EFFECTS OF PARADOX AND EXPECTANCY ON DEFICITS ASSOCIATED WITH DEPRESSION**

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RESUMO

Este estudo testa a eficácia do modelo paradoxal do Mental Research Institute do Palo Alto (MRI) em reverter sintomas clinicamente definidos como correlatos da depressão. À um grupo de 48 (24 homens e 24 mulheres) pacientes deprimidos internados, foram dadas instruções diferenciadas para um exercício de anagramas que se destinava a medir a quantidade de esforco posto na tarefa. O esforco foi, ora encorajado, ora desencorajado ou simplesmente nem mencionado. A condição de desencorajamento se constituia de um paradoxo terapêutico que incluia uma base racional apropriada. Não houve importantes efeitos no esforco e na expectativa que fossem significativos e nenhuma interrelação significante. Não foi encontrada uma relação entre humor e performance nos anagramas. São discutidas implicações para pesquisas futuras, incluindo-se as possíveis dificuldades encontradas em assegurar a aprovação do institucional review boards para pesquisas envolvendo paradoxo.

Paradoxical interventions, as practiced in strategic psychotherapies, are rapidly gaining widespread use. Although

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employed by therapists of several different orientations for several decades, paradox is most often associated with the major systems approaches including brief problem-focused therapy developed at the Mental Research Institute (MRI), in Palo Alto, California (Coyne & Segal, 1981; Fisch, Weakland & Segal, 1982; Watzlawick, Weakland & Fisch, 1974; Weakland, Fisch, Watzlawick & Bodin, 1974).

Beginning with the publication of **Pragmatics of Human Communication** by Watzławick, Beavin and Jackson in 1967, the MRI group in Palo Alto has formulated a theory of theraputic paradox and developed a working model of intervention for a variety of human problems.

The purpose of this study was to test the MRI model, in reversing clinically defined depressive correlates, in order to gather empirical evidence regarding the efficacy of paradox in cases of depression. The broader aim of this study was to explore the feasibility of investigating paradox in an analog study involving a clinical population. Thus, regardless of its outcome, we sought to use this study to lay the groundwork for future experimental investigations of the use of paradox in treating depression.

This study was felt to be important in that paradox, despite its widespread use, has thus far received very little experimental attention. Nearly all of the existing evidence to support paradox as an efficacious intervention appears in the form of clinical vignettes, brief case histories, and anecdotes (Bergman, 1982; Erickson, 1954; Fish, 1973; Frankl, 1960; 1976, 1973; Hare-Mustin, 1975; Jackson, Halev. 1963; Madanes, 1984; Palazzoli, Boscolo, Cecchin & Prata, 1978; Rosen, 1981; Watzlawick et. al., 1967; Watzlawick, Weakland & Fisch, 1974). A few important exceptions exist in the controlled experimental investigations of the use of paradox treating insomnia (Ascher & Efran, 1978; in Ascher & Turner, 1979).

Additional semi-controlled and uncontrolled investigations show that paradox is successful in the treatment of agoraphobia (Ascher, 1981); chronic anorexia nervosa (Hsu & Lieberman, 1982); depression (Bergman, 1982; Fisch et. al., 1982; Haley, 1973; Hare-Mustin, 1976; Rohrbaugh et. al., 1977; Watzlawick & Coyne, 1974; Watzlawick et. al., 1974; Zuk, 1975); insomnia (Relinger, Bornstein & Mungas, 1978); obsessive-compulsive disorders (Gerz, 1966; Solyom, Garza-Perez, Ledwidge & Solyom, 1972); procrastination (Lopez & Wambach, 1982); and psychogenic urinary retention (Ascher, 1979).

The theoretical basis of the MRI model is described in Change: Principles of Problem Formation and Problem Resolution (Watzlawick, Weakland & Fisch, 1974). Several years after the publication of Change, the techniques for doing brief problem-focused therapy were refined and codified in The Tactics of Change: Doing Therapy Briefly (Fisch, Weakland & Segal, 1982).

