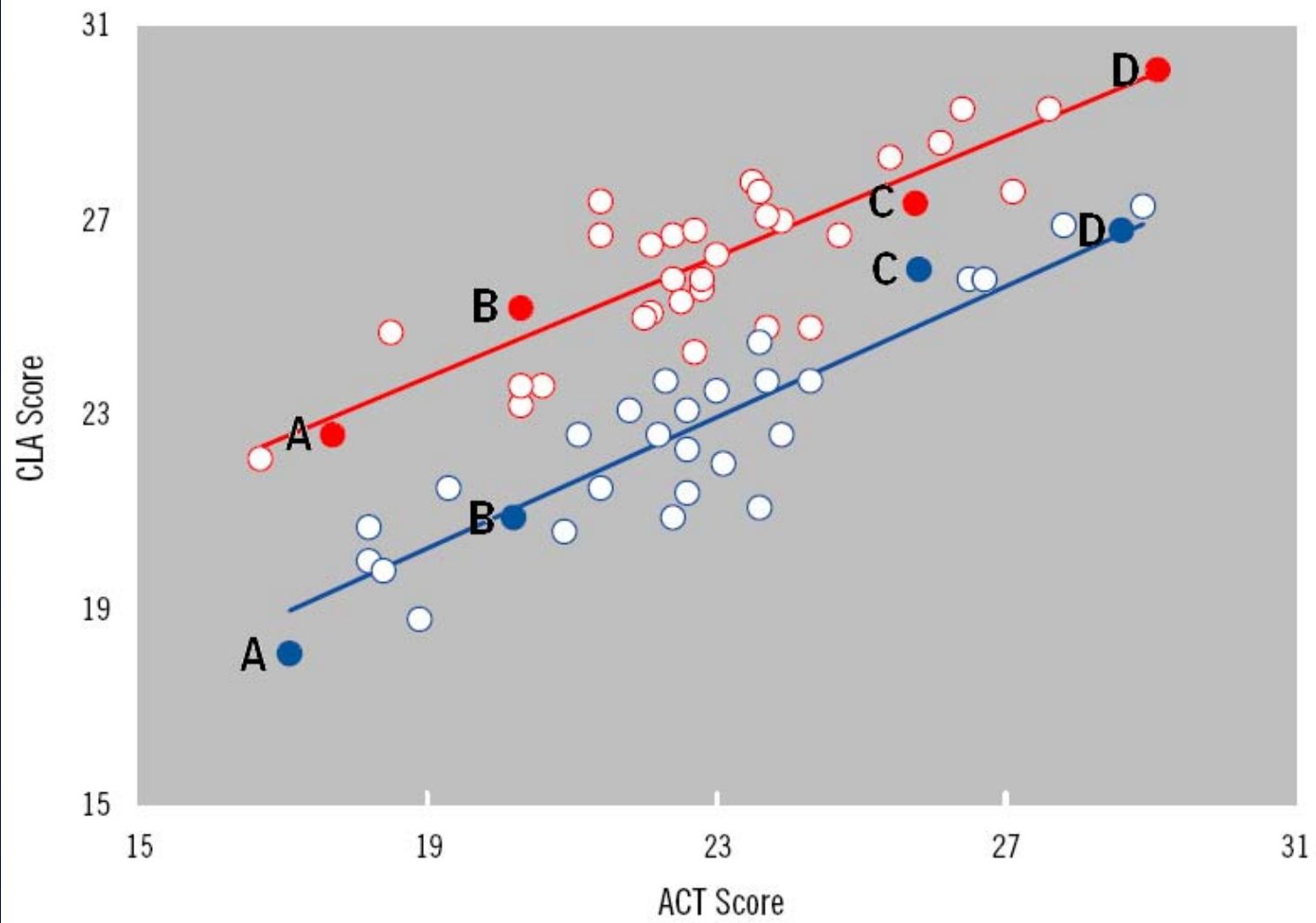


How Do You Know?

