

**CORRELATES OF PSYCHOLOGICAL
DISTRESS IN
PENAL AND PSYCHIATRIC POPULATIONS**

Thesis

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by

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ABSTRACT

This thesis is an investigation of social problem-solving skills, psychological distress, and supportive relationships among three distinct samples. The research groups comprise a) 25 depressed inpatients and a matched comparison group; b) 50 hospital admissions following an act of suicidal behaviour; and c) 5 sub-groups of incarcerated young offenders (inmates on Strict Suicidal Supervision, inmates on protection, victims of bullying, identified bullies, comparison group) with 25 inmates in each group. Data was collected by structured interviews, standardised psychometric measures of mood states (e.g. Hospital Anxiety and Depression Scale, Beck Hopelessness Scale), problem-solving ability (e.g. Means-Ends Problem-Solving Procedure) and supportive relationships (e.g. Significant Others Scale). Data were analysed by means of parametric statistical techniques (e.g. analyses of variance and multiple regression analyses). Eight cross-sectional studies are reported. Depressed patients demonstrated problem-solving difficulties, which were related to the level of psychological distress experienced. Clinically depressed patients were also found to differ from a comparison group in their autobiographical memory recall and concentration ability - both of which were related to their impoverished problem-solving ability. Deficits in problem-solving ability in the depressed patients were not an artefact of their verbal IQ. Regression analyses of the data relating to suicidal community inpatients illustrated that social support variables were the prime predictors of suicidal intent, depression and hopelessness. Social problem-solving variables also emerged as significant predictors of psychological distress, albeit to a lesser extent. Social support and problem-solving variables were also important moderator variables in the relationship between stress and suicidality. The studies conducted with young offenders illustrated a hierarchy of problem-solving deficits and psychological distress among the inmate groups. Problem-solving ability was not an artefact of verbal IQ. The value of using problem-solving interventions with vulnerable offenders is discussed. The importance of prison relationships in the experience of stress by inmates was also highlighted. Similarly, parental relationships were related to the levels of distress experienced while incarcerated. The results of each study are discussed in relation to the relevant literature, practical implications for clinical interventions with each group, and suggestions for future research. The findings of the thesis are discussed in relationship to transactional, stress-hopelessness-distress models of psychological illness and distress.

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PREFACE

Introduction

The current thesis is an investigation into the correlates of psychological distress among three samples of clinical interest - a) the clinically depressed, b) individuals who have engaged in acts of suicidal behaviour, and c) incarcerated young offenders. The present research will examine two particular correlates of distress - social problem-solving ability and supportive relationships.

The studies in the thesis were conducted to: a) examine the form and correlates of problem-solving ability among three distinct research samples previously identified as "deficient" in their skill; b) to overcome the difficulties previously associated with sample selection for problem-solving and social support studies; c) to determine the relationship between problem-solving ability and the experience of psychological distress; d) to examine the use and outcomes of different measures of problem-solving assessment; and e) to examine the nature and function of supportive relationships in the levels of psychological distress experienced by individuals engaging in suicidal behaviour and the group of young offenders.

The thesis

The current thesis consists of twelve chapters.

The first two chapters review the relevant literature pertaining to social problem-solving and supportive relationships respectively. *Chapter 1* examines the concept of social problem-solving, its assessment, some potentially significant cognitive correlates of problem-solving ability, and analytically discusses previous research conducted with the three key research groups. *Chapter 2* deals with the concept of supportive relationships, the assessment of support, and reviews research conducted with suicidal individuals and prisoners.

Chapter 3 outlines the methodological issues that will be dealt with in the course of the studies conducted in the current thesis. The chapter also details the methodology of the studies that include the methodological design, descriptions of the samples, a summary of the measures, statistical analyses, and the specific research questions that will be addressed in the course of each of the research studies.

Chapters 4 to 11 present the research studies.

Chapters 4 and 5 detail the research conducted with the clinically depressed patients. *Chapter 4* attempts to examine the nature of the problem-solving abilities of clinically depressed patients compared to a matched comparison group. The study examines the utility of inventory and outcome measures of problem-solving in distinguishing the abilities of the groups. Further to this, the study examines the correlations between problem-solving ability and the levels of psychological distress experienced by depressed patients. *Chapter 5* continues an examination of the problem-solving abilities of depressed individuals, and considers the aetiology of the deficits in problem-solving ability often evident in depression. The study considers important cognitive correlates such as autobiographical memory recall, concentration ability, and verbal IQ.

Chapter 6 details the findings of the study conducted with individuals who have recently engaged in an act of suicidal behaviour. The study examines the transactional model of suicidal behaviour and considers both problem-solving ability and supportive social relationships as important predictors of the levels of suicidality and psychological distress experienced by individuals who engage in suicidal behaviour.

Chapters 7 to 9 examine the problem-solving abilities of groups of young offenders and the relation with psychological distress. *Chapter 7* examines the problem-solving skills of a group of identified bullies and a group of identified victims of bullying from a young offenders institution. The study also examines the utility of an inventory versus an outcome measure of problem-solving assessment. The study finally examines the relationships between problem-solving and the experience of psychological distress. Following from this, *Chapter 8* examines further groups of vulnerable young offenders (inmates on strict suicidal supervision, inmates on formal protection, and the victims of bullying) to determine if there is a hierarchy of psychological distress and problem-solving deficits. The study also considers whether such deficits are an artefact of verbal IQ. *Chapter 9* examines the state-trait debates on problem-solving deficits in suicidality and considers whether the deficits apparent are more inextricably linked to suicidality, depression, or hopelessness.

Chapters 10 and 11 consider the structure and function of supportive relationships among young offenders and how they relate to the levels of psychological distress

experienced by the inmates. *Chapter 10* considers the structure and function of 9 key relationships from within and outwith the prison and examines the role that they play in the experience of depression, anxiety, and hopelessness. *Chapter 11* examines parental bonding among young offenders in the first sixteen years of life, and examines whether parental care and overprotection variables are linked to the level of psychological distress experienced by young offenders during incarceration.

Chapter 12 summarises the main findings of the research studies in the current thesis, discusses limitations and avenues for future research, and the practical implications of the work.

CHAPTER 1:

**SOCIAL PROBLEM SOLVING - A CRITIQUE OF THE
RESEARCH AND METHODS OF INVESTIGATION**

Chapter 1:

SOCIAL PROBLEM SOLVING - A Critique Of The Research And Methods Of Investigation

1.1. What Is Social Problem-Solving?

Social problem-solving in its simplest formation, refers to the process by which individuals identify and deal with problems that occur in everyday living. Social problem-solving has also been referred to as “interpersonal problem-solving” (Shure, 1981), “interpersonal cognitive problem-solving” (Spivack, Platt & Shure, 1976), and “personal problem-solving” (Heppner & Petersen, 1982).

One of the most cited definitions of social problem-solving can be found in the works of D’Zurilla & Goldfried (1971) who defined problem-solving in terms of a behavioural process which produces a set of potentially effective solutions for dealing with problematic everyday situations and increases the likelihood of “an individual selecting the most effective response. More recently Nezu (1987) has defined problem-solving as a “metacognitive process” by which an individual understands the nature of problems in living and directs their attempts at altering either the problematic nature of the situation itself or their reaction to them”. Thus problem-solving can be taken from various perspectives simultaneously. On a behavioural level, it is plausible to suggest problem-solving as an individual’s change in behaviour as a response to a difficult situation. From a social-learning prospective, problem-solving is a self-management process in which an individual has to guide themselves to a positive outcome. Finally, from a mental health perspective, problem-solving serves as a general coping strategy that allows an individual to generate, select and implement a whole host of effective behaviours which will enhance general well-being in psychological and social terms and protect the individual from possible maladaptation (D’Zurilla & Nezu, 1982; Lazarus & Folkman, 1984).

Within the social problem-solving paradigm, “problems” are defined as specific life situations to which there is no immediate and easy response due to real-life obstacles such as ambiguity within the situation, conflicting demands, and the novelty of the situation preventing the implementation of instantaneous solutions by an individual. “Problems” can take the form of single events (e.g. losing a wallet), a series of events (e.g. difficulties with an employer) or a chronic situation (e.g. being unemployed). The demands in such

problematic situations may stem from either the individual (e.g. meeting a personal goal or need) or the environment. A problem does not stem from the person alone, but rather is a product of a person-environment relationship characterised by a perceived imbalance in the demands and adaptive responses available to the individual. Such imbalances may change over time as a result of changes in the environment, person or both. This is similar to the interactional models endorsed in psychological explanations of stress (Cox, 1978; Lazarus, 1981).

Within the problem-solving model, a "solution" is defined as any coping response designed to alter the nature of the difficult situation, the negative affective responses that may accompany it, or both (D'Zurilla, 1986). "Effective solutions" are those which not only resolve a situation, but do so with maximum benefits for the individual and few negative consequences. Such costs and benefits must be assessed in relation to both the short-term and the long-term outcomes of the solution to the problem. The adequacy and effectiveness of solutions are dependent on the individual's personal values and goals and often depend also upon the setting.

