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THIS IS TO CERTIFY THAT THE THESIS PREPARED UNDER MY SUPERVISION BY

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ENTITLED Emotional Mood and Selective Retention: A Cognitive Alternative

IS APPROVED BY ME AS FULFILLING THIS PART OF THE REQUIREMENTS FOR THE

DEGREE OF Bachelor of Science in Liberal Arts and Sciences

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EMOTIONAL MOOD AND SELECTIVE RETENTION:
A COGNITIVE ALTERNATIVE

By

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THESIS

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Abstract

Emotional mood has an effect on ability to recall information and type of information recalled. It may function either as state-dependent effect or as selective attention to material later recalled. The latter phenomenon is tested in this study, in comparison to cognitive suggestion's effect on attention. Results are discussed in terms of further procedural modifications.

Introduction

Schacter and Singer (1962) made it widely known that emotion and cognition could not correctly be considered independent phenomenon. Their work demonstrating that the emotion experienced may depend on the cognitive label applied to it suggested that some degree of interrelation was present. More often than not, though, research has been directed toward cognitive roles in emotional processes. Little emphasis has been placed on emotion's place in cognitive function.

Investigation of affect and memory relationships has demonstrated increased retention of material associated with distinct emotional states. When individuals feel a certain way they are exposed to information, its recall is more accurate than when there is no emotional involvement.

The study of attention also yields examples of affect influencing the salience of available information and judgments made about it. Experimental subjects whose emotional states differ often attend to and evaluate the same information differently.

State-Dependent Retention

Researchers familiar with drug-state dependent retention sought to extend the theory that a drug state

serves as a context for memory retrieval, to states of emotional mood. In drug-SDR (state dependent retention), a subject learns something under the influence of a drug, and then attempts to recall it either in the same state or while sober. Generally, retention is better for individuals who recall under the influence of the drug than not.

In their 1973 article, Henry, Weingartner, and Murphy administered a memory task to persons in fluctuating emotional states. The subjects were directed to free-associate up to twenty words in response to two words selected by the experimenter. They were then asked to repeat their own free-associated responses four days later. The subjects used were judged to be clinically manic-depressive, and were given a number of trials over a period of weeks. At each trial, the extent of their change in mood from the previous session.

Henry and his colleagues found that the greater the change in mood over the four-day interval - whether from manic to depressive or depressive to manic - the less subjects could remember of the responses they had given to the two stimulus words.

The opposite is also true, and it suggests that moods can function as a SDR context: the less the mood change, the less material forgotten. Memories are easier to retrieve if the individual feels like he did when they were first encoded.

Macht, Spear, and Levis (1977) placed subjects in the same affective state for both learning and recall phases of their experiment and demonstrated a mood-state dependent effect. The subjects learned a list of nouns in the presence or absence of an electric shock, which was supposed to elicit anxiety. They were then asked to recall the list with or without the shock.

The authors found that individuals who received the same treatment during both learning and recall phases recalled a significantly higher number of words. This, they claim, is SDR. A methodological point that might be raised here is that the two mood states they wished to induce, anxiety and its absence, may not have been truly distinct. It is not evident that an effort was made to discover just what the unshocked subjects felt - only that the shocked ones were feeling anxious. No emphasis is placed on the feelings of control subjects.

Bower, Monteiro, and Gilligan (1978) use a more balanced mood manipulation. They took a group of "highly hypnotizable" college students and suggested to them intense feelings of joy or sadness. While a discussion of the mechanisms of hypnosis is beyond this paper's scope, it is apparent that emotional changes induced hypnotically result in many of the same subjective and objective indications of "normal" deep emotion: changes in voice

inflection, weeping, and facial patterns. With regard to Macht, et al. (1977), it would seem that hypnosis produces more easily recognizable emotions than does shock.

Bower, Monteiro, and Gilligan (1978), having placed their subjects in a trance, requested that they recollect an intensely happy or sad experience with strong mental images attached. They then told the subjects to retain the strong feelings but forget the evocative imagery.

In the first portion of the experiment, the authors put the subjects into a happy or sad mood and directed them to learn a mixed list of abstract, emotionally weighted nouns. Then the opposite mood was induced, and they were asked to recall the list. Following this, the original mood was restored and subjects were again asked to recall the list.

No SDR was evident. "Sad" subjects recalled the same amount of material in both states; neither group recalled a significant number of words consistent with their mood during learning.

