



Statistics for Social Sciences I

Test 1 (A)

Name: _____

Group: _____

Date: _____

PROBLEM 1. (1 point) A recent YouGov poll of January 2018, contained the following question about the outcome of the Brexit negotiations.

And looking forward, what do you expect the outcome of the Brexit negotiations will be?

There will be a deal that gets most or all of the things the British government want

There will be a deal that gets only some of the things the British government want

There will be a deal that gets few if any of the things the British government want

There will not be any deal at all

The variable in this question is:

- a) Quantitative and Discrete.
- b) Qualitative and Continuous.
- c) Quantitative and Ordinal.
- d) None of the above.

a)	b)	c)	d)
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PROBLEM 2. (1 point) The following table shows the value of the Happy Planet Index of 2016 for North African and Middle Eastern countries

Country	Happy Planet Index
Palestine	34.5
Algeria	33.3
Morocco	32.7
Israel	28.8
Iraq	26.5
Turkey	26.4
Tunisia	26.2
Iran	24
Egypt	23.8
Yemen	22.8
Lebanon	21.9
Oman	21.1
Afghanistan	20.2
Syria	19.1

In this case:

- a) The mean is 25.807 and the range is [19.1 – 34.5].
- b) The median is 25.100 and the first quartile is 21.700.
- c) The median is 25.100 and the second quartile is 29.775.
- d) None of the above.

a)	b)	c)	d)

PROBLEM 3. (2 points) The following information comes from the description of the National Crime Victimization Survey carried out by the US Bureau of Criminal Justice.

Survey coverage

The National Crime Victimization Survey (NCVS) is an annual data collection conducted by the U.S. Census Bureau for the Bureau of Justice Statistics (BJS). Each year, data are obtained from a nationally representative sample of about 134,690 households and 224,520 persons, on the frequency, characteristics, and consequences of criminal victimization in the United States. The NCVS collects information on nonfatal personal crimes (i.e., rape or sexual assault, robbery, aggravated and simple assault, and personal larceny) and household property crimes (i.e., burglary, motor vehicle theft, and other theft) both reported and not reported to police. In addition to providing annual level and change estimates on criminal victimization, the NCVS is the primary source of information on the nature of criminal victimization incidents.