The social-problem-solving paradigm also distinguishes between the concepts of problem-solving, solution implementation, and social competence (D'Zurilla, 1986; D'Zurilla & Nezu, 1987). Social problem-solving concerns the generation of effective solutions to a problematic situation. On the other hand, solution implementation deals with the outcome of the social problem-solving process - i.e. the effective performance of a chosen solution. Successful implementation can be hindered by a number of variables, which include deficiencies in performance skills, emotional inhibition, and motivational deficits. The two distinct steps of solution generation and implementation can be important in clinical practice, where different intervention strategies would be necessary for individuals who were competent at generation solutions but weak at implementation, and patients whose difficulties were vice versa. "Social competence" concerns a person's ability to successfully respond to differing problematic situations that they may be faced with (Goldfried & D'Zurilla, 1969). It generally concerns an evaluation of the repertoire of skills which an individual possesses to deal with everyday demands. Social problem-solving is only one component of social competence, however it has been demonstrated to be a very important one (Bellack, Sayers, Mueser & Bennett, 1994; Clum & Febraro, 1994; D'Zurilla & Nezu, 1982, 1987; Intagliata, 1978; Linehan, Camper, Chiles, Strosahl, & Shearin, 1987; Sarason, 1981) and thus it shall be a major theme of the current thesis.

1.2. Problem-Solving And Mental Health

Since the inception of problem-solving research, its importance to issues of mental health and psychological adjustment have been highlighted. The central tenet of this hypothesis is that problem-solving ability is positively related to personal and social adjustment and inversely related to psychopathology and social maladjustment. Jahoda (1953, 1958) was among the first to suggest that problem-solving was an integral part of positive mental health. Jahoda also suggested that problem-solving deficits were inextricably linked to mental health problems. A series of studies was conducted by Zigler, Phillips and associates during the 1960s to illustrate the role that problem-solving difficulties can play in psychopathology. These studies suggested that post-hospital adjustment of psychiatric patients was positively correlated with their levels of social competence prior to hospitalisation. In addition, they found that greater deficits in social competence were associated with more severe symptomatology (Phillips & Zigler, 1961, 1964; Zigler & Phillips, 1961, 1962; Levine & Zigler, 1973). These early findings on the relationship between social competence and psychopathology led to different interpretations. Social competence has been viewed as both a "buffer" against psychopathology and as a preventative factor. However, more recent researchers have broadened the perspective to include the view that maladaptive responses may in fact result from deficiencies in the skills and abilities that contribute to social competence, including problem-solving skills. This viewpoint has received much empirical attention and has been elaborated and extended in recent years (Bellack et al, 1994; D'Zurilla & Goldfried, 1971; Haaga, Fine, Roscow-Terrill, Stewart, & Beck, 1995; Heppner & Petersen 1982; Marx, Williams, & Claridge, 1992; Nezu, Nezu, & Perri, 1989; Schotte & Clum, 1987, Spivack et al, 1976).

1.3. The Social Problem-Solving Process.

The problem-solving model of mental health is based on two main assumptions. Firstly, it posits that all humans are active problem-solvers by virtue of the demands placed on them by everyday life. Secondly, it suggests that psychological adjustment is related to problem-solving ability. Furthermore, it argues that problem-solving skills are significant determinants of social competence, which is regarded as a key variable in both psychological and social adjustment (D'Zurilla & Goldfried, 1971).

Problem-solving ability is not a unitary concept, but consists of a collection of distinct skills. D'Zurilla & Goldfried (1971) recognised five distinct interacting phases in

the problem-solving process. These were identified as 1) problem orientation, 2) problem definition and formulation, 3) the generation of alternatives, 4) decision making, and 5) the implementation and verification of solutions. The problem-orientation process has been regarded as distinct in that it is a motivational process while the other stages consist of particular skills and abilities. 'Problem orientation' has been described as a set of orienting responses which consist of the immediate cognitive-behavioural-affective reactions of a person when they first face a particular difficult situation. These responses reflect the person's particular sensitivity to problems, along with their expectations, beliefs, and their appraisals of both possible life problems and their own abilities to deal with them. Nezu, Nezu, & Perri (1989) state that this cognitive set is based on the individual's previous developmental and reinforcement history related to problems they have had to deal with in the past. Depending on the nature of this particular collection of cognitive variables, they may produce positive affect in an individual and an approach motivation, or conversely negative affect and avoidance motivation which can lead to difficulties in the problem-solving process. The remaining four components of problem-solving skills are goal-directed. Each task makes a distinct contribution to successful problem solution. The aim of the 'problem definition and formulation' phase is to clarify and understand the specific nature of the problem. The 'generation of alternatives' phase maximises the production of possible solutions to the problem in order that the most suitable answer is found. The 'decision making phase' evaluates the solutions and selects the best choices for successful problem solution. Finally, the 'solution implementation and verification' phase assesses the solution outcome and evaluates its effectiveness in dealing with the particular problem situation. However, as mentioned earlier, solution implementation is regarded as a distinct component in the problem-solving process by researchers assessing problem-solving abilities.

This model of problem-solving represents a prescriptive model of successful problem-solving (Nezu et al, 1989). Furthermore, the sequence in which the components are presented is considered as useful model for clinical intervention (Nezu et al, 1989). The model does not posit that this is the means by which all successful problem-solvers operate, nor does it suggest that all problem-solving processes should follow in a unilinear fashion, but rather that successful problem-solving will involve continuous movement between and among the five components of the process before a successful solution is arrived at.

Spivack et al (1976) suggest that there are certain other cognitive abilities that are integral to the problem-solving process. These include 1) problem sensitivity (an awareness that problems are inherent in human interactions, and a motivation to address them), 2) causal thinking (being able to appreciate the motivations of others as well as the self), 3) alternative solution thinking (being able to generate a host of possible answers without prejudging their worth), 4) consequential thinking (being able to take into account the personal and social consequences of a course of action prior to its implementation) and 5) means-end thinking (the capability to think through the step-by-step stages of problem-solving including possible obstacles, alternate solutions and consequences). Means-end thinking has been a focal variable of research (Evans, Williams, O'Loughlin & Howells, 1992; Gotlib & Asarnow, 1979; Intagliata, 1978; Joffe, Dobson, Fine, Marriage, & Haley, 1990; Marx et al, 1992; Schotte & Clum, 1982, 1987; Zemore & Dell, 1983) and shall be a major theme of the current thesis.

According to Nezu et al, (1989) the social problem-solving model does not regard problem-solving skill as a fixed trait, but rather considers such skills to be the product of direct and vicarious and direct experience with other people, with particular focus upon significant adults, such as parents (Spivack et al 1976; Spivack, Platt, & Shure, 1974). The degree to which a developing child learns these skills depends upon the degree to which an important adult models such skills.

Thus, according to the model, there are two main reasons why individuals may be ineffective problem-solvers. Firstly, it is plausible to suggest that they may not have learned the necessary skills. Secondly, the individual may have successfully acquired such skills previously, but fail to deal with problems in a particular situation due to negative affect (e.g. depression, anxiety or hopelessness) that inhibits the use of various problem-solving operations.

This theme will be a major focus of the current thesis, where the interaction of problem-solving ability upon psychological distress will be examined in three distinct populations who have been considered to have difficulties with problem-solving - individuals who have been diagnosed with clinical depression, a group of parasuicidal individuals who have presented themselves after an incident of self-harm at the emergency department of a local hospital, and a group of incarcerated young offenders. It has previously been suggested that the deficits in problem-solving ability found among

individuals with clinical depression or parasuicidal individuals is a result of negative affect interfering with processing abilities (Evans et al, 1992; Linehan et al, 1987; Marx et al 1992), while the deficits found among prisoners are an artefact of their level of verbal ability and scholastic level (Ivanoff, Smyth, Grochowski, Jang, & Klein, 1992; Hollin & Swafer, 1993). During the course of this thesis, these relationships will be examined further.

1.4. The Assessment Of Social Problem-Solving Skills.

Assessment of social-problem solving skills and deficits are an integral part of planning intervention. In the main, there are two forms of social-problem-solving measures - known as process and outcome measures. Firstly, there are process measures which aim to assess the general cognitive and behavioural activities which are associated with effective problem-solving. These kinds of measures are strongest at assessing specific strengths and weaknesses of problem-solving ability - such as problem orientation. Process measures consist of both inventories and performance tests. Most of these inventories are analogue Likert scales - e.g. the Problem-Solving Inventory (Heppner & Petersen, 1982), the Social Problem-Solving Inventory (D'Zurilla & Nezu, 1990).

One disadvantage of inventory assessment of problem-solving is that they do not actually test a person's skills and abilities *in vivo*, and often assess their attitudes towards problem-solving rather than their actual abilities. This issue is more adequately addressed by the use of outcome measures of problem-solving ability - e.g. the Means-Ends Problem-Solving Procedure (Platt & Spivack 1975, the Interpersonal Problem-Solving Technique (Getter & Nowinski, 1981), the Inventory of Decisions, Evaluations and Actions (Goddard & McFall, 1992).

Outcome measures of problem-solving are more useful in assessing the ability of individuals to apply their skills to particular situations. Usually, an individual is presented with a specific problem that requires the individual to use a particular skill such a problem orientation, problem definition, generation of possible solutions, or the selection of the most viable solution. Such tests have generally been considered to reflect real-life problem-solving abilities better than inventory forms and may have greater external validity. Most outcome measures use commonly encountered hypothetical situations, but some researchers have successfully used outcome measures specifically targeted at an individual's personal problems (Marx et al, 1992; Priester & Clum, 1993b; Schotte &

Clum, 1987). The tests which employ hypothetical scenarios - such as the MEPS - are generally standardised, and have good internal validity (Platt & Spivack, 1975). However the tests which are targeted towards an individual's particular set of problems have met concern with regards to internal validity (Davilla, Hammen, Burge, Paley & Daley, 1995).

