

Vignette: Studying Career-Oriented Women & Family Planning

Introductory Statistics Regression Project Help Guide

First Day

Ana is worried about stats class as she walks in the door. She knows she's getting assigned to a group today for a big team project that will count for 20% of her grade. She's always been an achiever academically, very responsible, and she hates projects when her teammates let her down. When the team assignments flash up on the screen, she looks around to find Keri and Sonja, both of whom are education majors like she is.

They sit down and introduce themselves. Keri is wearing the athletic gear because she plays for the tennis team, and Ana groans inwardly. A jock. And in season. But Sonja seems nice. They exchange cell numbers and get acquainted.

"What should we study?" Sonja asks, taking charge.

Silence looms.

"We could study how many dates girls get here," Sonja suggests. "It seems like there's like three girls for every guy at this university, and it's even worse in our education classes."

"Does anyone understand this regression deal?" Keri asks. "I'm kind of confused about what we're doing here."

Ana groans inwardly, and reaches for her class notes. A dumb jock. Well, at least she understands it – mostly.

"We're supposed to be brainstorming about variables that might be related, like Dr. Kyle said. Things like number of hours someone studies per week and GPA."

"But didn't he say that like everyone studies GPA and stuff?" Keri asks. "We're supposed to do at least one variable that's related to education, but we probably shouldn't do GPA."

Ana is impressed. Dr. Kyle only said it once, so maybe Keri's not such a ditz after all.

"Yeah, we should probably go for something else."

Silence looms again as Dr. Kyle makes an announcement: "Okay, we have about ten minutes left. You should try to write down two or three ideas before you leave class today."

"Did you hear about Jessi?" Sonja asks. "She got engaged."

"Jessi Burton?" Keri asks. "So Antoine finally popped the question."

"Jessi...is she that girl that sits in front in psych?" Ana asks.

"Yeah, it's funny, she wants like five kids," Sonja reports. "And Antoine doesn't want kids at all. I guess opposites really do attract."

"How many kids do you want, Ana?" Keri asks.

"I don't know," Ana says, taken aback. "I'm not even really dating anyone right now," She's seen both of the girls around campus but doesn't know either one very well. Ana's always been quiet and a bit shy. Her bubbly teammates seem able to talk to anyone about anything. "I'm thinking about grad school."

"Five minutes!" announces Dr. Kyle.

"Oh, crap! We have to write something down. Dr. Kyle wants us to email him some ideas tonight."

Ana watches as Sonja pull out her notebook.

"What was that first idea?" Sonja asks.

"Number of dates girls can get around here," Keri says. "What could we compare it to?"

"We're almost out of time," Ana says, looking at her watch. "Just write dates per month vs. GPA. We'll think of something else later, but at least we'll have something on paper."

"Hey, we could study ideal number of children for girls compared to guys?" Keri asks as Sonja writes.

"Hi, ladies, how's it going over here?" Dr. Kyle asks. He's been visiting groups all over the classroom. "What was that last idea?"

"Ideal number of children for girls versus guys," Keri says.

"Well, that's more of a group comparison than a regression. But 'ideal number of children' is a good numeric variable. It could work. What do you think it might be related to?"

"Grad school," Ana blurts out.

"Yeah, that's great!" Sonja says.

"What's your hypothesis?" Dr. Kyle asks.

"Well," Ana mumbles, wishing she hadn't said anything, "It's just that a couple of friends of mine are waiting to get married until after grad school, but this sophomore girl in our class that wants a lot of kids just got engaged."

"That's good, Ana," Dr. Kyle says. "So, you think that career goals might influence when women get married?"

"Yeah, and how many kids they want, too," Keri says.

Ana glances over. These teammates aren't brain dead after all. That's a cool idea.

"We could ask if they want to go to grad school and how many kids they'd like to have some day," Ana says.

"Very good," Dr. Kyle says with a smile. "Now, you'll have to think about the different kinds of grad school and how many years each might take. Like med school is four years plus a residency, but law school is only three. I think you have something to start off with. This could be a fun study."

As he walks away, Sonja finishes scribbling their ideas. "Okay, I'll email this Dr. Kyle after biology. There's a computer lab over there, and I have a break before chapter tonight. Do we want to put anything else down?"

"Did you get ideal marriage age?" Keri asks as the class starts packing up. "We could put that, too – ideal number of children and when you plan on getting married."

Ana breathes a sigh of relief. They have something interesting. And Sonja seems like a good person to be team coordinator.

"Do you have Dr. Coleman for bio?" Ana asks.

