

DEPRESSION AND ANTI-DEPRESSIVE BEHAVIOUR :

AN INVESTIGATION OF THE NATURAL SELF-

REGULATION OF DEPRESSION

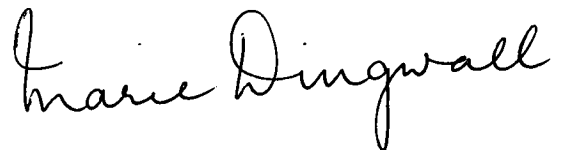
DEPRESSION AND ANTI-DEPRESSIVE BEHAVIOUR :
AN INVESTIGATION OF THE NATURAL SELF-
REGULATION OF DEPRESSION

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A report of an investigation submitted as
a partial fulfilment of the requirements
for the degree of Master of Psychology at
the University of Tasmania.

November, 1979

I hereby certify that this thesis contains no material which has been accepted for the award of any other degree or diploma in any university, and that, to the best of my knowledge and belief, the thesis contains no copy or paraphrase of material previously published or written by another person except when due reference is made in the text of the thesis.

A handwritten signature in cursive script that reads "Marie Dingwall". The signature is written in dark ink and is positioned to the right of the main text block.

Marie T. Dingwall.

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ABSTRACT

Clear descriptions of depression as a clinical entity exist, as do models concerning its aetiology, maintenance and treatment. A review suggested that current experimental-clinical models function as means of ordering data and stimulating research rather than providing an essential model or method to be followed exclusively. Little research of a naturalistic nature has been undertaken.

The aim of the current study was to investigate the naturally occurring, self regulatory behaviours that people engage in when feeling depressed. Hypotheses were advanced concerning the number, frequency of use and helpfulness of anti-depressive behaviours. The utility of anti-depressive behaviour in relation to level of depression, length of hospitalization and social adjustment was also examined. The sample consisted of twenty-five hospitalized depressed people and twenty-five individually matched controls, interviewed twice, using the Anti-depressive Activity Questionnaire (Rippere, 1976).

Results indicated that all subjects recognized and attempted to do something to control their depression. The frequency of engaging in anti-depressive behaviour was a persistent factor and did not differentiate between groups. The helpfulness of anti-depressive behaviour was related to levels of depression in that moderately depressed subjects reported anti-depressive behaviour to be less helpful than they did when not depressed.

Overall findings were discussed within a self efficacy model of behaviour. Treatment implications were in accord with existing cognitive/behavioural methods involving the scheduling of activities.

CONTENTS

	<u>Page</u>
CHAPTER 1. Introduction ..	1
CHAPTER 2. Models of Depression ..	7
CHAPTER 3. Background to the Study	25
CHAPTER 4. Method ..	35
CHAPTER 5. Results ..	43
CHAPTER 6. Discussion ..	59
REFERENCES	74
APPENDICES:	
APPENDIX A. Registrar General's Classification (modified version) ..	82
APPENDIX B. Beck Depression Inventory ..	83
APPENDIX C. Anti-depressive Activity Questionnaire	87
APPENDIX D. Social Situations and Activities Questionnaire	92

LIST OF TABLES

	<u>Page</u>
TABLE 1. <i>The range, means and standard deviations for the number of items checked on the Anti-depressive Activity Questionnaire for two groups</i>	45
TABLE 2. <i>The means and standard deviations for the number of items checked on the Anti-depressive Activity Questionnaire for two groups on two occasions ..</i>	46
TABLE 3. <i>ANOVA of the number of items checked on the Anti-Depressive Activity Questionnaire for two groups on two occasions ..</i>	46
TABLE 4. <i>Mean scores and standard deviations for the frequency of use of anti-depressive behaviours for two groups on two occasions</i>	47
TABLE 5. <i>ANOVA of the frequency of use of anti-depressive behaviour scores for two groups on two occasions</i>	48
TABLE 6. <i>Mean scores and standard deviations for helpfulness of anti-depressive behaviours for two groups on two occasions</i>	49
TABLE 7. <i>ANOVA of the helpfulness of anti-depressive behaviour scores for two groups on two occasions</i>	49
TABLE 8. <i>Means, standard deviations and correlation coefficients for two measures of social adequacy for two periods</i>	53

	<u>Page</u>
TABLE 9. <i>The correlation between the frequency of engaging in anti-depressive behaviours and outcome variables</i> ..	55
TABLE 10. <i>The correlation between the helpful- ness of anti-depressive behaviours and outcome variables</i>	55
TABLE 11. <i>Items perceived as most and least helpful in relieving depression for two groups</i>	57

LIST OF FIGURES

Page

- FIGURE 1. *Definition of depression at
experimental, chemical, behavioural
and neurophysiological levels* ..

CHAPTER 1.

INTRODUCTION

"Depression is the common cold of psychopathology and has touched the lives of us all, yet it is probably the most dimly understood and most inadequately investigated of all the major forms of psychopathology."

(Seligman, 1975, p. 76)

Nevertheless there has been undoubted progress made in the understanding and treatment of depressive disorders during the last fifteen years. There have also been advances in the theoretical conceptualization of the disorder paralleling the change from anecdotal observation to behavioural science research methods in psychopathology.

There is a clear clinical description of the depressive syndrome but there is no unitary definition of depression. Definitions are generally conceptualized in terms of the behaviours being explained - they are descriptive rather than explanatory. The term, depression, is commonly used for or by a person to describe feelings of sadness, lethargy and pessimism - of being 'not quite oneself'. When the feelings are out of proportion to the person's life situation or persist unduly, pathological labels may be applied. Eastman (1976, p.278) describes depression behaviourally as "a syndrome that includes (at least) a reduced frequency of goal seeking behaviour plus an associated negative affective state".

In pathological terms a range of behaviour is symptomatic of depression and is displayed in affect, verbal-cognitive and physiological responses. There is considerable agreement on the most common. The characteristics described by Beck (1967, p.6) are typical:

- "1. A specific alteration in mood: sadness, loneliness, apathy.
2. A negative self-concept associated with self-reproaches and self-blame.

3. Vegetative changes: anorexia, insomnia, loss of libido.
5. Change in activity level : retardation or agitation."

Nevertheless it is generally recognized that it is impossible to conceptualize a 'typical' clinical picture of depression since there is no single symptom universally ascribed to depression. Further, behaviours can occur in a variety of combinations and often in conjunction with other psychological problems such as anxiety or hostility (Rehm, 1977; Wilcoxan, Schrader & Nelson, 1976). A subjective report of depression leads a clinician to elicit a description of problems, to redefine them in terms of specific distressing behaviours and to choose a treatment strategy most likely to be effective for the client concerned. Despite the difficulties in definition and conceptualization, depression exists both in everyday and psychopathological terms. There have been recent and increasing attempts at model building emphasizing biological, sociological and psychological factors.

Four basic psychological models of depression have developed within the experimental/clinical framework. While there is some overlap, they emphasize cognitive, behavioural, self-control and learned helplessness factors. The models are formulated in terms of definable overt and covert behaviours and the experimental method is used to examine their validity. They attempt to account for aetiology and symptoms and suggest treatment approaches.

Each of the models seems plausible and can account for some available data. Evidence is increasingly accumulated to support or challenge the fundamental assumptions of each one. This in turn generates more hypotheses, subtle movement in theoretical statements and slightly different experimental emphases. No single model can

account for all available data, and that which cannot be readily explained by its theoretical assumptions tends to be disregarded. Moreover, to date no evidence provides an indisputable basis for the repudiation of any theory. Further, there is no evidence for any element of any model being essential to the depressive process. It must also be noted that no one theory can account for all the problem behaviours described in depression. In light of the above considerations it must be concluded that the function of current experimental/clinical models is that they provide a valuable means of ordering data and stimulating research.

While clear descriptions of depression as a clinical entity exist, as do theoretical models concerning its aetiology, maintenance and treatment, little research of a fundamental nature has been undertaken. Notably there is very limited knowledge of the natural self regulation of depressive behaviour.

One of the few researchers to consider the area is Rippere (1976, 1977a, 1977b, 1977c). In a recent series of articles she has worked from the premise that humans (c.f. animals) prepare their young to categorize, monitor and attempt to regulate their emotional states. Accordingly such self regulatory behaviour should be acknowledged in accounts of psychological functioning. Rippere attempts to codify commonsense beliefs about depression and anti-depressive behaviour. From the open ended question 'What's the thing to do when you're feeling depressed?' a checklist was generated (1977b). The resulting response frequencies are taken to demonstrate the existence of social consensus regarding anti-depressive behaviour. The checklist was then used to examine the distribution of reported anti-depressive behaviour in a group consisting of depressed and non-

depressed patients and normals. She was interested in the amount of anti-depressive behaviour reported and how much it was regarded as helpful (Rippere, 1976). There are no main effects in the analysis of variance. It is of interest that the data patterns of the in-patient depressed group differ from those of the outpatient depressed group which itself does not differ significantly from the normal control groups.

Rippere's study of the patient groups is open to criticism on methodological grounds. One significant design problem is that no information is given about the criteria used for inclusion in either depressed in- or out-patient groups. Notwithstanding, Rippere's work provides a means of gaining basic knowledge about naturally occurring anti-depressive behaviours for different groups that may further the understanding and treatment of the depressed. A review of the literature suggests that Rippere's perspective in the study of human depression is unique. It is concluded that further investigation into anti-depressive behaviour would be legitimate both methodologically and conceptually.

As a consequence the present study proposes to investigate coping skills related to depression in terms of commonsense anti-depressive behaviours. Depressed people will be assessed to find whether the knowledge, use and helpfulness of anti-depressive behaviours predict treatment outcome in terms of level of depression, period of hospitalization and subsequent social competence.

In Chapter 2 a detailed consideration of more recent behavioural models is given. Chapter 3 contains a discussion of Rippere's work, its relationship to current theoretical developments in

psychology and its relationship to the study proposed. This is followed by a report and discussion of the study undertaken.

CHAPTER 2.

MODELS OF DEPRESSION

There has been a great deal of diversity in psychological literature as to what constitutes depression in diagnostic and theoretical terms. The recent spate of models of depression, while sometimes overlapping in trying to account for the symptoms, aetiology and treatment of clinical depression, has extended the conceptualization of depression in a direction nearer to empirical validation and subsequent clinical utilization.

Diagnostic classification

The second edition of the *Diagnostic and statistical manual of mental disorders* - DSM-II - (American Psychiatric Association, 1968) lists three major categories of depression - major affective disorders (i.e., manic depressive illness and involutional melancholia), psychotic depressive reaction and depressive neurosis. The process of developing DSM-III is well advanced. It attempts to correct the major faults of DSM-II whose vague diagnostic criteria leave much to subjective judgement and fail to withstand empirical validation. The conceptual problem of diagnosis and the application of the medical model to mental disorder ensures that the problems of DSM-II will be perpetuated in its replacement (Hersen, 1976; Schacht & Nathan, 1977).

The *Manual of the international statistical classification of diseases, injuries and causes of death* (Geneva, 1977) - ICD 9 - has been recently adopted by the Tasmanian Mental Health Services Commission. Two psychotic classifications are listed - affective psychosis (manic depressive psychosis) and the depressive type of non-organic psychosis. Non-psychotic depression is classed as a

neurotic disorder and as a type of affective personality disorder.

Recent research has tried to delimit heterogeneity. Ní Bhrolcháin, Brown and Harris (1979), using a series of discriminant functional analyses based on clinical symptomology, maintain that the principal clinical difference between psychotic and neurotic depression is one of severity. An alternative means of distinguishing subgroups in terms of aetiology, symptom characteristics and severity is characterized by endogenous versus reactive classifications, terms sometimes used interchangeably with psychotic versus reactive/neurotic depression. Subgroups are also defined using additional information including clinical course characteristics, genetic and biological variables and treatment response factors. The classification of major affective disorders according to the pharmacogenetic viewpoint concentrates on bi-polar, uni-polar and secondary categories. Diagnosis is determined by clinical features, family history, follow up, biochemistry, neurophysiology and pharmacology (Akiskal & McKinney, 1975). More recently researchers have further divided these categories. Depue and Monroe (1978) describe 8 subtypes of bi-polar and uni-polar disorders. Seligman (1978) criticizes such multiple classification as 'botanizing gone wild' (p.166). He states that although it is recognized that taxonomy begins with symptom similarity, deep valid classes occur only when classifications of subtypes evolve into distinctions of process and treatment as has occurred with the bi-/uni-polar axis. He suggests further that psychological theories need not necessarily 'fit' established theories, which must change meanings as new information is accepted and which may cut across pre-existing descriptive subtypes of depression.