Although there appears to be a plethora of social problem-solving assessment measures, the most frequently used tests have included the Problem-Solving Inventory [PSI] (Heppner & Petersen, 1982) the Means-Ends Problem-Solving Procedure [MEPS] (Platt & Spivack, 1975) and the Social Problem-Solving Inventory [SPSI] (D'Zurilla & Nezu, 1990). In recent years, concern has arisen over the use of inadequate or questionable problem-solving measures (Butler & Meichenbaum, 1981; Tisdelle & St.Lawrence, 1986). The most serious concern focuses on an apparent lack of construct validity for these measures - i.e. researchers are unsure whether or not their instruments are actually assessing problem-solving abilities. Overall, the PSI and MEPS appear to have the most empirical support - due to the fact that they have been the most widely used and studies have demonstrated their reliability and validity. In the following sections, the PSI, the MEPS, and the more recent SPSI will be described and evaluated.

1.4.1. Problem-Solving Inventory [PSI] (Heppner & Petersen, 1982)

This is a 35-item, Likert format inventory that is a measure of "problem solving appraisal" or an individual's perceptions of their own problem-solving behaviours and attitudes. The items for the PSI were derived by means of a principal components factor analysis to reflect the core aspects of D'Zurilla & Goldfried's (1971) problem-solving model. Three main factors were discovered - Problem-Solving Confidence (concerning an individual's confidence in their abilities), Approach-Avoidance Style (concerning whether individuals are motivated to resolve problems or avoid them), and Personal Control (concerning whether an individual believes they are in control of their behaviours and emotions during the problem-solving process). A copy of the PSI can be found in *Appendix P* of the current thesis. Overall, scores can be computed on each of these factors, or summed together to create an overall problem-solving score. The PSI has been demonstrated empirically to have good reliability and validity (Dixon, Heppner, & Anderson 1991; Elliot, Godshall, Shrout, & Witty, 1990; Heppner, 1988, Heppner & Peterson, 1982; MacNair & Elliot, 1992).

A common concern inherent with all the inventory style assessments of problem-solving abilities, such as the PSI, is that the ecological validity is questionable in that such measures can only estimate the quality of a person's problem-solving skills and do not actually test such skills in vivo. With regards to the PSI in particular, a further limitation is that its instruction set lacks a specific definition of the term "problem" (D'Zurilla & Maydeu-Olivares, 1995). As a result, some participants may define problems in broad terms while others may employ a more constricted focus. This in turn may reduce the validity of test performances.

The PSI has been faced with some construction difficulties. Since the PSI was constructed from an initial pool of only 50 items, and no procedures were reported with regards to whether this item pool adequately reflected the facets of D'Zurilla & Goldfried's (1971) social problem model, or any other theoretical formulation of problem-solving, D'Zurilla & Maydeu-Olivares (1995) argue that its content and validity is questionable. In addition, the PSI has a conceptual weakness in that its empirically derived three-factor structure has not been linked to any specific model of social problem-solving. According to Heppner (1988), the PSI assesses problem-solving behaviour only at a global level - i.e., self-confidence, approach-avoidance tendencies, and personal control beliefs. Thus the PSI cannot be used to assess specific problem-solving skills or test hypotheses concerning the nature or quality of specific problem-solving processes.

1.4.2. Means-Ends Problem-Solving Procedure [MEPS] (Platt & Spivack, 1975)

According to Platt & Spivack (1975), the MEPS assesses three important factors of means-ends thinking, which they view as an integral component of the problem-solving process. These three factors are defined as 1) the ability to conceptualise the steps in sequence (the means) that are necessary to achieve a particular problem-solving goal, 2) the ability to foresee obstacles which may hinder successful goal attainment, and 3) the ability to appreciate that successful problem resolution is not immediate and may take time, or that time may be essential in implementing a chosen solution.

According to Spivack et al (1976), means-end thinking is one of the most important cognitive skills underlying problem-solving as it occurs in everyday life. The MEPS can be regarded as a process measure - in that it assesses certain problem-solving operations. However, because the components of means-ends thinking represent a problem solution

rather than the antecedent processes that enable a person to find a solution, the MEPS also can be considered to be an outcome measure of problem-solving.

The MEPS can be administered in either pencil-and-paper or interview formats. The format of each of the MEPS scenarios presents the individual with a difficult interpersonal situation consisting of incomplete stories which have only a beginning and a prescribed ending. In the beginning, the need or aim of a protagonist is stated, and at the end the protagonist has successfully met this. The task of the respondent is to detail the steps that are necessary for problem solution, show awareness of potential obstacles in the problem-solving process and suggest means for overcoming these, and to show an appreciation that real-life problem-solving often takes time. The MEPS will be a key measure used in the current thesis, and a copy of its form is found in *Appendix H* of the current thesis.

The original instructions presented the instrument as a test of imagination. In light of the fact that D'Zurilla & Nezu (1982) have argued for the need to induce a clear, problem-solving set in the instruction of such problem-solving tests; more recent studies have employed problem-solving instruction sets, where individuals are asked to suggest the ideal, third party instruction for overcoming problems (Marx et al, 1992).

Although the original test consists of 10 hypothetical scenarios, recent researchers have employed only a subsection of these (4-5 being the norm), often selecting the ones that are considered to be more ecologically valid for the particular population being studied (Gotlib & Asarnow 1979; Ivanoff et al 1992; Linehan, 1981; Marx et al 1992; Schotte & Clum 1987). This shortened form of the MEPS has been demonstrated to be a valid measure of means-end thinking (Platt & Spivack, 1975).

The traditional MEPS employs a quantitative scoring procedure which assesses the frequencies of the number of relevant means, irrelevant means, perceived obstacles in the problem-solving process, and time taken. In more recent research, attention has been drawn to the utility of qualitative forms of scoring. Several investigators have suggested that the traditional quantitative scoring may not in fact provide enough relevant information about a person's problem-solving abilities. An innovative and clinically useful score has been devised in the works of Linehan et al (1987), which examines whether responses could be regarded as active (in which the protagonist takes active steps in the problem-

solving process) or passive (where the protagonist is dependent upon the actions of others for successful problem solution) in their valence. Fischler & Kendall (1988) found that qualitative scores (social appropriateness ratings) but not quantitative scores were related to adjustment in school children. Marx et al (1992) found that qualitative scores (of effectiveness and effort) distinguished better between clinically depressed patients and a non-depressed comparison group. Further variables that distinguished the groups included subjective appraisal of effort involved in the problem-solving process, personal appraisal of solution effectiveness and personal willingness to employ the proposed solution (Marx et al 1992). However, to date there have been relatively few studies that have examined qualitative scoring among clinical groups, and thus it is perhaps most beneficial to consider both quantitative and qualitative scores in future research.

Platt & Spivack (1975) performed a factor analysis on the MEPS with three different samples. Each time, they obtained a single underlying factor, which provides support for the unidimensionality of the MEPS. A host of studies have demonstrated the reliability and validity of the MEPS (D'Zurilla, 1986; Marx et al 1992; Platt & Spivack, 1975; Schotte & Clum 1982, 1987).

By examining the sheer number of papers that have chosen it as their prime measure of social problem-solving ability, the MEPS still appears to be the most popular assessment technique. This is perhaps due to the fact that it is a measure that assesses both the "process" and the "outcome" facets of problem-solving ability, in that a researcher or clinician can observe the actual processes that a person employs to attempt to solve a particular problem.

However, the MEPS has faced criticism. Firstly, there is the issue of the validity of a few of the original MEPS scenarios (such as stealing a diamond, revenging a storm-trooper, getting revenge) which have been criticised as having questionable ecological validity and having antisocial goals (Butler & Meichenbaum, 1981). In recent years, the majority of researchers have attempted to overcome this difficulty by employing a subset of the original scenarios and choosing such a set which would be most valid for the particular population being studied (Evans et al, 1992; Gotlib & Asarnow, 1979; Ivanoff et al 1992; Linehan, 1981; Marx et al, 1992; Schotte & Clum, 1987). Indeed, Platt & Spivack (1975) illustrated that it is not necessary to administer all ten scenarios in order to obtain a valid measure of means-end thinking.

A further criticism of the MEPS concerns the fact that all the scenarios have happy endings. Butler & Meichenbaum (1981) argue that not all problem situations that are encountered in life have satisfactory endings, and that this format restricts the information that we can obtain about the expectancies of the individual as to the probable outcome. Indeed, they argue, that the positive and negative expectancies that an individual brings to bear on problematic situations can have an important impact on both problem-solving cognition and behaviour.

Although this criticism is perhaps warranted, in it should be noted that in practice, tests that adequately reflect the reality of life are difficult to construct. In defence of the MEPS, it is in fact likely that most people will have experienced many of the most commonly used situations during their own lives (e.g. falling out with a partner and having to resolve the situation, dealing with disagreements with friends, sorting out difficulties with a work supervisor) and thus the MEPS may not be as ecologically questionable as previously suggested. What is more, it is probable that the introduction of non-happy endings would lead to motivational problems for the participant as well as difficulties with problem orientation and the generation of solutions due to the fact that they would have to think of "how things can go wrong" and produce a rather arbitrary response that would not assess their problem-solving thinking.