In the second part of the experiment, an attempt was made to eliminate order effects by testing half of the subjects first in the learning mood and then in the opposite one, and half in the opposite mood first. Subjects were also tested a day after learning to provide some time for forgetting material (there had been virtually no loss of material in the first trial).

Again, there were no results of significance: neither amount of material retrieved from memory nor emotional content of words interacted with the mood experienced during learning.

In the final part of the experiment, the authors took a slightly different tack. Rather than one list made up of positive and negative words, they used two. They hoped to show a reduction in the retroactive interference that is present when two word lists are learned. This portion of the experiment was an attempt to use SDR to distinguish one set of material from another.

The plan was to have the subjects learn list A while in mood-state A, list B while in mood-state B, and subsequently recall both lists either in state A or B. Under normal circumstances, having learned List A before List B would result in List B's interfering with the recall of List A. If the authors' hypothesis is true, that moods serve to make distinct similar sets of information, then there should be minimal interference in recalling list A when the List A recall state is the same as the List A learning state but different from the List B learning state (Mood A). Conversely, interference should be maximized in recalling List A when the state for recall is different from the learning state for List A but the same as the learning state for List B (Mood B).

Here Bower, et al. obtained the desired results: subjects were able to recall lists better in a mood-state similar to the one experienced during learning. Also, the prediction that mood state could both maximize and minimize retroactive interference was strongly supported.

Questioning the applicability of mood-state dependent retrieval to non-laboratory settings, Bower (1981) used the daily experiences of his subjects as a target of recall. He asked them to keep a diary of all the "emotional incidents" they experienced in a week, and collected the diaries at the end of that time.

Placing the subjects in a hypnotically induced pleasant or unpleasant mood, Bower asked them to recall all of the recorded events that they could. The results were as anticipated: individuals in a positive mood recalled a greater proportion of positive incidents; those in a negative mood recalled more negative incidents.

This finding is a confirmation of Bower, Monteiro, and Gilligan's earlier finding, that information learned, or encoded, in one affective state is more accessible when that state is re-induced. Gilligan and Bower (see Note 1) eliminated the rating element in their next experiment. In that, they focused on recalling emotional events from childhood. Their subjects were hypnotized, and strong positive or negative feelings were induced. The experimenters

asked them to mention unrelated emotional incidents of any kind that occurred before they were fifteen years old. They were directed to describe each one in only a few sentences, and then to go on to describe another. The experimenters were careful not to demand particular types of incident or suggest a desired emotional content. After collecting these descriptions, the experimenters sent the subjects home with instructions to return the next day.

Then, the experimenters told them to classify the remembered incidents as either pleasant, unpleasant, or neutral. A control group had also been given the same recall instructions, and the same classification instructions, but was not hypnotized during recall. None of the subjects were in an induced mood condition during classification, so that the labelling of the recollections was not influenced by the recall mood.

They found that happy subjects retrieved significantly more pleasant memories than unpleasant ones, while unhappy subjects demonstrated a nonsignificant bias toward retrieving negative ones. The authors account for the poor effect with negative mood by observing that all subjects, even those in the control group, show a bias toward recalling positive events.

SDR, then, is one way mood works to organize and improve retention. Several kinds of material to be memorized are recalled more completely if the mood felt at the

material's initial exposure is re-induced. An explanation for this phenomenon is a type of semantic network (to use common cognitive parlance), offered in Bower, 1981.

As he suggests it, events are clusters of descriptive propositions in memory, and are recorded there by creating new "associative connections" between specific concepts that describe the events. The descriptive propositions are the fundamental unit of thought, and the process of thought is the activation of a proposition and its related concepts. Bower describes the elements of consciousness as "the sensations, concepts, and propositions whose current activation level exceeds some threshold. Activation presumably speaks from one concept to another, or from one proposition to another by the associative linkages between them." (Bower, 1981, p. 134).

By this model Bower presents an explanation of the SDR effect. Using the word list experiment as an example, many propositions could become associated with the experiment for the subject. One might be having to read the word list, with such concepts as number of words, meanings of words, and spellings attached. Another proposition might be the emotion experienced during the experiment, with attached concepts like verbal labels for the emotion, physiological sensations, and evocative situations.