Contemporary psychological theories of depression

Physiological and psychological theories, and the experimental data they generated, have until recently proceeded in relatively blinkered isolation. Plato's dualism was certainly alive and well! Contemporary psychopathology acknowledges the interaction of biological, sociological and psychological factors in the psychopathology of depression. The interactionist model of Akiskal and McKinney (1973; 1975) will be presented briefly to illustrate a multiple channeling approach.

Four basic psychological theories of depression have developed within the experimental clinical framework. Each will be summarized.

An integrative model

Akiskal and McKinney (1973; 1975) have presented the most comprehensive integrative model. The theory is directed towards explaining the sustained state of deep dejection which is the common feature of heterogeneous groups of depressive disorders. The dejection becomes biologically autonomous when compared with the usually self limited depression/sadness which is the normal, adaptive response to stress, frustration and loss. Akiskal and McKinney review psychodynamic, sociobehavioural and neurobiologic models and associated research that have isolated several factors involved in the development of depression. These include genetic vulnerability, developmental and psychosocial events, physiological stressors and personality traits. Interactions among these factors are associated with biological changes. Depression is defined as the result of the failure of homeostatic mechanisms in a negative feedback loop involving experiential, chemical and behavioural levels. The diencephalon is the neurophysiologically susceptible vehicle responsible for

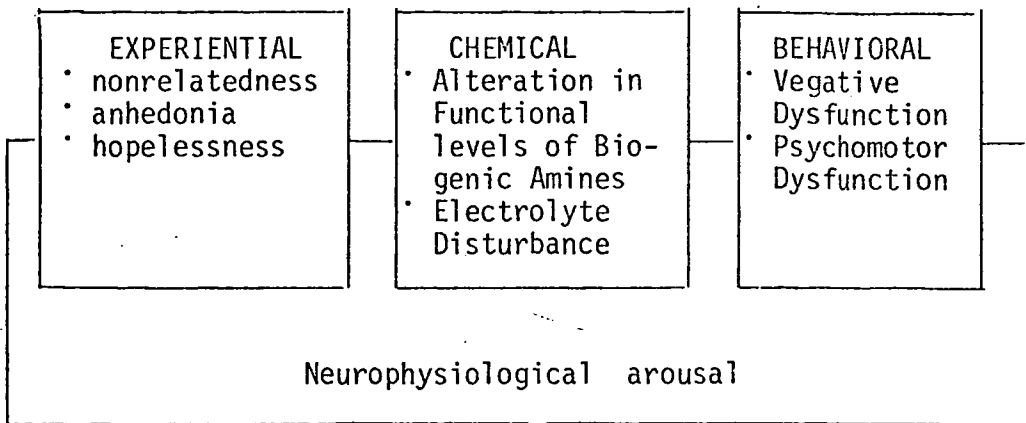


FIG. 1. *Definition of depression at experiential, chemical, behavioral and neurophysiological levels.*

(from Akiskal & McKinney, 1975, p. 299)

functional impairment (Fig. 1). Functional impairment in one system mentioned may produce functional shifts in one or more of the contiguous systems. The diencephalic centre controls the organism's ability to respond to reinforcement, and can interact with the psychomotor, arousal and stress-neuroendocrine neurophysiological systems. These systems can all or in part be involved in depressive phenomena.

The authors' unique theoretical contribution is the neurobehavioural synthesis of numerous models. While they have addressed some methodological, clinical and philosophical issues in passing, the theory has not yet been sufficiently refined to develop specific testable hypotheses. Its strength lies in its ability to account for the aetiology and symptomology of clinical depression.

Cognitive model

According to the cognitive formulation initially developed by Beck (1967), a person's negative and distorted thinking, rather than overt behaviour, is the psychological basis of depression. The concept of cognitive distortion is basic to understanding the aetiology and

treatment of the range of depressive classifications.

Beck works from the premise that the individual develops idiosyncratic cognitive structures, which are organized representations of prior experience and are activated to classify internal and external stimuli. He states that depression results from the re-activation of maladaptive schemata which distort the perception of reality. The depressed person holds erroneous, negative, exaggerated views of self, present experiences and the future. These views are relatively immune from conventional correctional feedback. The logical errors made in processing information have been named.

- (i) arbitrary inference: drawing unsubstantiated conclusions from an experience or situation,
- (ii) selective abstraction: involving isolated elements consistent with a negative view while ignoring salient cues,
- (iii) overgeneralization,
- (iv) magnification/minimization : related to judging the significance of events or performances.

Beck proposes that negative cognitive structures are built up developmentally through social learning experiences. Consequent irrational attitudes are rigid and stereotyped yet inarticulated premises for information processing. They are usually related to self evaluation and interpersonal relationships. The defining characteristics of depressogenic schemata are inflexible or absolute rules of conduct, categorical imperatives and pre-emptive class assignments. The cognitive schemata are reactivated when a person is confronted by environmental or idiosyncratic stressors. Gradually the resultant dysphoria leads to other classic depressive symptoms.

The therapy based on Beck's theory involves both cognitive and behavioural techniques; that is, planning productive activities, scheduling pleasant events. The cognitive component entails pinpointing the content and process characteristics of distorted cognitions and beliefs, reality testing their appropriateness and replacing them with more realistic, positive, logical thoughts (Rush, Khatami & Beck, 1975; Kovacs & Beck, 1978).

There is some clinical and experimental data available to support Beck's thesis that depressive cognition involves a negative view of self, experience and future. Numerous studies report supportive results (e.g., Hammer & Krantz, 1976; Loeb, Feshback, Beck & Wolf, 1964; Nelson & Craighead, 1977; Wener & Rehm, 1975). Kovacs and Beck (1978) and Wilcoxon *et al.* (1976) variously conclude that

- (a) despite complaints of cognitive impairment depressed subjects do not perform more poorly than controls on tests, which suggests a distortion process re self perception;
- (b) negative, failure experiences only are taken into account by depressed people when self evaluating;
- (c) failure experiences lead to increased dysphoria and pessimism, less aspiration and less positive predictions of performance on subsequent tasks for depressed subjects.

Evaluation of the therapeutic application of Beck's theory is difficult because 'cognitive therapy' is a composite of cognitive and behavioural elements of treatment. However, limited empirical support is reported. Taylor (1974) found that either cognitive or behaviour therapy produced significantly more improvement in depressed patients compared with waiting list controls and that a composite

of behaviour and cognitive therapy was superior to either treatment alone. Shaw (1977) reported that cognitive modification resulted in significantly fewer depressive symptoms after treatment compared to behavioural and non-directive treatments.

Kovacs and Beck (1978, p. 532) comment that "at the present time we have no definitive data on exactly how cognitive therapy works ... Although the cognitive approach seems to 'fit' the observable clinical phenomena, a definitive test of its theoretical rigor will have to await further analyses and detailed enquiry." Indeed, with the burgeoning of cognitive-behavioural literature the boundaries between the fundamental and nominal concepts of models of depression become blurred. Some aspects of reported data could be accounted for by alternative explanations.

Behavioural model

Behavioural paradigms are based on a variety of factors relating to response contingent reinforcement schedules. The affective and cognitive manifestations of depression are seen as a product of maladaptive overt behaviour patterns rather than as the central mechanism (c.f. Beck, 1967).

Depression phenomena, in a sociopsychological framework, are conceptualized as being elicited by a significant decrease or change in the pattern of social reinforcement (e.g., death of a spouse, change in role status) and as being maintained by contingent social attention, e.g., secondary gain via sympathy (Lieberman & Raskin, 1971). Wilcoxon *et al.* (1976) add that depression may be maintained because the person lacks the social skills to generate alternative reinforcement sources.

Eastman (1976) discusses 6 behavioural formulations of

depression in terms of their basic concepts which are in turn

- a) reduction of reinforcement,
- b) reduced frequency of social reinforcement,
- c) loss of reinforcing behaviour,
- d) loss of reinforcer effectiveness,
- e) aversive control,
- f) learned helplessness [to be discussed separately].

The behavioural model of Lewinsohn (1974) has, more than any other in this area, developed within the experimental-clinical framework. The fundamental hypothesis is that a low rate of response-contingent positive reinforcement elicits depressive behaviours and becomes a sufficient explanation for the low rate of behaviour of the depressed individual. The rate of reinforcement is a function of the number of events potentially reinforcing, their availability and the skill of the individual in eliciting them. Lewinsohn reports numerous correlational findings consistent with his view, that is, depressed subjects elicit fewer behaviours from others than controls, there is an association between mood and the number of 'pleasant' activities engaged in, and the total amount of positive reinforcement obtained is less in depressed than in nondepressed people. There is some support for his notions that the depressed are more responsive to aversive stimuli and that social skill measures discriminate between depressed and other groups.

Lewinsohn follows through his behavioural model with therapy procedures, the principle of which is to restore an adequate schedule of positive reinforcement for the person by altering the level, quality and rate of activities and interactions. Lewinsohn's approach (Lewinsohn, 1976; Lewinsohn & Graf, 1973; Lewinsohn & Libet, 1972)

requires patients to generate pleasant activity schedules, to engage in and rate those activities and to rate daily mood levels. While they report the treatment approach to be useful, empirical validation is limited. Padfield (1976) found that increased activity subjects improved more than controls on only one of four measures. Hammen and Glass (1975), in two experiments, found that an increase in the frequency of pleasant activities showed

- (i) no greater reduction of depression for subjects than for controls
- (ii) more depression at posttest for subjects than for controls.

There are reports that the use of pleasant activities in a composite therapy is useful (Taylor, 1974; Fuchs & Rehm, 1977; Anton, Dunbar & Friedman, 1976). This again points to the difficulty of isolating the critical elements in the therapeutic management of depression, as well as the difficulty faced in assessing the validity of the theoretical models upon which therapy is based.

Lewinsohn's behavioural model provides an appealing, plausible perspective of depression - as does Beck's cognitive model. However, research findings do not uniquely support the model nor do they find that the rate of response contingent positive reinforcement is the critical element in depression.

Lewinsohn carefully asserts that he is not claiming to establish causality (MacPhillamy & Lewinsohn, 1974) and aims only "to test hypotheses about the socioenvironmental reinforcement conditions *associated** with depression" (Lewinsohn, 1974, p.65). He maintains (p.116) that "the data, hypotheses and treatment methods we have tried to present are *meant** to be tentative. Our conceptualization of depression [and] our ways of dealing with it are in a continuous

* present writer's emphasis.

state of flux." This would appear to be a straightforward self-appraisal of Lewinsohn's model.

Learned Helplessness Model

Many experiments during the past ten years have demonstrated that a variety of organisms - both animal and student - exposed to uncontrollable events often show subsequent behavioural disruption. A learned helplessness hypothesis was proposed to account for these phenomena (Maier & Seligman, 1976; Seligman, 1974, 1975). The initial experiments demonstrated that dogs learned helplessness, that is, they did not attempt escape behaviours after they had experienced a situation from which there was no escape from painful stimulation.

The hypothesis, integrating animal and human data and applied to depression, stated that when it was learned that outcomes were uncontrollable, motivational, cognitive and emotional deficits were the result (Abramson, Seligman & Teasdale, 1978). Exposure to uncontrollability was sufficient to influence motivation but a cognitive component was necessary to produce helplessness. It was necessary for an expectation that outcomes of relief from suffering or ability to bring gratification were uncontrollable that produced helpless behaviour. If the belief was present the likelihood of attempting escape responses diminished and there was a difficulty in learning new responses that would produce desired outcomes. The emotional component, depressed affect, was a consequence of experiencing and believing that outcomes were uncontrollable.

Critical evaluation of the theory, in terms of its theoretical constructs and empirical validity, shows it to be inadequate as a unique model of depression in that predictions are valid only for

certain groups of subjects in some situations. Abramson *et al.* (1978) recognize four specific inadequacies:

(i) that expectation of uncontrollability in itself will not cause depressive affect. Rather only those expectations where the probability of desired gratification is low, or aversive outcome is high will be sufficient.

(ii) that lowered self esteem, a symptom of the syndrome, cannot be accounted for,

(iii) that the internal attributions that depressed people tend to make are not explained,

(iv) that variability in generality, chronicity and intensity are not accounted for.

Learned helplessness theory has been reformulated within an attributional framework and is summarized explicitly below (Abramson *et al.*, 1978, p.68):

" 1. Depression consists of four classes of deficits: motivational, cognitive, self esteem and affective.

2. When highly desired outcomes are believed improbable or highly aversive outcomes are believed probable, and the individual expects that no response in his repertoire will change their likelihood, (helplessness) depression results.

3. The generality of the depressive deficits will depend on the globality of the attribution for helplessness, the chronicity of the depression deficits will depend on the stability of the attribution for helplessness, and whether self esteem is lowered will depend on the internality of the attribution for helplessness.

