1 Weverton: So Today we're going to do something similar to what we did yesterday. But the difference is that we're going to start all the way back from elementary school to grad school.

2 Kelly: All right.

3 Weverton: And The other difference is that I'm going to be asking different things that I didn't ask yesterday, since now I have a better idea of who you are, like Ideas from the program, mathematical ideas, that kind of stuff. Alright, so, Kelly, can you tell me about your elementary school math experiences?

4 Kelly: Yeah, Um, I would say they were mostly really good. So I was in school, and Chosen One Elementary School up until fourth grade When I was near Chicago. Yeah, I don't remember a whole lot about math at that school. Other than that, I enjoyed it. That sort of thing. And then I moved in fifth grade, or right before fifth grade started was that the new school in Pennsylvania. I really enjoyed math there as well. Although It was interesting when I first arrived. They put me in the strongest reading group in the second strongest math group, because they split people up into groups for that. My mom complained and told them that I should be in the stronger math group. And they moved me up and they were like, Oh, yeah, no, she's doing fine. And apparently the teacher said was that he was expecting Students who were stronger at reading to not be as good at math. And so that's why they put me in the slightly lower math group. But after that, I was in the higher one. And

5 Weverton: so did you stay in both reading and math like in the strongest group in Both ones?

6 Kelly: Yep.

7 Weverton: Interesting. Is there any particular reason why your mom asked them to change you?

8 Kelly: She knew that I was good. And that I enjoyed it.

9 Weverton: Interesting. And What is like the best thing about like, what was the best thing about your elementary school experience? And it could be Middle School too?

10 Kelly: Yeah. Um, I mean, the best thing Overall, I think, was when I moved in fifth grade, and I was nervous, you know, being at a new school, but I was also excited. You know, I wasn't like dreading it. But just I didn't know any of the students. I didn't know anyone. And somehow, my, my fifth grade teacher was really good. And also, all the students in the class were super nice. It was like somehow, all the all the kids who would like get into trouble a little bit more somehow all ended up in other classes. And that class was like, really kind. It was like, we were all just friends with each other. And all the little like playground drama was happening to everyone else and not to us. So that's probably one of the best things.

11 Weverton: Can you tell me more about that teacher that you mentioned?

12 Kelly: Yeah, Mr. Hicks, he was really good. Like he, he made things fun. And you could tell that he cared about us a lot. He was very just kind of like in tune with what we needed to like. So his classroom had a door that went to the outside. And there's this big field right outside of the room, and then like a fence on the other side. And if he could tell that we were getting like too ancy if it was a nice enough day, he'd say, Alright, kids, I need you to go check the fence. And so we go run out and like, go hit the fence and then run back in. And then we're like, you know, ready to do work again.Yeah.

13 Weverton: And What was the worst thing about your elementary school math experience?

14 Kelly: Um,

15 Weverton: elementary/middle school?

16 Kelly: Yeah. One of the worst things was. So when I was in middle school, one of the classes that they had was the all the ones who were in the highest group, they put us into a class where we could go through two math courses in one year, and get ahead. But it was a self study, there was one teacher and I don't even remember how many of us were in there, but quite a large number, because I remember waiting in line. And sometimes you'd lose almost like an entire class waiting to talk to the teacher about a question that you had. And So yeah, that was, that was a frustrating year for me.

17 Weverton: Any particular reason? Was that just because, like, you didn't like to do the work by yourself and wait for things you want to know about or?

18 Kelly: Um, yeah, I mean, part of it, too, was so that she encouraged us to work like in groups. But I didn't start off working with my friends right away. I started off working on my own. And so then they got ahead of where I was. And I don't know, I should have probably talked to other people in the classroom. But I didn't, I just continued to work on my own. But then it was frustrating when I would get stuck. And I would have a question that I needed to get answered. And I couldn't really move forward without getting this question answered. But I also couldn't get access to the teacher to get the question answered. And I didn't really want to bother my friends who are further ahead. I didn't want to slow them down. So Yeah

19 Weverton: I see. And so I think you already answered this, but I want to know again [Kelly: Yeah] So were you identified as being an early achiever in math?

