time in his office, you know, make crude comments, like, “You’re not actually smart, you’re just getting good grades because you’re a girl.”

*Responses:*

- a. Just blow it off. I know what I’ve done
- b. Say “Listen, you don’t know me. I worked just as hard as you did, and I earned my grade. I don’t appreciate those comments.”
- c. Email the guy and in writing ask him to stop.
- d. Talk to the professor or someone else in charge and ask for their help in stopping the comments.

## Scenario 2: Sexual joke

We asked respondents to respond to Scenario 2 as either the student or as the student's professor:

I'm the only girl in our lab. There's other girls in the class, but we have two days of labs, and the guys will make gang-bang jokes and be like "Oh, we have the girl on our team,"

*Response: As a student:*

- a. Joke back at them.
- b. Talk to the lab TA and ask that he say something to the group.
- c. Talk to the professor and ask that he make an announcement to the whole class.

*Response: As the student's professor:*

- a. Advise the student to let it go. Explain "You will hear this kind of language from time to time in your career and you need to learn to not let it bother you. You are better than they are."
- b. Advise the student to directly confront the students making the jokes, telling them that their jokes are inappropriate and to please stop.
- c. Ask the student for the names of the individuals who made the comments and then speak to these individuals privately about their behavior.
- d. Talk to the entire class, saying "It has come to my attention that there has been some inappropriate joking and sexual innuendo in the labs. I want all of you to know that this kind of behavior is very serious and will not be tolerated."

These scenarios were chosen for the discourse completion interviews because they represented striking situations students have had to deal with in their educational careers.

*Analysis:*

The responses to the open-ended questions and to the scenarios were analyzed using grounded theory<sup>17</sup>, where the researchers analyze data by creating categories. To aid in this analysis, the researchers used MaxQDA<sup>18</sup>, a qualitative data software that allows the researchers to manage data, create categories, and assess the representativeness. The researchers looked at differences between male and female responses as well as differences between professionals and students. The differences between professionals and students proved to be more salient and are the focus of our analysis.

## **Results**

### **Finding 1: Women often find engineering to have a hostile culture**

The majority of female participants described having encountered some sort of sexist comment or behavior in their engineering experience. Table 1 indicates the percentage of women in each group who reported experiencing some type of inappropriate behavior. Not surprisingly, given their inexperience, students were least likely to have encountered these behaviors. However, it is particularly striking that over three-quarters of professionals had experienced some time of inappropriate behavior.

**Table 1: Percentage of women experiencing inappropriate comments**

	<i>Experienced inappropriate comments</i>
Students ( <i>n=19</i> )	37%
Faculty ( <i>n=19</i> )	55%
Professionals ( <i>n=27</i> )	76%

These inappropriate comments ranged from mild slights to physical abuse. In general, we found that professionals were more likely to experience more overt behaviors, while students and faculty predominantly described comparatively subtle comments or behaviors that gave them a sense that they did not belong as women in engineering. Below we provide examples of some of the different types of inappropriate behaviors that women encountered.

All groups discussed receiving comments reflecting the belief that **women are not engineers**. For example, one female engineer stated,

*A lot of times, when women come to meetings, most of the time, the men think they're either the secretary, not an engineer, or they expect me to do the writing or something like that. Sometimes they don't talk to you or look at you. They talk at you, which is not good, or they assume that you don't know certain things. Then there are some guys who are really good about being around women. They treat you sometimes better than the other guys that are in the room, so it just kind of depends on the person. (Female professional)*

The sense that women cannot be engineers was especially prevalent in **international contexts**:

*Yeah, the first couple of times I went to Japan. **There would be no other women, and they'd expect you to get the coffee** [...]. (Female faculty)*

*We get into the room with the partner company we have in Taiwan, all male. Completely all male situation. In the beginning when we started that, all of the—we did our introductions. We went through all of the protocol, and then it came time to start to talk about the project. **In the morning, all of the questions were directed towards my [male] peers.** (Female professional)*

Female students often provided specific examples in which women were either directly or indirectly discouraged from pursuing engineering:

*I did International Science Fairs, or I did a science fair, and I competed at the International Science Fair twice when I was in high school. One time, one of the judges was like, "I can't believe this—" He was talking in a group of other people, and he was like, "**I can't believe that girl did that work.**" I was, "Uh." (Female student)*

*I was in India two years ago, and we went to this woman's college and on the way back we took a professor home. He rode on the bus with us for a bit and he was going around*

asking us what our majors were. I was, like, I'm a mechanical engineer. He was, like, what? **But that's too hard for girls.** (Female student)

Without mentioning a specific encounter, some participants talked about a general sense of their own **awareness of being female** in engineering:

*Yeah, so I always have to constantly feel like I have to prove myself, because I'm a girl in engineering.* (Female student)

*Let's say we'll be hanging out with a group of them and I'll be the only girl. Sometimes it's jokingly, but....I'm never right. I'm always wrong. They always find some reason why I'm not right. Even though it can be joking, it's still annoying sometimes because I can't even get a word in.* (Female student)

*There's other guys in the class who are really down to work with other females. There's specifically this one kid who just—I feel like he just shuts me down whenever...I talk. I feel like he doesn't acknowledge my statements. **I just feel like, whenever I speak, he weighs it less than when everybody else speaks.** I don't really speak to him. The problem is, he comes off as nice. He's this super know-it-all that a lotta people within the department like, but I just don't feel respected by him. You take it in stride.* (Female student)

*There are always professors and others who will comment somewhat inappropriately on how nice you look today, or something like that, which obviously they would never do for a male colleague. They think they're being nice, and generally they are trying to be nice, but...I've always been very conscious of that, though. I've always tried to dress somewhat formally when I'm in class, to look like you're someone who should be in a position of respect. **So I've always been self-conscious of that, especially being a relatively young female in a male dominated profession.*** (Female faculty)

Professionals also talked about more overt behaviors they had encountered. For example, some women commented on the **patronizing** comments or behaviors:

*Oh, many times. This is like when I was an intern, a whopping 18, 19 years old. They referred to me as "little girl from [Company's Name] Power" out in the field.*

[...]

*Right. **Or they called me Valley Girl** or any number of things. You know, you're out there with these hard-core construction kind of people, so—[laughter] (Female Professional)*

Other women said they were the recipients of **sexual** comments or behaviors:

*Yeah, like when I first started at [Name of Company] I worked in an area where there were maybe 5 engineers out of a whole facility of almost 200 people, so the young guy—and I was just there the first month, and he said to me—what did he say? I went to the vending machine, and **he said, "I wish I could eat you for lunch."*** (Female professional)

Another sub-category of “inappropriate behaviors” that women talked about was receiving **belittling** comments or behaviors:

*I did have one older gentleman—retired paratrooper guy, the most grizzly Texas—and he also had enough years at IBM that he was about ready to retire. He was assigned to be my team lead when I first started, and he was this grouchy old whatever. **I was having trouble with one of my first logic designs, and he said, "Well, I know what's the problem. It's that damn female logic."** (Female professional)*

Four of our female participants described extreme behaviors that resulted **actionable harassment or discrimination**. For example,

***I've had men come on to me in the field. I've been in two situations that have put me and made me nervous about—nothing came from it, but if I would've been—luckily I was able to get out of two situations that could've been very bad situations for me. Those are the issues when you are saying about this—I think this stuff is important, but I think that there's things that in my career that I have been put in that makes me nervous, that I would not want my children—because I think that I am probably a more dominant female personality.** (Female professional)*

*I actually have been assaulted for being—I've been held down and hit. Yeah. Real sexual harassment. (Female faculty)*

*I have had to threaten to call 911. I have had to call someone's boss and say, "**He touched me where he shouldn't've touched me.**" I've had to tell someone's boss that he made inappropriate gestures in a meeting. (Female professional)*

## **Finding 2: Students failed to appreciate the seriousness of the sexual joke**

When we asked participants how they would respond to a sexual joke in which a male student suggested having a “gang bang” with the sole female student in a lab, we found no differences in how men and women thought the participant should respond. However, we did find a major difference between how students and professionals and faculty perceived this scenario. Table 2 shows that students were much more inclined to ignore the comments than professionals and faculty.

