The Effect of Positive Moods

Topic

Understanding How Moods Affect School Work

Purpose

In this demonstration students will observe how their moods (positive versus neutral) influence their accuracy in doing math problems. The hypothesis is that students' math performance under an induced positive mood will be better than in a neutral mood condition. The objective is to have students test the influence of self-induced mood on their performance.

Academic Areas

Science Processes

- **Be a subject in an experiment**
- **Analyze data**

Math Skills

- **Correct math scores**
- **Tally scores**

Key Vocabulary

- **Affect**
- **Debrief**
- **Dependent variable**
- **Emotions**
- **Feelings**
- **Independent variable**
- **Induction**
- **Mood**

Materials

- **Two sets of math problems**
- **Math Problems Scoring Sheet**

Background

For 150 years psychological experiences have been conceptualized as composed of three components: cognition (thinking), conation (motivation or will, and action or behavior), and affect (feeling; Isen, 1984). But much of psychological research has studied each of these areas largely independently of one another. Recently, researchers have begun to recognize that there are important interrelationships and interactions between cognition, conation, and affect.

In defining the various terms used to describe affective states, the term emotion refers to strong feelings that interrupt ongoing behaviors, result in specific actions, and involve physiological arousal. Emotions are intense, short lived, and usually have a definite cause and clear cognitive content (e.g., annoyance, anger, or fear). Mood is used to describe low intensity and relatively enduring affective states with no immediately salient antecedent cause and little cognitive content (e.g., feeling good or feeling bad). Affective states "gently color and redirect ongoing thought and actions, influencing what will happen next but almost without notice and certainly without ostensibly changing the context or basic activity" (Isen, 1984, p. 187).

To study the relationship of affect to cognition and motivation, researchers had to figure out ways to induce positive and negative affect. They have used a variety of strategies, such as having subjects read self-statements, distributing cookies, inducing hypnosis, or spraying a room with an air freshener. Most of the studies involving children have had them self-induce moods by instructing them to close their eyes and think of something that makes them happy or sad for periods of time ranging from 30 seconds to 2 minutes. Others have used cartoons, movies, reading stories, or manipulated scores on a game.

Recent research has shown that affective states, even mild positive ones, can influence thinking, learning, and behavior. Among both children and adults, positive affect is generally associated with an increase in the tendency to help others. People who feel good have been found to be kinder to themselves and to others, to reward themselves more than control subjects, and to display a greater preference for positive than negative self-relevant information. People who feel good tend to be more willing to initiate conversations with others, express greater liking for others and more positive conceptions of people, and to be more receptive to persuasive communication (Isen, 1984). Positive affect—joy, elation, contentment, and relaxation—have pronounced and relatively direct influence (Isen, 1984).

Positive affective states also have a positive impact on cognition. Positive affect increases recall, mastery of discrimination, creativity, and perceptual-motor skills. Positive affect facilitates the performance of complex cognitive functions that require flexibility, integration, and utilization of cognitive material.

In contrast, negative affective states are associated with increased aggression, and depressed moods have been found to depress memory for the recall of target words embedded in sentences or alone. However, the influence of negative affect appears to be more complex than positive moods. Sometimes negative states produce the same kinds of behavior produced by positive affect, for instance, increased helping, and sometimes negative moods appear to have no effect at all.

A few studies have examined the impact of induced positive moods on children with learning disabilities and behavior disorders. The results have found that, in contrast to neutral moods, induced positive moods result in more accurate performance on the WISC-R coding subtest and on math problems, higher levels of vocabulary learning, mastery of visual discrimination tasks associated with initial reading skills, and willingness to donate time to a charitable task.

In this demonstration students will do math problems in the usual way and then, a few days later, they will do a comparable set of problems following induced positive moods. Students will examine the number of problems they attempted and the number they did accurately in the two conditions. The hypothesis is that students will attempt more problems and do more problems accurately in the induced positive mood condition. The objective is to have students explore how their moods influence their academic performance.

Lesson Overview

1. This exercise is done in class.
2. Estimated time during one class is 10 minutes.
3. Estimated time during the second class is 45 minutes.

Procedure

1. Two sets of comparable math problems are required. Both sets should involve the same math operations and be of equivalent difficulty for students.
2. All students in the class are given 5 minutes to do as many of the math problems as they can on one set of the problems.
3. Approximately 2 days later, students are induced into positive moods:
   - Say: "To get started today, I want you to close your eyes and think of something wonderful, something that happened to you that made you very happy."
   - Have students close their eyes for 45 to 60 seconds. Then ask students to open their eyes and ask if they thought of something that made them feel happy.
4. Students then have 5 minutes to complete the second set of math problems.
5. Students correct math problems that they did on the 2 days.
6. For each set of problems, students:
   - Count the number of correct answers.
   - Count the number of incorrect answers.
   - Total these for the number of problems attempted.
   - Compute the group means for correct answers and total number of problems attempted on each set of math problems.
7. Graph the results for the two sets of math scores.
8. Compare accuracy and attempts under the two conditions.
9. Review the hypothesis (positive moods would make a difference in math performance), the independent variable (mood induction), and the dependent variable (math accuracy, math problems attempted).
10. Have the students interpret the outcomes. Were there differences in performance on the two sets of math problems?