The MRI model makes the following assumptions about problems and how they are maintained. To paraphrase the above sources, problems arise from the mishandling of everyday difficulties. Problems are behavioral in that, in order to exist, they must be consistently and repeatedly performed. Moreover, the problems persist despite efforts to stop them. The manner in which a problem **persists** is the central issue to deal with in therapy, no matter how it began. The persistence of problems is based on a vicious cycle of reciprocal reinforcement between the problem behavior on the one hand and the behavior involved in attempted "solutions" on the other. That is, problems are maintained by the inappropriate solutions which people apply to them.

According to the MRI group, nearly all problems are potentially open to resolution by interdicting the ongoing problem-maintaining solution: this is all that the therapist needs to do in order to initiate positive change. Once the therapist has done this, it is not necessary to continue active treatment until all the original difficulties are resolved, since at this point further therapeutic effort may interfere with the development of a new cycle that has been initiated. These general assumptions of the MRI model must be adapted to specific features of specific cases and to particular situations that arise in a given case as it progresses.

The MRI therapists view depression in terms of the general assumption of their model. Depression consists of undesirable behaviors which are maintained by a vicious cycle

of problem-maintaining solutions (Watzlawick, Weakland & Fisch, 1974). When someone feels sad, significant others encourage the sad person to cheer up and move forward in life. The sad person also reacts by attempting to cheer up. When he or she fails to feel better, sad feelings intensify and are exacerbated by newly-acquired feelings of failure, badness, and guilt about what might be perceived as ingratitude toward well intentioned others. This is depression, not the original sadness (which is viewed as a temporary response to life's difficulties). The depression in turn prompts others to increase their efforts-to get the depressed person to see the bright side of life and feel happy. Thus, a vicious cycle of depression-maintaining solutions is generated.

Given the MRI position that every patient is unique, and that therapy must involve individually-tailored interventions, the model may seem unsuitable for controlled experimental investigation of the diverse problem of depression. Since it is not feasible in a laboratory study to treat all the various symptoms that depressed patients present, this study targeted depressive correlates which are common across cases, and which are measurable and responsive to change by experimental manipulation. The MRI model was adapted to investigate the effects of paradox on these correlates of depression. The present methodology not only met the demands of what was feasible in the laboratory, but it also took ethical considerations into account. That is, it was thought that it would be more responsible in this preliminary study to target depressive correlates for intervention, before targeting the actual symptoms of depression. This decision was made, since, other than case studies, there is no controlled experimental evidence that paradox is efficacious for treating depression. In addition, we were not unaware of the difficulties that might be encountered in obtaining permission from Institutional Review Boards to use paradoxical mood interventions with hospitalized depressed subjects.

The learned helplessness literature has identified affective and cognitive deficits associated with depression, in both non-clinical populations (Klein & Seligman, 1976; Miller & Seligman, 1973) and clinical populations (Price, Tyron & Raps, 1978): In experimental studies, cognitive and affective deficits are usually measured by performance on anagrams tasks and mood questionnaires, respectively.

The affective and cognitive deficits associated with depression can be conceptualized in terms of the general assumptions of the MRI model as part of a vicious cycle of problem-maintaining solutions. Depressed individuals come to a mental health facility because they know that it is "wrong" or "bad" to feel sad but they have not been able to "correct" the undesirable emotions despite repeated attempts to do so. In the laboratory, they are faced with a timed cognitive task (anagrams). As they struggle with problems, their level of stress rises and their behavior becomes more constricted and rigid so that they are less well able to generate solutions. The depressed subjects attempt to be logical in following the instructions of the task to find solutions. When they fail to obtain solutions, they try even harder to be logical, thus becoming even more constricted and less well able to generate solutions. The result is a vicious cycle of problem-maintaining behavior accompanied by deteriorated mood.