**Table 2: Student vs. Professional opinions about the appropriate response to the sexual joke**

	<i>Ignore</i>	<i>Confront</i>	<i>Unclear answer</i>
Students ( <i>n</i> =12)	40%	60%	0%
Professionals and Faculty ( <i>n</i> =35)	14%	80%	6%

Table 2 shows that 80% of professionals and faculty felt that the comments should be confronted. Over half of the professionals and faculty used phrases such as “completely inappropriate” or “unacceptable” to describe the comments



*I would probably just tell the guys—if there's four of them, one of me, I'd just say, "Listen guys, that's really not appropriate. It makes me uncomfortable and you're probably making this guy over here not saying something is not going to say something to you, because he's the lone wolf over there. It makes all of us uncomfortable. It's just not appropriate. If you guys wanna joke around by yourselves, go do it over beers or something. Don't say it to the only woman in the class, the only girl in the class. (Female professional)*

*Okay, so this is one where I would talk to the professor. Yeah. I mean, I think that's something where the professor would agree, hopefully, that this is unacceptable behavior, and that the professor sets the tone of the class and if the professor stands up there and says: "I'm very disappointed in you guys and the behavior that I've observed is unacceptable and will not be happening in my classroom," it's probably going to stop. (Female faculty)*

Almost half of the professionals and faculty went so far as to define the sexual joke as sexual harassment requiring follow up with human resources.

*I don't know what the rules are in a college setting in terms of sexual harassment and stuff like that, but in the corporate world, it's extremely important and zero tolerance policies in a lot of companies. I've gone through the training at [various companies] of how to deal with employee situations, and I would want to make sure that these students recognize, even if all of those guidelines and the training and whatever would never be exposed to them here, that that's what they're gonna be moving into into the real work world, and it's not appropriate. (Female professional)*

By contrast, students were much less inclined than professionals and faculty to see the comments as inappropriate, and only one student mentioned Human Resources. In fact, 40% of students suggested that they would ignore or brush off the comments:

*I'd probably joke back with them, just 'cause I feel like if you can handle yourself, and defend yourself, and say stuff back to them, then they'll shut up about the issue. (Female Student)*

*I think with that situation I would probably either try to ignore it or just kinda like play it off like it doesn't really bother me. I think if people are like someone that's gonna like pick on you in the first place usually, they—I don't know, usually like they want a response. (Female student)*

These findings overall suggest that a gap exists between what students and professionals perceive as actionable comments.

### **Finding 3: For students, intention mattered**

Students differed from faculty and professionals in how they perceived the importance of the intent of the person making the overtly sexual comment. Nearly, one-quarter of the 33 students interviewed indicated that the appropriateness of a comment depended upon the speaker's intention. This focus on intention contradicts most sexual harassment training, which generally emphasizes that perception, not intention, is relevant in determining whether a comment is harassment<sup>19</sup>.

*Well, yeah. I guess it can come off in two ways. Either I've been in a situation where we have been making inappropriate jokes or just talking about inappropriate things, **but it's joking. It's in a completely non-serious setting.** We're completely joking. In a lot of ways, some of the guys forget—not forget I'm a girl, but they know my feelings aren't going to be hurt if they're talking about it. I'll maybe even contribute to the conversation. Then there's definitely those other people that are just inappropriate and gross on purpose, and they do it just to get a rise out of you or just be jerks. There's definitely two types of situations like this. (Female student)*

*I guess, I mean, I would have to go with [joke back] to—**again, there's a few things you have to consider. I mean, are these actually malicious? Are they trying, really, to be mean? Or are they just making jokes?** (Male student)*

By contrast, none of the faculty and only one professional suggested that the speaker's intention made a difference in determining whether action should be taken in response to a comment. While faculty members and professionals *did* acknowledge that the person making the comment was probably unaware of how offensive he was being, they also said, regardless, that something should be done:

*They may not realize, you know, they're kids, you know... 19, 20 years old. **They probably don't realize what they're sayin'**, or how it sounds, how it's making her uncomfortable in that situation. So, yeah, **the T.A. would be a first step.** (Female professional)*

***If they're harmless**—and you can usually tell if somebody's harmless or not—if they're really harmless and it's just saying something extremely inappropriate but I'm not worried about them, then **I would talk to them directly** and say, "I've heard that you said this"—and I won't say who told me that—and I'll say, "This is extremely inappropriate, and I'm coming to you as a woman and as an adult. You cannot say things like that. It's a really, really serious problem. Sexual violence against women is not tolerated in my class; it's not tolerated at the institution and I'm sorry, but if I hear you—hear that you said that again I'm going to report you to the administration." That will probably put the fear of God in them. (Female faculty)*

As the following participant points out, the intent simply doesn't matter in determining whether a comment is appropriate:

*Well, you will find out, especially in business, that you can't joke back about things that's deemed inappropriate. What he wants to say on his own time, that's one thing, but in a*

*work environment, it's not, because as HR has told us, it's not how you meant it, it's how it was perceived. [...] (Male professional).*

**Finding 4: Students were more likely to confront a comment about their competence**

While professionals and faculty overwhelmingly indicated that the sexual joke needed to be confronted, most were inclined to ignore the comment questioning a female student's competence. Table 3 shows that 60% of professionals and faculty, felt the comment "you're just getting good grades because you're a girl" should be ignored. By contrast, nearly 60% of students were inclined to confront this comment.

**Table 3: Student vs. Professional opinions about the appropriate response to the "You're just getting good grades because you're a girl" comment**

	<i>Ignore</i>	<i>Confront</i>
Students ( <i>n</i> =13)	42%	58%
Professionals and Faculty ( <i>n</i> =35)	60%	40%

Students seemed to feel that the female student needed to defend themselves in this situation.

*I think I would probably go with something along the lines of B, just addressing it up front. **If they are being this blatant about it, then I think you have the right to be as up front about it as well.** Just saying that—basically exactly what it says that, "My grade is not dependent on anything about me other than the fact that I studied hard, I worked hard, and I earned my grade. If you have an issue with that, then that's not my problem. That's not the case." (Female student)*

***This one I would go with [confrontation] straight up.** "You don't know me. I worked just as hard or even harder than you did," because that's something that really, **really upsets me, just any type of sexism or just stupidity** like that. I don't stand for. It's not okay. (Female student)*

*I've been used to having to, I guess, **defend myself** in those kind of situations. I would definitely [confront], just directly talk to them about it, and say, "I earned the grade. I don't appreciate the comments." (Female student)*

Professionals, on the other hand, felt that the comment should be ignored since it had no major consequences and time would prove the female student's competence.

*She's gotta ignore it. She's gotta ignore it. I don't think there's anything you could say to somebody in that kind of situation that's gonna make it any better. Also, presumably, **these are peers, so their opinion doesn't really matter.** It's frustrating, as a woman, but this girl understands that she's done the work and she doesn't have to prove that to anybody else. That's my advice, is to ignore your peers because they're not giving you your grades and their opinion doesn't matter. It really doesn't. (Female Professional)*

*It gets me into—some part of me says to **just blow it off because it doesn't matter what***

***this person thinks.** It's you. It's your grade. You know what you've done. You're never gonna see them again after school. Why do you care what this person is saying? (Female Professional)*

*These, most of the time, honestly, it's—just blow it off. I know what I've done. Unless it just gets to a ridiculous amount of comments or things where you feel like you were being completely discriminated against, your being female. **It's just people having that opinion.** [...] I kinda think that—give it some time, you keep doing good work, and you have visibility. People see what you're doing. They learn to respect you in meetings. **Most of this will go away over time if you're doing a good job and you're proving yourself to be as good or better than the male counterparts.** (Female professional)*

Some professionals and faculty also reasoned that it would not be worth the time to try to change the speaker's way of thinking:

*I don't feel that it's worth trying to convince somebody who doesn't have an understanding. I mean, I personally wouldn't get in a long discussion or debate with them over whether I was getting special treatment. I just wouldn't. [...] I mean because **to think that you can change them in a conversation is just somewhat naïve** in my opinion. Most times you're not going to. (Female faculty)*

*I'd just blow it off. I always have. That never bothers me. If I can get any advantage for being a female—like if I get—as an engineer, you're going to get job offers. You're going to get—it's because—you just accept it. Men have been in the position for a long time. Any advantage you can get—take it, take it. [...] I don't think it's necessarily true. Everybody has their own views on things, and **you can't change them**, so you just work hard and worry about yourself. "If you could say this, you don't know me." (Female professional)*

*This one's easier. **I would just blow it off.** I mean some things will irritate me, but in the end, I've had a few of these where I probably didn't address it the right way, and again, it's like on some of these discussions, **trying to confront somebody is pointless.** (Female professional)*

Overall, then, it appears that students perceived the comments about getting a good grade because “you’re a girl” as threatening to their professional pride, and, thus, they preferred to defend themselves. In contrast, professionals seemed to think that the comments were not worth the effort to address because the comments were unlikely to have negative repercussions.

**Finding 5: Despite concern, faculty were confused about how to handle the sexual joke**

Even though most faculty members saw the overtly sexual joke as extremely inappropriate and as requiring attention, many seemed confused about how they would handle this situation.

**Table 4: Faculty vs. Professional opinions about how the professor in charge should respond to the sexual joke if it came to their attention**

	Address entire class	Address individuals	Refer to Dean	Don't know
Faculty (n=16)	59%	41%	18%	25%
Professionals (n=20)	80%	20%	0%	3%

*Note: Percentages add up to more than 100 because some participants chose multiple responses*

Table 4 shows that whereas 80% of workplace professionals stated that a discussion with the entire class was needed, faculty suggested a range of approaches, with many (25%) explicitly stating that they “didn’t know” what to do.

*Yeah, I mean I don't know. I don't know what the best thing to do is. I guess it, again, it kind of depends. If you know them, or something. Well, I definitely wouldn't joke back with them. I don't know. I think I would probably be inclined to say something like, you know, just to be honest, that's really rude. Hopefully they'll realize, oh, okay, that's not a good thing to say around her. (Female faculty)*

*Uh, you know, I almost don't know what to tell you about that difference. People approach that problem differently. For some it's not a problem at all. You know, they joke back, they really don't mind that, they're used to, or have gotten used to it whether they like it or not they, they've learned, adapted to that situation and are fine. And then the people that it really bothers, um, I think that's, that's difficult (Female faculty)*

The issue seemed beyond some of the faculty members' comfort levels:

*Yes...I don't think engineers are traditionally very good about addressing some of the touchier issues, and I would certainly not feel comfortable. If I had to do it, I'd give it a good shot, but I'd rather just have them know that I don't want to hear that kind of language, but I don't want to discuss precisely what it is I don't want to hear. You should have your own filter. (Female faculty)*

And others were uncomfortable addressing the whole class because only a couple of people were involved:

*I think I would not address it to the whole class, because the whole class is not being the problem. I think I would just call those two aside or whoever it was aside and just remind them that this is a professional work environment, it's inappropriate, and deal with it that way at first, and then wait until it stops. (Male faculty)*

*I would find the offending parties. It's usually just a few offending parties, I think would be the—if there were a solution like that, that's what I would focus on more than a blanket announcement. I don't think blanket announcements—you're punishing the innocent as well as the guilty. (Female faculty)*

Despite not knowing what to do, they were, overall, very concerned:

*“Only girl in the lab. Other girls in the class...” Wow. “Making gang bang jokes.”*  
**Wow. This is, again, outside of my experience. Wow. I think that there’s a line between, you know, someone making a playful, offhand comment, in which case, maybe you joke back, if it’s not extremely offensive to you, and it’s just kind of a playful comment, maybe you just joke back and get to work, but if it’s particularly offensive, or it keeps going, maybe you do have to talk to the TA or the professor, but again there...it seems like it’s something that’s almost outside of that purview. It’s almost like a Dean level problem** (Male faculty)

