

Worksheet 1: A False Positive



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PART I: THE “EFFECTIVENESS” OF DRUG TESTS

People in many occupations, such as police officers and air traffic controllers, are subject to random drug testing. Such testing is done on the grounds that the employee’s work affects the safety of the general public.

Drug testing is controversial, however. One objection concerns the potential unfair consequences stemming from the fact that the tests are imperfect. For instance, if a test incorrectly shows someone to be a drug user (a “false positive”), that person could lose his or her job. In this activity, you will explore some of the mathematical issues in drug testing.

Assume a certain drug test is 98 percent accurate. This means 98 percent of people who used the given drug will test positive and 98 percent of the people who did not use the drug will test negative. Also assume that only 5 percent of people on the job (1 in 20) engage in drug use.

1. If a person tests positive, how likely is it that they actually used drugs? (*Hint: To answer this question, you might consider a large population, such as 100,000 people. Figure out how many people in that population use drugs and how many users and nonusers test positive.*)
2. Do you think such a test should be used? Explain.

PART II: IS DRUG TESTING FAIR?

Read the article about drug testing. As you read, highlight or underline passages that you think speak to issues of fairness or unfairness regarding drug testing in this context.

Use the “Reading Debrief Protocol” to organize a discussion of the article within your group. Be sure to assign the various roles asked for at the beginning of the protocol prior to starting, and be sure that each group member is clear about the responsibilities of their role.