20 Kelly: Uhum, yeah.

21 Weverton: Was it by a teacher, parents?

22 Kelly: Um, so at the Pennsylvania School, My mom first notified the teacher, and then the teacher recognized it as well. In Illinois, Some of the teachers recognize it as well, there was one teacher who was kind of mean, and she didn't, but my other teachers did. And then they did, they did the whole, like academically talented testing kind of a thing. Apparently, I was like a couple points short in Illinois, but then they retested me in Pennsylvania, and then I hit the mark. So

23 Weverton: can you tell me more about this experience with the teacher that you said that she didn't, was it a she?

24 Kelly: It was a was a she. Miss Turuf. She was my fourth grade teacher. She could just be kind of harsh with the kids. Honestly. I don't remember this so much. But my mom has told me when I I don't remember how it came up. But we were like talking about my teachers. And she said that I would sometimes come home upset saying that she had called us stupid. I don't remember that. But I do remember that she could be pretty strict sometimes.

25 Weverton: All right. Can you give me some negative impressions of some of your math teachers during elementary or middle school?

26 Kelly: Yeah, Um, well, so there was the one who was kind of mean. It was one woman in middle school where she also had kind of a reputation for being strict, but she was never like, cruel, like she never, you know, called people dom or anything like that. Most of mine were actually pretty good, though. through elementary and middle school. There was a negative impression of early high school if you want that one. ninth grade, Mrs. GOrdinary, she was teaching geometry to us. And she, she made excuses that she was really busy working on her master's, I don't know what in, but she would make a lot of serious mistakes on the board. And so I would sit there with my textbook and correct her. Which she, She never took it out on my class, but you could tell she was unhappy about it. So that class, about half of the room was sit with me and my group of people, and we would all correct her. And then there was the other half of the room that didn't know what was happening. So I didn't appreciate her teaching so much.

27 Weverton: What about some examples of positive impressions of some teachers during these elementary/middle school years?

28 Kelly: Yeah, Um, so my fifth grade teacher, Mr. Hicks was really great. And he made things very interesting and fun. This wouldn't be allowed today. But I will never forget the whole like, rule for dividing fractions, you flip it and multiply, because he called two kids up to the front of the room. And he said, Okay, these kids are two fractions. If we want to divide this person by this person, me picks up the second kid, you just flip them and multiply [laughs]. So he would probably get in trouble for

that now. But we all learned. So That was really good. And then yeah, I, most of my math teachers were super great. Like in middle school, There was the one woman who didn't really have time with that classroom was trying to get two years done in one. But the year after that. I don't remember her name now. But the woman who taught us eighth grade, She was great. I just remember liking her a lot. And feeling like she explained things really well. And we had good interactions with her and that kind of thing.

29 Weverton: And Let me ask you some you already talked a little bit about your parents, did you grow up with your parents? Is that Right? [Kelly: uhum] Okay. Yeah. And So let me ask you some questions about that. So can you tell me about your relationship with your parents and how they thought about your mathematics learning?

30 Kelly: Yeah, Um, I have a really good relationship with my parents. They're really great. And I didn't really have any of the like, sort of rebellious phases growing up, like, I just got along with my parents the whole time. And Yeah, they were proud of me. They, they like to joke around a lot. So I bring home a report card, and they'd be like, oh, always, you need some more variety in here Kelsey. But I knew they were proud, you know? Yeah, I knew that they were really, really proud of me. And

31 Weverton: So what did your parents tell you about math in the expectations of you succeeding in this field?

32 Kelly: Um, they didn't really tell me much about it. Yeah.

33 Weverton: And So do you think that they influenced your school success?

34 Kelly: I did think so. Yeah.

35 Weverton: How did that happened?

36 Kelly: I think it was helpful just to know that they were supportive. And, you know, they always were in telling me that they were proud of me. And they, I was smart and that sort of thing. Yeah, but I think part of it too, was that I was already a very motivated kid. Like, they didn't have to ever asked me to do my homework, I came home, and I just did my homework. So they never really set expectations for what they wanted from me in that way. But I think their support has definitely been huge.

37 Weverton: It's great. And did your parents or other close family and friends have careers or exposure to math?

38 Kelly: Not really. Some of my uncles are in engineering. My parents both told me

that they liked math when they were in school, but they both went into other careers.

39 Weverton: And do you think that these conversations are maybe your uncle's been engineering, do you think that influenced you to pursue math?

40 Kelly: um, not really I don't think so. I wasn't particularly close with those uncles. We just didn't see them that often. Except the holidays.

41 Weverton: Cool. All right, let's go to high school. So can you tell me about your experiences in mathematics during high school?