Presumably, the word list to be retrieved would be raised above threshold into consciousness when enough related concepts and propositions are activated - like a return to the laboratory, reinduction of the emotional state, or verbal instructions to recall from experimenters.

Attention

State-dependency, however, may not be the sole process by which emotion orders material held in memory. Attention paid to information at initial exposure may result in better learning of the material, thus making its recall more extensive.

Emotional mood may act to heighten the salience of information congruent with that mood. So exposure to mood-consistent information at time of learning, while in the mood, may result in better recall of that information.

Postman and Brown (1952) made an early demonstration of mood affecting the recognition of information. They rigged a task of symbol identification on a tachistoscope so that they could control their subjects' success or failure at it, while the subjects believed the outcome was under their control. The subjects finished the rigged identification task and then were directed to watch the tachistoscope's screen for words to be flashed on it. These words were descriptive either of success or failure.

It was found that subjects who had succeeded had a lower recognition threshold for words relevant to success, while those who failed at the rigged task recognized failure-related words more easily. If success or failure at a psychological task can be accepted as an induction of positive or negative affect, then Postman and Brown's experiment may indicate that individuals attend to information congruent with their mood.

Bower and Monteiro (see note 2) investigated which characters in a short story subjects attended to while in an induced mood state. They hypnotically induced either strong happy or sad feelings in their subjects, then gave them a short story to read.

The story contained two main characters: one was happy and had pleasant things happen to him; the other experienced nothing but bad luck and bad feelings. Care was taken to make sure the language of the story was not more emphatic on one character than another, and that equal amounts of story details were devoted to each.

The authors predicted that the subjects would focus on the character whose experiences were consistent with their own mood. Subjects feeling good would consider the positive character to be the story's protagonist. Those in a bad mood would think they were reading a story centered upon the negative character.

The prediction was confirmed when subjects were questioned after reading, while still in the same mood. Almost all of them considered the character congruent with their own moods to be the most emphasized in the story, to have the most factual details attributed to him, and to be the character they identified with. A large majority of the subjects also reported more mental images associated with the congruent character, and were able to recall more details about him.

It can be concluded from this experiment that information about fictional characters is more salient to individuals when it is consistent with their own mood.

Brown, Gilligan, and Monteiro (1981) questioned the certainty of conclusions drawn from the previous experiment. The high identification with one of the two characters could be as adequate an explanation as a focus on the statements in the story consistent with subject mood.

For this reason, a second story was devised. This new story had only one real character (others were mentioned but not described). By making this alteration, the authors sought to eliminate the competing hypothesis of character identification. If the effect were still present, it could be confidently concluded that subjects were attending to congruent phrases.

This proved to be so. Subjects that the authors placed (hypnotically) in a happy state remembered more positive facts than sad facts and vice versa for sad subjects.

The Present Experiment

Unfortunately, modification of the short story did not preclude further challenges to Bower, et al.'s (1981) conclusions. The one upon which the present study is based is that purely cognitive awareness by the subject might serve as an intensifier of attention.

It seems quite plausible that if a subject is strongly holding the idea of a mood in consciousness, that concept will suffice to heighten attention to information congruent to mood. For example, perceiving that an experimenter's interest is happiness, the subject may well try to focus on what the experiment seems to be about: happiness and related information. Being in the mood might have nothing to do with selective attention, while an awareness of the experiment's apparent purpose might.

In order to test this counter-hypothesis, the following experiment was designed to replicate the Bower, et al. (1981) study using both mood and suggestions of a "cognitive set" as manipulations.

Method

Subjects

Sixty-nine undergraduates, enrolled in introductory psychology courses participated for partial academic credit. Twenty-eight (13 males and 15 females) received an emotional mood manipulation, while 30 subjects (13 males and 17 females) were given a suggestion of cognitive set. Also, eleven males and females served as a control group, receiving only a neutral writing task.

Procedure

Subjects were initially brought into a soundproof room in groups of three. There, they were given 15 minutes for one of three possible writing tasks: the mood manipulation, the cognitive set suggestion, or an essay on introductory psychology. They were subsequently told to read a short story (the same story used in (Bower, et al., 1981)) made up of positive, negative, and neutral "idea units." Following the story, subjects were asked to describe their current emotional state by answering a questionnaire. Finally, they were given five minutes to recall all they could of the story they had read earlier.