In this study, we applied the MRI techniques of paradox to reverse cognitive and affective deficits associated with depression in the same way that previous researchers have attempted to do so using other "therapies". Kilpatrick-Tabak & Roth (1978) use mood elevation and an "easy" anagrams task; Miller & Norman (1981) use attributional re-training; Raps, Reinhard, & Seligman (1980) use mood elevation.

The goal of the MRI model is simply to interdict the problem-maintaining solution. In the present study, the selection and design of the paradox necessary to do this was based on Fisch, et. al.'s (1982) description of the use of restraining in cases of depression. Restraining is the intervention most frequently used by the MRI therapists in their work (including the treatment of depression). It is often the sole intervention used. The therapist adopts a restraining position by advising the client to "go slow" and refrain from making changes, even for the better, in his or her life. Fisch et. al. provide a rationale for restraining that can be applied to its use in reversing cognitive and affective deficits associated with depression.

It removes a sense of urgency for the patient-an urgency that probably has been fueling his persistent attempts at "solving" his problem. That is, the client has been trying too hard to solve his problem and he is more likely to relax his problem-maintaining efforts if he is told that a satisfactory resolution of the problem depends on his proceeding slowly. (p.162)

In the present study, the experimenter constructed an analogous situation in which she adopted a restraining position by discouraging depressed subjects from concentrating too much on the angrams or trying too hard. The rationale given to subjects was analagous to the one regarding the hezards of change, which is typically given by MRI therapists to depressed patients-efforts to concentrate and try hard on the anagram task are potentially harmful because they might focus their attention, thereby allowing them to become aware of ways in which their life is worse than they think. It was hypothesized that restraining would be effective in interdicting the problem-maintaining efforts of depressed patients (who were struggling with an anagram task in order to compensate for cognitive deficits associated with depression).

Two major theorists in the depression literature, Beck (1967), and Seligman (1976) posit that mood and cognitive deficits are associated with low expectations for success on skill tasks. Consequently, this study included outcome expectancy as an independent variable to determine the interaction of paradox and expectancy, and the effects of expectancy alone on depressive correlates.

A 3 x 2 completely randomized factorial design was utilized with three levels of effort (encouragement, neutral, discouragement), by two levels of expectancy (positive or neutral). The dependent measures were number of failures on an anagrams task and response latency. Since mood was not used as a dependent measure, but might have been associated with anagrams performance, it appeared reasonable to treat mood and performance in a correlational manner, partialling out pre-test mood scores.

METHOD

The treatment of all subjects in this experiment was in accordance with the Ethical Principles in the Conduct of Research with Human Participants (American Psychological Association, 1973). Participation in this study was voluntary and, as explained to all subjects, was not considered to be part of their psychiatric treatment. Selection of subjects was similar to that of Raps et. al. (1980).

Twenty-four male and twenty-four female subjects, psychiatric in-patients of the Long Island Jewish-Hillside Medical Center were tested. Patients who were diagnosed by the admitting psychiatrist for Major Depression, Single Episode or Recurrent according to DSM III criteria (American Psychiatric Association, 1980) were referred to the first author who then determined whether they met the research diagnostic criteria of Feighner et. al. (1972) for Primary Affective Disorder. She screened and tested each subject individually in a single experimental session.

Initially, subjects were screened with the Beck Depression Inventory-Short Form (Beck & Beck, 1972) and the Jastak Short Form revision of the Wechster Intelligence Scale (WAIS) Vocabulary Test (Jastak & Jastak, 1964) Subjects who scored 8 or above on the BDI-SF and whose IQ was 90 or above, proceeded to the test phase of the experiment. In general, scores on the short form of the BDI are about half what they would be on the long form.

Patients were excluded from this study if any of the following applied: (a) BDI-SF score less than 8, (b) IQ less than 90, (c) age over 60 years, (d) diagnosis of Bipolar Disorder or any form of Schizophrenia, (e) presence of organic brain syndrome, (f) treatment with electro-convulsive therapy within the past year, (g) a history of repeatedly solving anagrams, (h) the inability to speak English fluentley.

All forty-eight subjects were randomly assigned to the six experimental cells (six males and six females at a time) so that the cells contained a consistent balance between male and female subjects.