Discussion

1. Did the mood induction work? If not, why not?
2. Discuss the role of affect in other areas of learning. When might moods make a difference, and when not?
3. Consider how positive and negative moods might influence people's behavior in other situations. The behavior of teachers, parents, and friends are affected by their moods. What might students do to increase the likelihood that others are in good moods?
4. Have students generate situations in which they might self-induce positive moods and test the impact on outcomes.

Extensions

1. Social Studies. Have students search current events, including sports, for examples of positive affect. Or they could research historical events such as the Constitutional Convention. Did the delegates' belief in their ability to form a government acceptable to all create a positive climate (or affect) conducive to success?
2. Language Arts. Induce a negative affect and have students write a story on an assigned topic. A few days later, induce a positive affect and have students write on the same topic. Have them compare the differences in their stories' length, use of words, and outlook.

Reference

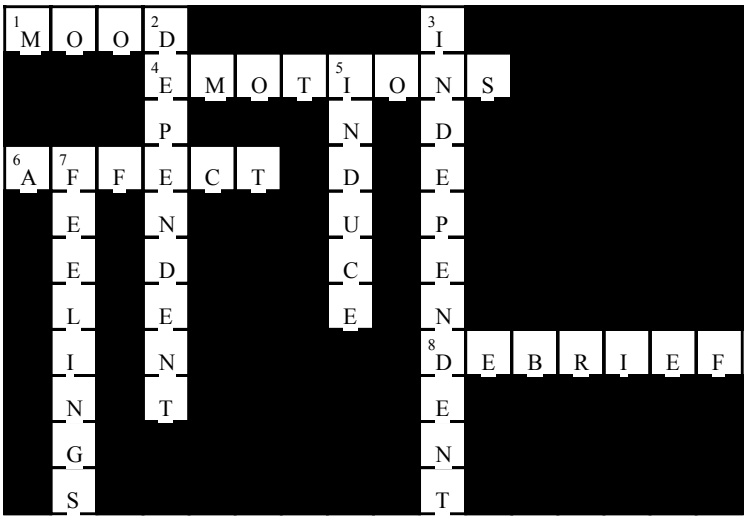
Isen, A.M. (1984). Toward understanding the role of affect in cognition. In R. S. Wyer, Jr., and T. K. Srull (Eds.), Handbook of motivation and cognition (Vol. 3; pp. 179-236). Hillsdale, NJ: Lawrence Erlbaum.

Student Section

The rest of this chapter consists of the student section of this experiment, including

- **Background Page (Introduction, Hypothesis, Materials, and Procedure)**
- **Word List/Note Taking Page**
- **Two sets of math problems and scoring sheet**
- **Crossword Puzzle**
- **Word Search**
- **Quiz**
- **Student Log**

Crossword Puzzle Solution



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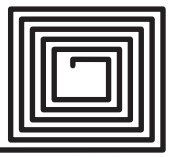

Student Section

Introduction

If you are going to take a test in school, it is not a good idea to go into the test feeling angry, depressed, or very anxious. Social science research has shown that negative affect and emotions interfere with the ability to think and concentrate. What many students may not realize is that it is a good idea to go into a test feeling happy. When you feel happy, your memory works better and you are more likely to be willing to do the work right away rather than put it off. If you have learned the material, you are likely to do better on a test if you are feeling good.

Positive affect effects everyone's performance. Very young children learn faster, make fewer mistakes, and master the task better when they are in a positive mood. Elementary, junior, and high school students do math better, learn more vocabulary, have better memory, and learn better in positive moods. College students are better problem solvers. Adults do their jobs better, feel better about themselves, and get along better with co-workers when they are in a good mood.

One of the important things about affect is that we have some control over it. Researchers have induced people to feel good by giving them a cookie or a small prize, planting coins in a telephone booth, inducing hypnosis, and even using a room air freshener. In these studies the effects of positive versus negative and neutral moods on learning and memory were then compared. One popular means of getting people to feel happy, sad, or neutral is to have people self-induce moods by closing their eyes and thinking about something that makes them feel very happy or sad.

In this demonstration you did math problems on two separate days. On the first day you did the math like you usually do. But on the second day, your teacher had you self-induce a positive mood. The idea was to have you explore whether self-induced positive moods influenced the number of math problems you could do accurately.

Hypothesis

Students will attempt more math problems and do them more accurately in a positive mood than in a neutral mood.

