

1. The variables in this study are whether or not each participant drinks coffee (categorical), and reaction time, in milliseconds (quantitative).

2.
 - a. "Owning a pet" is not the variable. The variable would be whether or not a person owns a pet.
 - b. Whether or not a person owns a pet is categorical because each participant fits into one category (owns a pet or does not own a pet). Score on a stress survey is quantitative because each response is a number between 0 and 50.

3.
 - a. Population – all adults in the United Kingdom aged 40 to 79
Sample – the 33,560 adults in the United Kingdom aged 40 to 79 that participated in the study
 - b. Prospective study. Researchers monitored these participants for 8 years.
 - c. The number of steps taken is a quantitative variable, the length of the walk (long or short) is a categorical variable. Whether or not the subject developed cardiovascular disease is a categorical variable.
 - d. The length of the walks was only determined by a one-week period, which may not be representative of the participants' normal walking habits. Also, there may be other factors that affect an individual's walking habits and risk of cardiovascular disease.

4.
 - a. Population: all working U.S. adults
Sample: the U.S. adults in the study who completed the 24-hour time diaries
 - b. Retrospective study – They used data from the survey before and after the introduction of generative AI tools.
 - c. The number of hours worked each week before the introduction of generative AI tools (quantitative) and the number of hours worked each week after the introduction of generative AI tools (quantitative).

5. C

6. B