42 Kelly: Yeah, so I already mentioned the ninth grade geometry teacher, That was a great. After that, though, I had all really good high school teachers. There was Mr. Schultz and Dr. Margot. And Mr. Kelly. And I'm trying to remember like more specifics about them. Mr. Schultz was just well liked by everyone. And he was a good teacher too, like we learned a lot from his class, but also he had a really good rapport with all the students at the school. Dr. Margot was I thought she was great. I learned a lot from her. Yeah, I got along with her fine. Some of the other students didn't as much. And then Mr. Kelly was awesome. He was so much fun. He taught the AP calculus course. Yeah. And just sort of similar to what I guess I was saying about the other ones He got along well, you can tell he really cared about all of us. And he gave great explanations. Made things like really clear and yeah.

43 Weverton: Nice. And What was the worst thing about your high school experience in mathematics?

44 Kelly: [thinking] yeah probably still that ninth grade geometry course. It was abnoxious to be there and think that I am doing better at this than the teacher is. And she's supposed to be instructing us. And, yeah,

45 Weverton: so what did you do back then? Like, would you like to talk to your parents like, administration?

46 Kelly: I probably did talk to my parents about it. Um, I would think I mostly though, just kind of sat there with the book and corrected her. I didn't talk to the administration at all. I think if I had had her later on, I might have gone and talked to the administration, because I did that with one of our physics teachers who was not teaching us much physics. But that wasn't until like, 12th grade when I was older, and probably more confident.

47 Weverton: And In what ways Have you been encouraged to excel in math in high

school?

48 Kelly: I think mostly just being encouraged to take honors and AP classes. As far as the school is concerned, that was the biggest thing.

49 Weverton: All right. And did anyone ever discouraged you from pursuing math in high school?

50 Kelly: Nope.

51 Weverton: Nope? All right, let's go to college, then. so can you tell me about your experiences as being a student in college?

52 Kelly: Yeah, college was great. Yeah, it was just awesome. I really liked it a lot. Especially to in the math department, the professors were very supportive of the students. And also to it was a small liberal arts school. So they would sometimes be like, oh, like, there's a game night, you know, you're all invited. And the students and professors could do that together. I never went to one. I don't know why, but I just didn't go. But I knew that that was an option. And I valued that the professors cared enough to make that an option that they would interact with people and informally. Yeah, they were good. And I felt like to the professors were, I guess, a little bit more so than in high school, I felt a little bit more singled out there, too. I had one professor in particular asked me if I was applying for any summer stuff in math. And I was like, No, I, I don't think I even knew that there was an option to do that. And then he gave me the information for an ru or research experience for undergraduates and encouraged me to apply to it and that sort of thing.

53 Weverton: And Okay, so. There was a lot. Let me think. So about the, the experience of Professor professors, interacting with students in more informal ways. [Kelly: Yeah]. You mentioned that you would not attend to those. Right. [Kelly:Right.] Was there any reason for that?

54 Kelly: Not really, that I remember? Um, yeah. I don't know why maybe I had other stuff going on? Or maybe I yeah, I don't know,

55 Weverton: and what about here in grad school, do those informal events still happen where you get

56 Kelly: No [Weverton: No], I mean, the grad students will they plan that amongst ourselves. But never was professors also involved, except for like one professor in algebraic geometry. But that's not in the area that I was in.

57 Weverton: So You mean, like he does interact with students?

58 Kelly: Yeah, yeah, he does interact with students a lot more informally. But there's only one of those here.

59 Weverton: All right. And about filling singled out. Can you tell me more about that feeling?

60 Kelly: Yeah, Um, I don't know, it felt nice. I guess that this professor stopped me and was saying like, hey, you're doing well, I'd like it if you are like you should consider applying to this thing.

61 Weverton: And so he suggested you should do a summer research program. Did you get to go to those like what happened?

62 Kelly: I went to one A year later, I got rejected from the one that he suggested I applied to. But then the year after that, I applied to some other ones. And I went to one of those

63 Weverton: How was that can you talk a little bit about that experience?

64 Kelly: Yeah, it was interesting It was pretty decent. It was very different. Because all the sudden instead of like, I mean, you know, undergrad, like you go to your class, you work on the homework, you talk to friends about any problems that you run into maybe. Although usually I didn't really need to do that for math classes. But Yeah, so then at the research one, All the sudden, they like teach you a little bit about a topic. And then at least at this one, I've heard other ones that have been working in groups more, but at the one I was at, It was highly individual. So it's mostly kind of trying to figure stuff out on my own. And then the professor would check in every so often.

65 Weverton: Did you like it, this kind of set up?

66 Kelly: um not as much know no.

67 Weverton: why?

68 Kelly: I didn't like working on my own all day. The math was interesting. I was happy with that part of it. But just sitting there trying to figure stuff out on my own was not as fun.