4. The intensity of the deficits depends on the strength, or certainty, of the expectation of uncontrollability and, in the case of the affective and self-esteem deficits, on the importance

of the outcome."

The recent formulation has an intrinsic power in that it fulfils the requirement to explain and predict, and has implications for the control of depressive behaviour.

Seligman (1978), finally, postulates a specific subclass of depression (helplessness depression). This is done to avoid forcing learned helplessness concepts to fit current nosological categories. He maintains that the model is consistent with most of the debate and evidence available.

The reformulated model is more elaborate in design and answers apparently more limited questions about depression. It will be more difficult to test because of the elusive quality of cognitive processes (although Huesmann (1978) would dispute this).

As with the three previously presented models, validation is a future prospect. This is recognized in Seligman's (1978, p.177) final comment: "We look forward to finding out if the model will be useful in the understanding, alleviation, and prevention of depression."

Self-Control Model

Rehm (1977) has developed a self-control model of depression. She works from the premise that a model should provide a framework for hypotheses about aetiology and should suffice as an heuristic device for the development of means of treating depressed behaviour.

The model is based on Kanfer's concept of self control (Kanfer, 1970, 1971; Kanfer & Karoly, 1972). Self-control incorporates the processes of self-monitoring, self-evaluation and self-reinforcement through which a person alters response probabilities

in the relative absence of external supports. Rehm has broadened the closed loop learning system to include concepts of self-attribution and self-evaluation attributional processes. She proposes specific deficits at different stages of the self control process as a basis for the specific manifestations of depression as indicated below:

- (i) at the self-monitoring stage the depressed are inclined to selectively attend to negative events and to immediate versus delayed behavioural outcomes,
- (ii) at the self-evaluation stage maladaptive self-control is characterized by a failure to make accurate internal attributions of causality and the setting of stringent criteria for self evaluation,
- (iii) the self-reinforcement pattern could be characterized by low rates of self-reward and excessive self punishment.

The power of Rehm's model lies in its ability to serve as a framework for studying various aetiological events and mechanisms of depression. Secondly, it makes it possible to distinguish among each of the various symptoms by logically associating them with a particular aspect of self control. Thirdly, and in this way typifying a trend towards integrative models (c.f. Abramson *et al.*, 1978; Akiskal & McKinney, 1975; Wilcoxon *et al.*, 1976), the model can account for and integrate a range of behaviours each of which provides the main focus for other theories. The relationships between covert and overt cognitive and motor behaviour can be explained.

The current state of the theory is much the same as those previously discussed and the author's words again provide the best

evaluation. "As an heuristic framework, some parts of the model are only suggested in outline and require further refinement and validation. Although the model is consistent with certain empirical findings, the evidence is largely correlational and further research is clearly needed. The products of research specifically directed by the model will determine its ultimate value" (Rehm, 1977, p.801).

Deutsch (1978) has published an appraisal of the theory. She sees that it has useful treatment implications but is unconvincing as an explanatory device. Rehm (1977) acknowledges that recent genetic and biochemical research data may limit the model in terms of aetiological and nosological considerations. As yet it is not known whether biological and psychological factors are separate sources of variance in depressive phenomena or whether they are interactive as was suggested by Akiskal and McKinney's (1973, 1975) model.

Comment

There has been undoubted progress made in the understanding and treatment of depressive disorders during the last fifteen years. There have also been advances in theoretical and empirical areas with the use of behavioural science research methods in psychopathology.

Within the experimental/clinical framework the four basic formulations have been discussed. Considered as a whole the models focus on reinforcement variables but from a variety of psychological perspectives. That is, reinforcement seen in terms of control, rate, perception and attribution. There is considerable overlap in the emphasis given to and theoretical interpretations of these variables. Beck and Seligman emphasize perception; Seligman and

Rehm a more clearly defined attributional concept; Lewinsohn, Seligman and Rehm, control; and Lewinsohn and Rehm, reinforcement rate.

There is difficulty inherent in establishing the entity of the psychological concepts used and the conceptual relationships between them. For example, the relation between perception of rate and actual rate may be essentially the same as that between perception of control and actual degree of control (Blaney, 1977). There is no clear method of formalizing the issue of the functional and objective aspects of the behavioural theories except in terms of cognitive mediation which, according to Blaney (1977) may be epiphenomenal all or some of the time.

Stated more specifically, the psychological concepts applied may be insufficiently formalized in themselves or in the depression models. For example, Deutsch (1978) states that the application of self-control theory as an explanation of depression is premature since there is not yet sufficient data to demonstrate the entity of 'inferred' control (or 'internal' events). Huesmann (1978) writes that the inclusion of attribution in depression models has led to loss in precision and falsifiability since there has been insufficient formalization to date of the cognitive processes involved. Further he states that depression theorists have not made sufficient use of the methods or data accumulated by the researchers of attribution and inductive reasoning.

Regardless of the more esoteric criticisms, it is generally accepted that each theory has made a unique contribution to the understanding of depression by proffering a reasonable explanation of the development and maintenance of depressive behaviour as well

as implying specific treatment procedures (Blaney, 1977; Wilcoxon *et al.*, 1976). However, there are some general comments that elucidate the current situation.

Firstly, data can be quoted to support the basic assumption of each model, but no model can account for all available data. Data that cannot be explained within a particular theoretical framework tends to be ignored. As yet no behavioural theory is broad enough to explain the multitude of behaviours that constitute depression.

Interestingly, by trying to take account of all available evidence in his reformulation Seligman's model becomes more complex. It generates a vast array of hypotheses to be tested and ensuing data to be co-ordinated. At the same time it becomes more limited in the depressive disorder spectrum it can explain.

Secondly, the models explain data from their respective theoretical positions but the explanations are not mutually exclusive. For example, behavioural theory interprets the relationship between depression and object loss as one of a loss of contingent reinforcement leading to a reduced rate of behaviour etc. However, the explanation of object loss leading to depression given by helplessness theory would be one of an individual's perception of lack of control in the situation.

Unfortunately the assumptions about the nature of depression which underlie each theory differ and the hypotheses generated by each create cumulative diversion. The area is fraught with information couched in the language of one or another model. Because of the contemporary nature of psychological theories there is insufficient evidence,

- (i) to disprove the acceptability of the essence of any model,
- (ii) to point to the superiority of any model in relation to others,
- (iii) to suggest that any element in any model is essential to the explanation of the depressive process.

In light of the above it must be concluded that the current situation is that contemporary theories provide one means of ordering data and stimulating research.

The field of the study of depression is diverse. There is no fundamental model or method that should be followed to the exclusion of any other. Perhaps it is futile to try to develop an overarching explanation. It seems to the present writer that there is a need for limited answers to limited questions at a primary level.

CHAPTER 3.

BACKGROUND TO THE STUDY

Theoretical development, and the consequent establishing of a data base, in the area of depression is a relatively recent phenomenon. Undoubtedly the entry of experimental/clinical psychology into this area of psychopathology has made a considerable contribution to the overall understanding of depression. Evaluation has suggested that while each theory has its own particular strengths, current models leave many unanswered questions.

Eastman (1976) bemoans the fact that most of the research has been based on the development of treatments based on behavioural formulations and that there is too little fundamental research.

Given that there is no conclusive methodological nor theoretical framework from which to operate, the student is faced with a variety of alternatives in furthering the body of knowledge about depression. One could

- A. continue developing a promising theoretical area while accepting that it cannot be exclusive (c.f. Seligman),
- B. adopt an integrative approach (c.f. Rehm),
- C. develop experimental situations to provide limited explanations to specific clinical questions/situations, as in single case study experiments,
- D. develop experimental situations that can establish necessary though limited fundamental knowledge.

The rationale of the study proposed is that there is a necessity to establish basic knowledge about common self-controlling influences, that is to examine self perceived anti-depressive behaviours and their effects. This needs to be understood before the effects of any treatment practices can be super-imposed, because

the behaviour of the patient depends on both.

The background to the study proposed will be discussed with reference to current, relevant research directions in psychology and the current status of these issues in the area of depression. Rippere's work will then be discussed together with the rationale for the present study.

Current relevant research directions

A recent trend in psychology is away from the controlled measurement of overt behavioural frequencies and strict, artificial laboratory-based, usually analogue studies. Rippere (1977a, p.58) comments that such research is conducted "for the purpose of providing quantitative statistical evidence to support some highly stereotyped formulation about an abstraction".

A major relevant trend is towards a broad, amorphous conceptualization named cognitive psychology. The cognitive position, in the clinical area, has been conceptualized, investigated and its therapeutic possibilities explored by Bandura (1977), Ellis and Harper (1975), Goldfried and Goldfried (1975) and Miechenbaum (1975), to name but a few. The cognitive/symbolic processes that mediate performance based, adaptive, behavioural achievements include perception and the interpretation of environmental events, belief systems, verbal and imaginal coding systems, thinking, planning, problem solving and evaluation of feedback (Craighead, Kazdin & Mahoney, 1976). As yet it seems that the approach has concentrated on intra-individual processes and the outcome of cognitions. These determine whether coping behaviour will be initiated as a 'normal' matter of course or as a result of clinical behaviour change treatment.

It now seems understood and accepted that both environmental and cognitive influences should be considered when assessing the processes accounting for behaviour. Craighead *et al.* (1976) suggest that in the expanding field of behaviour modification, new directions such as the social and physical features of the environment, that are known to effect behaviour, should be included in the realm of findings relevant to behaviour change.

A promising development in that direction has recently entered experimental/clinical literature. The trend has been to examine naturally occurring episodes of the successful self-management of such behaviours as smoking, eating, dating and weight control (c.f. Baer, Foreyt & Wright, 1977; Perri & Richards, 1977).

There has been rapid growth in therapist initiated self-management programmes. These treatment methods are increasingly gaining clinical respectability (Kanfer, 1975; Thoresen & Coates, 1976). While clinical techniques have shown some success, the theoretical basis for the techniques is incomplete and subject to argument (c.f. Bandura, 1976; Rachlin, 1974). Bandura (1977) recently refined concepts in terms of a self-efficacy theory.

Bandura (1977) discusses the self-efficacy component of behaviour change proposing that psychological procedures alter the level and strength of self efficacy, that expectations of personal efficacy will determine the initiation and persistence of activities and that successful mastery will enhance self efficacy and correspondingly reduce defensive behaviour. He suggests that people may lack a sense of efficacy in carrying through required behaviour as well as expecting their behaviour to have no effect on the environment or to be punished.

The proposal raised by this theoretical suggestion is that, not only does the psychological procedure introduced by the clinician serve as a means of bringing about and strengthening expectations of personal efficacy in given situations (that is, when feeling depressed), but also that the client probably has a past experience in coping with depressive feelings. The question has not been satisfactorily investigated by examining self initiated means of controlling depression and the perceived efficacy of those means.

The therapies that have arisen from current psychological models have as a common element the *training* of the client in self-regulatory behaviour that is anti-depressive. The client is taught adaptive anti-depressive thinking and action. There are no reports of baseline behaviour for either clinical or non-clinical samples.

Joynson (1974) argues that account should be taken of the previous experience and commonsense ideas that people bring with them to an experimental situation since most behaviour is a product of previous experience. A basic model of teaching (Glaser, 1962) proposes that the level of an individual should be assessed before instructional procedures are undertaken. In a similar vein the ideas people hold about the management of their depression should be an essential element of assessment. Information could be therapeutically useful in terms of the single case as well as by way of comparison with others.

The present writer intends to examine naturally occurring self-regulatory behaviour in terms of what people know about their self management of depression.

Rippere's research on depression

In the area of depression Rippere (1976, 1977a, 1977b, 1977c)

works from a premise that humans differ from animals in their propensity for preparing their young to categorize, monitor and attempt to regulate their emotional states. This difference ought to be acknowledged in accounts of their psychological functioning. She extends the understanding of cognitive/behavioural interaction relating to depression by investigating naturalistic concepts.

She works from a position based on three tenets arising from cognitive theories:

(i) that the higher order thinking (that is, when S. reflects on his thinking 'what a morbid idea, I've been having a lot of them lately') which accompanies primary gloomy thoughts ('nothing means anything, I can't go on any more) needs to be examined as fully as first order depressive cognitions.

(ii) S's repertoires of behaviour reactions to their depressive cognitions need to be included in any comprehensive inventory of the cognitive aspects of depression since people act upon their thoughts.

(iii) S's. repertoires of relevant cognitions are mediated to a considerable degree by the socialization process, thus any full and adequate account of cognitive elements of depression should not exclude the prevailing cultural and social matrix of beliefs and belief systems about depression and how to deal with it (Rippere, 1977c).

