PERSONALITY, MOOD STATE AND PERFORMANCE

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INTRODUCTION

The results we will show here are from a larger research project into the mood congruent effect hypothesis. That hypothesis suggest that mood state will predispose to codify and/or recall of events congruent with the mood state. However, we are more interested in the relation between mood state and personality variables. In general, personality research has dealt with this theme from two perspectives. First, assessing the role of personality variables such as predictors of current mood state; induced mood state in the lab, both in normal samples and in psychopathological affective disorders. Second, assessing the relationship between personality variables with codification and/or recall of affective events, that Martin (1985), called **personality congruent recall effect**.

Although we studied several personality variables, we are going to show here the results about extraversion. Specifically, we induced positive and negative mood state using audiovisual procedures (feature films) in extaverts and introverts followed by two kinds of tasks, free recall and associated paired. We wanted to know the relations between mood state, personality variables and codification of affective word-stimuli (positive, negative and neutral). Research in this field has been weak, Hill (1985) found that people with high scores in neuroticism were

more sensitive to depressive effects in the Velten Induction Procedure, but without differences in the extraversion-introversion trait. Mayo (1983) suggested that subjects with high scores in neuroticism recall more negative events and less positive ones than those with low scores, and extraverts recall more positive events than introverts. However, these results were not replicated later (Mayo, 1989). Martin et al. (1983) also found weak results concerning extraversion-introversion.

METHOD

Subjects and design

A sample comprising 41 undergraduate student were split into extraverts (ES, $n = 20$) and introverts (IS, $n = 21$) by their extraversion-introversion scores from the EN Questionnaire (Pelechano, 1970, 1972). Both extraverts and introverts were randomly assigned to two mood state conditions: positive (AP) and negative (AN). We then had four groups: ES-AP = 10; ES-AN = 10; IS-AP = 11; IS-AN = 10. Subjects codified parallel affective word-stimuli lists both pre-test and post-test with free recall and associated paired tasks.

Materials

The affective level of word-stimuli used was empirically determined by 25 judges, who classified a set of nouns by their positive, negative or neutral connotation. The criterion for selection of a word was a 75% choice of the word as representing the mood state. Later, the chosen word-stimuli were randomly assigned to four lists. These lists (two free recall and two associated paired) of 24 words were counterbalanced by including 8 positive, 8 negative and 8 neutral words. All subjects made 8 trials in their respective list.

Subjects performing the free recall task read and tried to retain the words for one minute and recall them after two minutes. In associated paired task the retention period was one and a half minutes.

Induction Procedure

The mood state induction procedure used was the showing of whole feature films. This is not usual (Kenealy, 1986) because in other research, shorter, specifically made films were used (Isen and Gorgoglione, 1983). In our study, subjects watched one of the positive films: "Some like it hot" (comedy) or "Garage

girls" (X classified) or one of the negative films: "The exorcist" (horror) or "Jonny get your gun" (pessimistic drama).

Statistical Analyses

Means, standard deviations and t-tests between first and second experimental period were determined.

Proposed Hypothesis.

(1) Strong congruent effect. Significant increase in the recall of words congruent with the mood state after the film and significant decrease of recall of not congruent words. Recall of neutral words significantly decreases or does not change.

(2) Moderate congruent effect. Significant increase in the recall of words congruent with mood state and no significant decrease of non congruent words. Recall of neutral words significantly decrease or does not change.

(3) Weak congruent effect. Significant increase in the recall of words congruent with mood state with no interaction with recall of non congruent words.

RESULTS

Table 1 shows means and standard deviations of recalled words in eight trials in the first and second experimental periods per group. Table 2 summarizes the differences (t-tests) and significant levels. The following results may be obtained with regard to Table 2.

(1) Positive condition:

(a) With the free recall task after positive mood state induction, introverts show a strong congruent effect. That is, an increase of positive word recall ($t = -3.92$; $p < .001$) and a decrease word recall ($t = 2.08$; $p < .05$).

(b) With the associated paired task, after positive mood state induction, extraverts show a weak congruent effect. That is, an increase of both positive word recall ($t = -2.51$; $p < .05$) and negative word recall ($t = -2.25$; $p < .05$).

(2) Negative condition:

(a) With the free recall task, after negative mood state induction, extraverts show a moderate effect. That is an increase of negative word recall ($t = -3.53$, $p < .001$), but no significant difference in positive word recall.