Materials

Two sets of math problems

Procedure

1. The teacher distributes a set of math problems. The class has 5 minutes to do the problems.
2. A day or so later, the teacher distributes a second set of math problems but has the class wait before doing the problems. The teacher tells students to close their eyes and think of something that made them very happy. Students are given about 45 to 60 seconds to think of something that made them feel good. Then they have 5 minutes to do the problems.

3. **The teacher debriefs students by explaining the hypothesis of the study.**
4. **Students grade the two sets of math problems. For each set, tally:**
   a. **The number of correct answers.**
   b. **The number of incorrect answers.**
   c. **The total number of correct and incorrect answers.**
5. **Students compute the class mean for correct answers, incorrect answers, and the total number of correct and incorrect answers.**
6. **Graph the results.**
7. **Compare the number of correct responses, incorrect responses, and total number of problems attempted for the neutral (first set of math problems) and the positive (second set of problems) mood conditions. Were there differences?**

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Key Words

Affect

Debrief

Dependent Variable

Emotions

Feelings

Independent Variable

Induce

Mood

Notes:

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Math Problems

Name _____ **Date** _____

Age _____ **Grade** _____

School _____ **Teacher** _____

Look at the problems that follow. How many examples do you think you can finish in 5 minutes?
Circle one: 0-20 20-40 40-60 60-80

1.	35 +21	9.	54 –37	17.	825 x19	25.	537 –321
2.	89 +61	10.	3209 –1716	18.	4195 x8	26.	63 x51
3.	6248 +321	11.	26 +32	19.	65 –26	27.	73 x5
4.	757 –145	12.	98 52 +39	20.	4318 –2625	28.	942 +52
5.	535 –141	13.	7132 +412	21.	53 +14	29.	731 x35
6.	27 x5	14.	648 –236	22.	708 –316	30.	438 735 +365
7.	36 x28	15.	446 –232	23.	8248 +321	31.	42 +56
8.	5084 x7	16.	736 x4	24.	739 –325		

Over, please

32. 7690 + 425 + 932

33. 7085 + 4076

34. 739 − 325

35. 537 − 321

36. 638 × 7

37. 652 × 32

38. 4373 × 85

39. 356 − 93

40. 9742 − 4609

41. 98 + 37

42. 5600 + 486 + 35

43. 5023 + 7333

44. 357 − 134

45. 709 − 615

46. 845 × 6

47. 482 × 61

48. 6451 × 23

49. 364 × 47

50. 5427 − 1532

51. 62 + 32

52. 819 + 427 + 935

53. 7359 + 234

54. 648 − 436

55. 628 − 232

56. 639 × 14

57. 652 × 35

58. 6073 × 83

59. 260 − 96

60. 6536 − 4624

61. 89 + 51

62. 928 + 536 + 846

63. 9468 + 367

64. 759 − 358

65. 739 − 343

66. 748 × 25

67. 763 × 46

68. 9804 × 72

69. 371 − 87

70. 8547 − 5735

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Math Problems: Second Set

Name _____ Date _____

Age _____ Grade _____

School _____ Teacher _____

Look at the problems that follow. How many examples do you think you can finish in 5 minutes?
Circle one: 0-20 20-40 40-60 60-80

1. 97 +42 _____

2. 758 +31 _____

3. 87 –47 _____

4. 48 –24 _____

5. 81074 –30897 _____

6. 43 x39 _____

7. 51 x3 _____

8. 764 +23 _____

9. 302 x16 _____

10. 258 937 +166 _____

11. 88 +53 _____

12. 847 +20 _____

13. 96 –58 _____

14. 59 –35 _____

15. 92183 –41908 _____

16. 54 x40 _____

17. 62 x4 _____

18. 853 +34 _____

19. 413 x24 _____

20. 347 826 +254 _____

21. 84 +46 _____

22. 9516 +319 _____

23. 387 –47 _____

24. 48 –44 _____

25. 83274 –32017 _____

26. 63 x51 _____

27. 73 x5 _____

28. 942 +52 _____

29. 731 x35 _____

30. 5427 –3534 _____

31. 75 +93 _____

32. 8914 +425 _____

Over, please

33. 87 − 47

34. 96 − 55

35. 75363 − 43409

36. 49 × 22

37. 98 × 6

38. 853 + 43

39. 642 × 37

40. 3785 + 646 + 456

41. 201 + 86

42. 3577 + 486

43. 796 − 73

44. 45 − 24

45. 56076 − 29827

46. 70 × 64

47. 75 × 23

48. 942 + 74

49. 753 × 37

50. 789 + 222 + 571

51. 895 + 57

52. 10718 + 202

53. 496 − 56

54. 59 − 35

55. 94563 − 43108

56. 22 × 86

57. 64 × 7

58. 831 + 635

59. 842 × 44

60. 5207 + 6231 + 3762

61. 706 + 39

62. 47398 + 826

63. 587 − 42

64. 97 − 48

65. 86672 − 54219

66. 33 × 97

67. 75 × 8

68. 942 + 746

69. 951 × 66

70. 6038 + 7352 + 5984

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Math Problems Scoring Sheet

Student Name	First Set # Attempted	First Set # Correct	Second Set # Correct	Second Set # Attempted
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
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25.				