The general format of MEPS presentation has not been without debate. Butler & Meichenbaum (1981) have argued that an important caveat is that the MEPS relies upon verbal report as the key to an individual's cognitive processing and performance in problem situations. This in turn raises the issue of the impact of an individual's verbal abilities (e.g. verbal intelligence) has upon test performance. Studies with students (where verbal ability is generally above average) have suggested that there is no significant relationship between verbal ability and problem-solving performance (Gotlib & Asarnow, 1979). However, studies with problem drinkers and children displaying adjustment problems suggest that there is a low but significant relationship (Intagliata, 1978; Shure, Spivack & Jaeger, 1971). In spite of the fact that the MEPS has been administered to a plethora of different populations, few researchers have examined this important relationship.

Further issues of an individual's general performance ability should also be considered in relation to such tests of problem-solving as the MEPS. Studies with schizophrenic populations have highlighted the difficulties of assessing social problem-

solving with such individuals, due to difficulties in they experience in focusing their attention and concentrating on the task in hand (Bellack, Morrison, Wixted & Mueser, 1990; Bellack et al, 1994). Thus it is plausible to suggest that deficits in problem-solving ability could be an artefact of general ability level. This hypothesis has never been systematically examined in other populations which have been deemed as deficient in problem-solving abilities - such as the clinically depressed. Indeed, past studies have highlighted that depressed individuals do report difficulties in concentrating generally (Cohen, Weingarter, Smallberg, Pickar, & Murphy, 1982; Willner, 1984) although no study has examined whether this correlates with problem-solving ability.

1.4.3. Social Problem-Solving Inventory [SPSI] (D’Zurilla & Nezu, 1990)/ the Social Problem-Solving Inventory Revised [SPSI-R] (D’Zurilla, Nezu, & Maydeu-Olivares (1996).

This is a 70-item Likert format inventory that is linked to D’Zurilla & Goldfried’s (1971) original problem-solving model that was later expanded and refined by D’Zurilla & Nezu (D’Zurilla, 1986; D’Zurilla & Nezu, 1982, 1990). According to this model, real life problem-solving is determined by two main processes - problem orientation and problem-solving proper. Problem orientation is defined as a motivational process involving the cognitive schemas that reflect a person’s awareness and perceptions of real life problems along with their assessments of their own abilities to deal with problems and the approach-avoidance behaviours that accompany them. Problem solving proper deals with the search for the best possible solutions through the rational application of problem-solving skills. The four major skills are 1) problem definition and formulation, 2) generation of alternative solutions, 3) decision making, and 4) solution implementation and verification. Overall the scale provides scores for Problem Orientation and Problem-Solving Skills as well as seven 10-item subscales dealing with the main cognitive, emotional and behavioural aspects of problem orientation and the four major problem-solving skills. A global problem-solving score can also be calculated. The validity and reliability of the SPSI has been demonstrated (Sadowski, Moore, & Kelley, 1993). Regarding criterion validity, studies employing college samples have demonstrated that SPSI scores are related to internal locus of control, psychological stress, frequency of personal problems, and general severity of psychological symptoms demonstrated (D’Zurilla & Nezu, 1990, D’Zurilla & Sheedy, 1991, 1992). Studies involving community samples have found the SPSI to be related to psychological stress, state and trait anxiety, and depression (D’Zurilla & Nezu, 1990; Kant,

1992). In clinical populations, the SPSI has been found to be related to hopelessness and suicidality in adult psychiatric patients (Faccini, 1992).

However, the structure of the original SPSI was theory-driven, and was not derived factor analytically. Hence, this scale was revised (SPSI-R) by D'Zurilla & Maydeu-Olivares into a shorter 52-item Likert type inventory linked to a five factor model of problem-solving, which in turn, was based on a factor analysis of the original theory-driven SPSI (Maydeu-Olivares & D'Zurilla, 1996). This revised inventory consists of five major scales that measures five different but related dimensions of problem-solving. These are defined as 1) Positive Problem Orientation (tapping a constructive cognitive set of challenge, self-efficacy and positive outcome expectancies), 2) Negative Problem Orientation (concerning a inhibitive cognitive emotional orientation characterised by perceived threat, self-inefficacy, negative outcome expectancies, low frustration tolerance), 3) Rational Problem Solving (assessing rational and deliberate attempts at problem-solving), 4) Impulsivity/Carelessness Style (looking at irrational and impulsive styles of problem-solving), and 5) Avoidance Style (examining whether an individual procrastinates about their problems, has a passive orientation or is dependent upon others to solve them). The rational problem-solving scale consists of four subscales that each assess the four problem-solving skills assessed by the SPSI. Support for the reliability and validity of this revised scale has been demonstrated (D'Zurilla & Maydeu-Olivares, 1995; Sadowski et al, 1994). The SPSI-R will be utilised in the current thesis, and an example of its form can be found in *Appendix J* of the current thesis.

The data that has accumulated recently on the psychometric properties of the SPSI-R suggest that it is a very promising measure of the social problem-solving process which relates to psychological symptoms, positive psychological well-being, social competence and coping in several different populations that include students, middle aged and elderly community residents, psychiatric patients and cancer patients (D'Zurilla & Maydeu-Olivares, 1995; D'Zurilla et al, 1995; Sadowski et al, 1994). However, due to the fact that this measure is relatively new, there is still much research to be conducted to examine SPSI-R profiles among clinical populations.

1.5. Problems Common To The Problem-Solving Measures.

Although there are now a plethora of problem-solving assessment measures available, it has been demonstrated that none of these are without methodological difficulties. The three tests previously discussed, and indeed the majority of problem-solving tests generally, rely on verbal communication. It has been argued that this leads to questionable validity in that poor comprehension of the tests may be apparent in individuals with lower verbal ability levels (Butler & Meichenbaum, 1981; D'Zurilla & Maydeu-Olivares, 1995). Questionnaires also cannot control for individuals "faking good their abilities. Indeed, such limitations have encouraged some researchers to suggest that problem-solving assessment should rely more upon observational methods (Butler & Meichenbaum, 1981; Krasnor & Rubin, 1981; Tisdelle & St.Lawrence, 1986). Although observational techniques would overcome some of the difficulties inherent in the verbal forms, they have their own disadvantages in that they are costly, inefficient and time-consuming. What is more, it would be difficult to determine from situation-specific coping responses alone whether they are the result of rational problem-solving processing or not. The solution outcomes as assessed by this approach may also be confounded by an individual's assertiveness skills - i.e. a well thought-out solution may have a poor outcome due to deficient implementation skills.

As it stands, verbal problem-solving assessment as demonstrated in the three tests reviewed does offer two unique advantages. Firstly, it is practical, efficient and cost-effective; and this allows studies to use large samples. Secondly, it is the only method by which to obtain a direct, comprehensive assessment of the covert problem-solving processes, which lie at the core of the problem-solving process.

A further issue of concern with the tests of problem-solving ability lie with their convergent validity. D'Zurilla & Maydeu-Olivares (1995) argue that future studies need to examine convergent and discriminant validity of problem-solving measures, in order to examine the concurrence of them and the extent to which they examine overlapping or distinctive constructs. To overcome these difficulties, the studies in the current thesis will attempt to employ two measures of problem-solving ability simultaneously (an inventory form and the MEPS) in order to minimise methodological difficulties and also to allow comparisons of convergent validity.

1.6. Populations Identified As Having Problem-Solving Difficulties.

Over the past 25 years, researchers have provided empirical support for the hypothesis that social-problem-solving skills are pre-requisites of mental health and that deficits in ability are correlated with psychological distress. This has been demonstrated with maladjusted children (Renshaw & Asher, 1982; Shure, Spivack, & Jaeger, 1971), emotionally disturbed adolescents (Platt, Spivack, Altman, Altman, & Peizer, 1974; Siegal & Platt, 1976), male alcoholics (Intagliata, 1978); heroin addicts (Platt, Scura, & Hannon, 1973) diagnostically heterogeneous groups of adult psychiatric patients (Platt & Spivack 1972a, 1972b; Platt & Siegal, 1976; Platt, Siegal, & Spivack, 1975; Platt & Spivack, 1974); and schizophrenics (Bellack, et al, 1994).

In more recent studies conducted during past 15 years, the focus of problem-solving research has become more specialised. A host of studies have examined problem-solving in relation to particular clinical diagnoses such as depression, anxiety or schizophrenia or in relation to particular group that warrant specialist clinical management - such as the suicidal, aggressive children or prisoners.

A group of clinically depressed inpatients, a group of parasuicidal individuals who have presented themselves at the emergency department of a local hospital following an incident of self-harm, and a group of incarcerated young offenders will be the populations of interest for the present thesis. The studies currently reviewed will henceforth focus upon past research pertaining to these three particular areas.

1.7. Problem-Solving And Depression.

McLean (1976) was among the first to hypothesise that a problem-solving deficit was an important etiological factor in depression. In McLean's formulation, the development of depression was characterised by four distinct phases which included 1) the repeated frustration of goals and successful problem-resolution in a variety of different situations in life, 2) the belief that an individual has little control over their environment which induces a sense of helplessness, 3) anticipation of chronic failure in the future causing a reluctance to engage actively in problem-solving, and 4) the onset of depressive symptomatology such as passivity, helplessness, resignation and avoidance.

