

Fact, Inference, or Theory?

The goal of this exercise is to practice categorizing different types of claim. For each of the following statements, identify whether it is a fact, an inference, or a theory.

Statement	Answer
1. Honda Accord and Toyota Camry are the most frequently stolen cars in the United States. ¹	
2. Popular support of the Liberal party is at 38%, the Conservative party is at 27%, and the NDP is at 15%. ²	
3. Gravity causes objects to fall towards the earth.	
4. Adding people to a project that is late, will only make it more late.	
5. Participants in inspection meetings who are more familiar with each other report fewer defects. ³	
6. McCabe's cyclomatic complexity is positively correlated with lines of code.	
7. As of 1996, the Space Shuttle flight control software consisted of 420 000 lines of code and the previous 11 versions contained 17 defects. ⁴	
8. Develop tests before code.	

Discussion:

Labeling the statement gave you some practice in categorizing the various claims being made. This understanding will help you analyze research designs. However, the main goal of this exercise was to illustrate that facts, inference, theory, and the methods used are inextricably linked together. Theories, hunches, experience, and other pre-conceived notions help is to organize our observations, or data. Of the available data, only a subset is collected and turned into facts. Inferences about facts are made using analytical approaches or techniques. These in turn are used to shape theories.

Answers: 1. Fact 2. Inference 3. Theory 4. Theory 5. Inference 6. Fact 7. 8. None of the above

¹ <http://www.bankrate.com/brm/news/insurance/auto-theft2.asp>

² <http://www.cbc.ca/stories/2004/03/27/canada/poll040327>

³ Carolyn B. Seaman and Victor R. Basili, "An Empirical Study of Communication in Code Inspections," presented at Nineteenth International Conference on Software Engineering, Boston, MA, pp. 96-106, 17-23 May 1997.

⁴ <http://www.fastcompany.com/online/06/writestuff.html>