She highlights the fact that very little is known about the body of everyday commonsense things that 'everybody knows' about depression and what to do about it. She bases her concept on Berger and Luckmann's (1967) theory of the sociology of knowledge or 'the

social stock of knowledge' - a fund of objectified, accumulated experience in society that is culturally transmitted between generations so that it is available to an individual in defining and trying to solve the everyday problems he encounters.

Rippere (1977c) sees the gap in knowledge as supportive of Joynton's (1974) criticism that psychology ignores the prior understanding people bring with them to the experimental participation scene. She carries this over to the clinical area where professionals, in theory and practice, tend to overlook and/or depreciate lay beliefs and thus may be unhelpful and even untherapeutic in the following ways :

- a) by not asking for a client's views on his condition and his ways of handling it, potentially useful information about a client's way of coping may be missed.
- b) by ignoring lay views professionals could find it difficult to acknowledge the integrity of the client's views as part of a body of shared knowledge with its own social institutions for consensual validation. By depreciating this knowledge which has been construed as normative, the client could be placed in a double bind.

Rippere (1977c) having decided that it was high time something was done to codify commonsense beliefs about depression and anti-depressive behaviours (ADB) launched into the task in a series of investigations. First she generated a checklist of ADB from an open-ended question 'what's the thing to do when you're feeling depressed?' (1977b). The resulting response frequencies were taken to demonstrate the existence of social consensus regarding anti-depressive behaviour. Second (1977a) she studied the cognitive

dimensions of the anti-depressive behaviours of naive psychology students and found that first year undergraduates with no training in abnormal psychology had complex cognitions about depression and ADB. That finding was furthered by a student and staff forced choice questionnaire (1977c) which again demonstrated a complex widespread cannon of commonsense knowledge about depression and ADB.

In an applied investigation (1976) the ADB checklist was used to examine the distribution of reported anti-depressive behavior in a population consisting of depressed and non-depressed patients and normals. Rippere was interested in the amount of anti-depressive behaviour reported and how much it was regarded as helpful. Although there were no main effects in the analysis of variance, sex interacting with locus of control was significantly related to both the overall amount of anti-depressive behaviour and the amount of anti-depressive behaviour found helpful. It was of interest that the data patterns of the inpatient depressed group differed from those of the outpatient depressed group which itself did not differ from the normal control group. Rippere expected that the choice of treatment site rather than the presence/absence of clinical depression was relevant to results, but it may be more complex. Rippere's in-patient depressives, whose mean length of current hospitalization was 6 weeks for men and 9 weeks for women, had a different experience to the outpatient depressives and controls and that could account for the different data patterns. Perhaps hospitalization changed attitudes concerned with coping with depression.

Rippere's study of the patient groups is open to criticism

on methodological grounds. Information is not given concerning the criteria used for inclusion in either in- or out-patient groups. There is no statement about whether inpatients were comparatively more seriously impaired, whether outpatients had been previously hospitalized, or at what stage in the depressive process ADB was assessed. Therefore it is difficult to draw conclusions from the study.

It is postulated that a more specific assessment of ADB and its relationship to depression and social adjustment will allow for more valid interpretations and practical applications. Basic knowledge can be gained about the self regulation of depression for groups whose level of depression and adjustment vary. The process of depression and hospitalization can be taken into account.

Secondly, it seems important for psychological practice that some fundamental, naturalistic information about people's cognitions and coping skills when depressed is established before data related to behavioural theory and experimentally generated treatment is interpreted.

Thirdly, information gained can check the utility of ADB concepts in relation to experimental/clinical practice. Significant results have treatment implications. For example, the clinician can establish whether useful activities are available to depressed clients and/or whether behaviours necessary for performing those activities are within client's repertoires. The information can then be incorporated into treatment programmes.

Aim of the Study

The general aim of the study is to examine the commonsense anti-depressive behaviours of depressed people. It is proposed to

investigate whether the use and helpfulness of anti-depressive behaviours predicts treatment outcome defined in terms of level of depression period of hospitalization and subsequent social competence.

CHAPTER 4.

METHOD

The study is concerned with the cognitions and coping skills of depressed people. The aim is to examine the knowledge, frequency of use, and usefulness of anti-depressive behaviours. To assess the clinical utility of the concept of anti-depressive behaviour (ADB) the relationship between ADB and variables related to treatment outcome in terms of level of depression, length of hospitalization and social competence will be examined.

The subject population is drawn from the psychiatric unit of the Royal Hobart Hospital, the primary teaching hospital in Tasmania. Admissions are made after referral from the casualty ward, the liaison psychiatry team, psychiatrists and general practitioners. Consultants, registrars, social workers and nursing sisters comprise the teams managing inpatients. In general the treatment orientation of the teams is based on the medical model.

Subjects

The subjects were 25 hospitalized inpatients, drawn from consecutive admissions to the psychiatric ward of the R.H.H., and with a provisional diagnosis of depression. The depression was of at least seven days duration and was of sufficient intensity to score 15 on the Beck Depression Inventory. There were 15 female and 10 male subjects.

Patients were excluded when depression interacted with psychotic disorders, alcoholism, drug addiction or subnormal intellectual functioning. A variety of factors restricted efforts to assess prospective subjects including refusal to either be interviewed or to complete questionnaires (5), language difficulties (7)

readmission to a psychiatric institution within 3 weeks of discharge (1) and discharge before interview was possible (10).

Individually matched control subjects were non-hospitalized normals. They were matched to fit four demographic criteria:

- (i) age - three groups - 18-29, 30-49, 50-62 (to avoid adolescent and geriatric problems),
- (ii) marital status - three groups - married, previously married, never married. Married was defined as having lived in a stable relationship as 'husband and wife' for at least one year.
- (iii) socio-economic status - three groups - professional; other non-manual, skilled and semi-skilled manual occupations; and unskilled manual and no male breadwinner categories. These categories were developed from the modified version of the United Kingdom Registrar General's Classification. They were a combination of classes I and II, IIIa and b and IV, V and VI (see Appendix A).
- (iv) sex.

Materials

Three questionnaires were used. The Beck Inventory and the Antidepressive Activities Questionnaire were administered during the initial interview and were repeated together with the Social Situations and Activity Questionnaire during the second interview. See appendices B, C and D for copies of the assessment materials.

(i) Beck Inventory

The Beck Depression Inventory is a self-report measure of general depression. It consists of twenty-one categories of depressive symptoms and attitudes (Beck, 1967, Beck, 1972; Beck *et al.*, 1961). Each category describes a specific behavioural manifestation

of depression and consists of four or five statements ranked according to the severity of the symptom from neutral to maximum severity. The subject is instructed to choose the statement which most closely reflects his current state. A non-empirical weight of 0 to 3 is assigned to each alternative to indicate degree of severity.

Pehm (1976) reviewing methods of depression assessment, recommends its use in behavioural research. She reports on internal and test-retest reliability, and construct, discriminant and concurrent validity. The recommendation is made because of the inventory's relative brevity and generally good psychometric properties (especially discriminant validity). She sees the scale as the best presently available self-report measure for use as a selection criterion and as a pre- and post-assessment measure in behavioural research.

(ii) Anti-depressive Activity Questionnaire

The questionnaire is a self-report measure of the things that subjects do when they feel depressed. The questionnaire duplicates, as closely as possible, that used by Rippere (1976). The checklist is composed of the 115 consensual items established by Rippere (1977b). The items are mentioned by more than one subject in response to the question 'What's the thing to do when you're feeling depressed?' Items cover nine categories: activity and work, self-care and maintenance, pharmacological, cognitive and affective experience, aesthetics, entertainment and contemplation, help and comfort seeking, avoidance, qualifiers and 'miscellaneous' groupings. Provision is made for subjects to add activities. The instructions direct subjects to check any of the items that correspond to what they do when feeling depressed, to indicate how frequently the

behaviour is engaged in (by marking one of three columns headed 'rarely', 'sometimes' and 'quite often') and how helpful it is found to be (by marking one of three columns headed 'not very', 'moderately' and 'very').

(iii) Social Situations and Activities Questionnaire

The questionnaire is divided into two sections. The first section is comprised of 42 items involving social situations and activities. It requires subjects to report the amount of difficulty experienced with the itemized social situations and activities. The second section utilizes 28 items used in section one. Subjects indicate the frequency of social activity. The questionnaire requires the subject to make a current and retrospective judgement about the social difficulties and participation in social activities. These responses are made according to numbers assigned to the level of difficulty from 0 to 5 (0 = no difficulty), and the frequency of activity from 1 to 7 (1 = everyday or almost every day).

The questionnaire is an adaption of the Social Situations Questionnaire (Trower, Bryant & Argyle, 1978) and includes 13 items from the Katz and Lyerly (1963) scales produced to measure adjustment and social behaviour in the community.

The Social Situations Questionnaire is used since, as a self report measure, it discriminates between adequate and inadequate patients; both groups scoring considerably worse scores than a control group of students. Secondly, it has been shown to reflect changes in pre- and post-treatment assessment. Thirdly, its comparative nature gives an impression of what clinicians refer to as 'pre-morbid personality', that is social functioning of an

enduring nature according to difficulty or amount (Trower *et al.*, 1978).

The Katz and Lysterly Scale (1963) is highly recommended as a measure of social adjustment (Weismann *et al.*, 1974). Examination of the items' discriminative validity (Katz & Lysterly, 1963) indicates that, in the area of self-report, items reporting the performance of and satisfaction with social activities discriminates between well and poorly adjusted groups.

The Social Situations and Activities Questionnaire is utilized to establish whether subjects are able to cope with a limited range of social activities important in day to day living. It also functions as a comparative instrument to give an impression of pre- and post-hospitalization adjustment, that is, whether at follow-up the patient has regained his pre-depressive level of social adjustment, or whether he is better or worse regarding adjustment.

It has been found that a follow-up measure of social adjustment is independent of symptomatic changes (Ellsworth, Foster, Childers, Arthur & Kroeker, 1968). For this reason a social adjustment measure is included at follow-up, as is the Beck Depression Inventory Method.

Procedure

The depressed patients are assessed on two occasions, as soon as possible after admission and three weeks after discharge from in-patient status. The decision for the second assessment to be made 3 weeks after discharge is based on the Ellsworth *et al.* (1968) report of no difference between three week and three month follow-up results.

On the first occasion the BDI and the Anti-depressive Activity

Questionnaire are administered. During the second interview subjects complete the BDI, the Antidepressive Activity Questionnaire and the Social Situations and Activities Questionnaire.

The questionnaires are presented by the investigator during an interview. The interview is undertaken after subjects have been approached and asked whether they would be willing to take part in a study about depression and the commonsense things people do about it. They are assured of the confidentiality of their responses. Assistance in task completion is given where indicated.

Encouragement to reflect on responses, to complete questionnaires and to complete interviews is necessary for moderately depressed subjects during initial interviews. The general instructions for administering the BDI (Beck, 1967) are followed, in order to minimize interviewer effects with all questionnaires. The interviewer reads statements and records responses where necessary checking that the response indicated is clearly that chosen by the subject.

Control subjects are assessed in a similar fashion. The time between interviews is matched as closely as possible to that between depressed patient assessments.

Hypotheses

It is hypothesised that:

- (1) there will be no significant difference between the number of reported anti-depressive behaviours (ADB) for the depressed patient group and the matched control group.
- (2) the control group will score significantly higher than the depressed group regarding the frequency of use of anti-depressive

behaviours (ADB(F)).

(3) the control group will score significantly higher than the depressed group regarding the helpfulness of anti-depressive behaviours (ADB(H)).

(4) in accordance with the aim to investigate the utility of ADB in predicting treatment factors for the depressed patients,

(i) there will be a significant negative correlation between length of hospitalization and ADB(F) scores,

(ii) there will be a significant negative correlation between length of hospitalization and ADB(H) scores,

(iii) there will be a significant negative correlation between ADB(F) and BDI scores,

(iv) there will be a significant negative correlation between ADB(H) and BDI scores,

(v) there will be a significant negative correlation between ADB(F) scores and social adjustment scores indicating difficulty experienced with social situations and activities (SAD),

(vi) there will be a significant negative correlation between ADB(H) scores and SAD scores,

(vii) there will be a significant negative correlation between ADB(F) scores and social adjustment scores indicating the frequency of engaging in social situations and activities (SAF),

(viii) there will be a significant negative correlation between ABD(H) scores and SAF scores.

CHAPTER 5.

R E S U L T S

The statistical analysis of the raw data shall be divided into two sections in light of the aims and hypotheses outlined in Chapter 4. Initially the results of the depressed and control groups obtained on the Anti-depressive Activities Questionnaire will be examined. Secondly, the correlations between anti-depressive behaviours and length of hospitalization, Beck Depression Inventory scores and data from the Social Situations and Activities Questionnaire will be presented. The final section will present a descriptive analysis of items from the Anti-depressive Activity Questionnaire.