Table 1 presents the group means of BDI-SF scores, age, Jastak scores, and years of education. (For the Jastak, a score of 19-21 corresponds to a Wechsler Adult Intelligence Scale (WAIS) vocabulary scaled scorre of 10, 22-24 to a scaled 11, 25-27 to 12, etc.)

Group		BDI-SF	Jastak Age	Education Score (years)
1. Encouragement/Po- sitive Expectancy	20.50	38.00	23.63	13.25
2. Neutral Effort/Po- sitive Expectancy	20.38	34.75	27.00	15.63
3. Discouragement/Po- sitive Expectancy	16.75	37.63	28.13	13.88
4. Encouragement/Neu- tral Expectancy	19.88	33.88	26.38	13.63
5. Neutral Effort/Neu- tral Expectancy (control)	18.75	36.38	26.50	13.13
6. Dicouragement/Neu- tral Expectancy	17.38	34.50	26.88	13.88

 Table 1. Group Means of Depression Scores, Age, jastak Vocabulary Scores, and Years of Education

The overall BDI mean and standard deviation for all 48 subjects were 18.94 and 5.83, respectively. According to the limits chosen by Beck (1967), these scores indicate that the sample, population was severely depressed at the time of testing. The overall Jastak mean and standard deviation were 26.42 and 6.03, respectively. Thus, the groups were generally of average or bright normal intelligence. The mean and standard deviation for age for the entire population were 35.85 and 10.46, respectively. The overall mean and standard deviation for years of education were 13.90 and 2.41, respectively. Analyses of variance (ANOVAs) revealed no significant differences between sexes and no significant differences among groups on these four subject variables.

To summarize, the population used in this study can be described as a fairly young, moderately intelligent, educated group of adults who were experiencing severe symptoms of depression at the time of testing. Analyses of variance revealed no significant differences among groups on the subject variables

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of BDI-SF scores, age, Jastak scores and years of education. The subject variables were not significantly intercorrelated.

The classifying instruments used in this study were the Beck Depression Inventory (Beck & Beck, 1972), the Jastak Vocabulary Test (Jastak & Jastak, 1964) and the Depression Adjective Check List (DACIL (Lubin, 1965). While the first two of these instruments are widely-used by researchers, the third instrument requires a brief introduction. The DACL was developed by Lubin to measure the specific construct of momentary mood. It is therefore chosen over the more general, symptom-oriented BDI to assess changes in depressed mood. Equivalent Forms E and F of the DACL were used in order to avoid memory effects. Each form took approximately these minutes to complete.

The experimental task consisted of a series of 12 five-letter, single-solution anagrams taken from a list compiled by Tresselt and Mayzner (1966). The anagrams chosen were identical to the ones used by Raps et. al. (1980) and were presented to subjects in the same manner. Each anagram was presented for a maximum of 60 seconds.

PROCEDURE

Subjects who agreed to participate in the experiment, and who met the screening criteria, began the test phase of the experiment by completing the DACL, Form E wich was **not** scored during the session. The subjects were then randomly assigned to the five experimental groups and to the control group. The following standard instructions for solving anagrams, identical to the ones used by Raps et. al. (1980) were read to all subjects:

In a few minutes we will proceed with an anagrams task. Anagrams are words with their letters mixed up, and your task is to look at the letters and figure out what real word can be spelled using all these latters. When you think you know the right word, tell me what it is and I'll tell you if you are right. Now there may be a principle by which you can solve the anagrams but that is up to you to discover. Subjects in groups 1, 2, 3, 4, and 6 received the additional instructions printed below while subjects in group 5 (neutral effort/neutral outcome expectancy) did not receive any additional instructions for the task. Selected parts of instructions were repeated for emphasis after the first failure on the anagrams task, according to a standardized pattern applied to all groups.