"Yeah," Sonja says groaning. Dr. Coleman's biology classes are infamous on campus. Everyone's loves her and says she's a great teacher, but her tests are infamous for being difficult – in the extreme.

"Good luck," Ana says encouragingly. "I had her last year. See you guys Monday in class."

Day Two

Keri runs into stats class five minutes late, carrying her racquets and tennis bag. Practice is right after class. She slips into her seat and starts taking notes. Tennis season is tough. She was out of town at a match on Saturday and worked most of Sunday night on an English paper. After maybe four hours of sleep, she's in classes trying hard to stay awake. When Dr. Kyle finishes class twenty minutes early, she starts dreaming of a cat nap before practice.

"I want you to get with your teams and start working on your project proposals," Dr. Kyle announces. "I responded to all the team emails I got, so you should have some feedback on your ideas. Project proposals are due by Wednesday at 5 PM. We'll use the time in Wednesday's class to answer any last minute questions you have. You should be ready to start putting together your survey by the end of the week."

Keri groans. Two big tennis trips are coming up, and she was hoping for a break this week. Oh, well. She lugs her book bag and tennis gear over to where Ana and Sonja sit. Sonja seems like nice girl. Typical sorority girl, today (as always) she's wearing her letters on a t-shirt and matching ball cap. Her crocs match, too, complete with sorority letters jibbitz. Keri rolls her eyes and sits down. She barely has enough time to pull her hair back in pony tail and brush her teeth before class. Sonja's accessorized and obviously had time for makeup. Maybe too much time.

"I have Dr. Kyle's email right here," Sonja says, pulling out a crumpled sheet of paper from a book bag that looks like the Visigoths ransacked it. "He liked our ideas, especially the ideal number of children."

Keri reached into her own well-organized book bag, grabbing a pen, notebook and planner. All the items have her sorority letters on them, Sonja notes.

Ana asks, "Who's going to type up the project proposal?"

"I'll do it," Keri hears herself offering. *Better offer to get some work in on the project now so my teammates don't think I'm a total loser.*

"I have some time free after psychology tomorrow," Ana offers. "We could get together in the computer lab in Harris Hall after that."

Keri smiles. She likes Ana. Seems like a smart girl. A bit shy. But Keri would kill to have hair like that. Hard to worry too much about your hair when your sweating at practice every day. She remembers seeing Ana out running some mornings before class. Probably a nice girl.

Keri opens her planner, "Yeah, that'll work. I've got a lab at four. Do you think it'll take more than an hour?"

“Shouldn’t,” Ana says, looking over Keri’s shoulder at Dr. Kyle’s email. “Dr. Kyle had some suggestions, and he likes our ideas.”

Keri scribbles a note in her planner. No nap Tuesday either. *This tennis scholarship is more trouble than it’s worth, some days.* But she’s on the number one doubles team already, and she’s trying to earn the number two singles spot. *If my backhand weren’t total crap, I’d already be there.*

“Dr. Kyle says we need to work on our graduate school variable,” Sonja says. “He likes the other two, and says they’ll be easier to write questions for.”

“So we’re studying just women?” Ana asks. She pulls a notebook out of bag that’s better off than Sonja’s train wreck but not neat-freak level like Keri’s. “I thought we had to have a representative sample of all of campus.”

“I’ll go ask Dr. Kyle,” Sonja says, bouncing away.

“What are our variables?” Keri asks, looking at the email.

“Dr. Kyle says we should study three of them, maybe ideal marriage age, ideal number of children and level of education desired,” Ana says, pointing at the email.

“Why don’t we just ask if they want to go to graduate school and then the number of years their degree will take?”

“That’s good,” Ana says. “That’s what Dr. Kyle said he would suggest.”

Whew! Maybe Ana doesn’t think I’m a total moron. She’s never late for class, and she’s always making good grades. Saw that first stats test in her notebook. Mine had red marks all over it – barely scraped a B. Hers didn’t have hardly any red at all – ‘cept the 98 at the top.

“Dr. Kyle says we can limit our sample to just females,” Sonja says, hopping onto the desk. “We’ll just have to do some research to see what the demographics are here for females: freshmen, sophomores, juniors, seniors – all that.”

Keri repacks her bag and heads for the door. *This stats project won’t be a complete bomb. Ana and Sonja seem like nice girls. Now, if I could just hit a freakin’ backhand cross court to save my life...*

Day Three

Sonja arrives at class early, like normal. She has a history class right across the hall which makes it easy to get her front row seat, just right of center, so she can see the board while Dr. Kyle writes. She waves when Ana arrives. Ana grabs the desk right behind her, a seat Sonja’s been saving since they were assigned to the same team.