Materials

Writing Tasks. For purposes of altering emotional mood subjects wrote about emotional experiences they had undergone. There were two types of mood to be induced: positive and negative or "Happy" and "Sad." It was expected that if subjects reflected on and wrote about such experiences, they would feel the emotions originally associated with them.

Those subjects given a manipulation of cognitive set were told to write generally on the topics of happiness and sadness. Again, there was an equal subdivision of subjects into Happy and Sad categories. [It should be emphasized that subjects in this group were not intended to experience the moods about which they wrote. Instead, the concepts of happiness and sadness were to be made more salient to the subject. In short, subjects were to be made well aware that the experiment was concerned with a particular mood.

A third group was asked to write abstractly about the utility of introductory psychology courses. In this case, the topic written about was not supposed to induce a mood or suggest a cognitive set.

(Copies of the three writing tasks are reproduced in Appendices A, B, and C.)

Short Story. Every subject read a two and one half page narrative account of a young man undergoing psychotherapy. Its components were 78 "idea units" - propositions involving the story's protagonist - that had either a positive, negative or neutral emotional valence. There were equal numbers of each kind of component (26 each).

The story used is identical with the one used by Bower et al. (1981). (Copies of the story in its original form and divided into types of "idea units" are reproduced in Appendices D and E.)

Mood-Measurement Questionnaire. Subjects reported their emotional mood by rating the self-applicability of 22 adjectives. These were listed on seven-point, monopolar scales, and were divided into the following categories: Happy, Sad, and Angry. [The descriptive adjectives labelled Angry were not tabulated in this experiment. They were included in the questionnaire by virtue of an earlier experimental design, that was later dropped.] Sum totals were established for Sad scales taken together, and for all the Happy scales.

Results

The experimental design provided for two sets of measurements. The first is the set of responses each subject made to the mood-measurement questionnaire. The second is the number of positive and negative items that were recalled from the short story.

Mood Questionnaire. Levels of positive and negative affect were represented by sums of responses to positive and negative scales, respectively.

Table 1 below displays the mean negative scores (sums of negative scales for each subgroup in both the mood and cognitive manipulations).

Table 1
Mean Levels of Negative Affect

	Happy		Sad
		<u>Mood</u>	
Males	12.7		15.8
Females	10.2		10.0
	11.4		12.9
		<u>Cognitive</u>	
Males	9.1		10.0
Females	11.2		10.5
	10.1		10.3

A 2x2x2 analysis of variance performed on negative mood scores failed to yield a significant result. ($F(1, 50) = .856, p < .359$) of particular interest is that Sad subjects in the mood condition were not significantly sadder than subjects in the Happy group.

In table 2, the mean positive scores are displayed. Similar to the negative scores, they are sums of responses to positive scales.

Table 2
Mean Levels of Positive Affect

	Happy	Sad
	<u>Mood</u>	
Males	23.6	16.2
Females	<u>18.8</u>	<u>26.0</u>
	21.2	21.1
	<u>Cognitive</u>	
Males	19.5	22.0
Females	<u>19.9</u>	<u>17.5</u>
	19.7	19.8

A 2x2x2 analysis of variance also failed to produce results of significance for positive mood scores. ($F(1, 50) = 1.37, p < .247$) The most important result here is that Happy subjects did not report being significantly happier than Sad subjects.

A preliminary conclusion may be drawn at this point. The writing about personal, emotional experiences was not effective in inducing emotional mood. If it had been,

there would be demonstrable differences between subjects in the Happy and Sad groups in their levels of affect. Since this is not so, it is reasonable to conclude the desired moods were not induced in subjects given the mood manipulation.

Recall Data

Recall of short story components was gauged by counting the number of positive and negative components recalled (out of a possible 26 each).

Shown below in Table 3 are the mean numbers of positive and negative items recalled for each subgroup in both the mood and cognitive set conditions.

Table 3
Mean Numbers of Story Items Recalled

	Happy		Sad	
	<u>Mood</u>			
	(+)	(-)	(+)	(-)
Male	33.0	33.2	30.6	47.0
Female	36.6	39.0	36.3	46.5
	<u>34.8</u>	<u>36.1</u>	<u>33.5</u>	<u>46.7</u>
	<u>Cognitive</u>			
	(+)	(-)	(+)	(-)
Male	36.8	38.0	29.5	25.3
Female	34.2	39.3	34.3	37.3
	<u>35.5</u>	<u>38.7</u>	<u>32.0</u>	<u>31.3</u>

A 2x2x2x2 analysis of variance did not demonstrate a significant difference between groups in recall of the story's components. ($F(1, 50) = .181, p < .584$)

This result implies that neither type of manipulation made any difference in the types of "idea units" subjects recalled. While it certainly does not confirm the hypothesis - that mood serves as an effective context for attention and learning, and cognitive suggestion serves just as well - this result is not a completely obscure one. Possible inferences that stop short of confirming or disconfirming the hypothesis are presented in the next section.