69 Weverton: So during this research program, could you interact with other students If you wanted? Not work on your own?

70 Kelly: um not a whole lot. So there were other people sort of around. And so I could stop to kind of talk to them a little bit. But I also, like it was during the workday, like we had set hours that were supposed to be there working. And so I felt like if I, if I was talking to them about something other than the topic that I was working on, then that felt like I was, you know, wasting the time and not working hard enough.

But they were all working on their projects, too. So I didn't necessarily spend a lot of time talking about my project with them. We would talk a little bit about like what each other was working on, but not very much.

71 Weverton: Did people create groups or, [Kelly: no, not at this one]. Interesting. And was it like, only girls, girls, and

72 Kelly: there was half and half. there was four women and four men

73 Weverton: Wow. Only eight people total?

74 Kelly: Yep. eight students. And two professors.

75 Weverton: Interesting. [Kelly: Yeah]. So was it competitive?

76 Kelly: I didn't really feel like it was competitive because we were working on slightly different things, a lot of us. So it didn't really feel too competitive to me. In that way. It did feel a little bit intimidating at times, where I felt like some of the people knew a lot more math than I did.

77 Weverton: Any particular reason why you felt like that way?

78 Kelly: um, I mean, certain people. I've since learned that this isn't a great indicator, but certain people will be able to like rattle off like names of mathematicians, or theorems or something like that. And I was like, I've never heard of that before. Or, Oh, I remember that name. But I don't remember what they did. Or I don't remember what that theorem says. That kind of thing.

79 Weverton: Interesting. And Another thing about the research program, the summer research program. So do you know like from where those students were coming from, like the different university, was it all the same university different years?

80 Kelly: it all over? A lot of them were small liberal arts schools, not all of them were, um. But Yeah, everyone was from a different school.

81 Weverton: When you think about like students coming from, like these, these small liberal arts, schools and students coming from other kind of universities like what what do you picture?

82 Kelly: um, So I'm picturing for other universities, I'm picturing more like big 10 schools, like large research universities, small liberal arts, I mean, I mostly inside my mind, I'm thinking of my school, which was very small about 2500. undergrad. So that's, I guess that's what I'm imagining. Although I know that there's a range of sides,

83 Weverton: is there like, difference in kind of students from these different places?

84 Kelly: I don't think there's a big difference in students. But I do think there's a big difference in sort of the campus culture. Yeah.

85 Weverton: okay, Interesting. So in college, Can you? Can you describe a memorable experience in your college classroom? like in the math classroom?

86 Kelly: [thinking] There's a few different memorable ones, I guess, I don't know. I remember my abstract algebra class a lot. That one was really cool. I really enjoyed just seeing how, how deep and abstract everything could go. I remember this one moment in my linear algebra class, where the professor put a problem on the board and was wanting students to try to come up with ideas. And I was a little bit hesitant about my idea, but I said it. And it was correct. And the professor almost had this look on his face of like, Oh, no, I thought it was going to take them longer. Or that maybe that he had like a much more difficult method and wasn't expecting that I had a much simpler solution for it. But he was like, pleased, He was like, happy with me. But you could tell that he was also partly like, Oh, I didn't think of that, you know, I thought of this much longer way to do it. And then my analysis class, One of the professors there, my also my undergraduate advisor, Dr. rabbinic, he set up the course so that you started with the Archimedes, Nexium, and slowly worked your way all the way up to the fundamental theorem of calculus. And on the day that we proved the fundamental theorem of calculus, he would do the, what he called the dance of joy. He was like an 80 year old man. And he would run around the front of the room, like jog a little bit, and then he like, jumped, and we were all like, don't fall and hurt yourself. Thankfully, he did it. Yeah, that was very memorable.

87 Weverton: It's fun. All right. So Kelsey, if you could rank yourself in terms of mathematical, confidence, from one to 10? How would you grade yourself in? elementary/middle school?