In recent years, more pluralistic models of depression have been endorsed (Nezu 1987; Nezu, Nezu & Perri, 1989), of which the central assertion is that depression is the result of an interaction of stressful events or problems, and problem-solving deficits.

1.7.1. Empirical Studies Examining Problem-Solving And Depression.

According to Marx, Williams, & Claridge (1994) previous studies of the relation between depression and problem-solving deficits can be differentiated by their underlying concept of problem-solving, and hence the assessment procedures they employ. Some studies have assumed a trait concept of problem-solving and have assessed underlying dimensions of the problem-solving process, while others have focused on situation specific problem-solving and have assessed distinct problem-solving strategies.

1.7.1.2. Studies With Student Samples.

Table 1.1 details the sample sizes and composition, main measures, and results and conclusions of the important studies conducted during the past two decades that have examined the relationship between problem-solving ability and depression among student samples. The studies by Heppner and his colleagues are characteristic of the first approach detailed above. Heppner has attempted to assess the relevant dimensions underlying real-life problem-solving by means of the Problem-Solving Inventory [PSI] (Heppner and Petersen, 1982) which was described earlier in this chapter. This questionnaire is aimed at assessing an individual's attitudes towards problem-solving and their perception of their own problem-solving style, and there are a host of studies that have used it to examine the relationship between problem-solving and depression among students.

By means of the PSI Heppner, Baumgardner & Jackson (1985) found that self-perceived ineffective problem-solvers drawn from a student population were more likely to suffer from short-term and long-term depression than students who perceived their own problem-solving skills as adequate. However, it is not clear how directly the self-appraisal of an individual's own problem-solving skills (as assessed by the PSI) is related to actual problem-solving ability. Marx et al (1994) argue that such a direct relationship is questionable if the cognitions that accompany depression (Beck, 1967) are brought into consideration - i.e. it is hard to determine whether the self-perception prevalent among depressed individuals of "being an ineffective problem-solver" actually reflects a deficit in

Table 1.1.
Social Problem Solving and Depression:
Studies Conducted With Student Samples

	Sample Size and Composition	Main measures	Results and Conclusions
<i>Studies with Student Samples</i>			
Gotlib & Asarnow (1979)	20 depressed + 20 non-depressed psychology students (depression determined by BDI), 10 depressed and 8 non-depressed student counselees. Gender ratio not specified.	Beck Depression Inventory [BDI] (Beck et al, 1961) Anagram Task (Miller & Seligman, 1975). MEPS (Platt & Spivack, 1975) WAIS-Clarke Vocabulary Subscale	Significant correlation between depression and social problem-solving (SPS). No relationship between depression and SPS and impersonal problem-solving . No relation between IQ and SPS. Depressed counselees performed poorest.
Zemore & Dell (1983)	65 psychology students (depression determined by BDI). Gender ratio not specified.	BDI Depression Proneness Rating Scale (Zemore, 1983). MEPS	Depression proneness but not current BDI score correlated with poorer SPS. Remained significant when current depression statistically controlled.
Doerfler, Mullins, Griffin, Siegal, & Richards (1984)	1) 134 school children (aged 9-12) Sample 47% female. 2) 95 school children (aged 12-18) Sample 43% female 3) 28 undergraduates (depression determined by BDI) - 13 considered depressed, 15 non-depressed Sample 100% female.	1) Children's Depression Inventory (Kovacs, 1981), MEPS 2) BDI, MEPS 3) telephone administered: BDI MEPS	1) Low level of depression in sample, small but significant correlation between depression and production of irrelevant MEPS responses. 2) Low level of depression in sample, no correlations between depression and MEPS. 3) No differences between depressed and non-depressed students on MEPS
Heppner, Baumgardner, & Jackson (1985)	20 self-appraised undergraduate effective problem-solvers and 20 self-appraised undergraduate deficient problem-solvers	BDI Feelings and Concerns Survey Attributional Style Questionnaire Mooney Problem Checklist	Assessment of problem-solving skills was related to the number of personal problems reported and to the ratings of both short and long-term depression.

	Sample Size and Composition	Main measures	Results and Conclusions
<i>Studies with students/cntd.</i>			
Nezu & Ronan (1985)	205 undergraduate psychology students. Sample 47% female.	BDI Problem-Solving Inventory [PSI] (Heppner & Peterson, 1982) Problem Checklist (Nezu, 1985) Life Experiences Survey[LES] (Sarason et al, 1978)	By means of a path analysis, the study presented an interactional model of the relationship between stress, SPS ability and depression. Life stress and SPS ability accounted for 42% of the variance in depression scores
Nezu (1986)	268 college undergraduates. Sample 56% female.	BDI PSI	Regression analysis revealed that all three PSI factors were significant predictors of depressive symptoms.
Nezu, Kamar, Ronan, & Clavijo (1986)	128 college undergraduates. Sample 62% female.	BDI Attributional Style Questionnaire [ASQ] (Peterson et al, 1982) PSI	Regression analysis indicated that problem-solving scores were significant predictors of depression even after attributional style was taken into account. A negative attributions x PSI interaction was significantly related to depression scores.
Marx & Schulze (1991)	20 depressed students (depression determined by BDI), and 20 non-depressed comparison individuals matched for age and education. Sample 65% female.	BDI Situation Specific Problem-Solving Inventory	Used a qualitative analysis of problem-solving strategies. Depressed individuals showed a resigned and passive orientation to problems. Able to recognise problems but failing to indicate strategies for overcoming them.
Brack, LaClave, & Wyatt, (1992)	106 female college students	BDI LES PSI	Long term stressors (up to 1 yr), short term stressors (within past 6 months) and current stressors all affected depression. Problem-solving confidence demonstrated to be an important moderating variable.

<i>Studies with students/cntd.</i>	Sample size and composition	Main measures	Results and conclusions
Blankstein, Flett, & Johnston (1992)	18 depressed students (depression determined by BDI) and 18 non-depressed students. Sample 75% female.	BDI College MEPS	Depressed participants had lower ratings of their expected abilities to deal with problems and deal with interpersonal, intrapersonal, and emotional problems. Depressed individuals did not actually differ on their ability to solve problems, but rated their performance as poorer.
Haaga, Fine, Terrill, Stewart, & Beck (1995)	115 psychology undergraduate students. Sample 80% female.	BDI Beck Anxiety Inventory (Beck et al, 1988) Inventory to Diagnose Depression (Zimmerman et al, 1986) Social Problem-Solving Inventory [SPSI] (D'Zurilla & Nezu, 1990) Sociotropy-Autonomy Schedule (Beck et al, 1983)	Depressive symptoms inversely related to SPSI totals. Depressive symptoms related to poor problem-orientation rather than to the use of poor problem-solving skills. Anxiety was non-significantly related to problem-solving skills. Dependency inversely correlated with SPSI scores.

problem-solving skill or is a reflection of the general negative view of the self that often accompanies depression. In support of this assertion, it should be noted that Blankstein et al (1992) found that depressed and non-depressed college students did not differ in their problem-solving performance abilities but that depressed students had more negative expectations and lower appraisals of their performance abilities.

Nezu & Ronan (1985) examined the interaction of life stress, current problems, problem-solving (as assessed by the PSI) and depressive symptoms with a group of 205 students. By means of a path analytical model, Nezu & Ronan demonstrated that problem-solving ability has a significant direct influence on depressive symptoms. This study is of great importance as it is one of the first to propose an interactional model - which provided for an aggregate 42% of the variance accounted for in predicting depressive symptoms. However, there are important limitations to the study which should be noted. Firstly, the cross-sectional nature of the study prevents any conclusions being drawn concerning the direction of causality. Secondly, the study employed self-report measures of both problem-solving and depression - and thus social desirability factors could not be entirely controlled for. A third and important limitation stems from the fact that university students were used, and thus the results are unlikely to generalise to a clinically depressed population. Indeed, the students' depression was "diagnosed" by means of a cut-off score on the BDI.

Nezu, Kalmar, Ronan, & Clavijo (1986) further examined the relationship between depression, problem-solving and attributional style among a group of 128 college students. By means of regression analyses, Nezu et al demonstrated that problem-solving ability was still significant after attributional style was considered. A significant interaction between problem solving (as assessed by the PSI) abilities and a negative attributional style was also found in the prediction of depressive symptoms. This important study further demonstrated the importance of social problem-solving ability in depression, but suffered from many of the methodological difficulties embedded in the previous Nezu & Ronan (1985) study. The importance of problem-solving abilities as assessed by the PSI in the experience of depressive symptomatology was further demonstrated by Nezu (1986).

Recent years have seen the emergence of research with a further inventory to assess problem-solving ability - the Social Problem Solving Inventory [SPSI]/ Social Problem Solving Inventory Revised [SPSI-R] (D'Zurilla & Nezu, 1990; D'Zurilla, Nezu, & Maydeu Olivares, 1996). Haaga, Fine, Terrill, Stewart, & Beck (1995) conducted a study with 115

undergraduate psychology students and demonstrated that depressive symptoms were inversely related to problem-solving ability as assessed by the SPSI. They found that depressive symptoms were related to a poor problem-orientation rather than the use of problem-solving skills. This study is important on two accounts in that it distinguished deficits in problem orientation and problem-solving skill and that it demonstrated that other clinical mood states such as anxiety could also impede an individual's problem-orientation.