Analysis of group differences in anti-depressive behaviours

First the responses of depressed inpatients and matched controls on the Anti-depressive Activity Questionnaire were investigated, since it could not be assumed that either the depressed or the non-depressed subjects recognized that there were behaviours they engaged in to alleviate depressed feelings. Neither could it be assumed that the numbers of anti-depressive behaviours differed for the two groups. An analysis was undertaken of the number of items noted in response to the instruction to check any of the activities that corresponded to what the subject did when feeling depressed.

The range, means and standard deviations for the two groups are shown in Table 1. A wide range of items was checked by both groups. It extended beyond the 115 item span, indicating that in addition to checking all items two subjects added one and two personal anti-depressive activities to the checklist. All subjects

TABLE 1.

The range, means and standard deviations for the number of items checked on the Anti-depressive Activity Questionnaire for two groups.

$n(d) = 25, n(c) = 25$

Group	Range	Means	Standard Deviation
Depressed	6-117	37.1	31.1
Control	2-116	29.1	27.7

reported some anti-depressive activity - each of the depressed group checking at least six items and each control subject at least two. The mean number of items checked and the standard deviation were slightly lower for the control than for the depressed group. All subjects rated at least one item as helpful. Thus the result pointed to a continuous characteristic of ADB and the helpfulness of ADB. Rippere (1976) suggested that the two variables may be rather differently distributed. It can be stated that there were anti-depressive behaviours characteristic of each subject.

An analysis of variance was performed to examine the mean number of anti-depressive activities for the two groups reported on two occasions, that is, when the depressed group was hospitalized and three weeks after discharge. The means are shown in iable 2. Although the mean number of items checked by controls was lower than that checked by the depressed at both assessments, there were no significant differences between the means for the groups ($F = 1.21, d.f = 1, p > .05$) or between the means for the two assessments ($F = 0.27, d.f. = 1, p > .05$). Further there was no significant

TABLE 2.

The means and standard deviations for the number of items check on the Anti-depressive Activity Questionnaire for two groups on two occasions.

$n(d) = 25, \quad n(c) = 25$

Group	Assessment 1		Assessment 2	
	Means	Standard Deviation	Means	Standard Deviation
Depressed	37.5	21.87	36.6	32.54
Control	26.5	29.56	31.8	32.60

interaction ($F = 0.55, d.f. = 1, p > .05$) (see Table 3). Thus the hypothesis, that there would be no significant difference between groups regarding the number of reported ADB, was supported. The result was consistent with that of Rippere (1976) whose results showed no group effect for the number of items checked.

TABLE 3.

ANOVA of the number of items checked on the Anti-depressive Activity Questionnaire for two groups on two occasions.

$n(d) = 25, \quad n(c) = 25$

Source of Variance	d.f.	Sum of Squares	Mean Squares	Variance Ratio	Sig.
Groups	1	1576.09	1576.09	1.2103	N.S.
Assessments	1	118.81	118.81	0.2729	N.S.
Groups x Assessments	1	240.25	240.25	0.5519	N.S.

The frequency with which subjects engaged in anti-depressive behaviours (ADB(F)) was examined next. Since the depression of control subjects did not become so disruptive as to require hospitalization, it was expected that self regulatory ADB might be performed comparatively more frequently. It was hypothesized that ADB(F) scores would be significantly higher for the control group than the depressed group. From the Anti-depressive Activity Questionnaire, frequency scores for the categories 'rarely', 'sometimes' and 'quite often' were weighted 1, 2 and 3 respectively. The ADB(F) score was then calculated by addition. An inspection of the means indicated that the depressed group reported a more frequent use of anti-depressive behaviours than controls when feeling depressed (Table 4). When the results were tested for significance using an analysis of variance there were no significant effects between groups ($F = 2.14$, d.f. = 1, $p > .05$), or between assessments ($F = 0.15$, d.f. 1, $p > .05$). Further, the interaction between groups and assessments was not significant ($F = 0.54$, d.f. = 1, $p > .05$)(see Table 5). The hypothesis was not supported by results.

TABLE 4.

Means scores and standard deviations for the frequency of use of anti-depressive behaviours for two groups on two occasions.

$n(d) = 25$, $n(c) = 25$

Group	Assessment 1		Assessment 2	
	Means	Standard Deviations	Means	Standard Deviations
Depressed	81.6	51.38	79.1	57.49
Control	57.7	40.32	66.0	56.06

TABLE 5.

ANOVA of the frequency of use of anti-depressive behaviour scores for two groups on two occasions.

$n(d) = 25, n(c) = 25$

Source of Variance	d.f.	Sum of Squares	Mean Squares	Variance Ratio	Sig.
Groups	1	8593.29	8593.29	2.1448	N.S.
Assessments	1	204.49	204.49	0.1514	N.S.
Groups x Assessments	1	734.41	734.41	0.5438	N.S.

It was noted that the scores for ADB(F) were dependent on the number of items initially checked. When the scores were made independent (by dividing the weighted score by the number of items checked) the differences were again not significant. There were no significant differences within groups for two assessments using the t-test for related samples ($t_D = 0.1922$, d.f. = 24, $p > .05$; $t_C = .4433$, d.f. = 24, $p > .05$). The between group differences for the two assessments were not significant although there was a tendency for the depressed group at the time of the first assessment to repeat the ADB less frequently than controls ($t_1 = 1.75$, d.f. = 24, $p < .10$; $t_2 = 0.58$, d.f. = 24, $p > .05$).

A third analysis of variance was used to examine the helpfulness of anti-depressive behaviours (ADB(H)) for the two groups. It was hypothesized that control subjects would find the anti-depressive behaviours they performed more helpful than depressed subjects. The helpfulness of anti-depressive behaviour was assumed to be a factor distinguishing between the hospitalized, clinically depressed and matched controls, who could cope adequately with

depressed feelings. The score for ADB(H) was established by adding weighted response frequencies ('not very' = 1, 'moderately' = 2, 'very' = 3) and dividing by the number of items checked. Table 7 shows the significance of differences between groups ($F = 5.54$, $d.f. = 1$, $p < .05$), between assessments ($F = 9.36$, $d.f. = 1$, $p < .01$), and for the interaction between groups and assessments ($F = 6.66$, $d.f. = 1$, $p < .01$). The analysis of variance was followed by Duncan's new multiple range test. The latter test indicated that it was the mean of the depressed group at the first assessment that

TABLE 6.

Mean scores and standard deviations for helpfulness of anti-depressive behaviours for two groups on two occasions.

$n(d) = 25$, $n(c) = 25$

Group	Assessment 1		Assessment 2	
	Means	Standard Deviations	Means	Standard Deviations
Depressed	1.80	0.43	2.20	0.40
Control	2.17	0.34	2.11	0.41

TABLE 7.

ANOVA of the helpfulness of anti-depressive behaviour scores for two groups on two occasions.

$n(d) = 25$, $n(c) = 25$

Source of Variance	d.f.	Sum of Squares	Mean Squares	Variance Ratio	Sig.
Groups	1	1.3317	1.3317	5.5421	$p < .05$
Assessment	1	0.7327	0.7327	9.3561	$p < .01$
Groups x Assessments	1	0.5213	0.5213	6.6561	$p < .01$

was significantly lower than the other means, which do not differ significantly (see Table 6). The result supported the hypothesis above.

Analysis of correlations between anti-depressive activities and treatment factors.

One of the aims of the study was to test the utility of the concept of anti-depressive behaviour (ADB) by examining its relationship to treatment factors of importance to the depressed patient. The question posed was 'Does the presence of ADB influence positively the length of hospitalization, the level of depression or social adjustment of the person who has been depressed?'

Pearson product moment correlation coefficients enabled comparisons to be made between the frequency of use and helpfulness of ADB and relevant treatment factors. The scores from the post-hospital assessment, reflecting current levels of depression and social adjustment, were used in the analysis.

Anti-depressive activities and the length of hospitalization

It was postulated that, if ADB was useful to human functioning, its presence might expedite recovery from a depressive disorder. It was hypothesized that there would be a significant negative correlation between the length of hospitalization and (i) ADB(F), and (ii) ADB(H). When the length of hospitalization ($\bar{X} = 20.64$ days, S.D. = 13.37) was correlated with ADB(F) scores for the 25 depressed patients the correlation was negative. While the direction of the correlation was consistent with the hypothesis the result was not significant ($r = 0.36$, $.05 > p > .10$). The tendency was in the opposite direction to that hypothesized for ADB(H).

The shorter the period of hospitalization the lower the ADB(H) score ($r = 0.37$, $.05 > p > .10$). Length of hospitalization was not significantly correlated with BDI scores ($r = 0.15$ (BDI₁); $r = 0.13$ (BDI₂)).

Anti-depressive behaviour and level of depression

The Beck Depression Inventory (BDI) was used to assess the presence and severity of depression in the current study. Depressed patients showed a marked improvement in BDI scores between assessments. When assessed soon after hospitalization they were moderately depressed ($\bar{X} = 29.36$, S.D. = 8.24). Three weeks after discharge the mean BDI score was 12.44 (below the 'mild' classification required initially for subject status) which was considered to be an appropriate score for non-depressed people (Beck, 1967). The control group's BDI scores at each assessment reflected non-depressed status ($\bar{X}_1 = 7.00$, S.D. = 6.25; $\bar{X}_2 = 5.80$, S.D. = 6.18).

It was expected that people who were more depressed than others would not engage in anti-depressive behaviours frequently. Thus the hypothesis was that there would be a negative correlation between ADB(F) scores and BDI scores for depressed patients. There was no support for the hypothesis ($r = 0.17$). The correlation was also non-significant for control subjects ($r = 0.04$). These results suggested that the frequency with which people used anti-depressive activities was independent of their level of depression.

There was a relationship between the helpfulness of anti-depressive behaviours and the level of depression. Specifically it was hypothesized that there would be a significant negative correlation between ADB(H) scores and BDI scores. The hypothesis

was supported ($r = 0.53$, $p < .05$). There was also a tendency for control subjects to find the use of anti-depressive activities less helpful if they were depressed ($r = 0.38$, $.05 < p < .10$).

Anti-depressive behaviour and social functioning

The third area in which the role of anti-depressive behaviour was investigated was that of social functioning, which was assessed using the Social Situations and Activities Questionnaire. Subjects self-reported on the difficulty experienced with social situations and activities (SAD) and the frequency with which they engaged in social situations and activities (SAF). Scores reflected social adequacy. The higher the score the greater the difficulty or the lower the frequency of social behaviour.

Correlations between current social activity scores and those of a year ago were calculated to establish whether the depressed patients had returned to their usual level of social functioning after hospitalization. Table 8 presents the correlation coefficients. Normal controls evidenced stability in social adjustment as indicated by significant positive correlations between SAD and SAF scores. There was a tendency for the frequency of social activity to be related to the difficulty currently experienced in those situations ($.05 < p < .10$). For the recently hospitalized depressed subjects there was a significant correlation between current and previous SAD, but a low correlation between current and previous SAF scores. A t-test for related samples ($t = 0.85$, d.f. = 24, $p > .05$) indicated that the difference was not significant. There was a positive relationship between the two, pre-morbid social adequacy factors (SAD and SAF) but only a tendency for a relationship currently. It was concluded that it was unlikely that the depressed

TABLE 8.

Means, standard deviations and correlation coefficients
for two measures of social adequacy for two periods.

n(d) = 25, n(c) = 25.

	\bar{X} scores	S.D.	Product movement correlations			
			SAD current	SAD previous	SAF current	SAF previous
CONTROL	SAD current	20.20	18.36	1.00**		
	SAD previous	20.00	18.74	0.94**	1.00**	
	SAF current	86.88	17.48	0.33*	0.24	1.00**
	SAF previous	86.88	16.94	0.34*	0.31	0.84**
DEPRESSED	SAD current	35.84	28.43	1.00**		
	SAD previous	38.96	31.24	0.57**	1.00**	
	SAF current	99.40	20.37	0.23	0.00	1.00**
	SAF previous	103.52	19.32	0.00	0.42**	0.26

* .05 < p < .10

** p < .05

patients' social adequacy had changed across the time span considered. Thus the relationship between anti-depressive behaviour and social adequacy, as an outcome of treatment of depression, was examined by analysing ADB scores and their correlations with current SAD and SAF scores.

The hypothesis predicted that there would be a significant negative correlation between ADB(F) and SAD. The significant correlation ($r = 0.53$, $p < .05$) did not support the proposition for the formerly depressed, recently hospitalized subjects (depressed group). Results indicated that the greater the experienced social difficulty the greater the degree of anti-depressive activity. There was no significant relationship between ADB(F) and SAD for control subjects ($r = 0.10$, $p > .10$) - see Table 9. When the association between ADB(F) and SAF was examined there was no significant correlation for the depressed group ($r = -0.19$, $p > .10$) but a significant negative correlation for the control group ($r = 0.46$, $p > .05$). The hypothesis, that there would be a significant negative correlation between ADB(F) and current SAF scores, did not hold for the depressed group.

