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NFL Linebacker Junior Seau: Approaches to Psychology

Junior Seau played 20 years in the NFL as a linebacker. Of Polynesian decent, he was raised in Southern California and American Samoa. He did not learn English until he was in early elementary school. His family was poor so growing up he slept in his family's garage with his 3 brothers. He received an athletic scholarship to attend USC. After an outstanding college career was drafted to the NFL in 1994 5th overall. He met all of his high expectations and made the Pro Bowl 12 times in his career. He announced his retirement after the 2007 season but changed his mind and continued to play until 2010. Upon his retirement, he told reporters, "I'm going to go surf".

He gave back to the community, focusing mostly on helping other Samoans living in Southern California. He started the Junior Seau Foundation early in his career to help educate young people and prevent juvenile delinquency. In 2012, his girlfriend found Seau at his home with a gunshot wound to his chest. His death has been ruled an obvious suicide.

Come up with possible explanations for Seau's death using each of the following psychological approaches. Each approach should be 1-2 sentences.

Biological approach, psychodynamic approach, behaviorist approach, cognitive approach, and humanistic approach.

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You Can't Trust What You Read About Nutrition (excerpted)

By Christie Aschwanden Jan. 6, 2016

...So nearly all nutrition studies rely on measures of food consumption that require people to remember and report what they ate. The most common of these are food diaries, recall surveys and the food frequency questionnaire, or FFQ.

Several versions of the FFQ exist, but they all use a similar technique: Ask people how often they eat particular foods and what serving size they usually consume. But it's not always easy to remember everything you ate, even what you ate yesterday. People are prone to underreport what they consume, and they may not fess up to eating certain foods or may miscalculate their serving sizes.

"The bottom line here is that doing dietary assessment is difficult," said Torin Block, CEO of NutritionQuest, a company that conducts FFQs and was founded by his mother, Gladys Block, a pioneer in the field who began developing food frequency questionnaires at the National Cancer Institute. "You can't get away from it — there's error involved." Still, there's a pecking order in terms of completeness, he said. Food diaries rank high and so do 24-hour food recalls, in which an administrator sits the subject down for a guided interview to catalog everything eaten in the past 24 hours. But, Block said, "you really need to do multiple administrations to get an assessment of someone's usual long-term dietary intake." For study purposes, researchers are not usually interested just in what people ate yesterday or the day before, but in what they eat regularly. Studies that use 24-hour recalls tend to under- or overestimate nutrients people don't eat every day, since they record only a small and perhaps unrepresentative snapshot.

...In order to get a sense of how these surveys work and how reliable they might be, we hired Block to administer his company's six-month FFQ to me, my colleagues Anna Barry-Jester and Walt Hickey, and a group of reader volunteers.

Some questions — how often do you drink coffee? — were straightforward. Others confounded us. Take tomatoes. How often do I eat those in a six-month period? In September, when my garden is overflowing with them, I eat cherry tomatoes like a child devours candy. I might also eat two or three big purple Cherokees drizzled with balsamic and olive oil per day. But I can go November until July without eating a single fresh tomato. So how do I answer the question?

Questions about serving sizes perplexed us all. In some cases, the survey provided weird but helpful guides — for example, it depicted what a half-cup, one cup or two cups of yogurt looked like with photographs of bowls filled with various amounts of wood chips. Other questions seemed absurd. "Who on this planet knows what a cup of salmon or two cups of ribs looks like?" Walt asked.

...Developers of the surveys recognize that answers are imperfect, and they correct for this with validation studies that check FFQ results against those obtained via other methods, usually a 24-hour food recall or longer food diary. The results of such validation studies, Block said, allow researchers to account for variability in daily intake.

<https://fivethirtyeight.com/features/you-cant-trust-what-you-read-about-nutrition/>

You Can't Trust What You Read About Nutrition (excerpted)**By Christie Aschwanden Jan. 6, 2016**

Critics of FFQs, such as Edward Archer, a computational physiologist at the University of Alabama's Nutrition Obesity Research Center in Birmingham, say that these validations are nothing more than circular reasoning. "You're taking one type of subjective report and validating it with another form of subjective report," he said.