Overall, the relationship between problem-solving difficulties and depression is not straightforward. Studies that have attempted to examine the problem-solving performance abilities of depressed individuals that have used the second approach to examining problem-solving - of using situation-specific assessment measures - have produced contradictory findings. Most of these studies have employed the Means-Ends Problem-Solving Procedure [MEPS] (Platt & Spivack, 1975) which was described earlier in this chapter.

Gotlib & Asarnow (1979) found clear evidence that depressed students had a deficit in their ability to generate relevant means of problem-solving to MEPS situations. Gotlib & Asarnow also demonstrated that the deficits found among depressed individuals are in relation to interpersonal problem-solving skills and do not relate to impersonal problem-solving abilities. This study is important as it was the first to demonstrate a relationship between social problem-solving ability and depression. However, it has some important methodological issues that warrant attention. Firstly, the sample consisted entirely of students, and it is questionable how representative such groups are of a clinically presenting depressed population. The sample was also fairly small, with 20 students being assigned to each group. Secondly, they were "diagnosed" by means of a cut-off score on the Beck Depression Inventory [BDI] Beck et al (1961). This inventory was designed to assess the severity of depressive symptomatology and does not provide a diagnosis of depression. The study is important as it demonstrated the deficits in means-end thinking abilities that can accompany depression, and also demonstrated that in a student sample such deficits are independent of IQ as assessed by the WAIS-Clarke Vocabulary Subscale.

Zemore & Dell (1983) demonstrated that depression-proneness among students correlated with a difficulty in producing relevant means to MEPS scenarios regardless of their current level of depression. This study was designed to assess the alternative

hypothesis, consistent with Lewinsohn's formulation of depression (Lewinsohn, Weinstein, & Shaw, 1969; Lewinsohn, Biglan & Zeiss, 1976) that deficits in social skill constitute an important antecedent of depression and thus individuals with poor social skills are more likely to experience more frequent periods of depression which can be more severe. A group of 65 undergraduates took part in the study, and completed the BDI, the MEPS, and a depression-proneness ratings scale (Zemore & Dell, 1983). Overall, the results suggested that when the effects of current depression were partialled out from the relationship between depression proneness and problem-solving, depression proneness still correlated with many of the indices of problem-solving difficulty. This particular study is important as it suggested that the relationship between depression and problem-solving is more pervasive and is not necessarily an artefact of one particular period of depression - a finding with important ramifications for the clinical management of depressed individuals. However, once again only tenuous conclusions can be drawn, as the sample consisted of entirely of undergraduates, whose depression was "diagnosed" by means of the BDI. The authors also did not state whether or not the MEPS was scored by independent raters to reduce the possibility of experimenter bias.

Contrary to the findings of the Gotlib & Asarnow study (1979), Doerfler, Mullins, Griffin, Siegel, & Richards (1984) found no differences on the MEPS between depressed and non-depressed children, adolescents and female college students. Doerfler et al suggested that their contradictory findings may be a reflection of the questionable external validity of the MEPS (Butler & Meichenbaum, 1981). However, other studies using the same age groups have found relationships between problem-solving difficulties as assessed by the MEPS and depression among school children (Sacco & Graves, 1984) and students (Zemore & Dell, 1983).

Marx & Schulze (1991) examined problem-solving and depression (as assessed by the BDI) among a group of 20 "depressed" students, and a comparison group of 20 "non-depressed students. The study employed a situation specific problem-solving inventory that was different to the MEPS. The results suggested that depressed students were able to define the problem and the potential goal, but were not able to produce action-oriented strategies that were necessary to implement the goal. These results contradict the findings of Blankenstein, Flett, & Johnston (1992) and Doerfler et al (1984) where no significant differences in the problem-solving strategies were found between depressives and non-depressives.

Blankstein et al (1992) examined depression, problem-solving appraisal, and problem-solving ability among a group of 18 "depressed" students and 18 "non-depressed" students, whose depression had been diagnosed by means of a cut-off score on the BDI. The researchers used a college student version of the MEPS designed specifically for the study. The results suggested that depressed students had more negative expectations and lower appraisals of their problem-solving ability. However, the groups did not differ in terms of the actual quality of their behavioural solutions to interpersonal, intrapersonal, and emotional problem situations.

1.7.1.3. Methodological Consideration Inherent In Studies With Students.

There are methodological issues which need to be considered with past studies with students and may account for the discrepancies in their results. The main issue concerns the fact that the studies detailed in *Table 1.1.* have all employed "analogue depressives" which in the main consisted of subclinically depressed students who were categorised by means of the Beck Depression Inventory [BDI] (Beck et al 1961) which merely assesses the severity of depression but does not provide a diagnosis. Thus, it is possible that student samples consist of psychopathologically heterogeneous individuals (Marx, Williams & Claridge, 1994). Further concerns centre around the fact that the proportion of participants that were female in these studies varies from 43% (Doerfler et al, 1984, *sample 1*) to 100% (Doerfler et al 1984, *sample 3*; Brack, LaClave & Wyatt, 1992) and thus it would be hard to determine how reflective these groups would be of a clinically presenting population. An important consideration also centres around the fact that some studies used psychology undergraduates (Gotlib & Asarnow, 1979; Haaga et al, 1995; Nezu & Ronan, 1985; Zemore & Dell, 1983) whose naiveté to the experimental hypotheses is questionable. More clinically generalisable conclusions, would be found by studies that employ samples which are reliably diagnosed (i.e. by means of DSM, Research Diagnostic Criteria (RCD) or ICD classifications) and can be clinically regarded as depressed patients.

1.7.1.4. Studies With Community Samples.

The study by Davila, Hammen, Burge, Paley & Daley (1995) (*Table 1.2.*) continued the line of research taking an impetus from Nezu & Ronan (1985) concerning the interaction between stress, problem-solving and depression among a group of 155 adolescent women. In this study poor interpersonal problem-solving was construed as an enduring vulnerability among depressed women, with higher levels of depressive symptoms predicted to be associated with poorer social problem-solving. However, the researchers

further hypothesised that poorer problem-solving ability could also lead to higher levels of interpersonal stress - which would lead to further depressive symptomatology. By means of structural equation modelling, the results suggested that initial depressive symptoms and poor social problem-solving each led to higher levels of interpersonal stress; and interpersonal stress, in turn, led to further symptoms of depression. This study is important in that it employed a longitudinal design.

The concern with this particular study lies in relation to the measure of problem-solving ability which was employed - which was an interview based assessment, designed for this particular study. The authors themselves caution that their measure did not show adequate reliability, and they were unable to provide convergent validity data that would allow comparison with other more traditional measures of problem-solving ability. Also the sample consisted entirely of females, and thus future studies would have to determine if the same process was apparent among male subjects. The sample also consisted of a very specific age group - and it would need to be determined if the same cognitive, affective and behavioural processes were apparent in other age groups. Finally, the study's use of a community sample limits the conclusions that could be drawn about clinical depression. However, the study had demonstrated that social problem-solving may be an important channel for intervention to be directed towards.

1.7.1.5. Studies With Clinical Samples.

There have been relatively few of studies that have systematically examined problem-solving deficits among clinically depressed samples. From a perusal of the literature, there appears to be two main studies - Nezu (1986) and Marx, Williams, & Claridge (1992) (see *Table 1.2*).

By means of the PSI questionnaire, Nezu (1986) demonstrated that depression-related problem-solving deficits identified in previous studies with subclinical populations also extend to individuals experiencing clinical levels of depression. The study suggested that depressed persons appraise themselves as less confident in approaching new problems, engage in less active and systematic attempts when confronted with social and interpersonal problems, and perceive their ability to engage in self-control in problem situations as less

Table 1.2.
Social Problem Solving and Depression:
Studies Conducted With Community and Clinical Samples

	Sample Size and Composition	Main measures	Results and Conclusions
<i>Community Samples</i>			
Davilla, Hammen, Burge, Paley, & Daley (1995)	140 females aged 17-18	SCID (Spitzer et al, 1990) Assessment of Problem-Solving	Structural equation modelling was used to test the relationship between SPS skills and interpersonal stress. Interpersonal stress mediated the relationship with depression, and SPS predicted the level of interpersonal stress. No association was found between SPS and depression. A model where SPS moderated the relationship between stress and depression was not supported.
<i>Clinical Samples</i>			
Nezu (1986).	25 depressed individuals recruited from public advertisements for a depression therapy trial. "Depression" diagnosed by analogue measures. 52% of the group female. Comparison group of 21 individuals from non-professional university staff matched for age, and displaying no depressive symptoms. 57% of the group female.	BDI PSI Depression scale of MMPI (Dempsey, 1964)	The depressed group differed significantly from the comparison group. Depressed patients saw themselves as less confident in approaching new problems, engaging in less systematic attempts to deal with problems, and perceiving their ability to engage in self-control as less effective.
Marx, Williams, & Claridge (1992)	20 depressed individuals diagnosed of major depressive disorder according to RDC (Spitzer et al 1978). 75% of the group was female. Comparison group of 20 nonclinical individuals matched for age, gender, and education. Clinical comparison group of 17 individuals with different forms of anxiety disorders. 44% of the group was female.	BDI MEPS Problem Solving Questionnaire (Konig et al, 1980). Solution Of Personal Problems	Depressed individuals showed marked difficulties in the ability to generate solutions to problems and appraised their own problem-solving ability as deficient. Many deficits were also apparent in the clinical comparison group. Depressed participants produced less effective solutions than both comparison groups.

effective. However, there are a few methodological issues that compromise the generalisability of this study's results. Although the participants in the Nezu study were suffering from a clinical level of depression (as assessed by Research Diagnostic Criteria (Spitzer, Endicott, & Robbins, 1978) BDI and the depression scale of the MMPI) all were volunteers who had entered the study as a result of expressing interest following announcements in various newspapers detailing an on-going therapy programmed for depression to be held at a university-based mental health centre. Thus, the level of their depression was only confirmed as a result of their participation in the study, and none of the participants had actively sought treatment from routine mental health services for their depression prior to this. Furthermore, it has been indicated that individuals with clinical disorders who are recruited for study inclusion by public advertisement tend to have less severe but more chronic disorders than those recruited via referral by medical practitioners (Aronson, 1987). It is unclear what impact such factors may have had upon the study's results and conclusions.