(b) No important changes between introverts and extraverts in associated paired task after negative mood state induction.

TABLE 1. PERFORMANCE IN FREE RECALL AND ASSOCIATED PAIRED TASKS IN BOTH EXPERIMENTAL PERIODS FOR POSITIVE AND NEGATIVE MOOD STATE CONDITIONS MEANS AND STANDARD DEVIATIONS

A) POSITIVE MOOD STATE CONDITION

	PRE-TEST				POST-TEST			
	Introverts		Extraverts		Introverts		Extraverts	
	x	_	x	_	x	_	x	_
FREE RECALL								
Positive words	31.72	8.37	39.80	8.85	39.36	6.65	40.60	8.90
Negative words	35.62	9.34	38.60	10.02	31.54	13.11	37.10	10.72
Neutral words	33.72	6.51	39.50	13.18	35.36	8.68	37.30	8.95
ASSOCIATED PAIRED								
Positive words	37.54	13.61	36.20	13.79	39.54	12.78	47.00	12.56
Negative words	33.18	16.97	35.50	16.39	33.81	12.97	42.60	17.08
Neutral words	35.27	14.45	36.10	15.08	35.00	15.76	43.70	16.67

B) NEGATIVE MOOD STATE CONDITION

	PRE-TEST				POST-TEST			
	Introverts		Extraverts		Introverts		Extraverts	
	x	_	x	_	x	_	x	_
FREE RECALL								
Positive words	36.10	5.83	35.70	7.83	33.30	8.64	34.90	9.55
Negative words	35.30	6.91	36.30	8.40	35.50	6.90	43.70	5.29
Neutral words	30.90	6.45	37.50	7.44	32.30	8.16	35.20	9.41
ASSOCIATED PAIRED								
Positive words	49.90	6.02	45.00	12.87	47.70	8.59	44.90	11.15
Negative words	41.00	10.45	40.80	12.63	42.60	10.38	38.60	15.28
Neutral words	48.50	7.44	44.60	12.29	47.20	11.96	43.70	11.32

(x = mean; _ = standard deviation)

TABLE 2. T-TEST BETWEEN FIRST AND SECOND EXPERIMENTAL PERIOD PERFORMANCE IN FREE RECALL AND ASSOCIATED PAIRED TASKS IN POSITIVE AND NEGATIVE MOOD STATES

	POSITIVE CONDITION		NEGATIVE CONDITION	
	Introverts	Extraverts	Introverts	Extraverts
	t	t	t	t
FREE RECALL				
Positive words	-3.92***	-0.34	1.12	0.26
Negative words	2.08*	0.90	-0.08	-3.53***
Neutral words	-1.35	0.87	-0.46	0.82
ASSOCIATED PAIRED				
Positive words	-0.59	-2.51*	0.76	0.05
Negative words	-0.22	-2.55*	-0.52	1.32
Neutral words	0.10	-1.40	0.39	0.34

(*) = p < .05; (***) = p < .001

DISCUSSION

We are going to explain our results within the framework of Pelechano's theory (1973, 1989), and his reference to difficulty level. The results of Eysenck and Eysenck in 1985 predict better performance by extraverts in the associated paired task and by introverts in the free recall task, (the free recall task being easier than the associated paired task). Taking these predictions into account we conclude that recall of congruent events in a positive mood state is a strong effect in introverts doing easy tasks but a weak effect in extraverts doing difficult tasks. From another perspective we could say that the induced positive mood state makes affective recall easier than non affective recall (Dutta and Kanungo, 1975; Matlin and Stang, 1979).

Again, a moderate congruent effect is produced in extraverts when we induced a negative mood state, using the free recall task. It seems that the positive or negative mood state plays a differential role in extraverts making it easier to recall positive events when the tasks are difficult and to recall negative events when the task are easy.

Looking at the means got by extraverts in the free recall task after watching the film, we notice that in a negative mood state they recall more negative events and less positive ones. In the positive mood state the opposite occurs, that is, they recall more positive events and less negative ones. This supports the validity of the mood induction procedure. However, the results in the associated paired task failed to support it.

To summarize, this study has not produced clear results about the relationship between the extraversion-introversion trait and congruent recall effect. More research should be carry out in this area of emotion-cognition to produce more definitive results.

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