88 Kelly: In elementary/middle school Probably like an eight.

89 Weverton: Uhum, What about high school?

90 Kelly: High School, probably like a nine.

91 Weverton: In College?

92 Kelly: I'd say also like a nine, nine to 10.

93 Weverton: What about grad school?

94 Kelly: started off still at nine or 10. And then by year two, five, maybe

95 Weverton: Why is that?

96 Kelly: Um, I think a variety of reasons I think part of it was suddenly it got way harder. Part of it, too, was not being sure that I wanted to finish the program. And after I left yesterday, Another thing that I thought of those moments, when I felt like I didn't belong this much, was sort of a similar thing, where there are some people in this program who just they read something, and they remember it, They can rattle off a theorem. Like It's nothing. And I, I always thought that I had a really good memory, up until I came here. And all of a sudden, I, I don't have a memory, like there's. And so I think that was part of it. And then the last part, Now we're getting into the real personal stuff. Um, so I got engaged after my first year of grad school, and then I started taking the pill for birth control. And that like really messed with my emotions. I dealt with a bit of depression during my second year of grad school with some of that starting. And Yeah, my life, body and mental health got kind of thrown out of whack. During that year. Things got a lot better when I got off of it. But that definitely messed with my grad school experience. I've never quite sure what is grad school for things from around that time. I'm not sure what's grad school, and what is hormones from there.

97 Weverton: Interesting. So the birth control pills were that, like something they did, because you want to do it. Was that something that you always worried I don't want to get pregnant while I'm in grad school. What like what happened? Like, why that decision?

98 Kelly: Yeah, um, I didn't want to get pregnant. And it's not necessarily well in grad school. So that was part of it. I just like, wasn't ready to have a kid.

99 Weverton: I See,

100 Kely: although that's definitely a consideration now as my husband and I have thought about kids more, because we both do want kids. But part of me Still, it's just kind of like, I don't know if I can handle that during grad school, but also they say it doesn't get easier. So that's kind of where I'm at right now.

101 Weverton: Who say that?

102 Kelly: professors.

103 Weverton: Professors tell you that? Have you ever had a conversation with any professor or the student about what do you think if I like, what do you think about the idea of having kids now?

104 Kelly: Yeah, Um, so one of the other grad students who as a kid, She's says that if

you want to go for it pretty much like she thinks it's fine. Professors. They mostly just talk about like, how you can make it work. They say like, Oh, it's going to be really difficult. That's usually kind of their first part. And then they can just kind of saying, like, oh, there's options, you know, there's daycares and that kind of thing.

105 Weverton: Do you think that most of professors here they have kids?

106 Kelly: it's really hard to tell. They don't ever really talk about it a whole lot. I know a couple of them do. And Those were the ones who I went and talk to the rest. I don't know.

107 Weverton: Were those professors femal women or?

108

Kelly: One was a woman, another was a man. And he might felt comfortable talking to because I wasn't in the class. But I know some older grad students who are in a class where he had to bring his son in, When I don't know what the circumstances were, but he had to bring his son into class for a day. So I was like, Okay, well, if he's done that, then, you know, he'd probably be willing to talk. And also, I knew him a little bit. And he was very kind and all of that.

109 Weverton: Do you think your confidence in mathematics has increased now, like in grad school.

110 Kelly: I think so yeah,
111 Weverton: what happened?

112 Kelly: Um, I think part of it was kind of just getting off of the hormones. And just as my as my body is kind of reset that has helped, I'm still definitely less confident in math than I was in high school or college. I think part of it too. This is kind of a weird thing. But when I started switching dissertations. My advisor, my old, my old advisor, Dr. O rich, he He's very kind. He cares about the students, but he's very much kind of like a do what you want to do. Like when it came to picking a research topic, and all that kind of thing, he was just kind of like, well go look into stuff, do what you want to do. So when I approached him to tell him that I wanted to switch things, I could not fathom a response other than do what you want to do. And he tried to convince me to stay and finish doing algebra with him. And he told me that he thought I was doing really well, and that he thought I should finish working in abstract algebra. That was the first time I heard that kind of affirmation from him. So in a kind of a weird way, I think like switching topics and boosted my confidence just to hear that. Yeah.

113 Weverton: And Do you think there is any particular reason why he told you that you

should continue in algebra?

114

Kelly: Yeah, I mean, so he said that I was doing well. And I did have a result a small one. But I did have a result. With the work that I was doing with him and another graduate student. He also was basically just saying, you're close to the end of the program. So Why don't you finish out the two years. And then he was also just kind of talking about how more doors might be open if I had a PhD in math than if I had one in education. Because at that point, I was still thinking that I would need to switch to the education department, rather than finishing with Rachel and staying in the math department. Because he was basically saying, if you really want to do education, You can do that after you finish your degree. versus having a math PhD might give you a little bit more options than if you completely switch departments.

115 Weverton: I see. [Kely:Yeah.] All right. So do you feel comfortable asking or answering questions in mathematics classes in grad school?