Group 1 (Encouragement/Positive Outcome Expectancy). Before we proceed, I have something to add which you may find helpful. I know you've been feeling depressed lately and feel as though you are not able to do things very well. Because of that, it's especially important for you to concentrate a lot on the anagrams and try very hard. You can concentrate hard and try your best despite your depressed feelings. Judging from your performance on the vocabulary test, I expect you to do very well on these anagrams anyway. In fact, you can expect to be among the most successful people taking the test.

Group 2 (Neutral Effort/Positive Outcome Expectancy). Before we proceed, I have something to add which you may find helpful. Judging from your performance on the vocabulary test, I expect you to do very well on these anagrams. In fact, you can expect to be among the most successful people taking the test.

Group 3 (Discouragement/Positive Outcome Expectancy). Before we proceed, I have something to add which you may find helpful. I know you've been feeling depressed lately and feel as though you are not able to do things very well. Unfortunately, concentrating and trying hard on the anagrams might focus your attention and thus allow you to become aware of ways in which your life is worse than you think it is. For this reason, it might be best if you try not to concentrate too much on the anagrams or try too hard. Judging from your performance on the vocabulary test, I expect you to do very well on these anagrams anyway. In fact, you can expect to be among the most successful people taking the test.

Group 4 (Encouragement/Neutral Outcome Expectancy). Before we proceed, I have something to add which you may find helpful. I know you've been feeling depressed lately and feel as though you are not able to do things very well. Because of that, it's especially important for you to concentrate a lot on the anagrams and try very hard. You can concentrate hard and try your best despite your depressed feelings.

Group 6 (Discouragement/Neutral Outcome Expectancy). Before we proceed, I have something to add which you may find helpful. I know you've been feeling depressed lately and feel as though you are not able to do things very well. Unfortunately, concentrating and trying hard on the anagrams might focus your attention and thus allow you to become aware of ways in which your life is worse than you think it is. For this reason, it might be best if you try not to concentrate too much on the anagrams or try too hard.

Following the administration of instructions for the anagrams task, subjects began the task.

Twelve anagram cards were presented individually to each subject by the experimenter. Each anagram was presented for a maximum of 60 seconds. The number and latency of correct solutions to the nearest second were recorded. The anagrams task was followed by the DACL Form F for all subjects.

Lastly, all subjects completed a questionnaire designed to assess post-test perceptions of effort and expectancy.

All subjects were completely debriefed at the end of the experimental session.

RESULTS

A completely randomized factorial multivariate analysis of variance (MANOVA) was used to evaluate the relationship of effort and expectancy to anagram failures and latencies.

Performance on the anagrams task was assessed in two ways: (a) number of anagrams failed, and (b) mean latency of anagram solution (failures were recorded as 60 seconds).

The results of the ANOVAs performed on anagram failures and latencies revealed no significant main effects for effort or expectancy and no significant interaction.

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A MANOVA was performed to see whether the two dependent measures combined would be significantly related to effort, expectancy, and effort x expectancy. The results of the Wilks' Lambda multivariate tests of statistical significance are presented in Table 2.

Table	2.	Multivariate	Analysis	of	Variance	of	the	Effects	of	Effort	and
Expectancy on Anagram Failures and Latencies.											

Source	Wilks' Lambda	df	Approximate F-Ratio ^a	р	
Effort	.96	4,82	.41	.80	
Expectancy	.95	2,41	1.14	.33	
Effort x Expectancy	.85	4,82	1.74	.15	

^aApproximate **F**-ratio refers to the fact that the exact distribution of Wilks' Lambda is not Known.

There were no significant main effects for effort and expectancy. The Wilks' Lambda coefficient for effort x expectancy was. 85. Thus, approximately 15% of the variance in anagram failures and latencies combined can be accounted for if something is known about the interaction of effort and expectancy. While not statistically significant, this finding may have practical significance in that future researchers investigating the use of paradox in treating depression might want to include effort and expectancy on their list of independent variables.

To summarize, the effort and expectancy manipulations which were intended to improve anagrams performance were found to have no significant main effects and no significant interaction effects. This finding held when years of education, which was found to be a possible experimental confound, was controlled for by analyses of covariance.