Discussion

As previously stated, this experiment's hypothesis was that retention of material congruent with mood at time of learning could be duplicated using a cognitive suggestion about mood as a recall context. Were this to have been the result the notion of mood as the context for selective learning could have been challenged; the phenomenon could have instead been explained as the subject's awareness of the experimenter's interest (a certain emotion) and deliberate attention to that idea.

Unfortunately, this question goes unanswered. An analysis of the data gathered in this experiment fails to bring forth a single significant result. One is forced to assume that all of the differences found in those analyses are due to chance.

One of the most unexpected results of the experiment is the apparent failure of the mood manipulation. Subjects asked to write about happy experiences did not report being happier than those asked to write about sad experiences. The reverse is also true. Those subjects who wrote sad experiences did not report being sadder than those writing about happy experiences.

This unforeseen outcome in turn casts the result of the recall analysis in a different light. It most probably accounts for the failure to replicate Bower, Gilligan, and Monteiro's (1981) results, where mood proved to be a context for attention and selective learning. Because the subjects were not successfully placed in the desired moods, the Happy and Sad conditions amounted to little more than arbitrary labels.

The importance of the mood-measurement failure is that it renders the recall results invalid. For instance, the fact that subjects in the Happy (mood) group didn't recall more positive facts cannot be construed as disconfirming evidence. Rather, it seems to reflect a failure to test the effect at all, by reason of a faulty procedure. Put simply, a mood does not function as a context for selective attention if it is not present in the first place. By failing to induce emotional mood in the subjects, mood-congruity of items recalled was not adequately tested.

A possible explanation for the ineffective mood manipulation is the deviation from Bower, et al.'s (1981) procedure. In that experiment, mood was not induced by writing about personal experiences, but by hypnotic suggestion. Their subjects were told, once hypnotized, to visualize themselves in several standard depressing or

elating situations. While the hypnotic procedure appeared sufficient to alter mood, it was changed to a related but nonhypnotic one in anticipation of challenges to the generality of results. It could be well argued that inferences made from a small population of "highly hypnotizable" subjects should not apply to humans in general. In any case, it is possible that this change "backfired"; a clear-cut result of dubious generality seems to have been exchanged for an easily generalizable absence of the effect.

It may also be observed that the group given the cognitive suggestion showed no congruity effect between mood suggested to them and type of "idea unit" recalled from the short story. This, too, is notable - though for different reasons than the absence of an effect for the mood condition. The failure to observe a relation between mood cognitively suggested and type of items recalled may be seen as a mild indication - and no more - that the experiment's hypothesis is wrong.

A restatement of that hypothesis is that given equivalent procedures, a simple suggestion of a mood as the experiment's interest will function as well as the actual experience of that mood, as a learning context.

The absence of a congruity effect might be taken as evidence that cognitive suggestion is ineffective for producing effects similar to mood-consistent ones. But, it might as well be taken to mean that a flaw in the

nearly identical procedures followed (for mood and cognitive groups) somehow thwarted observation of all possible congruity effects. What is needed to render this result disconfirmatory is the production of mood-congruity effects using a similar procedure. Without a success in the parallel condition, this negative cognitive-congruity result remains attributable to faulty procedure, and thus equivocal.

Suggestions for further research are usually obvious when an experiment fails to be conclusive. Since this is apparently due to an ineffective procedure, reiteration of the experiment with procedural changes seems in order.

What really needs to be changed here is the mood manipulation. Experimental methods do exist for altering a subject's mood. Quite apparently, a working method needs to be substituted for the one presently used. Also, such a method would have to lend itself to the creation of an analogous method for the cognitive manipulation. The need for an equivalent but non-mood-inducing procedure limits the choice of a mood induction.