116

Kelly:[thinking] I usually don't answer ask a lot of questions. Answering questions. I tend to feel kind of nervous when they first ask it. Because I feel like I'm not gonna have enough time to think to answer it. And so I'm usually kind of sitting there like hoping somebody else will answer, which is not normal for me, because an undergrad, I was the person who was happy to answer the question. And in undergrad, when I didn't answer questions, it was usually because I was censoring myself, because I would realize that I just answered the last couple of questions. And I'd be like, Oh, I should let another student talk. So that I thinking about it now. That's a huge change. Yeah, and then asking questions. It kind of depends on what my question is. Yeah, I've asked some questions before, but a lot of times, I kind of will wait till later and look over stuff again. before asking a question.

117 Weverton: Sounds. Great. Alright. So now we're going to switch gears for talking a little bit about gender. And, before doing that, I want to give you some background about like, where do I stand on this gender issue thing. So for me, I believe geneder is socially constructed, and I believe that in society, we have created ways to divide groups according to the different normative sexes. And every time I talk about normative, I refers directly to female and male, [Kelly: Okay], And for me, a way to make sure that we create these norms and determines the way this groups should behave, perform, Act in societies is giving them what we call now genders and then, we create a big group that is composed by what we call women. And then men, so that's the way I see it. And I would like to know the way you see it. so then my first question is, can you tell me about your understanding of gender in the context of the American society?

118 Kelly: Yeah. um [thinking] Could you repeat the question? I'm trying to kind of wrap my head around everything once.

119 Weverton: So, tell me about your understanding about gender in the context of the American Society.

120 Kelly: Okay, Yeah. Um, so more talking about, like, personal beliefs versus like, what I see in society,

121 Weverton: What do you see?

122 Kelly: What do I See? I Feel like I see. Primarily two, really different viewpoints presented in society. So there's more sort of like, the old school, where I don't even know if these are the right ways, but we're like men and women correspond to male and female in terms of like anatomy. And, along those lines, then too I see people who still sort of tend to buy into the more like, the older gender roles of the women tend to either stay at home, or if they have careers, their careers don't matter as much as their husband's career does. Versus, you know, the man sort of has the career and that sort of thing. And then on the flip side of that I see from primarily younger people that I know, I'm kind of similar to what you were describing, I'm just saying, like, This isn't how it has to be, this isn't necessarily the way things are. kind of be and do what you want.

123 Weverton: Nice, and what does your gender mean to you?

124 Kelly: um to me. I mean, I'm, like biologically female, and I've always identified as a woman. So in some ways, I haven't had to think about it a whole lot, as opposed to some of my friends who are non-binary, and where it's like very much something that they thought about. The times where I have thought a little bit more about gender, or mostly actually, like in sports, where I've occasionally gotten the comments, doubting my abilities, kind of a thing. Yeah, but I haven't really had to think about it a whole lot. The one part, I guess that has made it a little bit more difficult is when my husband and I are thinking about kids just that, like, if we do decide to have kids biologically, I will be the one to bear them, you know. And then also to sometimes I feel a little bit. I consider myself a feminist. But also, as much as I really do want to teach at a small school. My career is not the most important thing to me. I'm much more family oriented. And so I would be much more willing to give up that career in order to have a job close to like a city that works well for my husband. And so sometimes I feel odd about vocalizing that to people, because I don't want to be perceived. It's like not empowering to women. Yeah.

125 Weverton: Interesting And How do you feel when talking about gender with people you don't know very well?

126 Kelly: it feels uncomfortable? Because I don't know where they're coming from?

127 Weverton: Was there ever any experience talking to someone you just feel like uff

128 Kelly: [thinking] not really in the way that I'm thinking of necessarily. I mean, I have had some, like kind of funny encounters with some older people. When I was in high

school, this one older man who was sort of a family friend, We weren't that close with him, but like, he knew our family. And we like ran into each other. And he was asking me about colleges. And I was saying that I wanted to go to undergrad that I ended up going to, and he goes, I don't know if you want to do that. And he looks at me and goes, Well, that's the only reasonable job for a woman? And my sister standing next to me as a joke goes homemaker. And He goes, exactly, And What's the only job a woman can have and still be home in time to get the kids off the bus from school. At this point, we're both just like staring at him, like, we did not expect this conversation to go this way. It goes, Teacher, you can still be home in time to get the kids you should go to Penn State and be a teacher. And I was just kind of like, Okay, Okay, Have a nice day. But I'm more kind of you that is a funny experience than like, I, It didn't really impact me a whole lot. Other than that my sister and I had a good laugh about it.