Table 10 presents the correlation coefficients for ADB(H) scores and SAD/SAF scores. The hypothesis that there would be a significant negative correlation between ADB(H) and SAD scores, was supported ($r = -0.49$, $p < .05$). The related hypothesis, that there would be a significant negative correlation between ADB(H) and SAF was not confirmed ($r = -0.01$, $p > .10$). Correlations between scores for control subjects were consistent with those of the experimental group ($r_{\text{SAD}} = -0.37$, $.05 < p < .10$; $r_{\text{SAF}} = 0.09$, $p > .10$).

It was concluded that anti-depressive behaviour interacted

TABLE 9.

The correlation between the frequency of engaging in anti-depressive behaviours and outcome variables.

$n(d) = 25, n(c) = 25$

Outcome Variables	Group	Product moment correlation coefficients
Length of hospitalization	D	-0.36 [*]
BDI score	D	0.17
	C	-0.04
Current SAD score	D	0.53 ^{**}
	C	0.10
Current SAF score	D	-0.19 ^{**}
	C	-0.46

^{*} .05 < p < .10

^{**} p < .05

TABLE 10.

The correlation between the helpfulness of anti-depressive behaviours and outcome variables.

$n(d) = 25, n(c) = 25$

Outcome Variables	Group	Product moment correlation coefficients
Length of hospitalization	D	0.37 [*]
BDI score	D	-0.43 ^{**}
	C	-0.38 [*]
Current SAD score	D	-0.49 ^{**}
	C	-0.37 [*]
Current SAF score	D	-0.01
	C	0.09

^{*} .05 < p < .10

^{**} p < .05

differently with factors reflecting social adequacy. Engaging in anti-depressive behaviour was unrelated to finding social activities difficult, but if anti-depressive behaviour was unhelpful then social activities were more difficult. This was particularly so for the depressed subjects and similar in direction for their matched controls. Neither the frequency nor helpfulness of ADB effected the degree with which depressed subjects engaged in social activities. However, control subjects with less anti-depressive behaviour were less socially active.

A secondary finding was that there were significant differences between the groups on the social adjustment measure. The depressed group reported that they experienced greater difficulty and less frequent social activity than controls. The means (Table 8) were significantly different for current ($t_{\text{SAD}} = 2.51$, d.f. = 24, $p < .02$; $t_{\text{SAF}} = 2.92$, d.f. = 24, $p < .01$) and previous ($t_{\text{SAD}} = 3.00$, d.f. = 24, $p < .01$; $t_{\text{SAF}} = 4.77$, d.f. = 24, $p < .001$) periods.

Item analysis.

A descriptive analysis was performed to identify items regarded as most and least helpful in relieving depression. The most helpful items were those endorsed as moderately or very helpful by 30% or more subjects. Least helpful items were those endorsed as moderately or very helpful by fewer than 20% of the subjects. The items, together with those which discriminated between groups (that is, they were most helpful to one group and least helpful to the other), are shown in Table 11. Five of the nine items most helpful to both groups, and three of the eight rated least helpful were mentioned as rated as helpful and not very helpful respectively by Rippere

TABLE 11.

*Items perceived as most and least helpful
in relieving depression for two groups.*

$n(d) = 25, n(c) = 25$

Items found most helpful to both groups:

- see people, a friend
- talk to someone
- talk to someone about it
- do something, keep busy
- do something you enjoy
- listen to music or records
- have coffee or tea
- get some sun
- avoid feeling sorry for oneself

Items found least helpful to both groups:

- wallow in it
- avoid activity, do nothing
- find out how one compares with others
- get angry or annoyed
- take one's feelings out on something
- take recreational drugs
- have sex
- buy something to eat
- change a job or line of work
- swim
- go to the opera

Items most helpful to the depressed group and least helpful to the control group:

- go out
- go for a walk
- go for a drive or bicycle ride
- do chores that want doing
- plan something for the future
- pray

Items most helpful to the control group and least helpful to the depressed group:

- rectify the situation causing it
- stick to one's normal routine
- give oneself a treat
- read a journal or magazine
- read an absorbing book

(1976). Two items (read a newspaper or magazine, stick to one's normal routine) rated as not very helpful by Rippere's (1976) subjects, were among those most helpful to control but least helpful to the depressed in the current study.

CHAPTER 5.

DISCUSSION

The existence of naturally occurring, self regulatory anti-depressive behaviour (ADB) together with its frequency of application and helpfulness in alleviating depression has been assessed for twenty-five clinically depressed inpatients and twenty-five normal control subjects. Controls have been matched to check the effects of age, sex, marital status and socio-economic status. Additionally, the utility of ADB for depressed people has been examined in terms of three treatment factors.

In the opening chapters of the thesis the writer has attempted to clarify the current status of models of depression, the changing directions of experimental/clinical emphases and the need for naturalistic data to be taken into account in understanding psychopathology generally and the assessment and treatment of the depressed client in particular. The writer acknowledges the complexity of isolating essential elements in depression, and that an overall understanding needs to involve physiological, social and psychological variables as suggested by Akiskal and McKinney (1973, 1975), Rehm (1977), and Brown and Harris (1978).

The issue of self-report in research, as is discussed by Wilkins (1978), is acknowledged as a limiting factor in this inquiry into the function and utility of ADB. It is noted, however, that the majority of subjects seemed to be quite conscientious about filling out the questionnaires. Lewinsohn (1976) makes a similar observation and further MacPhillamy and Lewinsohn (1972) state that subjects' reports of the frequency of engaging in various pleasant activities are valid when compared with the ratings of peers and independent observers. Blaney (1977) explains that functional rather than objective rates of action and/or control over depression are what must be considered. Further, he adds that although it may appear that slippage

between the objective and functional is cognitively mediated, there is no evidence that this in fact must be the case. The discussion of results will operate according to this premise. It will make the assumption that subjects' reports are valid measures.

However, because of assistance given to subjects when depressed, there may have been interviewer expectancy effects despite the use of response checking. Further use of questionnaire methods with depressed subjects may require that all statements should be read to all subjects. The use of more than one interviewer to whom subjects would be assigned on a random basis may minimize experimenter effects.

The study shows that there is a degree of ABD present for all subjects interviewed on both occasions. The range is very broad but, as Rippere (1976) reports, does not extend to zero. This finding confirms empirically the assumption that the use of ADB is a common practice. Such self regulatory action when depressed may involve a shared social schema for dealing with a typical experience in a Western culture, as is suggested by Rippere (1977b). ADB may well be a universal, stable, internal attribute upon which people act in response to cognitive and behavioural cues.

Rippere (1976) comments on the absence generally of an appreciation of such a commonplace aspect of behaviour from recent research literature, and in particular from Lewinsohn and colleagues' recent work on depression and pleasant activities and mood (Lewinsohn & Libet, 1972; Lewinsohn & Graf, 1973). In practice it seems that the unique aspect of the concept of ADB is the addition of a cognitive factor. People generally *recognize* their depressive feelings and expect that there are actions available to them to counteract those feelings. Rippere (1977b) notes the 'striking' heterogeneity of items ADB and that there are negative prescriptions as well as positive which would further

separate the two positions. In fact, as will be discussed later, there is considerable overlap in consensual items, as well as in those found most helpful or related to positive mood. The self regulatory information is consistent with the therapeutic position which Lewinsohn reaches from behavioural and theoretical deductions. It does not add to the aetiological aspects of the model. To further validate the concept of response contingent positive reinforcement elevating depressed affect, naturalistic research would need to examine whether it is mood that is the focus when people are trying to 'do something' about their depression.

Although the result is not significant, the mean number of ADB checked by depressed subjects is higher than that of normal controls. This tendency also emerges from an examination of Rippere's (1976) data. Lewinsohn and Libet (1972) reported that depressed subjects have a larger number of activities associated with mood than either non-depressed psychiatric and normal controls. However, Lewinsohn and Graf (1973) were not able to replicate this finding. Baseline data from naturalistic sources may clarify this point, which could be useful in predicting vulnerability as well as in implementing programmes.

Rippere (1976) asked subjects to report on the frequency of engaging in the ADB checked but she neither reports results nor discusses this aspect of her research. Results of the current study indicate that there is no difference between the frequency of engaging in anti-depressive activities for depressed people and their matched controls, when the former are feeling moderately depressed or when depressive feelings have subsided. Means show a more frequent use of more anti-depressive activities by the depressed rather

than controls. There is a tendency however, for the experimental group, when depressed, to carry out their anti-depressive behaviours less frequently (that is, fewer replications) than normal people. Lewinsohn and Graf (1973) attempt to establish whether the low pleasant activity score of depressed subjects is related to their engaging in a smaller number of activities as opposed to engaging in a similar number of different activities and repeating them less often. They report that depressed individuals engage in a restricted range of activities with fewer repetitions than other groups. While carefully ensuring that they do not make causal statements on correlation evidence, Lewinsohn and Graf (1973) put forward an aetiological explanation. They propose that the person feels depressed because he is not engaging in pleasant activities which will provide response contingent positive reinforcement. They also state that it is as plausible that the person reduces activities subsequent to being depressed.

Results from the current study suggest that the level of ADB used is stable and will be used when a person realizes (s)he feels depressed. It is likely that the frequency of repetition of those behaviours decreases during a period of clinical depression involving a general lessening of activity as well as feelings of dysphoria. This explanation does not necessarily contravert Lewinsohn's model. Since results also show that the depressed group (at the post-depression assessment) report a lower rate of engaging in social activity a year previously as well as currently, it is possible that two different activity factors are involved. Firstly, there is a range of activities available for response contingent positive

reinforcement which is limited for a group of people who subsequently may become more depressed than others. Secondly, there is a repertoire of anti-depressive behaviours, which includes pleasant, mood related activities, upon which individuals draw to some degree when feeling depressed. The explanation will not predict that ADB are naturally aetiologically important as social activities may be. It will predict a self regulatory response which is activated when depression is recognized.

The helpfulness of ADB is reported by Rippere (1976) in terms of the number of ADB rated as either moderately or very helpful (nH) and the percentage of checked items rated helpful (%H). She finds no significant differences between groups though an examination of means shows that the mean percentage of items rated helpful is less for the inpatient depressed group (67.52%) than for the outpatient depressed and two normal control groups (71.46%, 71.43%, 84.12% respectively). The current study shows that the depressed group, when inpatients, has a significantly lower weighted score for helpfulness of ADB than normal controls. The helpfulness is not different from that of matched controls when the depressed group are no longer clinically depressed and hospitalized. Helpfulness is the only factor which discriminates significantly between groups when subjects reflect on their ability to control depression. The naturalistic evidence suggests that the severity of depression diminishes the ability of the individual to benefit from the activity he usually finds helpful in alleviating his depressive state. It seems that the repeated measure of ADB supports the suggestion that presence or absence of depression may be an important factor. This conflicts with Rippere's (1976) explanation (of the sex x locus

of control interaction) of the difference between depressed in-patients and depressed outpatients, who did not differ from normals. She expects the result to be related to treatment site rather than the presence or absence of depression. Since she gives no definition of depression for either group such a conclusion cannot be confidently accepted. This judgment is justified by the findings of Pilowsky and Spence (1978).

While some researchers (Mishler & Waxler, 1968; Winter & Ferreira, 1969) acknowledge that hospitalization may influence results the explanation of a lack of helpfulness while hospitalized can be validated by replicating the study using matched hospitalized subjects.

The result provides support for the notion of loss of reinforcer effectiveness (Costello, 1972). This occurs in the specific group of behaviours defined as anti-depressive, which results discussed above indicate are ongoing chains of behaviour. The loss of reinforcer effectiveness can be explained by aspects of a self-control model (Rehm, 1977). A selective attention deficit and/or inaccurate self evaluation may account for the lack of helpfulness of ADB when depressed. Support for this explanation is indicated by findings in the following studies:

(i) Smolen (1978) reports that depressed psychiatric subjects, who performed no less well than non-depressed psychiatric subjects, provide lower evaluations of their performance.

(ii) Golin and Terrell (1977), whose subjects were college students, report that, as a consequence of a higher goal level on a

skill task depressed subjects are less likely to perceive an average performance on a skill task than on a chance task. This does not change their expectancy for success. They interpret the result as an indication that the level of aspiration of mildly depressed persons may be particularly elevated in tasks requiring skill resulting in the perception of average performance as unsuccessful.