By contrast, professionals were much more decisive about the actions that needed to be taken: 80% said that the whole class needed to be addressed about the issue in part because an overtly sexual joke constitutes sexual harassment or an offense that would result in disciplinary action in the workplace, and thus, all students needed to be educated on the issue:

*If I were the professor I would take the approach of [talking to the whole class]. I wouldn’t be so wordy. I would just say, “This is a classroom environment. I run it like a corporate environment, which means you behave like ladies and gentleman. All this inappropriate behavior and language, there’s no place in my classroom. If you feel like you can’t contain that, let me know and I’ll fire you, because that’s what would happen to you in a corporate environment.”* (Female professional)

Several professionals also pointed out that it was important to teach the men that their behavior was inappropriate in order to prepare them for the workplace:

*That’s just setting that person up for failure too, if we’re not teaching them how to be an appropriate business person, and then throwing them into the business world, and saying, “Okay. Now be different.”* (Female professional)

In other words, male students need to be educated, for their own good, that such comments will not be tolerated in the workplace. Many participants commented on the male students’ lack of understanding of the impact of their words, and there was a sense that they needed guidance in order to prepare them for the future.

These findings thus suggest that faculty members, in contrast with professionals, were unprepared to deal quickly and effectively with an overtly sexual joke, despite the fact that there was widespread agreement that the comments were completely inappropriate and, and if a student came to the professor with the issue, it was the professor’s responsibility to do something. However, despite the fact that faculty members were not always sure about the best route to take when responding to a joke of this kind, they were very concerned. In fact, most of the faculty members said they would urge the student to come to them or to another authority figure, like a TA, if this happened. Moreover, none of the faculty members chose “ignore or joke back” when responding to this more serious comment. Thus, they clearly felt something should be done, even though they were not sure what that “something” was.

## **Finding 6: Professionals relied on lessons from sexual harassment training**

Some evidence exists that sexual harassment training increased participants' sense of efficacy in handling these situations. For example, several professionals referenced HR training in their responses, as shown in this example:

*Yes, one, that's totally inappropriate. **How we're directed here is you confront the individual, and then if the problem persists you raise up to a higher level.** (Male professional)*

At one of the universities where we interviewed, faculty members seemed very aware of the fact that the more serious joke needed to be dealt with as a sexual harassment issue, possibly because they are required to retake the training every two years. One of the participants explicitly referenced her HR training:

*This is really interesting. **I just took the sexual harassment compliance training two days ago online.** I think my answer to that woulda been different than if I didn't just take that. (Female faculty)*

However, as mentioned above, 25% of faculty not from this school said they “did not know” what they should do when faced with an overtly sexual joke. It is interesting to note that most of the universities have online sexual harassment training for faculty and staff; however, whether or not the training is required for faculty varies. While one of the schools did have mandatory training every two years, three schools did not have mandatory training for faculty, and one school required training only at the beginning of the faculty's employment.

These findings indicate that HR training can be useful. It can provide students and faculty members with an understanding of what constitutes behaviors that have serious consequences, both at the university and in the future. However, such training is not always effective or taken seriously:

*You always get the sexual harassment training. Every company. **It annoys me a little bit in that the guys attitudes are always, "Oh, I have to take my mandatory sexual harassment training. I know what sexual harassment is. We don't do that."** I'm like, "You don't think so. You're not the one I have to yell over the cube to, "Turn down that video." Or whatever. **It's usually some joke.** (Female professional)*

## **Discussion**

We found that a majority of women professionals have experienced inappropriate comments or behaviors in the workplace or in college, and over a third of female students have also experienced inappropriate behaviors. The majority of those behaviors gave the recipients the sense that females do not belong in engineering; this was especially true in international contexts. While more subtle behaviors were most prevalent, some women also discussed overt and even threatening behaviors that constitute sexual harassment.