Assessing Learning

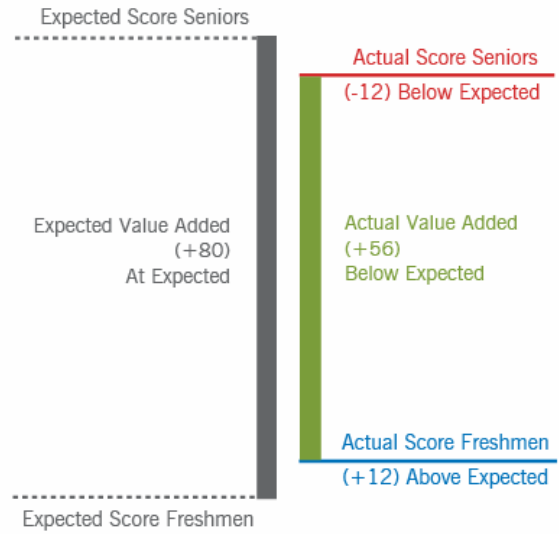
Richard H. Hersh



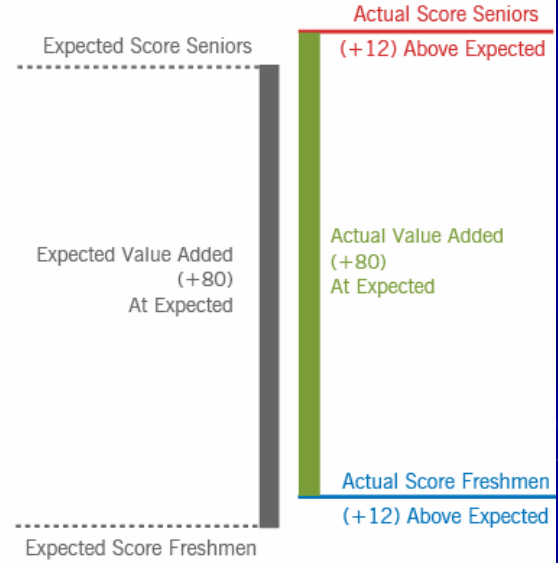
Hypothetical School A



Hypothetical School B



Hypothetical School C



EFFICACY

- HIGH, CLEAR, and SHARED EXPECTATIONS
- HIGH ACADEMIC ENGAGED TIME
- TIGHTLY COUPLED CURRICULUM
- FREQUENT, APPROPRIATE ASSESSMENT and FEEDBACK
- POWERFUL TEACHING

CUMULATIVE EFFECT

Blooms Taxonomy

- evaluation
- synthesis
- analysis
- application
- comprehension
- knowledge

How Do You Know?

■ CONSTRUCT

– Critical thinking

The ability to.....

■ PERFORMANCE

Write a memo to
your boss that.....

ASSESSMENT AS FORM OF TEACHING AND LEARNING

Assessment results linked to objectives:

- Timely feedback
- Appropriate feedback
- Formative/diagnostic
- Summative
- Performance as well as knowledge

AUTHENTIC ASSESSMENT

- WRITTEN

- ORAL

- PEER ASSESSMENT

TIGHTLY COUPLED CURRICULUM

OBJECTIVES ↔ CURRICULUM ↔ PEDAGOGY ↔ ASSESSMENT

TEACHING TO A TEST WORTH TESTING TO

objectives ↔ assessment ↔ curriculum ↔ pedagogy

Three types of assessment

- **NORM REFERENCE**

- **STANDARDS-BASED**

- **VALUE ADDED**

COLLECTIVE OUTCOMES

- **Critical thinking**
- **Analytical reasoning**
- **Problem solving**
- **Writing**

Everybody's business is nobody's business

Everybody's business **IS** everybody's business

Evaluation of evidence

- *How well does the student assess the quality and relevance of evidence?*
- Does the student determine what information is or is not pertinent to the task at hand?
- Does the student distinguish between rational claims and emotional ones, fact from opinion?
- Can the student recognize the ways in which the evidence might be limited or compromised?
- Does the student spot deception and holes in the arguments of others?
- Has the student considered all sources of evidence?

Analysis and Synthesis of Evidence

- *How well does the student analyze and synthesize data and information?*
- Does the student present their own analysis of the data or information, or do they simply present it as is?
- Does the student commit or fail to recognize logical flaws in an argument. (e.g. does the student understand the distinction between correlation and causation?)
- Does the student break down the evidence into its component parts?
- Does the student draw connections between discrete sources of data and information?
- How does the student deal with conflicting, inadequate, or ambiguous information?