Another procedural modification might improve the potential for replication by attempting to more closely duplicate Bower, et al.'s (1981) procedure rather than trying to find a more efficient substitute. In the original study, there was an interval of 4-6 hours between reading the story and recall; in this one, only about 15

minutes. Perhaps this variation (in addition to failure of the mood induction) is responsible for the absence of congruity effects. It might well be that a time interval, with its concomitant addition of material to memory, makes the requirement of a recall context of some kind more pronounced. If this is so, then the 4-6 hour interval is necessary to demonstrate the phenomenon, and restoring it to the procedure will result in successful replication.

To sum up it is likely that the initial hypothesis was inadequately tested because of errors in the experimental design. Recall results show an absence of the desired effects, but remain equivocal in view of insufficient subject manipulation.

Reference Notes

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Life-Event Inventory

We are developing a life-event inventory (LEI) to study what kinds of positive and negative experiences people have in their lives. For this reason, we are trying to collect a variety of life-events and we ask you for your help on this task by reporting an event in your recent past.

It is most important for us that these reports be as vivid and detailed as possible. And therefore we ask you to follow the instructions on the next page exactly. Of course, all your reports are anonymous and confidential. After completing your description you can enclose it in the provided envelope and seal it. This will ensure that it is not possible to relate your report to you as an individual. Thanks for your help.

Instructions

Please think about the last few months. What made you feel really good recently? Please take time to imagine what this event was like that made you really feel good and try to relive it again in your mind's eye. Then describe what made you feel good as vividly and in as much detail as you can.

The following questions may help you with this task: What were you feeling? What made you feel this way? What was important for you? What led up to that feeling? Did that event set off some chain of thoughts or fantasies that enhanced your feelings? What were they?

Please make your description as vivid and as detailed as you can. You may use 15 minutes for the task.

Life-Event Inventory

We are developing a life-event inventory (LEI) to study what kinds of positive and negative experiences people have in their lives. For this reason, we are trying to collect a variety of life-events and we ask you for your help on this task by reporting an event in your recent past.

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Instructions

Please think about the last few months. What made you feel really badly recently? Please take time to imagine what this event was like that made you really feel badly and try to relive it again in your mind's eye. Then describe what made you feel badly as vividly and in as much detail as you can.

The following questions may help you with this task: What were you feeling? What made you feel this way? What was important for you? What led up to that feeling? Did that event set off some chain of thoughts or fantasies that enhanced your feelings? What were they?

Please make your description as vivid and as detailed as you can. You may use 15 minutes for the task.

(HAPPY)

Behavioral Effects of Happiness

Happiness is more than anything else a state of mind, but we are interested in the real world effects of being in a happy state of mind. Below please describe how you think being happy would affect people's behavior and experience in each of the areas listed. Take as much time as you need, but mention and explain several effects for each of the areas listed.

- A. Social Life / (Example, "I would think that happiness might make people generally more active and interested in involving themselves in social activities.")

B. Sports

Behavioral Effects of Happiness (Cont)

C. Academic achievement

D. Physical health

e. Productivity in the workplace

Behavioral Effects of Sadness

Sadness is more than anything else a state of mind, but we are interested in the real world effects of being in a sad state of mind. Below please describe how you think being sad would affect people's behavior and experience in each of the areas listed. Take as much time as you need, but mention and explain several effects for each of the areas listed.

- A. Social Life / (example, "I would think that sadness might make people generally more active and interested in involving themselves in social activities.")

- B. Sports

Behavioral Effects of Sadness(cont)

C. Academic achievement

D. Physical health

E. Productivity in the workplace

Psychology and Everyday Life

We are interested in what you have learned from Psychology 100 that is relevant to various aspects of daily life and experience. Below please explain what you recall from psychology so far that is related to or could be applied to people's behavior and experience in the following areas. Take as much time as you need, but mention and explain what you think is relevant for each of the areas listed. Thank you.

A. Social Life

B. Sports

Psychology and Everyday Life (Cont)

C. Academic Achievement

D. Physical Health

E. Productivity in the workplace

APPENDIX D

Paul Smith had been seeing a psychiatrist for several sessions now. They had been making some progress together, but Paul's ambivalence in certain areas of his experience still remained prominent. The psychiatrist had suggested hypnotic age regression sessions as a possible therapeutic modality for him, so Paul had agreed.