When looking at how men and women professionals, faculty members, and students viewed the two scenarios, we discovered some differences. For the less serious scenario, where the female

encounters a male who says, “You just got an A because you are a girl,” implying that she flirted with the professor, students were more likely than professionals to confront the person making the comment. They perceived this comment as disrespectful and something that should be addressed. However, with the more serious scenario, where the female encounters male classmates who make a joke about having the only girl on the team and, “let’s have a gang bang,” students were less likely to identify the comment as anything other than a joke, whereas both professionals and faculty called it out as completely inappropriate and needing some kind of action. Students seemed more concerned with the speaker’s intent, as opposed to the fact that the comment was inappropriate in a professional setting. When addressing the comment, “You’re just a girl,” they seemed to perceive the speaker’s intent as more negative than the speaker’s intent when making a sexual joke, and thus they were more likely to address the less serious comment.

Faculty members were truly concerned about how these comments might impact their students. However, despite the majority of faculty members considering the more serious joke as “completely inappropriate,” they had more confusion than professionals on what to do. Professionals were more direct in their approach, suggesting that the entire class needed to be made aware of sexual harassment policies. Faculty members, though, were unsure about whether they should talk to the whole class or to individuals, with some suggesting that they would go to a higher authority, like the dean, and a quarter admitting they “did not know” what they should do.

It is possible that sexual harassment training has had a positive impact on professionals’ sense of efficacy in handling these situations. A majority of professionals mentioned HR training, though a handful of participants commented on how sexual harassment training did not always work, commenting on their male colleagues’ lack of investment in the concepts. This lack of serious attention placed on sexual harassment training is echoed by Tonso<sup>11</sup>, who, in her study of an engineering school, discovered that a sexual harassment class that engineering students had to attend backfired from its intent of opening a dialogue about diversity (pp 204-211). However, we have some evidence that sexual harassment training can work: Faculty members from one of the schools we targeted, and employees from one of the companies, talked about their organization’s training or culture which would not tolerate comments such as the overtly sexual joke. Moreover, previous research has suggested that sexual harassment training can be an effective tool for helping students understand what constitutes sexual harassment<sup>20</sup>, and that employees are more likely to understand what constitutes sexual harassment when the training combines case analysis with video scenarios<sup>21</sup>.

Many universities have online sexual harassment training available; however, whether or not faculty members are required to complete the training varies. At the school referenced above, we discovered that the training was required every two years; the training consists of content presented in a linear fashion (as opposed to scenario based) and a follow-up quiz consists of five multiple-choice questions. While this training does not appear to be innovative, we hypothesize that the requirement to take it every two years is a significant component in why these faculty members were cognizant of proper procedures. As some participants and Tonso’s<sup>11</sup> example indicate that face-to-face training can cause unsatisfactory results, we also hypothesize that



online, scenario-based training may be more effective as a tool for spreading understanding about sexual harassment.

Our findings are limited by the small number of participants we interviewed and need to be followed up with surveys or other methods that can better assess the extent to which students and faculty understand and respond to harassment. Such research could have the potential to influence the type of harassment training required of university faculty and students.

### ***Sexual harassment training:***

Because our results point out the gulf between workplace and academic settings, there is a need at the university to talk about sexual harassment and to encourage an environment of zero tolerance in the classroom. Students, who seemed to downplay the seriousness of the gang bang joke, need training to understand what constitutes sexual harassment and what are the potential consequences. Faculty, too, would benefit from training with an emphasis on how they, as the people in charge of managing a professional environment in the classroom, can respond to these types of situations. For example, in the case of the “gang bang” joke, the woman who experienced that behavior told us that her professor was “laughing about [the joke],” and she didn’t think “he thought it was a big problem.” Clearly, based on the evidence we have presented here, the professor has a responsibility to put a stop to this kind of behavior when he/she hears it; thus, this is good evidence that faculty members would benefit from advice on how to handle such issues.