Drawing Conclusions

- *How well does the student form a conclusion from their analysis?*
- Is the student's argument logically sound?
- Is it rooted in data and information rather than speculation and opinion?
- Does the student choose the strongest set of data to support his or her argument?
- Does the student prioritize in his or her argumentation?
- Does the student overstate, or understate, his or her conclusions?
- Can the student identify holes in the evidence, and subsequently suggest additional information that might resolve the issue?

Acknowledging alternative explanations/viewpoints

- How well does the student consider other options and acknowledge that their answer is not the only perspective?
- Does the student recognize that the problem is complex with no clear answer?
- Does the student bring up other options and weigh them in their decision.
- Does the student consider all stakeholders or affected parties in suggesting a course of action?
- Does the student qualify their response and acknowledge the need for additional information in making an absolute determination.

Writing

Analytic writing skills are invariably dependent on clarity of thought. Therefore, analytic writing and critical thinking, analytic reasoning, and problem solving are related skills sets. The CLA measures critical thinking performance by asking students to explain their rationale for various conclusions in writing. In doing so, their performance is dependent on both writing and critical thinking as integrated rather than separate skills. We evaluate writing performance using holistic scores that consider several aspects of writing depending on the task.

Presentation

- *How clear and concise is the argument?*
- Does the student clearly articulate the argument?
- Does the student clearly articulate the context for that argument?
- Is the evidence used to defend the argument correct and precise?
- Is the evidence presented in a comprehensible and coherent fashion?

Development

- *How effective is the structure?*
- Is the organization of the argument logical? Is it cohesive?
- Are there any gaps in the development of the argument?
- Are there any significantly extraneous elements in the argument's development?
- In what order is the evidence presented, and how does that structure contribute to the persuasiveness and coherence of the argument?

Persuasiveness

- *How well does the student defend the argument?*
- What evidence is presented in support of the argument, and how effectively does the student present it?
- Does the student draw thoroughly and extensively from the available range of evidence?
- How well does the student analyze that evidence?
- Does the student consider counterarguments, and address weaknesses in his/her own argument?

Mechanics

- *What is the quality of the student's writing?*
- Is vocabulary and punctuation used correctly? effectively?
- Is the student's understanding of grammar strong?
- Is the sentence structure basic, or more complex and creative?
- Does the student use proper transitions?
- Are the paragraphs structured logically and effectively?

Interest

- *How well does the student maintain the reader's interest?*
- Does the student use creative and engaging examples or descriptions?
- Does the structure syntax and organization add to the interest of their writing?
- Do they use colorful but relevant metaphors, similes etc.?
- Does the writing engage the reader?
- Does the writing leave the reader thinking?

CLA's Measures

- Performance tasks (90 minutes)
 - Document based
 - Contextualized questions
 - Split screen/dialogue box format
 - Analytic and holistic scoring
- Analytic writing (essay) prompts
 - Make-an-argument (45 minutes)
 - Break-an-argument (30 minutes)
- Background questionnaire

Performance Tasks

- 90-minute real life problems
- General directions and context
- Need to combine information from different types of documents
- A few open-ended questions, no one “right” answer—must explain rationale
- Split screen
 - Right: Document Library
 - Left: Question and answer block

The Task

Jamie Eager is a candidate who is opposing Mayor Pat Stone for reelection. Eager critiques the Mayor's solution to reducing crime by increasing the number of police officers. Eager proposes the city support a drug education program for addicts because, according to Eager, addicts are the major source of the city's crime problem.

Mayor Pat Stone asks you to do two things (1) evaluate the validity of Eager's proposal and (2) assess the validity of Eager's criticism of the mayor's plan to increase the number of officers.

The Documents

Mayor Stone hands you a folder containing various documents related to this matter, but warns you that some of them may not be more relevant than others. Your task is to review these materials and respond to the mayor's request in preparation for tomorrow night's public debate with Eager.