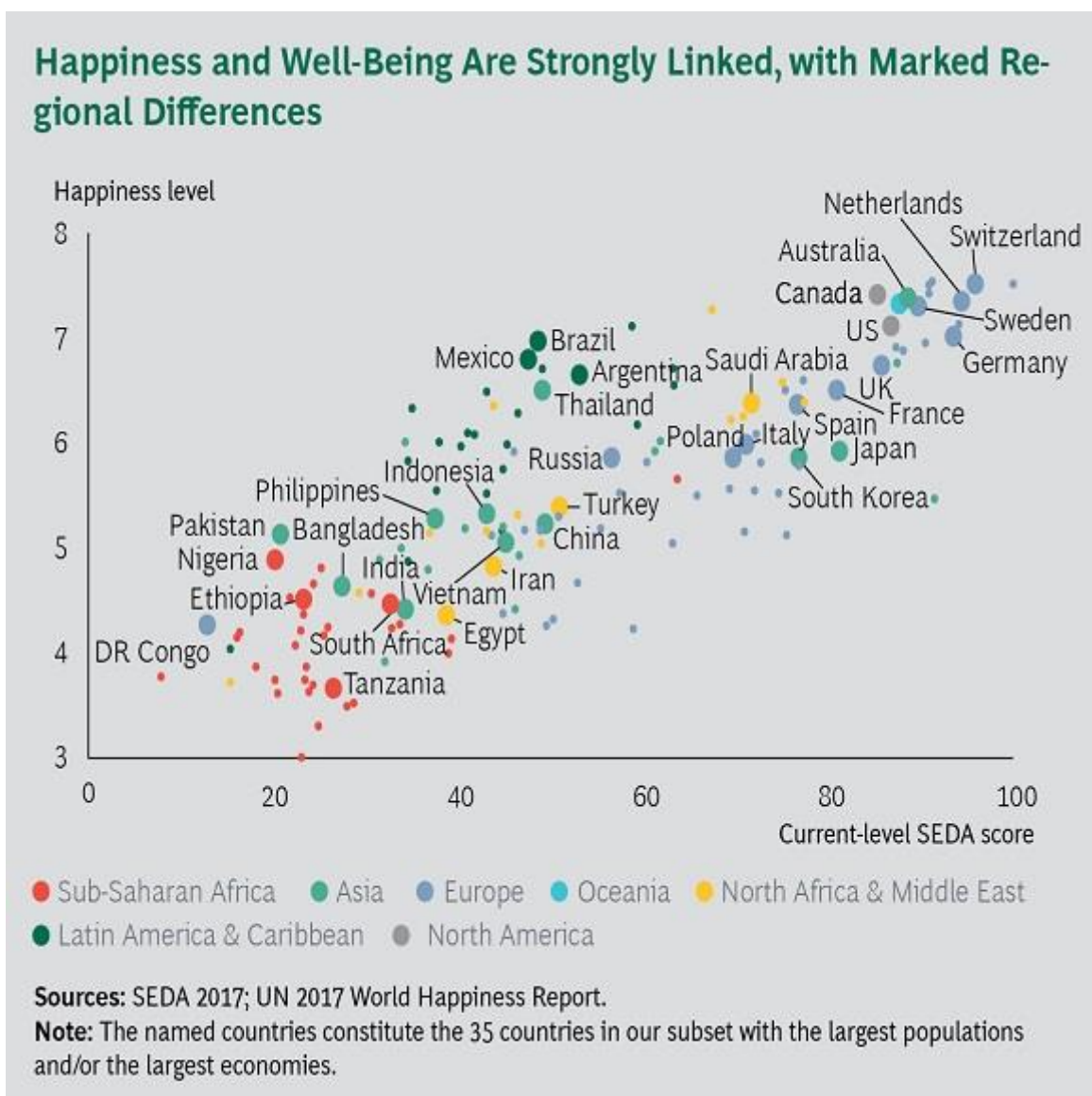
Survey respondents provide information about themselves (e.g., age, sex, race and Hispanic origin, marital status, education level, and income) and whether they experienced a victimization. The NCVS collects information for each victimization incident about the offender (e.g., age, race and Hispanic origin, sex, and victim-offender relationship), characteristics of the crime (e.g., time and place of occurrence, use of weapons, nature of injury, and economic consequences), whether the crime was reported to police, reasons the crime was or was not reported, and victim experiences with the criminal justice system

The NCVS is administered to persons age 12 or older from a nationally representative sample of households in the United States. The NCVS defines a household as a group of persons who all reside at a sampled address. Persons are considered household members when the sampled address is their usual place of residence at the time of the interview and when they have no usual place of residence elsewhere. Once selected, households remain in the sample for 3 years, and eligible persons in these households are interviewed every 6 months either in person or over the phone for a total of seven interviews.

Typically, first interviews are conducted in person with subsequent interviews conducted either in person or by phone. New households rotate into the sample on an ongoing basis to replace outgoing households that have been in the sample for the 3-year period. The sample includes persons living in group quarters (e.g., dormitories, rooming houses, and religious group dwellings) and excludes persons living in military barracks and institutional settings (e.g., correctional or hospital facilities) and persons who are homeless.

Identify the population of interest, the sample and the variable or variables of interest. Are there any reasons you can think of which may lead to biased results?

PROBLEM 4. (1 point) The following graphic compares levels of well-being (according to the 2017 Sustainable Economic Development Assessment or SEDA score) and happiness level (according to the 2017 World Happiness Report) in a number of different countries.



In this case:

- a) The correlation between the SEDA score and the happiness level is positive and close to 1 and the intercept of the regression line relating happiness to SEDA score is negative.
- b) The covariance between the SEDA score and the happiness level is positive and the standard deviation of the happiness level is bigger than 4.
- c) The interquartile range of the SEDA scores is bigger than 90 and the slope of the regression line relating happiness to the SEDA score is positive.
- d) None of the above.

a)	b)	c)	d)
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PROBLEM 5. (3 points) The following table summarises the responses of the recent Brexit survey to the question of whether or not Britain was right to vote to leave the EU according to vote in the 2017 election, vote in the 2016 EU referendum, gender, age, social grade and region respectively.