“You get that bio test back from Coleman?” Ana asks.

“Yeah, almost got an A,” Sonja said. *Fairly true. An 85 is almost an A, especially for Coleman’s class. Of course Ana probably aced it.*

“I barely made it – that photosynthesis test killed me. I made like an 84 or something and really had to scramble to make an A for the semester.”

Dr. Kyle started class. Sonja missed the announcement. *I made a higher grade than Ana? Whoa.* She got out her notebook and noticed Keri slipping into the room. Her practice shorts showed tanned, muscular legs. *Wish I had legs like that.*

After an hour, Dr. Kyle gives them time to work in teams.

"I want you to have a complete survey draft emailed to me by tomorrow at 5 PM," Dr. Kyle says. "You need between three and five demographics variables, and three regression variables. Any questions?"

"All right," Sonja says to Ana. "We need survey questions."

Keri arrives and shows them a piece of paper.

"I tried putting something together for our survey," Keri says. "I don't know if it's any good."

"What about demographics variables?" Ana asks.

"I figured that would just be standard stuff," Keri says. "Age, year in school, sorority vs. not, athlete vs. not – that sort of thing."

"I like this," Sonja says. They all read through what Keri has written down.

Do you plan to attend grad school? Yes / No
If yes, how many years? _____
At what age do you think you'll get married? _____
How many kids would you like to have? _____

"Should we ask what type of degree they want to get?" Ana asks.

"Dr. Kyle said not to make it too long," Keri says.

"Wait," Sonja says, "I just had this conversation at chapter last night. Asked Jill when she thought she'd get married. She was like, 'Never, probably.' I'm wondering about the marriage question. Is there another way to ask it?"

"I don't know," Keri says. "Ideally, I'd like to get married when I'm twenty-five or so. At the rate my love life is moving right now, I'll be lucky to be married when I'm fifty-five."

Sonja and Keri laugh, but Ana is chewing on her pen.

"I think that 'ideally' is the right word," Ana says, thinking out loud. "Can we say something like, 'In an ideal world, at what age would you get married?'"

"I think we could do the same for the kids question," Sonja said. "Ask, 'In an ideal world, how many children would you like to have?'"

Dr. Kyle walked up, "How's it going, ladies?"

Ana finishes scribbling and shows Dr. Kyle.

"It's really a mess, sir –" Ana says.

"That's no problem, Ana. Let's just see where we're at." Dr. Kyle scans quickly. "Demographics? I only see 'age,' here."

"Well we're only studying females," Keri said. "So we thought maybe commuter vs. resident, Greek vs. non and year in school."

"That would be fine, but you're asking about grad school. You might ask them about their major. But that's a tough variable since there's nearly a hundred of them here, and people can double-major and have minors all over the place. You might ask which school their major is in. We only have four of those: School of Business, School of Education, School of Arts and Letters and School of Science and Technology. Then you could make sure you have some representation from different kinds of women who might have different kinds of career goals."

"I didn't even know we had schools," Sonja blurts, feeling dumb as soon as the words are out of her mouth.

"Yeah, I doubt most students do," Dr. Kyle says thoughtfully. "We just reorganized two years ago, so everyone's pretty new to this. You could put two or three example majors with each option. And this grad school question." He pointed. "You don't need to ask the 'yes or no' question. If they aren't going to grad school, they can just circle 'zero' for the years question. You can even put that in parentheses to make it clear, if you want."

Ana makes notes about the changes.

"Any other questions?" Dr. Kyle asks.

"No, I think that's it," Sonja says. Ana and Keri nod their agreement. Ten minutes later, class ends, and Sonja heads to the computer lab. She types up their survey, and their first draft looks like this:

Demographics (check all that apply):	
Age _____	Freshman
Campus Resident	Sophomore
Varsity Athlete	Junior
In a sorority	Senior
	Graduate/Post Bac
Your major is in the School of...	
___ Business (Accounting, Marketing, Management, etc.)	
___ Education (Early Childhood, Middle Grades, HPE, etc.)	
___ Arts & Letters (English, History, Political Science, etc.)	
___ Science and Engineering (Computer Science, Physics, Mathematics, etc.)	
How many years of graduate school do you currently plan on taking (circle "0" if you do not plan to go to grad school)?	
0	1
2	3
4	5
6	7
8+	
In an ideal world, what is the "perfect age" for you to get married? _____ (years old)	
In an ideal world, what is the "perfect number of children" you would like to have? _____	