Newspaper Article

September 21, 2001

Jefferson Daily Press

Smart-Shop Robbery Suspect Caught Drug-Related Crime on the Rise in Jefferson

Ann McNickel, Jefferson Township

On Monday police arrested a man suspected of robbing the Smart-Shop grocery store off \$125. The arrest came less than six hours after J. Kim, the owner of the Smart-Shop store, reported the robbery. The suspect David Keke, was found just a few blocks from the store and he put up no resistance when police arrested him. He was apparently high on drugs he had purchased with some of the money taken from the store. Mr. Kim told reporters that Keke came into the store just after it opened and demanded all the money from the cash register. He threatened the owner with a knife, and Mr. Kim gave him all the cash he had. The suspect fled, and Mr. Kim called the police.

A few days later police responded to a telephone complaint and found David Keke in a alley a few blocks from the store. The arresting officer said he appeared to be stoned and did not attempt to evade arrest. The officers found a syringe and other drug paraphernalia in Keke's pocket. He was charged with armed robbery and possession of drugs.

This is the fifteenth drug-related arrest in Jefferson this month and the police are calling it an epidemic. Sergeant Hugh Morris said "Drugs are now the number one law enforcement problem in Jefferson. Half of our arrests involve drugs." Mayor Stone has called for more money to hire more police officers to reduce the growing crime rate in Jefferson. But the Council is divided on what to do. City Councilmen Slater and Colm called a press conference to demand that the rest of the council support an increase in the police budget. "If we put more cops on the street" they said "we will show that criminals are not welcome in Jefferson." Mayor said that Dr. Jamie Eager called for a different approach. "More police won't make a difference, we need more drug treatment programs," Eager said. "The problem is not crime, *per se*, but crimes committed by drug users to feed their habit. Treat the drug use, and the crime will go away." The Council is slated to debate the proposed budget increase for police at its next meeting.

Memo

Memorandum

To: Mayor Pat Stone

From: Richard G. Marksten, PI

Date: October 2, 2001

Subject: XYZ Drug Treatment Program

At your request we conducted a discreet investigation of possible connections between Jamie Eager and the XYZ Drug Education program. During the course of this investigation we conducted a thorough review of public records and we interviewed a small number of XYZ employees. Our investigation yielded two major findings.

First, we could find no financial connections between Dr. Eager and the program. XYZ is a not-for-profit corporation, and its records are publicly disclosed. Neither Eager nor any close relatives have any financial stake in the corporation. They do not serve on the Board of Directors, and they have not been employed by XYZ.

Second, there is at least one indirect personal connection between Dr. Eager and XYZ. For about three years (from 1996 to 1999), Ms. Margaret Duman was employed as a Community Liaison on Dr. Eager's staff. Prior to that time, Ms. Duman was enrolled in the XYZ treatment program after being arrested on a drug possession charge. Ms. Duman completed the program and was subsequently hired by Dr. Eager's office. She apparently performed well in that job, but left to take a higher paying position in advertising. The XYZ staff consider her to be one of their success stories.

Crime Statistics

Crime Rate and Drug Use in Jefferson
By Zip Code

Zip Code	Percent of Population Using Drugs	Number of Crimes in 1999
11510	1	10
11511	3	20
11512	5	90
11520	8	50
11522	10	55

Research Brief

Research Brief

Washington Institute for Social Research

XYZ drug treatment works in Clearston

Clearston is a typical small city in which a very un-typical event has occurred. An aggressive drug treatment effort is working to reduce the incidence of drug use.

Three years ago the city expanded its drug treatment program, nearly tripling the number of spaces available for drug users. Rather than contracting with the home-grown program operated by the health department, they contracted with XYZ drug treatment to launch a new effort. A recent survey has indicated that most everyone in Clearston is happy with the new program.

Reported incidence of drug use has dropped by 34% since the program began. The program has had its greatest impact on the use of crack cocaine, which is three times lower than it was three years ago. Furthermore, the crime rate has come down. During the past three years there have been fewer robberies, burglaries and assaults. These are crimes that are often associated with drug use. The drop in the rates for these crimes is as great as 25%.

XYZ Drug Treatment was founded by researchers from the University of Plymouth and North York University. It began operations in Plymouth in 1990 focusing on a single neighborhood near one of the university campuses. The program was so successful in this neighborhood that it was expanded to cover the whole city.