	Vote in 2017			EU Ref 2016		Gender		Age				Social Grade		Region					
Total	Con	Lab	Lib Dem	Remain	Leave	Male	Female	18-24	25-49	50-64	65+	ABC1	C2DE	London	Rest of South	Midlands / Wales	North	Scotland	
Weighted Sample	1672	573	548	102	657	714	809	863	187	706	396	383	953	719	224	542	358	403	145

In hindsight, do you think Britain was right or wrong to vote to leave the European Union?	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Right to leave	45	72	26	13	7	85	46	44	15	37	50	67	40	51	38	48	45	50	28
Wrong to leave	44	21	66	82	85	6	46	42	73	47	42	26	50	36	50	41	41	41	59
Don't know	12	7	8	6	7	9	8	15	12	16	8	6	10	13	11	11	14	9	13

Calculate the following.

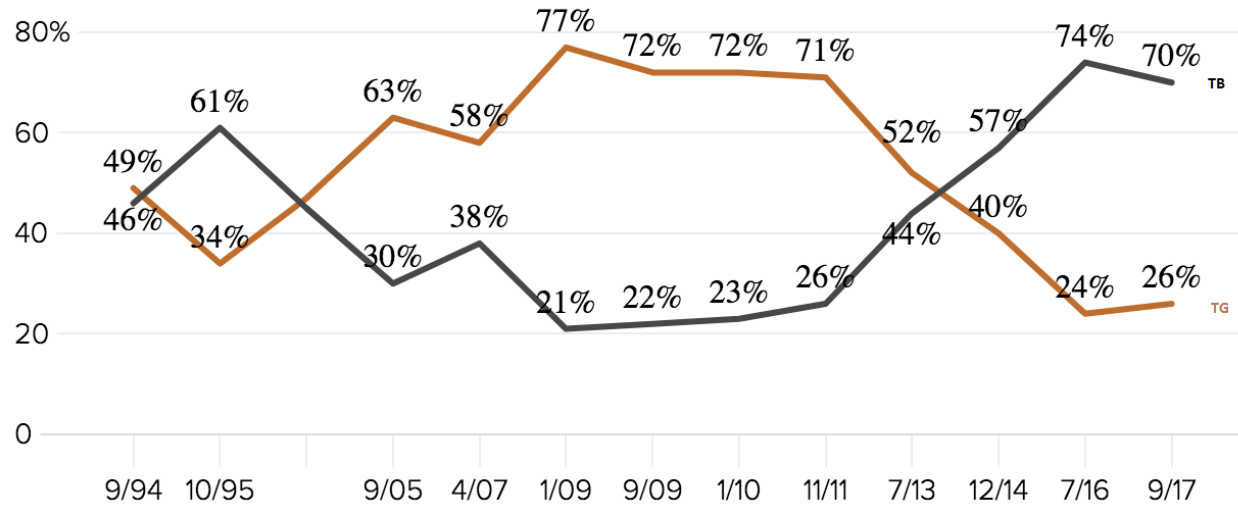
- a) What is the proportion of the over 65s surveyed who said that Britain was right to leave?
- b) What is the proportion of the people in the survey who were over 65 and said that Britain was right to leave?
- c) What proportion of the people who said that Britain was right to leave are over 65?

a)	b)	c)

PROBLEM 6. (2 points) The following graphic comes from an NBC article in September 2017 reporting the results of a survey on attitudes to race relations in the USA. (The letters TB and TG were added for clarification as the original graphic was in colour).

In general, do you think race relations in the U.S. are ____ ?

■ Total Good ■ Total Bad



NBC NEWS

Data: NBC News/Wall Street Journal poll. September 14-18, 2017

Comment on the graphic. What do you think is good and bad about it? Are there any alternatives that might be considered?