The results of a partial correlation analysis of the DACLs showed no relationship between mood and anagrams performance.

DISCUSSION

The main value of this study lies in its contribution toward evolving a research methodology to investigate paradox. We used a population of severely depressed hospital inpatients to "break ground" in gathering evidence to support the use of paradox in treating depression. Because we used a clinical population, our manipulations involving paradox were fairly weak, directed toward effort and expectancy, rather than mood. As indicated above, this was due in part to anticipated difficulties in obtaining Instutional Review Board approval for a paradoxical intervention directed at mood. Perhaps the absence of a significant interaction of expectancy and effort on anagrams performance indicates that the manipulations were too weak to effect the desired changes in anagrams performance. By excluding mood from experimental manipulation, the most potentially salient effect was lost, for previous studies indicate that mood does affect performance on skill tasks (Kilpatrick-Tabak & Roth, 1978; Raps et. al., 1980).

Yet another difficulty encountered by using a clinical population in this preliminary study of paradox has to do with the nature of depression itself. Depression is a heterogeneous syndrome with wideranging symptomatology. Although MRI conceptualizes all the symptoms of "depression" as manifestations of a vicious cycle of problem-maintaining solutions, they emphasize the importance of tailoring each intervention to meet the individual needs of clients. In this study it was necessary to treat depressive correlates using the same intervention across cases, in order to be able to make comparisons among groups.

In addition to the methodological limitations posed by using a clinical population, the fact that this study was an experimental analog further limits its strength as a test of the MRI model of therapeutic paradox. It has not been clearly established that the cognitive and effective deficits associated with depression can be affected by paradox in the same manner as the actual symptoms of depression. That is, when applied to real-life situations, as opposed to the laboratory setting, paradox may be more powerful in inducing therapeutic change. There are several directions for future research indicated by the results of this study. An analog study using a non-depressed population in which mood can be targeted for intervention is one possibility. Such a study might use non-depressed students in whom depression is temporarily induced, and/or learned helplessness training is given. Those students who were experiencing temporary depressed mood could then be "treated" with paradox. One advantage of using non-clinical groups in this initial phase of research is that it might be easier to obtain approval for experimental manipulations aimed at mood. Thus, the therapeutic effect of paradox on depressed mood might be directly observed.

In any future study, it will be important to design a paradox that is strong enough to achieve its desired effects. This might involve practicing or using a series of different but related paradoxes. Certainly, the MRI therapists repeat and strengthen their prescribing, restraining, positioning and reframing messages to clients over a series of sessions. One possibility would be to replicate the present design, with another clinical population, in a study using comparable therapy conditions. In such a study, it might be useful to give the anagrams task at the end of a series of therapy sessions in which paradox is used repeatedly for a variety of different depression-related problems. Perhaps the depressed subjects would have to learn over time how not to try and not to concentrate on a task, including the task of trying to cheer up.

As a final note, it might be of interest to survey Institutional Review Boards regarding their opinions about research that involves instructing patients to practice and even exaggerate their symptoms. These opinions would be of interest for many other problems in addition to depression. If attitudes are as cautious as our informal contacts with several institutions have led us to believe, researchers may find themselves caught in a particularly puzzling paradox. That is, it may be deemed unethical experimentally to test procedures that are already in widespread clinical use!

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ABSTRACT

This study tested the efficacy of the paradoxical model of the Mental Research Institute of Palo Alto (MRI) in reversing clinically defined depressive correlates. A group of 48 (24 male and 24 female) depressed inpatients were given differential instructions for an anagrams task which addressed the amount of effort they should put into the task. Effort was either encouraged, discouraged or not mentioned at all. The discouragement condition constituted a therapeutic paradox which included an appropriate rationale. There were no significant main effects of effort and expectancy and no significant interaction. There was no relationship found between mood and anagrams performance. Implications for future research are discussed, including potential difficulties encountered in securing the approval of Instutional Review Boards for research involving paradox.

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