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### References:

1. Fouad, N. A., and Singh, R. (2011). *Stemming the tide: Why women leave engineering*. Retrieved from Center for the Study of the Workplace website: <http://www.studyofwork.com/2011/10/stemming-the-tide-women-engineers-report/>.
2. Riley, D. (2008). *Engineering and Social Justice*. Morgan & Claypool.
3. Geek. (12 Oct. 2013). #StandingwithDNLee [Web log post]. Retrieved from <http://www.geekygirlengineer.com/tag/sexism/>.
4. Urry, M. (9 Aug. 2014). Male scientists, don't harass young female colleagues. *CNNOpinion.com*. Retrieved from [http://www.cnn.com/2014/08/09/opinion/urry-women-science/index.html?hpt=hp\\_t3](http://www.cnn.com/2014/08/09/opinion/urry-women-science/index.html?hpt=hp_t3).
5. Schulte, B. (9 Aug. 2014). Study: Uncivil work environment pushing women out of the engineering field. *Washingtonpost.com*. Retrieved from <http://www.washingtonpost.com/blogs/she-the-people/wp/2014/08/09/uncivil-work-environment-blamed-for-lack-of-women-engineers/>.
6. Hewlett, S. A., Luce, C. B., Servon, L. J., Sherbin, L., Shiller, P., Sosnovich, E., & Sumberg, K. (2008). The Athena factor: Reversing the brain drain in science, engineering, and technology. Harvard Business Review Research Report. *HarvardBusinessReview.org*. Retrieved from <https://hbr.org/product/the-athena-factor-reversing-the-brain-drain-in-sci/an/10094-PDF-ENG>.
7. Perez, Erica. (28 Oct. 2011). Female engineering majors struggle with confidence issues.” Retrieved from *CaliforniaWatch.org*, <http://californiawatch.org/dailyreport/female-engineering-majors-struggle-confidence-issues-13307>.
8. Frehill, L.M. (1994). Images of women in engineering textbooks. 1994 *WEPAN Conference*, pp. 179-84.
9. Tonso, K. L. (2007). *On the Outskirts of Engineering: Learning Identity, Gender, and Power via Engineering Practice*. Rotterdam: Sense Publishers.
10. Committee on Women in Science and Engineering, National Research Council. (1994). *Women Scientists and Engineers Employed in Industry: Why So Few?* National Academy of Sciences. Retrieved from: <http://www.nap.edu/catalog/2264.html>.
11. Goodman, I. F., Cunningham, C. M., Lachapelle, C., Thompson, M., bittinger, K., Brennan, R. T., & Delci, M. (2002). Final Report of the Women's Experiences in College Engineering (WECE) Project. Goodman Research Group, Inc. Retrieved from <http://www.grginc.com/purchase.html>.
12. Seymour, E. (1995). The loss of women from science, mathematics, and engineering undergraduate majors: An explanatory account. *Science Education*, 79(4): 437-73.
13. Powell, A., Bagilhole, B., & Dainty, A. (2008). How women engineers do and undo gender: Consequences for gender equality. *Gender, Work, & Organization*, 16(4): 411-428.
14. Blum-Kulka, S. (1982). Learning how to say what you mean in a second language: A study of Hebrew as a second language. *Applied Linguistics*, 3: 29-59.
15. Brown, J. D. (2001). Pragmatics tests: Different purposes, different tests. In K. Rose, & G. Kasper (Eds.), *Pragmatics in language teaching*. New York: Cambridge University Press, pp. 301-325.
16. Zuskin, R.D. (1993). Assessing L2 sociolinguistic competence: In search of support from pragmatic theories. *Pragmatics Language Learn.* 4: 166-182
17. Strauss, A., & Corbin, J. (1998). *Basics of qualitative research: Grounded theory procedures and techniques* (2nd ed.). Newbury Park, CA: Sage.
18. MaxODA: The art of data analysis. *MaxODA.com*. Retrieved from <http://www.maxqda.com/>.
19. Workplace Answers: *Workplace Answers* (2014). Retrieved from <http://www.campusanswers.com/campus-sexual-harassment-prevention/>.
20. Blakely, G. L., Blakely, E. H., and Moorman, R. H. (1998). The effects of training on perceptions of sexual harassment allegations. *Journal of Applied Social Psychology* 28(1): 71-83.
21. York, K. M., Barclay, L. A., Zajack, A. B. (1997). Preventing sexual harassment: The effect of multiple training methods. *Employee Responsibilities and Rights Journal* 10(4): 277-289.