129 Weverton: Do think It could be very hard for some other women to listen to those comments?

130 Kelly: Yeah, I think it could be very hurtful to some other women.

131 Weverton: So What does it mean to you to be a woman in the US society?

132 Kelly: Right now, I think it means kind of living in this weird tension between sort of these two different viewpoints that I was talking about, and also sort of between, because, you know, on the one hand, I have, I mean, like that story with the older man that I ran into, and some of the people that I've played sports with were, and the worst is when they don't see something that's outright bad. But they'll just say something about like, Oh, well, why aren't like the two women on opposite teams so that they can guard each other? Like, I am perfectly capable of guarding one of these guys. You know, so there's like this kind of like weird. Tension sort of between, like, you have this on one hand, and then you have the opposite message. On the other hand of, you know, doing be anything? Yeah.

133 Weverton: Interesting and this is interesting. So what does it mean, for you to be a woman doing a Ph.D. in math?

134 Kelly: Um [thinking] Not really sure. Um, One thing about I guess, society in general, is that i think i'm also, besides just living in the tension there is also just being a little bit more sensitive towards comments. And I was trying to think if I've had that in math, and I don't think I've really had that in math at all, I've never felt like I was wondering if someone was doubting me, because I was a woman. I have had that in some other aspects, though. In, you know, conversations with people or just some other scenarios where I'm kind of like, I'm not sure that you're taking me seriously.

And I don't know if it's because I'm a woman, or if you're just not taking me seriously. In math though I don't think I've really run into that very much. And certainly not at Frank University. I don't think I've run into that. I think things were different A while back, though, because so we have like the Association for women in mathematics. And I think that was a really big deal when it was first started. And I think it's a really big deal for some of the professors to know that we have this association for women in mathematics. But I have some other activities that I've involved in outside of Frank, I was just like, Oh, well, it's nice that we have this group, but I didn't really do anything with it. So I think that's a big change that like, the female grad students here. I think that we're all pretty happy that this association is here, but it's sort of some of us are involved in some of us aren't. It's not as much of like we feel the need for being actively involved.

135 Weverton: Can you remember any example of when you felt like you might not be taken seriously, because you might be a woman?

136 Kelly: Yeah, actually, just this past weekend. So my husband, Tim and I were hanging out with some of our friends, Anne and Jonathan, who had been out of town, they went, and were working in Kenya at a hospital there for a while. And then they were back. And so he went and met up with them. And the conversation got into politics. And and Anna was mostly kind of quiet, she was talking a little bit, but not as much. And there were a couple of things that I disagreed with her husband, Jonathan on. And he would direct his responses largely to Tim, and not to me. And even though we were friends with them, part of me was still just like, I didn't even think about it as much during the conversation, because I was mostly thinking about what he was saying. But after the conversation was over, I was like, that was kind of weird that he would respond to me Very briefly, and then direct, like a much more open question or a more open thought, I guess, to Tim, and he kept on kind of pushing the conversation back to Tim, When I would jump in.

137 Weverton: Can you tell me a moment you felt frustrated about being a woman in mathematics?

138 Kelly: [thinking] in undergrad,um, There are these two guys that I was friends with. And I was they were the same year as me, but I was more advanced than they were. And So I was actually TAing for a class that they were going to be in. And One of them was saying something. And I was like, Oh, I can help you out or whatever. And the other one, like made some joke about like, me being in charge of the situation. And he was a goofball. He made jokes a lot. So it could have easily just been a joke. But it kind of bothered me because the the guy who I was offering to help, he helped me out plenty of times in physics. And the other guy who made the jokes never made jokes about him helping me with physics. Yeah.

139 Weverton: And can you tell me a moment you felt positively about being a woman mathematics?

140 Kelly: [thinking]um, It's hard for me to think specifically about being a woman in math, because I mean, like, so many positive things with math, but it's like, okay, what's like specifically about being a woman? Um, my freshman year of college, I was in a sociology one on one class. And the professor there. Asked me basically, like, Can I convince you to become a sociology major? And I said, No, I'm really sold on being a math major. And he said, Well, that's great, because we need more women in math. So, yeah.

141 Weverton: So What were you exactly went back to that example? Why? Why does it stand out for you?

142 Kelly: yeah Um, I guess because I was trying to think about times where, like, being a woman and being in math were like, explicitly tied together. And that's one of the times where it was. But I think I also felt proud that this professor wanted me to be a sociology major. Yeah.