Recording what you eat is harder than it might seem, said Tamara Melton, a registered dietitian and spokesperson for the Academy of Nutrition and Dietetics in Atlanta. Among other things, it's almost impossible to measure ingredients and portion sizes when you dine out. "It's cumbersome. If you're out at a business lunch, you can't whip out your measuring cup."

...The problems with food questionnaires go even deeper. They aren't just unreliable, they also produce huge data sets with many, many variables. The resulting cornucopia of possible variable combinations makes it easy to p-hack your way to sexy (and false) results, as we learned when we invited readers to take an FFQ and answer a few other questions about themselves. We ended up with 54 complete responses and then looked for associations — much as researchers look for links between foods and dreaded diseases. It was silly easy to find them.

Our shocking new study finds that ...

EATING OR DRINKING	IS LINKED TO	P-VALUE
Raw tomatoes	Judaism	<0.0001
Egg rolls	Dog ownership	<0.0001
Energy drinks	Smoking	<0.0001
Potato chips	Higher score on SAT math vs. verbal	0.0001
Soda	Weird rash in the past year	0.0002
Shellfish	Right-handedness	0.0002
Lemonade	Belief that "Crash" deserved to win best picture	0.0004
Fried/breaded fish	Democratic Party affiliation	0.0007
Beer	Frequent smoking	0.0013
Coffee	Cat ownership	0.0016

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Table salt	Positive relationship with Internet service provider	0.0014
Steak with fat trimmed	Lack of belief in a god	0.0030
Iced tea	Belief that "Crash" didn't deserve to win best picture	0.0043
Bananas	Higher score on SAT verbal vs. math	0.0073
Cabbage	Innie bellybutton	0.0097

SOURCE: FFQ & FIVETHIRTYEIGHT SUPPLEMENT

The FFQ we used produced 1,066 variables, and the additional questions we asked sorted survey-takers according to 26 possible characteristics (left- or right-handed, for example). This vast data set allowed us to do 27,716 regressions in just a few hours. (You can see the full results on GitHub.) With that many possibilities to examine, we were guaranteed to find some "statistically significant" correlations that aren't real, said Veronica Vieland, a statistician who directs the Battelle Center for Mathematical Medicine at Nationwide Children's Hospital in Columbus, Ohio. Using a p-value of 0.05 or less as the metric for statistical significance (as is common) equates to an error rate of 5 percent, Vieland said. And with 27,716 regressions, that means we should expect about 1,386 false positives.

But false positives aren't the only issue. It was also very likely that we'd discover real correlations that are scientifically useless, Vieland said. For instance, our experiment found that people who trim the fat from their steaks were more likely to be atheists than those who ate the fat that god had provided for them. It's possible that there's a real correlation between cutting the fat from meat and being an atheist, Vieland said, but that doesn't mean that it's a causal one.

...But the problems weren't just statistical. Many of the reported findings were also biologically improbable, Ioannidis said. For instance, a 2013 study found that people who ate three servings of nuts per week had a nearly 40 percent reduction in mortality risk. If nibbling nuts really cut the risk of dying by 40 percent, it would be revolutionary, but the figure is almost certainly an overstatement, Ioannidis told me. It's also meaningless without context. Can a 90-year-old get the same benefits as a 60-year-old? How many days or years must you spend eating nuts for the benefits to kick in, and how long does the effect last? These are the questions that people really want answers to. But as our experiment demonstrated, it's easy to use nutrition surveys to link foods to outcomes, yet it's difficult to know what these connections mean.

FFQs "aren't perfect," said Harvard's Chavarro, but at the moment there are few other options. "It may be that we have reached a limit of current methodology for nutritional assessments and it's going to require a major shift to do something better," he said.

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Current studies suffer another fundamental problem: We expect far too much from them. We want to answer questions like, what's healthier, butter or margarine? Can eating blueberries keep my mind sharp? Will bacon give me colon cancer? But observational studies using memory-based measures of dietary intake are tools too crude to provide answers with this level of granularity.