(iii) Kirschenbaum and Karoly (1977), whose results from a study of self regulatory failure show that negative self monitoring leads to lowered self monitoring, lowered self evaluations, decreased favourableness of self consequences and negative affective arousal. Further, although negative self monitors perform worse, their self monitoring is facilitated.

Self efficacy theory (Bandura, 1977) provides a psychological model for explaining the persistence of ADB in the face of its lack of helpfulness for the clinically depressed. Firstly, since people generally acknowledge, use and find helpful commonsense ADB when they are feeling depressed their ADB schema includes an efficacy expectation and an outcome expectation which will be a cognitively based source of motivation to try to counteract the symptoms of depression. If (for whatever aetiological reason) a person becomes more severely (that is, clinically) depressed than do other people, or indeed him/her-self on other occasions, the situation requires a more skilful and more arduous performance of ADB. This carries a higher risk of negative consequences. Further, the self-control deficits discussed above may also influence the lack of helpfulness. Results in the current study show no difference in the frequency of ADB, and a tendency only for the number of repetitions

of individual ADB to be fewer after hospitalization. The persistence of ADB, when extinction would seem more likely, may be explained by the availability of the four sources of efficacy information. The hospital ward provides a social setting (quite often a contrast to the immediate pre-hospital environment of the depressed person) for a variety of people at differing stages of their psychopathological process. The ward, regardless of the treatment orientation of the staff, provides a naturalistic social learning setting in which the sources of efficacy information about natural ADB are readily available. This enhances motivation to continue commonsense means of self-regulating depression in the face of its current lack of helpfulness. In contrast to the psychological explanation above, Rippere (1976) advances a sociological explication based on the general theory of planned behaviour (Miller, Galanter & Pribram, 1960).

If it is acknowledged that anti-depressive behaviour is present and used by people who feel depressed, including those who cannot cope with their depression and seek professional intervention, examination of its functional utility has clinical implications. It may be that the relationship of ADB to the length of hospitalization, subsequent level of depression and subsequent social adjustment are relevant to a patient's ability to resume a normal pattern living.

Since there is no significant correlation between the period for which patients were hospitalized and their BDI scores, patients' ADB in this context can be presumed to be comparatively independent of their level of depression. The tendency is for those who have spent a shorter period in hospital to subsequently engage more

frequently in ADB but to find it comparatively less helpful than those who spend longer in hospital. It is possible that the process of hospitalization provides an opportunity for patients to verify their self-regulatory ability in a limited environment as was discussed above in terms of the self-efficacy model. It is suggested that those who are discharged quickly, presumably as a consequence of the alleviation of symptoms, may not have had an opportunity to readapt their behavioural controls either through natural interactions with peers or through professional intervention. Rippere (1976, p. 299) comments that "assessment of a person's behavioural coping resources might well eventually contribute as much to his prognosis as do history and the symptoms with which he presents." Results from this study suggest that assessment and intervention in the area of self-control behaviour, to strengthen reinforcer effectiveness, is important. Perri and Richards (1977) report that successful naturally occurring episodes of self controlled behaviour involve effective self reinforcement. Treatment need not necessarily involve inpatient status. The essential requirement is continuing behavioural treatment.

The relationship between ADB and depression, as indicated by BDI scores, is the second area of appraisal. Once again the number of and frequency of engaging in ADB, which are interdependent, have a low correlation with the follow-up measure but the more depression the person feels the less helpful are his (her) ADB. Control subjects show a similar pattern of results with a marked trend for ADB to be less helpful when they are feeling depressed. It is concluded that the utility of ADB in helping to control depression is a function of the severity of depression and the overall

coping resources of the individual as is suggested in light of the relationship between ADB and social adequacy. It is also noted that the result indicates that it is depression which interferes with the effective use of ADB rather than the choice of treatment site suggested by Rippere (1976).

When the utility of ADB is examined in terms of its relationship with social adequacy the results are complex. Generally the evidence from this study of self-reported, naturally occurring behaviour concurs with that from experimental clinical literature.

Firstly, it is of importance that the group that has been unable to control depression and has sought professional help sees itself as significantly less socially able than the control group. The most significant difference occurs when the frequency of social activities is examined. The formally depressed group reports that it has more difficulty and engages less frequently in social activities and situations than others in a matched demographic group. It appears that this has persisted for at least a year and thus long before subjects were sufficiently depressed to seek help. Since the group was no longer depressed when this factor was reported the likelihood of the result being influenced by a negative cognitive set is decreased. The finding supports the empirical observations of Lewinsohn (1974), Prkachin, Craig, Papageorgis and Reith (1977) and Trower *et al.* (1978). It is also consistent with the assumption of Lewinsohn (1974) that the instrumental behaviour of the individual, in the skills he possesses and the extent to which he emits behaviour, will determine the amount of potentially anti-depressive, positively reinforcing events available.

Secondly, it seems that the level of social functioning of

the depressed group, though comparatively less sound and stable than for controls, has not changed as a result of being clinically depressed and hospitalized. The relationship of ADB to the current level of social functioning varies. People who have been depressed and engage frequently in ADB have the greatest difficulty in social situations. This does not appear to alter the frequency with which they encounter social activities (and most of the situations listed require an active role). The frequency of ADB for persons who have not been clinically depressed is not related to having difficulty in social situations, but is significantly related to the frequency of social activity, which is more frequent and less difficult for them anyway. It may be that the formerly depressed continue to try to regulate their social functioning and their depressive feelings. That they continue to experience difficulty may be because they do not have the coping resources to make situations positively reinforcing. This conclusion is supported by the correlation between patients reporting a lack of ADB helpfulness and social situational difficulty. The trend is the same for controls. Further, whether ADB is helpful or not has no relationship for either group to the frequency of their social activities. Naturalistic evidence presented in this study suggests that self regulatory, self help behaviour is a reality and persists in the face of difficulty and discomfort, regardless of its outcome efficacy. The clear implication as stated by Rippere (1976, p. 298) is "that is seems feasible to assess systematically, objectively, and economically an individual's habitual and characteristic coping activity".

Further research in clarifying the comparative lack of helpfulness of anti-depressive behaviour for the more severely

depressed could proceed using the self efficacy model. Assessment procedures could establish whether the lack of helpfulness is based on the efficacy or outcome expectations of an individual. Bandura (1977, p. 205) notes that "to alter efficacy-based futility requires development of competencies and expectations of personal effectiveness. By contrast, to change outcome-based futility necessitates changes in prevailing environmental value of the competencies that people already possess". The evidence presented in this study suggests that the rate of anti-depressive behaviours is persistent and that the areas most in need of therapeutic guidance are those involving the perception and control factors inherent in severe depression, that is, factors involving outcome efficacy.

Current therapeutic techniques comprised of both cognitive and behavioural anti-depressive components could be modified to recognize and enhance the client's habitual methods of coping to improve the likelihood of a positive treatment outcome. Such therapies are exemplified by cognitive therapy (Kovacs & Beck, 1978; Rush, Khatami & Beck, 1975), self-control depression programmes (Fuchs & Rehm, 1977), and treatment involving anticipation training (Anton *et al.*, 1976). The treatments commonly utilize Lewinsohn's concept of activity scheduling. Further, Lewinsohn (1974, 1976) Anton *et al.* (1976) and Bandura (1977) intimate that a successful treatment package may require training to improve the client's instrumental skills to allow a more effective development and use of the social environment. The specific contributions of particular elements of such treatment procedure would require detailed consideration.

That the current therapies, advanced as congruent with treatment involving ADB, all involve the use of pleasant activity schedules is not coincidental. Rippere (1977), having commented on the heterogeneity of ADB, expects that the diversity may make it difficult to formulate a 'global definition' of ADB in terms of intrinsic qualities, such as 'pleasantness' (Lewinsohn & Graf, 1973). Although Lewinsohn (e.g., 1976) uses a list of activities called a 'Pleasant Events Schedule' he constructs activity schedules from behaviours found enjoyable, pleasant, meaningful or interesting for them. The missing link between ADB and pleasant activities is the cognition that the latter are anti-depressive although the concept of mood-related is involved (Lewinsohn, 1976). Results of this study suggest a strong practical similarity between helpful ADB and pleasant activities. Of the items found most helpful by both the depressed and non-depressed controls in the current study 55% (5/9) are similar to those most often rated helpful by Rippere's (1976) subjects and 55% are similar to activities associated with improved mood in Lewinsohn and Graf's (1973) study. The items discriminating in helpfulness between depressed and control subjects are noteworthy in that those most helpful to controls and least helpful to the depressed group are associated with the accepted symptomology of depression and thus would be difficult for the latter group to either engage in spontaneously or find helpful. Further research could be useful in clarifying whether the activities used in an ADB programme should be idiosyncratic or whether they should include those ADB's consonant with normality.

In summary, the study of naturally occurring, self regulatory

anti-depressive behaviour has shown that people recognize and try to control their depression. The findings showed that, when moderately depressed, self regulation was less effective and therapist intervention was needed to provide guidance in enhancing the outcome of ADB. The results were explained within a self-efficacy model (Bandura, 1977). The therapeutic implications were congruent with Lewinsohn's (1974) model which was based on increasing response contingent positive reinforcement. It was concluded that therapy based on ADB should incorporate cognitive and behavioural elements.

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APPENDICES

...APPENDIX... A.

REGISTRAR GENERAL'S CLASSIFICATION

(Modified Version)

CLASSIFICATIONS OF OCCUPATIONS

I. Higher Professional Occupations

University Lecturing Staff; Medical; Law; Scientists;
Dentists; Engineers.

II. Other Professional, Technical - Managerial Occupations

Teachers; Clergy; Architects; Surveyors; Nurses;
Journalists; Parliamentarians; Pastoralists; Managers
of farms or shops; Clerical Administrators; Service
Administrators.

III(a) Other Non-Manual Occupations

Clerical; Sales; Crafts; Photographers; Insurance;
Commercial Travellers; Manufacturers Agents; Police;
Real Estate; Students; Waiters; Bartenders.

(b) Skilled Manual Occupations

Builders; Painters; Electricians; Carpenters;
Bricklayers; Plumbers; Plasterers.

IV Semi-Skilled Manual Occupations

Scuba Diving; Drivers; Postmen; Linesmen.

V Unskilled Manual Occupations

Labourers; Factory Workers; Farm Hands; Cleaners;
Millhands.

VI No Male Breadwinner

APPENDIX . . BBECK INVENTORY

This is a questionnaire. On the questionnaire are groups of statements, from A to U. Read a group of statements. Then pick out the one statement in that group which best describes the way you feel today, that is, right now.

Be sure to read all the statements in each group before making your choice. Then mark the statement which best describes the way you feel right now.

p.1

BECK INVENTORY

DATE: NAME: SEX:

- A. 0. I do not feel sad
 - 1. I feel blue or sad
 - 2a I am blue or sad all the time and I can't snap out of it
 - 2b I am so sad or unhappy that it is quite painful
 - 3. I am so sad or unhappy that I can't stand it
- B. 0. I am not particularly pessimistic or discouraged about the future
 - 1a I feel discouraged about the future
 - 2a I feel I have nothing to look forward to
 - 2b I feel that I won't ever get over my troubles
 - 3. I feel that the future is hopeless and that things cannot improve
- C. 0. I do not feel like a failure
 - 1. I feel I have failed more than the average person
 - 2a I feel I have accomplished very little that is worthwhile or that means anything
 - 2b As I look back on my life all I can see is a lot of failures
 - 3. I feel I am a complete failure as a person (parent, husband, wife)
- D. 0. I am not particularly dissatisfied
 - 1a I feel bored most of the time
 - 1b I don't enjoy things the way I used to
 - 2. I don't get satisfaction out of anything any more
 - 3. I am dissatisfied with everything
- E. 0. I don't feel particularly guilty
 - 1. I feel bad or unworthy a good part of the time
 - 2a I feel quite guilty
 - 2b I feel bad or unworthy practically all the time now
 - 3. I feel as though I am very bad or worthless
- F. 0. I don't feel I am being punished
 - 1. I have a feeling that something bad may happen to me
 - 2. I feel I am being punished or will be punished
 - 3a I feel I deserve to be punished
 - 3b I want to be punished
- G. 0. I don't feel disappointed in myself
 - 1a I am disappointed in myself
 - 1b I don't like myself
 - 2. I am disgusted with myself
 - 3. I hate myself

p.2

- H. 0. I don't feel I am any worse than anybody else
 - 1. I am critical of myself for my weaknesses or mistakes
 - 2. I blame myself for my faults
 - 3. I blame myself for everything bad that happens
- I. 0. I don't have any thoughts of harming myself
 - 1. I have thoughts of harming myself but I would not carry them out
 - 2a I feel I would be better off dead
 - 2b I feel my family would be better off if I were dead
 - 3a I have definite plans about committing suicide
 - 3b I would kill myself if I could
- J. 0. I don't cry any more than usual
 - 1. I cry more now than I used to
 - 2. I cry all the time now. I can't stop it
 - 3. I used to be able to cry but now I can't cry at all even though I want to
- K. 0. I am no more irritated now than I ever am
 - 1. I get annoyed or irritated more easily than I used to
 - 2. I feel irritated all the time
 - 3. I don't get irritated at all at the things that used to irritate me
- L. 0. I have not lost interest in other people
 - 1. I am less interested in other people now than I used to be
 - 2. I have lost most of my interest in other people and have little feeling for them
 - 3. I have lost all my interest in other people and don't care about them at all
- M. 0. I make decisions about as well as ever
 - 1. I try to put off making decisions
 - 2. I have great difficulty in making decisions
 - 3. I can't make any decisions at all any more
- N. 0. I don't feel I look any worse than I used to
 - 1. I am worried that I am looking old or unattractive
 - 2. I feel that there are permanent changes in my appearance and they make me look unattractive
 - 3. I feel that I am ugly or repulsive looking.