The program uses a combination of approaches but focuses on social networks and their influence on drug use. Participants engage in group therapy, individual consultation, and outreach to their own peer group. **Geoff Dutton**, the founder of the program, says that research demonstrates that a high proportion of drug use is a social phenomenon, growing out of peer pressure and negative group norms. By attacking these features directly XYZ helps the drug user address the factors that are likely to lead back into drug use.

The results in Clearston confirm the wisdom of this approach. Not only is overall drug use down in the city, but repeat use is down even further. Those who complete the treatment stay off drugs longer than the national average, and many of the original participants appear to be drug-free two years later.

Washington Institute for Social Research
4414 Monmouth Blvd
Tacoma, Washington 96402

Research Abstracts

University Research Abstracts: [CoffMax Online Search](#)

Search ID: A12M 12Jan02

Search Date: February 05, 2002

Terms: Drug Prevention, Success, XYZ Drug Treatment Program

Refinements: All terms

3 items found

Author(s): [McCurry, J.](#)

Locator: 2001, Jan, [J. Exp. Psy. Stud](#) 35(3), 115-128.

Abstract: Drug users who entered a Methadone treatment center in a small town were given the option of participating in the regular program or a program operated by XYZ Drug Treatment. 112 participants who successfully completed the XYZ program were compared to 120 participants who chose to participate in the regular program during the same time period. Arrest records were compared for 18 months following enrollment. Researchers found significantly fewer arrests in all categories for those completing the XYZ program. Authors discuss differences between programs that might be related to post-program criminal behavior.

Author(s): [Wells, B. J.](#) & [Skinner, J. T.](#)

Locator: 2000, Nov, [Am. Psy. Ass. Rev](#) 112(2), 34-51.

Abstract: Subjects were 150 adults who were arrested for possession of drugs and had no prior adult arrests or convictions. Subjects who agreed to participate in the study were randomly assigned to one of two drug treatment programs or to no treatment. Clean House used group and family counseling. XYZ Drug Treatment used a social learning model. Subjects reported to researchers every three months for one year, and their arrest and hospitalization records were obtained. Offenders who completed their assigned treatment program had fewer arrests per person than the no treatment group. There were no significant differences between the Clean House and XYZ Drug Treatment participants on any of the post-treatment measures. Total costs for the two treatment programs were almost equal, but more offenders completed the Clean House program than completed the XYZ program.

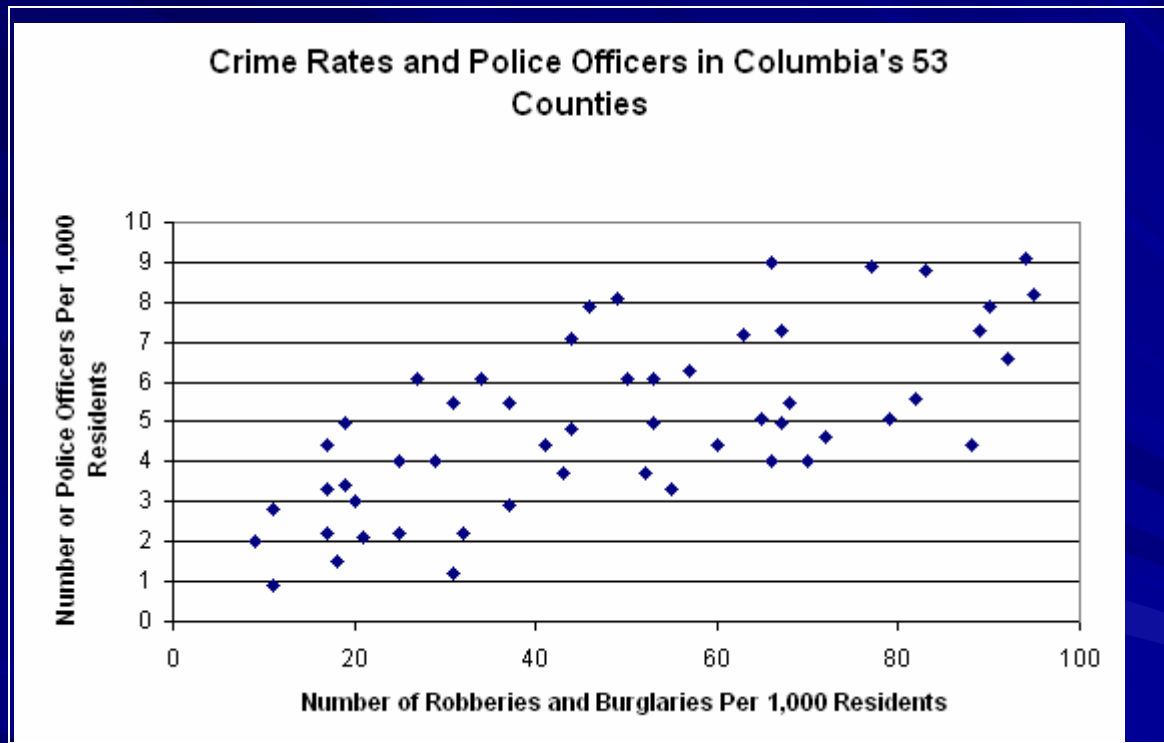
Author(s): [Pendergraft, M.](#), [Pendergraft, J.](#) & [Chris, T.](#)