143 Weverton: Interesting. And can you tell me a little bit about The gender makeup of your department?

144 Kelly: Yeah, Um, I don't know the numbers, but there's a lot fewer women than men here. Yeah. Then there's a couple of non binary students, but only one who really talks about it. If there's any others, they don't really talk about it. It's most people I think, are largely just man or woman. And there's much fewer the women.

145 Weverton: Interesting And so you're talking about grad students? [Kellly:Yeah]. What about the faculty?

146 Kelly: faculty is even less than what the grad students, there's very few women faculty here.

147 Weverton: How do you feel about this gender makeup?

148 Kelly: um I feel fat. I feel sad about the grad students. Because I feel like at this point, I would have hoped that things were more equal by now, for the professor's I'm honestly not as concerned because I know that there's been a lot of changes in the recent past, to what types of things are available to women and what types of jobs women feel like they can do. And so just knowing that a lot of the professors are older, It doesn't concern me as much that that happens to be the makeup because I feel like that's more sort of a product of the time that when they were going through grad school, I would be more upset about it, If more of the recent hires were like all men, but I don't know enough about the recent hires to know what

the numbers are on that.

149 Weverton: And would you say that this is typical or atypical across different departments of mathematics? This gender makeup here.

150 Kelly: I don't know enough to know, if it's typical across other departments. my undergrad was so small, that it was hard to tell there was two women, and kind of three kind of four men as professors in the department. The reason I'm saying kind of three kind of fours, because one of them only taught like one class a semester. And so he wasn't as much a part of the department.

151 But that's really all I have to go off of.

152 Weverton: So What are the things that you think people from different gender than yours would be surprised to know about your experiences as a math PhD student?

153 Kelly: [thinking] I don't know that there's a whole lot they'd be surprised, specifically with being a math PhD student.

154 Weverton: Fair enough. Who do you think are the mathematically strongest people in your department?

155 Kelly: [thinking] That's really hard to say? I mean, like, do you want, like, I could probably name a couple of the professors or grad students who I think are the strongest. So I mean, like my old advisor, Dr. Orh, was very strong. And then Professor Shahid, he is very strong, and Professor Limpert as well. Those are three men, If you're wondering.m[laughs] Yeah, those are mostly the ones I know, those are. very strong there. Yeah. And then among the grad students, I mostly know like, the ones that I work with.

156 Weverton: So one question about the professors, why do you think they are seeing in this way?

157 Kelly: um, I think I see them as really strong, because I know that their research is good. And also in particular origin lumber, or two of my favorite instructors. So I think that's why they kind of stand out in my mind was because I really enjoyed having classes with them. Shehidy, He can be a little intimidating, he kind of gets what he wants in the department. You don't mess with what he wants. But also, I know that he's like, a very good researcher. And number theory,

158 Weverton: But Why is that? Why does he can get what he wants?

159 Kelly: I don't know. I think it's partly because he's such a strong researcher. And I

think it's also partly seniority. He's been here for a while.

160 Weverton: interesting. So What would you What would you do to improve women's experience in math?

161 Kelly: Yeah. Some of it, I would want to start earlier on, like, you know, elementary school, even of just encouraging more of the female students in math. Yeah,

162 Weverton: is there anything that you could do to improve Women experiencing this department?

163 Kelly: in this department? So think kind of similar to the thing that I would do just kind of for all the grad students of having like more of like a quality mentorship kind of a thing. I think they're trying to have that happen. But some of the mentors are more helpful than others. And some of them connect more personally than others do.

164 Weverton: How does connecting personally help?

165 Kely: It's hard for me to open up to someone about different things that I'm dealing with, if there's not that sort of personal part. Like, say, I had another sort of phase of depression. I'm not going to tell someone who I've only had academic conversations with about that, other than in really vague terms of like, I'm dealing with some personal stuff. But if there's sort of that a little bit more of that personal connection, then I can actually talked to them about it.

166 Weverton: Have you ever thought that your your issues like health issues, were related to gender? or it happened for a reason? Because you woman or not?

167 Kelly: um, mean to an extent, Yeah! Like, because it started with the birth control? You know, which is? Yeah, there's not really a whole lot of options. Like there's no male pill, you know?

168 Weverton: And What do you think works Well, for women in the math department?

169 Kelly: I think the Association for women in mathematics is really good. I haven't taken advantage of it. But I think it is a good group.

170 Weverton: All right, well, we are done.