A further important systematic study that employed a diagnosed group of depressed patients was conducted by Marx, Williams, & Claridge (1992). This study had three aims: a) to find out whether clinically depressed patients could be characterised as having problem-solving deficits, b) to determine whether such deficits were specific to depression or could be evident in other diagnoses such as anxiety, and c) to assess the problem-solving features in depression as specifically as possible through examining several levels of problem-solving. The different levels of problem-solving which included the hypothetical situations presented in the MEPS, personal problems, and attitudes towards problem-solving, and a qualitative assessment of the effectiveness of the solutions offered by the patients.

The Marx et al (1992) study used a sample of 20 patients who had been diagnosed with major depressive disorder by means of Research Diagnostic Criteria (Spitzer, Endicott & Robbins, 1978). Of the participants, 12 were inpatients and 8 were outpatients. The clinical comparison group consisted of 17 patients with different forms of anxiety disorder. Some of these individuals also suffered from concomitant depression - although it was not at a level that would warrant a second primary diagnosis of major depression. A non-clinical comparison group of 20 individuals was also selected from the subject panel at Oxford University, which was matched to the depressed group in terms of age, sex, and educational level.

The study demonstrated that clinically depressed participants showed a clear deficit in problem-solving. Depressed patients had difficulties in providing solutions for both hypothetical and personal problems, and they showed negative attitudes towards both problems and the problem-solving process. Hence, their deficits could be considered as multi-modal (Marx et al 1994). However, it should also be noted that many of these deficits were also apparent among the clinical comparison group - who also demonstrated difficulties in producing relevant means to the MEPS scenarios. The clinical comparison group were as capable as the non-clinical group in their development of overall strategies to deal with both the hypothetical and the personal problem scenarios, though in considering their own problems reported that their actual problem-solving behaviour was ineffective, but they were capable of producing effective problem-solving strategies in retrospect.

This study is important in that it demonstrated that different groups may display problem-solving deficits at different levels. While depressed patients seem to show difficulties with the earlier cognitive stages of the problem-solving process, anxious patients seem to have trouble with the later implementation stages of the process. However, the Marx et al study (1992) is not without methodological difficulties. Firstly, previous studies have suggested that problem-solving difficulties are apparent among individuals who have been identified as suffering from sub-clinical depression. The "anxiety" comparison group in this study showed a high BDI profile, showing that they in turn were displaying sub-clinical levels of depression. A further issue which could have been addressed by the study concerned the effect of anxiety itself upon problem-solving ability (an issue never previously considered). Indeed, the study assessed the depression levels in both clinical populations but not their concomitant levels of anxiety.

Also, due to the correlational nature of studies on problem-solving and depression, caution should be exercised with regards to conclusions concerning the causal role of problem-solving in depression. The deficits in problem-solving ability that were demonstrated could possibly be the antecedents and the cause of depression, or alternatively they could be the effects of depression - where negative affect interferes with information processing. To date, the results of studies that have employed mood induction procedure have demonstrated that depressed mood can indeed lead to deficits in problem-solving (Mitchell & Madigan, 1983). Such studies have induced a depressed state in non-clinical participants and demonstrated that under these circumstances, individuals will respond in a manner typical of depressed patients in that they produce less relevant means

and effective problem-solving. The importance of these studies is that they demonstrate that transient depressed mood can hinder problem-solving.

1.7.2. The Aetiology Of Problem-Solving Deficits In Depression.

Due to the paucity of systematic research of the problem-solving abilities of diagnosed, clinically depressed patients, there is still further research which needs to be initiated - particularly to examine the nature and causes of such deficits. To date, there is little known about the aetiology of problem-solving deficits. According to Marx, Williams & Claridge (1994) there are several potential causes of problem-solving deficits in depression that need to be addressed by future researchers. These include the possibility that deficits may be the result of an inability to retrieve effective problem-solving strategies as a result of an over-generalised processing style (Williams & Broadbent, 1986) which makes the retrieval of appropriate solutions difficult, an inability to apply general problem-solving heuristics (D'Zurilla & Goldfried, 1971), or an insufficient knowledge of possible solutions.

1.7.2.1. Problem-Solving Ability And Autobiographical Memory.

A recent school of thought has suggested that depressed individuals use an over-general mode of retrieval that undermines their abilities to use their memory effectively for problem-solving. Studies have focused upon "autobiographical memory" (an individual's personal memory for past experiences and events in their life) by means of word cue task, where individuals are presented with a cue word (usually with an attached emotional valence such as "happy" or "angry") and are invited to recall in specific detail a time in their own life that the word relates to. Williams & Broadbent (1986) studied autobiographical memory among a group of individuals who had taken a deliberate drug overdose. As a first response to the cue words - in particular with regards to the positively oriented ones - these individuals were more likely than controls to produce inappropriately general memories (where the memory recalled by the individuals was not tied to a particular incident or day). For example, to the cue word "Happy" control subjects overall produced specific memories such as "the day we left to go on holiday in August" while individuals who had taken an overdose retrieved non-specific, general memories such as "when I am playing squash".

Such overgeneral memories have also been observed in depressed individuals. Williams & Scott (1988) gave positive and negative cue words to 20 depressed in-patients.

When compared to a demographically matched control group, the depressed individuals were less likely to give specific memories as their first response to the cue words and showed a greater tendency to be specific in response to negative cues than to positive cues. As part of a study on depressed patients' perceptions of how much social support they receive, Moore, Watts, & Williams, (1988) presented eight positive and eight negative scenarios to depressed patients and matched controls. In each case, participants were asked to have a particular person in mind (e.g. "a neighbour who helped me with some practical problem" or "a time my partner criticised me"). The participant's task was to recall specific instances in response to these cues. The percentage of first responses (where the individual had not been encouraged by the researcher to give further detail) that were found to be inappropriately general was significantly higher among the depressed group. First responses are important as they indicate the level of specificity that an individual recalls personally relevant memories.

Williams & Dritschel (1988) explained over-general memory in terms of the "descriptions" framework of Norman & Bobrow (1979). According to this model, individuals encode only a limited amount of possible information - consisting of an incomplete list of features - and that in order to encode or retrieve any packet of information, a partial description or index is formed that acts as an initial entry point into memory. Intermediate levels of description are used at encoding and retrieval, and over-general recall is seen as a function of both encoding and retrieval processes. Where an individual is hypersensitive to the affective components of a situation, their recollection of it may be poor, and any stressful situation may appear to be more catastrophic than it rationally is. Access to more positive events may be impaired at the moment when their recall could be most useful in suggesting coping strategies.

In a specific model of autobiographical memory retrieval based on the "descriptions" approach, Williams & Hollan (1981) viewed autobiographical memory retrieval as a problem-solving activity. Williams & Dritschel (1988) and Williams & Broadbent (1986) speculated that a main effect of over-general memory styles is that problem-solving ability is likely to be effected in that both problem definition and the generation of possible solutions are dependent upon the ability to adequately use the memory "database".

To date, there has been only two studies that have examined the relationship between problem-solving and over-generalised memory. Evans et al (1992) conducted a small study to examine the relationship between memory as assessed by an "emotional word" cue task and performance on the MEPS in a group of 12 parasuicidal patients admitted after an attempted overdose, and a comparison group of 12 patients in hospital for surgery. They predicted that overgeneral memory would impair problem-solving since both the ability to define a problem and generate possible solutions is dependent upon the ability to adequately address a "database" in memory that concerns an individual's past experiences of life. A significant correlation was found between the effectiveness of the solutions produced and the specificity of memory in the overdose group. The results also suggested that the association between over-generalisation and problem-solving was not the results of a general sluggishness to respond (as assessed by the amount of time it took to produce a first response). Williams (1992) suggested that this problem-solving becomes inhibited because depressed individuals attempt to use the intermediate descriptions that they have retrieved as a database to try to generate solutions to their problems, but this database is inadequate because it is deficient in specific information. The Evans et al study is important in that it was the first to examine this link, however it has a limitation in that the only mood states examined were hopelessness and anger. Although the model endorsed by the study concentrated upon the link between problem-solving ability, autobiographical memory, and depression, the study itself did not employ any assessment of this mood state.