One reason is that single nutrients like saturated fat or an antioxidant seem to produce only trivial differences in the absolute risk of disease, Ioannidis said. (His conclusion comes from more rigorous randomized trials.) This is why headlines so often report relative risks — how many people got cancer in the group who ate the most bacon compared with those who ate none. Relative risks are almost always much more extreme than absolute risk, but absolute risk (your risk of getting cancer if you consume bacon, for instance) is what we really care about. If, say, 1 out of 10,000 people who ate the most bacon got cancer, compared with 3 out of 10,000 who ate none, that's a threefold difference. But the difference in absolute risk — a 0.01 percent chance of cancer versus 0.03 percent — is tiny and probably not enough to change anyone's eating habits.

The tendency to report results as more precise and important than they are also explains why we get so many back-and-forth headlines about things like coffee. "Big data sets just confer spurious precision status to noise," Ioannidis wrote in his 2013 analysis.

So we're left with our original question: What is a healthy diet? We know the basics — we need sufficient calories and protein to keep our bodies alive. We need nutrients like vitamin C and iron. Beyond that, we may be overthinking it, said Archer, the Nutrition Obesity Research Center physiologist. "We have cultures that eschew fruits and vegetables that were perfectly healthy for thousands of years," he said. Some populations today thrive on very few vegetables, while others subsist almost entirely on plant foods. The takeaway, Archer said, is that our bodies are adaptable and pretty good at telling us what we need, if we can learn to listen....

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1. How do FFQs work?
2. What problems did the author run into when she and her colleagues took an FFQ?
3. What do researchers do to account for some of the inaccuracies of the FFQ? What do critics say is the problem with this method?
4. When the author administered their own FFQ, how were they able to come up with so many correlations?
5. Why are some of these findings biologically improbable?
6. How do headlines sometimes mislead us or misrepresent the findings of a study?

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Does Money Make You Mean?

Watch [this TED Talk](#) or search on YouTube for "TED Does Money Make You Mean" by Paul Piff. Answer the questions below. You only need to watch the first 4:45 of the video.

1. What is the research question?
2. What is the independent variable?
3. What is the dependent variable?
4. What was the population that was studied?
5. How did they use random assignment?
6. Give 2 examples of operational definitions for "aggressive" and "mean".
7. How might this experiment have confounding variables? (This is sometimes called the third variable problem).

Naturalistic Observational Research

Directions (20 points): You will conduct your own naturalistic observation about the eating habits of humans! This is a very simple and fun experiment which will help you understand the research process a bit better. You may observe the school cafeteria during lunchtime, your family at the dinner table, or strangers at a diner/restaurant. Wherever you are, it is essential you do not interfere with your subjects or let them know you are observing them! Remember, they must be in a natural setting with no influences from the outside.

Step 1- Pick a question and a setting/subject- To get you started, here are a few questions that you may use or help guide your thinking:

- Which sex is most likely to leave food after their meal?
- Which sex is most likely to use a napkin during their meal?
- How long does it take a person to complete their meal? Group vs. alone? Family vs. friends?
- Do certain types of people consume a larger meal?
- Do eating habits change when people are distracted by media? (TV, phone, video games)
- How do people eat differently when eating alone vs. in company? Same sex or opposite sex?
- Does the amount of food ordered/eaten impact the % of your tip? (Are people who eat a lot better tippers?)

Step 2- Observe them- Record at least 3 observations of the same subjects or 3 different subjects (whichever is appropriate for your question). Observation notes can be handwritten or typed. They should include the following information:

- Date
- Location/Time
- Subject description (how many subjects, male/female, age, lifestyle, etc.)
- Summary of observations

Step 3- Reflection-Once you have completed your observations, compile the results in a 1-2 page reflection **ALONG WITH YOUR OBSERVATIONAL NOTES**. Your reflection should have the following information:

- What trends did you find in your observations?
- 1 question would you like to research more about dining habits? (The question can be totally unrelated to what you observed)
- **Explain how you would set up a psychological experiment to explore your question.**
 - Dependent and independent variables
 - Control and experimental groups (if necessary)
 - Operational definitions (how do you define stress, hunger, distraction, cleanliness etc.)
 - Random sample
 - Random assignment
- Your hypothesis to answer your question
- Personal thoughts about the project!