Locator: 1999, May, [J. Psy. Meth.](#) 12(1), 15-18.

Abstract: Research was conducted in the student health center of a large community college. Students with drug problems were randomly assigned to XYZ Drug Treatment or to the ICAN treatment program. Subjects were followed for six months after referral and data were obtained about drug use, college grades, and arrests. Over a three-year period, 74 students were referred to XYZ and 78 to ICAN. Approximately 20% of the students assigned to either program never reported for a single session. Of those who did report, over a quarter dropped out before completing the program. The dropout percentages were 27% for XYZ and 30% for ICAN. After six months there were no differences between the two programs on any of the outcome measures studied.

End of search

Crime Rates Chart



Crime and Drug Use Tables

CRIME AND DRUG USE IN JEFFERSON

The Jefferson Police Department prepared the two tables below for the city's five zip code areas. The percentage of drug users in the population was obtained from a survey. The middle column of Table 1 shows the number of robberies and burglaries that were reported to the Jefferson Police Department in 2000. The number of residents (i.e., homeowners and renters) and the percentage who are college graduates is based on 2000 US Census Bureau counts. The percentage of offenders living in a Jefferson zip code area who are drug users was based on drug tests of those arrested in 2000.

Table 1: Crime Statistics

Zip Code	Percentage of adults who are drug users	Number of robberies and burglaries	Number of residents	Number of robberies and burglaries per 1,000 residents
11510	1	135	20,018	6.74
11511	3	210	25,043	8.39
11512	5	271	29,978	9.04
11520	8	304	35,811	8.49
11522	10	322	37,501	8.59

Table 2: Demographic Characteristics

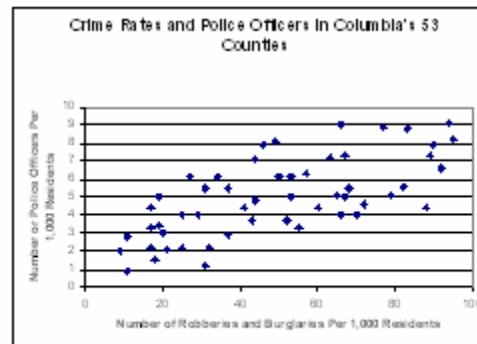
Zip Code	Percentage of offenders living in Jefferson who are drug users	Percentage of residents who are college graduates
11510	60	22
11511	50	16
11512	40	11
11520	35	9
11522	45	3

Crime Statistics

State of Columbia
Department of Public Safety

Crime Statistics by County: 2000

The figure below shows the relationship between the number of police officers per 1,000 residents in a county and the incidence of robberies and burglaries in the county.





Instructions

Brain Boost is one of Well Life Pharmaceuticals' top selling dietary supplements. As part of its research program, Well Life asked male students ages 18-21 at Statesville University to complete a questionnaire regarding their use of this product and other health related behaviors as well as provide a sample of their sperm. Students were paid \$50 to participate. Several of Statesville's fraternities saw this as a good way to raise funds for charity and consequently many of their members and other students on campus agreed to participate. Analyses found that many of the sperm samples collected at Statesville had abnormalities. The students with the abnormal sperm were advised to consult their primary care physician. Well Life researchers, under the direction of Dr. Miles Bank, have begun investigating the source of the abnormal sperm at Statesville.