The first trance experience uncovered some interesting childhood experiences. At the age of 4, Paul remembered the happiness of playing with his family at home. He recalled the glee and fascination when he rode piggy-back on his father's back, seeing the broad smile glistening on his mother's face, and the joyous laugh of his father's voice in the background. He also recalled some sad experiences at this early age. He accessed the overwhelming sadness when his dog was run over by a car; his grief at his grandfather's death; and the despair of watching a hard-earned quarter slip through the grating of the sewer. He also recalled the giggles of his sibling as they lay awake at night telling jokes, the happiness of his grandmother's face at his birthday party, and the delight and joy present at holiday family gatherings.

In the second age regression he went back to his early years in grammar school. He recalled the sadness in being cut from his baseball team, and the glumness encountered upon resignedly realizing the inevitability of a return visit to the dreaded dentist. He also remembered the joy and excitement in learning to spell his name properly, and the jubilation of receiving the top grade in his class. Additionally recalled was the dismal and cheerless memory of staying inside on a gloomy, rainy day, and his crestfallen stature upon receiving news of his sister's auto accident. The session concluded with a termination of the trance, and a brief discussion of the significance of the past events to the present situation.

With the arrival of the third hypnosis session, the psychiatrist informed Paul that he was relatively happy with the herapeutic progress. Paul in return stated he could feel happy, and that he could also feel sad. An age regression trance to adolescent years was then effected. In this trance, Paul recalled the happiness which enveloped him when he was blissfully with his first girlfriend; he also sadly remembered her family moving to another town. He re-experienced the elation in scoring high on his SAT scores, and the fantastic joy of being accepted in college. Other memories included the sadness of departing from his high school friend, and his sorrowful attendance at his grandmother's funeral. These experiences were interspersed with others that included a jubilant back-packing outing in the mountains, a fun filled beer party with his close friends, and a despair-filled evening that resulted from a sorrowful rejection by a steady date. After several hours, the trance session was terminated and he left with a mixture of feelings.

He arrived somewhat depressed for the next session, but reported he had been generally happy during the week. After brief casual conversation, an age regression trance was once again utilized. The memory in this session involved Paul's early teenage years. He remembered the elation in hearing his first rock and roll album and the high he felt in going to his first rock concert. He also recalled the despondency experienced in hearing rumors of the breakup of the Beatles, the despair of not obtaining tickets to a Rolling Stones concert, and the sadness in discovering a warp in a newly purchased double album. Other memories quickly flashed through his awareness: the delight of meeting an old friend, the jubilation of a last second victory in a football game, and the hilarious performance of a stage comedian in a night club. The thoughts continued at a quick but natural rate: the slonking

of an important final exam; the grief in his best friend's voice when he informed Paul of his rejection by college admissions committees; the remorsefulness after losing his allowance; and the overwhelming sorrow in hearing his mother had developed cancer. Paul experienced himself as a passive but involved observer to these fleeting incidents. However, as the session ended, he knew a shift inside of him had occurred. He walked out of the office in deep internal processes.

When Paul returned to the office several days later, he was in the same state as when he left the last session. They discussed the various outcomes of the age regression sessions, and decided that the therapeutic investigation would continue, but no longer using hypnosis.

- APPENDIX 2
1. At the age of four, Paul remembered the happiness of playing with his family at home
 2. He recalled the glee and fascination
 3. when he rode piggy-back on his father's back,
 4. seeing the broad smile glistening on his mother's face,
 5. and the joyous laugh of his father's voice in the background
 6. He also recalled the giggles of his siblings
 7. as they lay awake at night telling jokes
 8. the happiness of his grandmother's face at his birthday party
 9. the delight and joy present at holiday family gatherings.
 10. He also remembered the joy and excitement
 11. when he learned to spell his name properly
 12. and the jubilation of receiving the top grade in his class
 13. (psychiatrist was) relatively happy with the therapeutic progress
 14. Paul in return stated he could feel happy
 15. In this trance, Paul recalled the happiness which enveloped him
 16. when he blissfully was with his first girlfriend
 17. He re-experienced the elation in scoring high on his SAT scores
 18. and the fantastic joy of being accepted into college
 19. (experiences) included a jubilant back-packing outing in the mountains
 20. a fun filled beer party with his close friends
 21. He reported he had been generally happy during the week.
 22. He remembered the elation in hearing his first rock and roll album
 23. and the high he felt in going to his first rock concert.
 24. (other experiences included) the delight of meeting an old friend
 25. the jubilation of a last second victory in a football game
 26. and the hilarious performance of a stage comedian in a night club.

