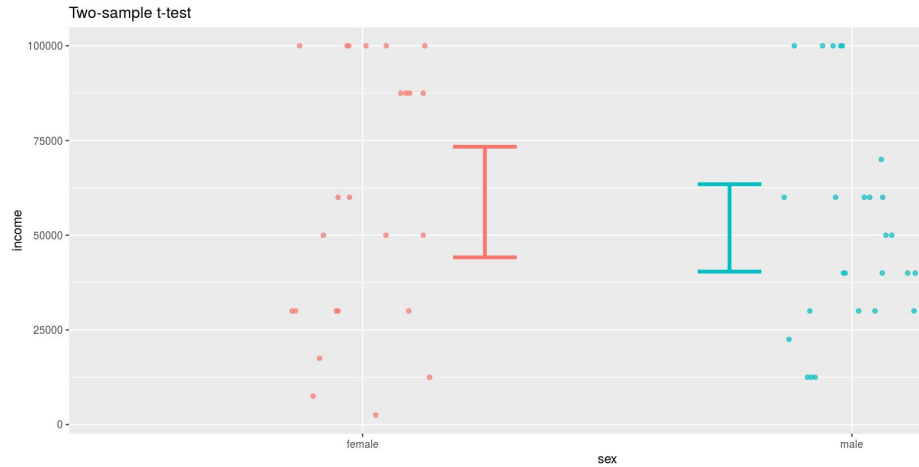


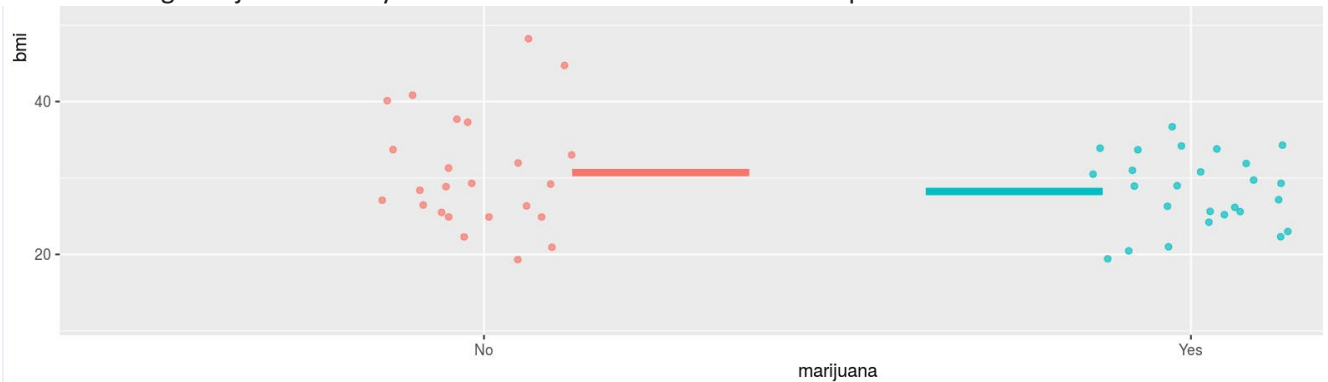
# Assessment Questions: Comparing two samples with Confidence Intervals

1. You are trying to determine if there is a difference between the average incomes of males and females. You take a random sample of fifty adults and get the following results.



- a. Which sample seems to have a larger mean and how can you tell?
- b. Does there seem to be a significant difference in salary between males and females? How can you tell?

2. Does smoking marijuana make you fatter? The data for a random sample of adults below shows the difference.



- a. Based on the data, do you think there is a significant difference in the BMI between those who smoke marijuana and those who do not? Explain why or why not using the given data.
- b. Which data set do you think will have a wider confidence interval and why?

3. Given the following variables, name what you should have as your explanatory and response variables:  
The variables are

- `sex`: Sex of study participant coded as male or female
- `age`: Age in years at screening of study participant. Note: Subjects 80 years or older were recorded as 80.
- `bmi`: BMI
- `pulse`: 60 second pulse rate
- `height_adults`: Same as `height`, but NA for people under 18 years.
- `weight_adults`: similar to `height_adults` but for weight
- `bmi_adults`: similar to `height_adults` but for bmi
- `diastolic`: Diastolic blood pressure reading
- `diabetes`: Study participant told by a doctor or health professional that they have diabetes. Reported for participants aged 1 year or older as Yes or No.
- `sleep_trouble`: Participant has told a doctor or other health professional that they had trouble sleeping. Reported for participants aged 16 years and older. Coded as Yes or No.
- `physically_active`: Participant does moderate or vigorous-intensity sports, fitness or recreational activities (Yes or No). Reported for participants 12 years or older.
- `alcohol_drinks`: Average number of drinks consumed on days that participant drank alcoholic beverages. Reported for participants aged 18 years o

a. You read a headline that says "Diabetes is said to cause higher pulse rates". To investigate  
Explanatory: \_\_\_\_\_ Response: \_\_\_\_\_

b. Your sister proclaims that people who have sleep trouble have higher blood pressure. To investigate  
Explanatory: \_\_\_\_\_ Response: \_\_\_\_\_

How can you think to assess in other ways using this app?! ☺