You are an assistant to Dr. Bank. He has asked you to review the materials in the Document Library (on the right side of the screen) and then answer a series of questions.

Your answers to the questions that follow should describe all the details necessary to support your position. Your answers will be judged not only on the accuracy of the information you provide, but also on how clearly the ideas are presented, how effectively the ideas are organized, and how thoroughly the information is covered.

While your personal values and experiences are important,

Select document:

Document Library Contents

© 2005 CAE. All rights reserved.

Document Library Contents

- Document 1 Article from Statesville Campus News, May 24
- Document 2 Abstract from a Science Journal
- Document 3 Internal Memorandum from Cyril Davenport
- Document 4 Article from the Statesville Sun, May 2
- Document 5 Excerpt the Statesville Sun, July 23



Help



Back



Next



product and other health related behaviors as well as provide a sample of their sperm. Students were paid \$50 to participate. Several of Statesville's fraternities saw this as a good way to raise funds for charity and consequently many of their members and other students on campus agreed to participate. Analyses found that many of the sperm samples collected at Statesville had abnormalities. The students with the abnormal sperm were advised to consult their primary care physician. Well Life researchers, under the direction of Dr. Miles Bank, have begun investigating the source of the abnormal sperm at Statesville.

You are an assistant to Dr. Bank. He has asked you to review the materials in the Document Library (on the right side of the screen) and then answer a series of questions.

Your answers to the questions that follow should describe all the details necessary to support your position. Your answers will be judged not only on the accuracy of the information you provide, but also on how clearly the ideas are presented, how effectively the ideas are organized, and how thoroughly the information is covered.

While your personal values and experiences are important, please answer all the questions solely on the basis of the information above and in the Document Library.

Write your answers in the box below each question. You can write as much as you wish; you are not limited by the size of the box on the screen.

Select document:

Document Library Contents

© 2005 CAE. All rights reserved.

Document Library Contents

- Document 1 Article from Statesville Campus News, May 24
- Document 2 Abstract from a Science Journal
- Document 3 Internal Memorandum from Cyril Davenport
- Document 4 Article from the Statesville Sun, May 2
- Document 5 Excerpt the Statesville Sun, July 23



Help



Back



Next



Question 1

What are three or more explanations for the sperm abnormalities found at Statesville? Base your answer on the information in the Document Library.

Select document:

Document Library Contents

© 2005 CAE. All rights reserved.

Document Library Contents

- Document 1 Article from Statesville Campus News, May 24
- Document 2 Abstract from a Science Journal
- Document 3 Internal Memorandum from Cyril Davenport
- Document 4 Article from the Statesville Sun, May 2
- Document 5 Excerpt the Statesville Sun, July 23



Help



Back



Next



Question 2

What information in the Document Library supports each of the explanations you listed in your answer to Question 1? Your answer should state the specific information that would support each explanation and note the document number that contains that information.

Select document:

Document Library Contents

© 2005 CAE. All rights reserved.

Document Library Contents

- Document 1 Article from Statesville Campus News, May 24
- Document 2 Abstract from a Science Journal
- Document 3 Internal Memorandum from Cyril Davenport
- Document 4 Article from the Statesville Sun, May 2
- Document 5 Excerpt the Statesville Sun, July 23



Help



Back



Next



Question 3

Given the information in the Document Library, what is the most likely explanation for the sperm abnormalities found in Statesville? Your answer should cite (a) the evidence and basis for this explanation and (b) the shortcomings of competing explanations.

Select document:

Document Library Contents

© 2005 CAE. All rights reserved.

Document Library Contents

- Document 1 Article from Statesville Campus News, May 24
- Document 2 Abstract from a Science Journal
- Document 3 Internal Memorandum from Cyril Davenport
- Document 4 Article from the Statesville Sun, May 2
- Document 5 Excerpt the Statesville Sun, July 23



Help



Back



Next



Question 4

Describe the major features of a study that could be conducted to help determine what produced the sperm abnormalities. You can describe further analyses of the data that have already been collected or a whole new study.

Select document:

Document Library Contents

© 2005 CAE. All rights reserved.