Sad Items

1. He also recalled some sad experiences at this early age.
2. He accessed the overwhelming sadness
3. when his dog was run over by a car;
4. his grief at his grandfather's death;
5. and the despair of watching a hard-earned quarter slip through the grating of the sewer.
6. He recalled the sadness in being cut from his baseball team,
7. and the glumness encountered
8. when he resignedly realized the inevitability of a return visit to the dreaded dentist.
9. Additionally recalled was the dismal and cheerless memory of staying inside on a gloomy, rainy day,
10. and his crestfallen stature upon receiving news of his sister's auto accident.
11. (he stated) he could also feel sad.
12. he also remembered her family moving to another town.
13. Other memories included the sadness of departing from his high school friends,
14. and his sorrowful attendance at his grandmother's funeral.
15. (other experiences included) a despair filled evening
16. that resulted from a sorrowful rejection by a steady date.
17. He arrived somewhat depressed for the next session.
18. He also recalled the despondency experienced in hearing rumors of the breakup of the Beatles.
19. the despair of not obtaining tickets to a Rolling Stones concert
20. and the sadness in discovering a warp in a newly purchased double album.
21. the flunking of an important final exam;
22. the grief in his best friend's voice
23. when he informed Paul of his rejection by college admissions committees;
24. the remorsefulness after losing his allowance;
25. and the overwhelming sorrow he experienced
26. when he heard his mother had developed cancer.

Neutral Items

1. Paul Smith had been seeing a psychiatrist for several sessions now.
2. They had been making some progress together,
3. but Paul's ambivalence in some areas of his experience still remained prominent.
4. The psychiatrist had suggested hypnotic age regression sessions as a possible therapeutic modality for him,
5. so Paul had agreed.
6. The first trance experience uncovered some interesting childhood experiences.
7. In the second age regression he went back to his early years in grammar school.
8. The session concluded with a termination of the trance
9. and a brief discussion of the significance of the past events to the present situation.
10. With the arrival of the third hypnosis session, the psychiatrist informed Paul
11. An age regression trance to adolescent years was then effected.
12. These experiences were interspersed with others
13. After several hours, the trance session was terminated
14. and Paul left with a mixture of feelings.
15. After brief casual conversation, an age regression trance was again utilized.
16. The memories in the session involved Paul's early teenage years.
17. Other memories quickly flashed through his awareness
18. The thoughts continued at a quick but natural rate:
19. Paul experienced himself as a passive but involved observer to these fleeting incidents.
20. However, as the session ended, he knew a shift inside of him had occurred.
21. He walked out of the office in deep internal processes.
22. When Paul returned to the office several days later,
23. he was in the same state as when he left the last session
24. They discussed the various outcomes of the age regression sessions,
25. and decided that the therapeutic investigations would continue,
26. but no longer using hypnosis.

Momentary Self-description Scale

This scale consists of words or phrases to describe yourself. Please describe how you are feeling at the present time.

Record your answers on this sheet by circling the appropriate number. Presented below is the scale for indicating the degree to which each word describes the way you feel.

1	2	3	4	5
very slightly or not at all relevant	slightly	moderately	considerably	very strongly

Remember, you are requested to make your responses on the basis of the way you feel at this time. Work at a good pace. It is not necessary to ponder; the first answer you decide on for a given word is probably the most valid.

1. enraged	1	2	3	4	5	12. displeased	1	2	3	4	5
2. joyful	1	2	3	4	5	13. contented	1	2	3	4	5
3. elated	1	2	3	4	5	14. rejected	1	2	3	4	5
4. happy	1	2	3	4	5	15. downhearted	1	2	3	4	5
5. fearful	1	2	3	4	5	16. delighted	1	2	3	4	5
6. angry	1	2	3	4	5	17. discontented	1	2	3	4	5
7. sad	1	2	3	4	5	18. proud	1	2	3	4	5
8. pleased	1	2	3	4	5	19. sorrowful	1	2	3	4	5
9. disgusted	1	2	3	4	5	20. blue	1	2	3	4	5
10. depressed	1	2	3	4	5	21. fine	1	2	3	4	5
11. mad	1	2	3	4	5	22. gloomy	1	2	3	4	5