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Statistical questions are queries that anticipate variability in the data and account for it. The statistical problem-solving process has three main components which are formulating statistical inquiries, collecting and analyzing data, and then interpreting the findings.In case you are looking for help to develop a statistical question, our experts formulate a statistical inquiry to provide a framework that guides your research procedure. Constructing the statistical question defines the population under study, the variables to be measured, and the variation that may occur during the measurement of that characteristic.In this post, we give a comprehensive guide to what is a statistical question and what makes a good one, distinguish statistical and non-statistical questions, and give examples for both.What is a Statistical Question?A statistical question is an inquiry that anticipates variability in the data that would be collected to answer the query. Two primary data types are used to answer these questions: Categorical and numerical.Numerical data consists of numbers that can be computed with multiple standard operators such as addition, subtraction, multiplication, and division. Examples are height, minutes, and prices. Categorical data stores information into groups or categories using labels. Examples are eye color, gender, race, and place of residence.What Makes a Good Statistical Question?Two key features make up a good statistical question: 1.) The presence of variability in the data. 2.) The requirement that it can be answered using the data.An exceptional statistical question is based on a specific population of interest, has a measurement of interest, and expects a variation in the answers. Take, for instance, the question, Is there a relationship between being vegetarian and the contraction of certain health complications? This inquiry has a measurement of interest but lacks variability because there is one subject.A better alternative that fits all the characteristics of an exceptional statistical question would be: Is there a relationship between various dietary preferences and the contraction of certain health complications?Statistical Question ExamplesWhat are the key predictors of stock market fluctuation over the last 10 years?How do multiple factors (motivation, training, leadership) collectively influence employee productivity in a corporate workplace?Does differing dosages of medication significantly affect the recovery period in diabetes patients?What are the factors that influence customer preferences when purchasing eco-friendly products?What factors positively impact employee turnover rates of hourly workers?What is a Non-Statistical Question?A non-statistical question has an answer with no variability. There is only one fixed answer for this type of inquiry, and it does not necessitate data collection. Non-statistical questions do not use any statistical methods or software to answer them.Statistical vs Non-Statistical QuestionsThe table below entails detailed differences between statistical and non-statistical questions. Non-Statistical Question ExamplesWhat is the process of the curriculum committee in making choices about courses?How will establishing a community advisory committee influence giving by the senior citizens?What are the roles of store managers in ensuring employee satisfaction?What was the economic impact of Hurricane Katrina on Louisiana and Mississippi?How did the Cold War affect the meaning of American freedom?SummaryA statistical question anticipates variability and accounts for it. Formulating statistical inquiries defines the population under research, the variables being measured, and the variation that may occur during the study. Statistical questions are addressed using two types of data: Categorical and numerical. Conversely, a non-statistical question has a specific answer with no variability.Having understood the difference between statistical and non-statistical questions, reach out to our services today for expert guidance on formulating statistical questions. We can also help you formulate statistical questions based on the problem you aim to address. Join our live chat and talk to our competent and sociable customer service team, who respond to all your questions promptly. Contact us any time as we are available 24/7 to ensure we serve you at any time of your convenience. In order to continue enjoying our site, we ask that you confirm your identity as a human. Thank you very much for your cooperation. We want the question to generate a range of responses, so choose a question that will have variety in answers.To be able to analyse the results, the question shouldn't be vague. "Fit and healthy" can mean different things to different people, so how can we analyse their responses?The question should be written clearly so that although we're expecting different answers, they should be given in the same format.The most suitable question would be:On average, how many hours of exercise do pupils in our school do each week?In order to answer this question, you would need to collect data from pupils. Their range of responses could be grouped by number of hours, and we can then draw conclusions from the data._____Are pupils in your school fit and healthy?This is a vague question. "Fit and healthy" could mean different things to different people, so the responses would not be consistent.How much exercise do people in your town do each week?Whilst this appears to be a good question, it doesn't specify a format for the answer. Some people might answer "a lot" or "not much", and others might answer in hours, or some people could say "3 times a week". This would make the data difficult to analyse.*Do pupils in your class like to take part in sports or exercise?Again, quite a vague question. When we collect the data, we're likely to get "yes" or "no" responses, so we wouldn't get a huge amount of information from their answers. Asking which sports are most popular could allow for more variation in results. A statistical question is a question that can be answered by collecting and analyzing data.Here are some ways to tell if a question is a statistical question:The question asks for a numerical or quantitative answer. For example, How many students in the class have a dog as a pet?The question requires data to answer. For example, What is the average height of students in the class?The question asks about a population or sample. For example, What proportion of students in the class prefer pizza over hamburgers?A statistical question requires data with variability because it is the variability in the data that makes the question interesting and informative. For example, a question like What is the height of the students in the class? is not a statistical question because the answer is a fixed value that does not vary. However, a question like What is the range of heights of the students in the class? is a statistical question because it requires data with variability to answer.Here are some examples of statistical questions:What is the average temperature in the city during the summer months?How many people in the town use public transportation to commute to work?What is the relationship between hours of sleep and academic performance in students?What is the distribution of ages in the population of the country?What is the difference in average salary between people with a college degree and people without a college degree? #data fluency#data literacy#framing exploratory data analysis

Does a statistical question have one answer. Does a statistical question have to have a numerical answer. Does a question need to have more than one answer to be a statistical question. Statistical question any question whose answer could involve working with more than one data value. Determine whether the question is a statistical question or not.