- 0. 0. I can work about as well as before
 - 1a It takes extra effort to get started at doing something
 - 1b I don't work as well as I used to
 - 2. I have to push myself very hard to do anything
 - 3. I can't do any work at all
- P. 0. I can sleep as well as usual
 - 1. I wake up more tired in the morning than I used to
 - 2. I wake up 1-2 hours earlier than usual and find it hard to get back to sleep
 - 3. I wake up early every day and can't get more than 5 hours sleep
- Q. 0. I don't get any more tired than usual
 - 1. I get tired more easily than I used to
 - 2. I get tired from doing anything
 - 3. I get too tired to do anything
- R. 0. My appetite is no worse than usual
 - 1. My appetite is not as good as it used to be
 - 2. My appetite is much worse now
 - 3. I have no appetite at all any more
- S. 0. I haven't lost much weight, if any, lately
 - 1. I have lost more than 5 pounds
 - 2. I have lost more than 10 pounds
 - 3. I have lost more than 15 pounds
- T. 0. I am no more concerned about my health than usual
 - 1. I am concerned about aches and pains or upset stomach or constipation
 - 2. I am so concerned with how I feel or what I feel that it's hard to think of much else
 - 3. I am completely absorbed in what I feel
- U. 0. I have not noticed any recent change in my interest in sex
 - 1. I am less interested in sex than I used to be
 - 2. I am much less interested in sex now
 - 3. I have lost interest in sex completely

APPENDIX C.

ANTI-DEPRESSIVE ACTIVITY QUESTIONNAIRE

When depressed, some people try to do something about it. This questionnaire is concerned with what people do when they are feeling depressed.

By putting a circle around the item number, check any of the activities that correspond to what you do when you are feeling depressed. Then write the number of the item in the columns on the right hand side of the questions to show:

- (a) how often you engage in the activity when you are feeling depressed, and
- (b) how helpful you find it.

Examples:

	HOW OFTEN			HOW HELPFUL		
	Rarely	Some times	Quite Often	Not Very	Moderately	Very
1. Do some gardening ...		1				1
2. Visit my mother ...			2	2		
3. Go cycling						

This would suggest that someone sometimes does some gardening and finds this very helpful when feeling depressed. Also he/she quite often visits mother when feeling depressed; but this is not very helpful. He/she does not use cycling as a means of trying to do something about his/her depression.

NAME:
ADDRESS:
PHONE NO.:
DATE OF BIRTH:
AGE IN YEARS:
MARITAL STATUS - SINGLE, MARRIED, SEPARATED, WIDOWED, DIVORCED
(Tick one)
CURRENT OCCUPATION:.....
and/or
PREVIOUS OCCUPATION:

	HOW OFTEN			HOW HELPFUL		
	Rarely	Some times	Quite Often	Not Very	Moderately	Very
1. See people, a friend ..						
2. Think of the reason for it						
3. Go for a walk						
4. Rectify the situation causing it						
5. Do something; keep busy.						
6. Talk to someone about it						
7. Listen to music or records						
8. Sleep						
9. Do something you enjoy.						
10. Do something constructive or creative						
11. Do something physical..						
12. Change activities; do something different...						
13. Have a change of scene						
14. Do something engrossing						
15. See a film						
16. Watch television						
17. Read something						
18. Go shopping						
19. Eat something						
20. Have a drink(alcoholic)						
21. Go out						
22. Read a book						
23. Think about something else						
24. Read a light or trashy book						
25. Get moral support, sympathy, reassurance						
26. Do something to take your mind off it; distraction						
27. Go for a drive or bicycle ride.....						
28. Play tennis or squash						
29. Work hard						
30. Do housework						

	HOW OFTEN			HOW HELPFUL		
	Rarely	Some- times	Quite Often	Not Very	Moder- ately	Very
31. Cleaning, polishing, tidying						
32. Eat something sweet...						
33. Remind oneself it will pass						
34. Wait for it to go away .						
35. Talk to someone						
36. Talk to someone about something else						
37. Crawl away on one's own; keep to oneself						
38. Stick to one's normal routine						
39. Do something vigorous.						
40. Work						
41. Write letters.....						
42. Buy clothes						
43. Do chores that want doing						
44. Have a bath						
45. Take antidepressants.						
46. Smoke (tobacco)						
47. Meditate						
48. Use will power; forget it						
49. Vent irritations; get things off your chest..						
50. Wallow in it						
51. Paint or draw						
52. Go to a park						
53. Ring someone up						
54. Go out with people ..						
55. Do something with people; something social.						
56. Avoid thinking about it.						
57. Do something even if it's trivial						
58. Give oneself a treat .						

	HOW OFTEN			HOW HELPFUL		
	Rarely	Some- times	Quite Often	Not Very	Moder- ately	Very
59. Engage in sport						
60. Help out or care for someone						
61. Do easy work						
62. Cooking and baking						
63. Do laundry						
64. Do something in one's own company						
65. Play with children or watch them play						
66. Sit down						
67. Take tranquilizers						
68. Set limits on it						
69. Get the situation into perspective						
70. Get angry or annoyed ...						
71. Take one's feelings out on something						
72. Plan something for the future						
73. Talk to oneself						
74. Listen to the radio						
75. Read an journal or magazine						
76. Get out into the countryside						
77. Look at plants						
78. Go to the cinema with people						
79. Find out how one compares to others						
80. Avoid feeling sorry for oneself						
81. Avoid professionals (doctors, psychiatrists) .						
82. Do something incompatible with feeling depressed ..						
83. Act as if one weren't depressed						
84. Swim						
85. Mend things						

	HOW OFTEN			HOW HELPFUL		
	Rarely	Some- time	Quite Often	Not Very	Mod- erat- ely	Very
86. Buy something to eat						
87. Buy a record						
88. Change a job or line of work						
89. Eat a meal						
90. Take a nap						
91. Have sex						
92. Take recreational drugs .						
93. Have coffee or tea						
94. Find another way of looking at things						
95. Think of reasons not to be depressed						
96. Laugh at oneself						
97. Day-dream						
98. Go to the opera						
99. Go to the theatre						
100. Read a newspaper						
101. Read an absorbing book .						
102. Play a musical instrument.						
103. Visit an art gallery or museum						
104. Look at some place or some- thing beautiful						
105. Get some sun						
106. Find peace and quiet ...						
107. Have a meal with people .						
108. Take comfort in one's religion						
109. Pray						
110. Keep away from people...						
111. Avoid difficult tasks or activities						
112. Avoid activity; do nothing.						
113. Avoid staying on one's own.						
114. Avoid thinking of possible sources of failure						
115. Avoid social events; avoid people						
Other						
116.						
117.						

APPENDIX D.

SOCIAL SITUATIONS & ACTIVITIES

This questionnaire is concerned with how people get on in social situations, that is, situations involving being with other people, talking to them etc.

SECTION ONE: How difficult

The first two pages deal with how much difficulty, if any, you have in these situations. Having difficulty means that the situation makes you feel anxious or uncomfortable, either because you don't know what to do, or because you feel frightened, embarrassed or selfconscious.

1. Across the top of Page 1 you will see five different choices of difficulty, each with a number underneath (e.g. "no difficulty" = 0).
2. Down the left hand side of the pages are listed 42 situations you might encounter which some people have said they find difficult. If some of these situations are ones in which you have never found yourself, please imagine how you would feel if you did.
3. Down the right hand side of the page are two columns which refer to two different points in time. They are headed (a) the present time; (b) this time a year ago.

For each situation, and for each point in time, select the choice of difficulty which most closely fits how you feel, and write the number of your choice in the appropriate column.

	AT THE PRESENT TIME	THIS TIME A YEAR AGO
A. Going to a public meeting	3	1
B. Going to the cinema	0	0

Example A means that someone has great difficulty (3) at the present time, and had slight difficulty (1) a year ago.

Example B means that someone had no difficulty (0) at either of these points in time.

Please note: Choice "avoidance if possible" should only be used if you find the situation so difficult that you would avoid it whenever you could. It should NOT be used for situations you avoid because they are not to your taste - e.g. not going to concerts because you dislike music.

SECTION TWO: How Often?

The third page deals with how often you have found yourself in each of the 28 situations listed on the left hand side of the page. The procedure is exactly the same as that for section 1.

1. Across the top of Page 3 are several different "how often" choices, each with a number underneath it (e.g., "at least once a week" = 2).
2. Down the right hand side of the page are two columns referring to two three-month periods: (a) the current three months, and (b) the same three months a year ago.

For each situation, and for each three month period, select a "how often" choice and write the number in the appropriate column.

PLEASE NOTE: Choice "never" (7) means that you have never in your life been in that particular situation. It should therefore be used in both columns.

SECTION ONE

DATE: SEX: NAME:

No Difficulty	Slight Difficulty	Moderate Difficulty	Great Difficulty	Avoidance if possible
0	1	2	3	4
			At the present time	This time a year ago
1.	Walking down the street			
2.	Going into shops			
3.	Going on public transport			
4.	Going into pubs			
5.	Going to parties			
6.	Mixing with people at work			
7.	Making friends of your own age			
8.	Going out with someone you are sexually attracted to			
9.	Being with a group containing both men and women of roughly the same age as you			
10.	Being with a group of the same sex and roughly the same age as you			
11.	Being with a group of the opposite sex of roughly the same age as you			
12.	Entertaining people in your home, lodgings etc.			
13.	Going into restaurants or cafes			
14.	Going to dances, dance halls or discotheques			
15.	Being with older people			
16.	Being with younger people			
17.	Going into a room full of people			
18.	Meeting strangers			
19.	Being with people you don't know very well			
20.	Being with friends			
21.	Being with relatives			
22.	Approaching others - making the first move in starting up a friendship			

	At the present time	This time a year ago
23. Making ordinary decisions affecting others (e.g., what to do together in the evening)		
24. Being with only one other person rather than a group		
25. Getting along with neighbours		
26. Getting along with family members		
27. Helping in the care and training of the children		
28. Helping with household chores		
29. Dressing and taking care of myself		
30. Helping with family budgeting		
31. Remembering to do important things on time		
32. Taking up hobbies		
33. Going to church		
34. Working		
35. Supporting the family		
36. Getting to know people in depth		
37. Taking the initiative in keeping a conversation going		
38. Looking at people directly in the eyes		
39. Disagreeing with what other people are saying putting forward your own views		
40. People standing or sitting very close to you		
41. Talking about yourself and your feelings in a conversation		
42. People looking at you		

SECTION TWO:

	Every day or almost every day	At least once a week	At least once a fortnight	At least once a month	Once or twice in 3 months	Not at all in 3 months	Never
	1	2	3	4	5	6	7
	Last 3 months					3 month period a year ago	
1. Walking down the street							
2. Going to the shops							
3. Going on public transport							
4. Going into pubs							
5. Going to parties							
6. Mixing with people at work							
7. Making friends of your own age							
8. Going out with someone you are sexually attracted to							
9. Being with a group of the same sex and roughly the same age as you							
10. Being with a group containing both men and women of roughly the same age as you							
11. Being with a group of the opposite sex of roughly the same age as you							
12. Entertaining people in your home, lodgings, etc.							
13. Going into a restaurant or cafe							
14. Going to dances, dance halls or discotheques							
15. Being with older people							
16. Being with younger people							
17. Going into a room full of people							
18. Meeting strangers							
19. Being with people you don't know very well							
20. Being with friends							
21. Being with relatives							
22. Approaching others - making the first move in starting up a friendship							
23. Making ordinary decisions affecting others (e.g. what to do together in the evening)							
24. Helping in the care and training of the children							
25. Helping with household chores							
26. Helping with family budgeting							
27. Going to church							
28. Working							