Document Library Contents

- Document 1 Article from Statesville Campus News, May 24
- Document 2 Abstract from a Science Journal
- Document 3 Internal Memorandum from Cyril Davenport
- Document 4 Article from the Statesville Sun, May 2
- Document 5 Excerpt the Statesville Sun, July 23



Help



Back



Next



Question 5

Based on the information provided, is the apparently high incidence of abnormal sperm likely to be limited to Statesville University? Explain the basis for your conclusion.

Select document:

Document Library Contents

© 2005 CAE. All rights reserved.

Document Library Contents

- Document 1 Article from Statesville Campus News, May 24
- Document 2 Abstract from a Science Journal
- Document 3 Internal Memorandum from Cyril Davenport
- Document 4 Article from the Statesville Sun, May 2
- Document 5 Excerpt the Statesville Sun, July 23



Help



Back



Next



Question 6

This is the last question. When you click on the **NEXT** button below, you will move out of this task and on to the survey. You will not be able to return to or continue work on any of the questions, so only click on the **NEXT** button when you have completed all of your answers to all of the questions in this task.

The warning label on the *Brain Boost* bottle reads as follows:

WARNING: Do not use this product if you are allergic to sulfur or peanuts. Consult your physician prior to use if you are pregnant, nursing, or diabetic.

Given what you now know about *Brain Boost*, would you recommend that Well Life consider changing this warning and if so, how might it be changed and why? If you would not recommend changing the warning, explain the basis for your opinion.

Select document:

Document Library Contents

© 2005 CAE. All rights reserved.

Document Library Contents

- Document 1 Article from Statesville Campus News, May 24
- Document 2 Abstract from a Science Journal
- Document 3 Internal Memorandum from Cyril Davenport
- Document 4 Article from the Statesville Sun, May 2
- Document 5 Excerpt the Statesville Sun, July 23



Help



Back



Next

CLA Tasks (2)

Analytic writing tasks (45 and 30 minutes)

- Measure ability to articulate complex ideas, examine claims and evidence, support ideas with relevant reasons and examples, sustain a coherent discussion, and use standard written English.
 - Make-an-Argument (45 minutes): support or reject a position on some issue
 - Critique-an-Argument (30 minutes): evaluate the validity of an argument made by someone else.

Analytic Writing Tasks

A “Make-an-Argument” Analytic Writing Task prompt typically presents an opinion on some issue and asks students to address this issue from any perspective they wish, so long as they provide relevant reasons and examples to explain and support their views. Students have 45 minutes to complete this essay. For example, they might be asked to explain why they agree or disagree with the following:

There is no such thing as “truth” in the media. The one true thing about the information media is that it exists only to entertain.

A “Critique-an-Argument” Analytic Writing Task asks students to critique an argument by discussing how well reasoned they find it to be (rather than simply agreeing or disagreeing with the position presented). For example, they might be asked to evaluate the following argument:

A well-respected professional journal with a readership that includes elementary school principals recently published the results of a two-year study on childhood obesity. (Obese individuals are usually considered to be those who are 20 percent above their recommended weight for height and age.) This study sampled 50 schoolchildren, ages 5-11, from Smith Elementary School. A fast food restaurant opened near the school just before the study began. After two years, students who remained in the sample group were more likely to be overweight—relative to the national average. Based on this study, the principal of Jones Elementary School decided to confront her school’s obesity problem by opposing any fast food restaurant openings near her school.

Make-An-Argument Prompt

“In our time, specialists of all kinds are highly overrated. We need more generalists – people who can provide broad perspectives.”

Directions: 45 Minutes, agree or disagree and explain the reasons for your position. Student selects one of two prompts to answer.

Break-An-Argument Prompt

Students are asked to discuss how well reasoned they find an argument to be (rather than simply agreeing or disagreeing with it).

A respected professional journal with a readership that includes elementary school principals published the results of a two-year study on childhood obesity. This study sampled 50 children, ages 5-11, from Smith Elementary School. A fast food restaurant opened near the school just before the study began. After two years, students who remained in the sample were more likely to be overweight—relative to the national average. Based on this study, the principal of Jones Elementary School decided to address her school's obesity problem by opposing the opening of any fast food restaurants near her school.