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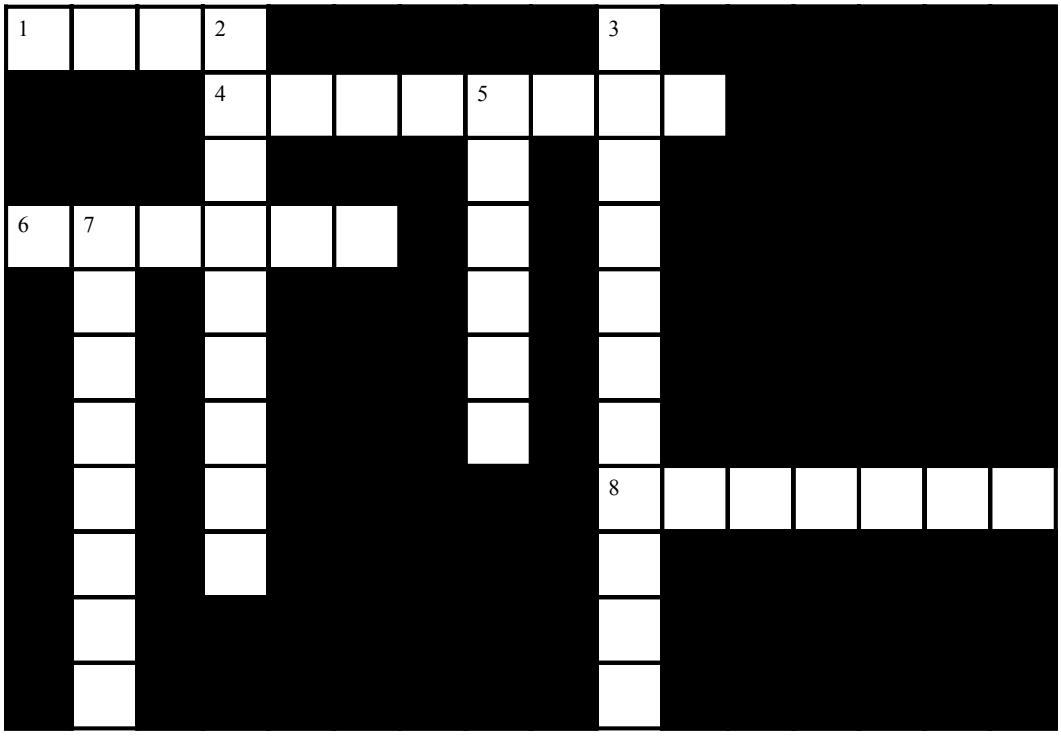
Crossword Puzzle



Across:

1. **Feeling good or feeling bad**
4. **Usually includes feeling very happy, very sad, and angry**
6. **Means the same as mood**
8. **To explain the procedures used in an experiment to participants**

Down:

2. **The measures taken in an experiment**
3. **The factor that is manipulated by the experimenter in an experiment**
5. **To cause something to happen; change someone's mood**
7. **Means the same as affect**

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Word Search

K L O U N D I W J A T E

R M I A F E E L I N G S

E S T I Y K A R E U L D

L U G N E I H D F A M E

B E A D M O N U E K O L

A F I U J E G H I A O M

I B L C P W A N R U D Y

R O S E I H U L B S T W

A H D E P E N D E N T U

V N I M O W I U D Y S R

I T C E F F A M O U G H

Word List:

Affect

Debrief

Dependent

Feelings

Induce

Mood

Variable

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Quiz

Match the following terms with their definitions:

_____ 1. To explain the procedures in an experiment

_____ 2. The factor that the experimenter manipulates in the experiment.

_____ 3. To change someone's mood.

_____ 4. Means the same as feeling.

_____ 5. Measures of the outcome of an experiment.

_____ 6. Feeling VERY good or VERY bad.

a. Induce

b. Affect

c. Independent Variable

d. Emotions

e. Debrief

f. Dependent Variable

Student Log

Student _____ **Date** _____

Title _____

1. Hypothesis: _____

_____

_____

2. Measurement: _____

_____

_____

_____

_____

_____

3. Analysis and Results: _____

_____

_____

_____

4. Interpretation and Discussion: _____

_____

_____

_____

5. Application: _____

_____

_____

_____

Question: _____

_____

Question: _____

_____

Question: _____

_____