The second study that is found in the literature that examines the relationship between autobiographical memory recall and social problem-solving among a clinical sample is by Goddard, Dritschel, & Burton (1996), who used a group of 16 depressed outpatients and a matched comparison group. The hypothesis of this study suggested that the valence of the memories retrieved may also contribute to difficulties with social problem-solving. A bias towards negative memory retrieval is already well documented in depression (Bower, 1981; Clark & Teasdale, 1982; Williams & Broadbent, 1986). Goddard et al found that the ability to retrieve specific memories in an autobiographical memory test was related positively to MEPS performance in both the clinical and the comparison group. The study also suggested that the retrieval of categoric memories during the MEPS task was strongly associated with solutions that were less effective and contained fewer means in the depressed group.

The issue of concurrent clinical and non-clinical mood states is an issue that needs to be addressed adequately in current research. It will be taken into the remit of the current thesis, which will attempt to examine the relationship between autobiographical memory recall and social problem-solving ability among clinical sample of depressed individual, and will examine their concurrent levels of depression, anxiety, hopelessness, and general affective functioning.

1.7.2.2. Problem-Solving And General Cognitive Functioning In Depression.

Further reasons for the apparent problem-solving difficulties among depressed patients may be related to difficulties in aspects of general cognitive functioning such as concentration, attention, and information-processing capacity found in these individuals. (Cohen, Weingarter, Smallberg, Pickar, & Murphy, 1982; Ingram, Fidaleo, Raymond, 1995; Willner, 1984). Willner (1984) has argued that many of the apparent deficits in performance that are evident in depressed individuals may in fact be an artefact of their inability to sustain effort or concentration.

The issue of general cognitive functioning in relation to problem-solving ability among the clinically depressed has not been addressed at any length in the literature to date. It is plausible to suggest that such general deficits as mentioned above may in fact be intrinsic or causal in difficulties with problem-solving apparent among depressed individuals. This important relationship is a further issue which will be examined during the course of the current thesis.

1.7.3. Issues That Need To Be Addressed In Current Studies Of Depression.

From the review of the literature above, it is clearly apparent that further research should be conducted with clinical populations who have received a systematic diagnosis of depression - i.e. according to DSM, ICD or RDC criteria. To date, much of the assertions concerning the nature of problem-solving deficits in depression are extrapolated from studies that have used non-clinical depressives "diagnosed" by means of a cut-off score on the BDI. The present research will attempt to address this issue by employing patients admitted to a in-patient ward with a diagnosis of major depression according to ICD-10 classification.

Future problem-solving research should also pay more attention to the relation of other affective states within individuals that have presented with a primary diagnosis of

depression. It is plausible to suggest that these states may have an influence on problem-solving ability. With the exception of the Marx et al study (1992) which examined the role of anxiety upon problem-solving, no other study appears to have examined the role of other mood states upon deficiencies in problem-solving. The current research will hope to consider both clinical mood states and levels of general affective functioning among such patients and determine their role in problem-solving.

Given the argument that future studies need to examine convergent and discriminant validity of problem-solving measures (Butler & Meichenbaum, 1981; D'Zurilla & Maydeu-Olivares, 1995), some of the studies in the current thesis will attempt to employ two measures of problem-solving ability simultaneously (an inventory form and the MEPS) in order to minimise such methodological difficulties and also to allow comparisons of convergent validity. By using two assessments simultaneously in some of the studies in the current thesis, it is hoped that the different aspects of problem-solving skill (such as problem-orientation, means-ends thinking) will be more fully examined.

As seen from the above literature review, it is also plausible that there are deficits in the general cognitive functioning of depressed patients which may be partly responsible for the apparent deficits in problem-solving ability. Indeed, it is plausible to suggest, due to the lack of systematic research to indicate otherwise, that deficits in problem-solving are in fact an artefact of the deficits in cognitive functioning associated with depression. To this end, the current thesis will attempt to address whether a depressed individual's concentration and attention abilities confound their problem-solving skills. A study in the current thesis will also aim to assess the role that verbal ability plays in problem-solving, given that no study has examined this issue within the context of a clearly-diagnosed clinical population.

The aetiology of problem-solving deficits in clinical populations such as the depressed still demands further research attention. However, due to the paucity of systematic research of the problem-solving abilities of diagnosed, clinically depressed patients, there is still further research which needs to be initiated - particularly to examine the nature and cause of such deficits. The current thesis will pay particular attention to the proposed link found in the works of Williams and colleagues suggesting that an overgeneral style of retrieval from memory undermines individuals' attempts to use their memory effectively for problem-solving activities. This will be achieved by means of

employing an autobiographical memory test concurrently with the assessment of problem-solving. To date, this has not been adequately addressed in a clinically depressed sample.

1.8. Problem-Solving And Suicidal Behaviour.

One of the groups most widely researched with regards to problem-solving abilities has been the suicidal. Past researchers have often postulated that suicidal behaviour is in itself a maladaptive problem-solving behaviour (Applebaum, 1963; Levenson & Neuringer, 1971; Linehan, 1981; Schotte & Clum, 1982; Stengel & Cook, 1958). Both suicide and parasuicide are viewed as attempts to solve problems that stem from either the individual or the environment.

One of the earliest clinical studies of the problem-solving deficits of suicidal individuals was conducted by Linehan et al (1987). The participants in this study included a) 39 patients admitted to hospital after an "attempt at suicide", b) 48 patients admitted for current and serious suicidal ideation, c) a group of 36 patients admitted for non-suicide related complaints, and d) a hospital control group consisting of 16 individuals awaiting surgery. This study employed a shortened version of the MEPS, and introduced the examination of "active" and "passive" styles of problem-solving. The study revealed that parasuicidal individuals (study groups "a" and "b") scored lower on active problem-solving and higher on passive problem-solving than the suicide ideators. Among individuals with no history of prior parasuicide, current parasuicides demonstrated more active and less passive problem-solvers than suicide ideators. Linehan et al argued that this finding supported the hypothesis that interpersonal problem-solving deficits are stable characteristics of suicidal individuals rather than an artefact of the stress associated with the current parasuicidal episode. Suicidal patients also expected suicide to solve problems to a greater extent than the non-suicidal patients.

Other studies noted qualitative and stylistic aspects of the problem-solving process among suicidal individuals (Schotte & Clum, 1987). Orbach, Bar-Joseph, & Dror (1990) examined in greater detail the qualitative aspects of problem solving among groups of hospitalised suicide attempters, suicidal ideators, and non-suicidal patients. The participants completed a suicidal intent scale and a problem-solving task consisting of three dilemmas. In general, the solutions of suicidal patients showed less versatility, more avoidance, less relevance, more negative affect, and less reference to the future than the solutions of the nonsuicidal patients. Paradoxically, the suicide attempters and non-suicidal patients

offered more active solutions than the suicide ideators. Orbach et al interpreted this to suggest that those who exhibit a stronger suicidal tendency tend to be more active and more energetic - albeit in a self-destructive fashion, in their approach to problem-solving. Although lethal suicidal behaviour reflects more hopelessness than parasuicidal behaviour that has low intention (Beck, Steer, Kovacs, & Garrison, 1985), it requires more deliberate behaviour. This difference between ideators and attempters is consistent with the well-documented fact that suicide is most likely to occur in the stages of recovery from depression, when the individual is more active and energetic, rather than in the incapacitating and passive stages of depression (Arieti, 1974). The Orbach et al study is important in that it demonstrated that problem-solving is not a purely cognitive activity, but includes also motivational and affective aspects.

1.8.1. Studies Of Suicidality And Problem-Solving Among Adolescents.

Rotheram-Borus, Trautman, Dopkins, & Shrout (1990) examined problem-solving deficits among a group of 77 adolescent females that were referred to a local hospital's emergency department following displays of suicidal intent or behaviour. These girls were compared to two groups of females who were not currently displaying suicidal intent or behaviour - a group of 39 psychiatric participants who had been referred as outpatients to the hospital (mainly for depression), and a group of 23 girls selected from the local high school. The group of suicidal attempters differed significantly from the other groups in terms of their problem-solving abilities, even when depression and IQ were statistically controlled for. They reported significantly fewer solutions for the MEPS scenarios, were significantly more focused upon problems, and were more likely to report a wishful style of thinking in stressful situations than were the members of the control groups. When a discriminant analysis was conducted by means of a logistic regression, it suggested that social-problem-solving best distinguished the suicide attempters from the non-attempters.

The main methodological concerns with this study rest with the fact that the sample consisted entirely of adolescent females, the majority of which came from minority ethnic groups and lower socio-economic groups. In order for the results to have more validity, future studies may wish to use more heterogeneous samples that are more representative of the parasuicidal population as a whole. However, the study is important in that it highlighted the salience of problem-solving deficits as a characteristic of suicidality among a group of adolescents.

A further study with suicidal adolescents was conducted by Sadowski & Kelley (1993). The impetus for this study stemmed from the rising rates of successful adolescent suicide that has been observed over the past 20 years (Hawton & Goldacre, 1982). Parasuicidal behaviour has previously been considered as a reflection of impoverished problem-solving abilities among this age group (Garfinkel & Golombek, 1974). The participants in this study were 30 adolescents recruited from consecutive admissions to private and state hospitals. A psychiatric comparison group was selected from 30 consecutive admissions to a psychiatric ward. A non-psychiatric comparison group of 30 was selected from local schools. The study employed the Social Problem-Solving Inventory (D'Zurilla & Nezu, 1990) to assess problem-solving. The suicide attempters reported poorer problem-solving than did the psychiatric and normal comparison groups. Overall, the suicide attempters were deficient in their problem-orientation skills - reporting poorer cognitive orientation and higher negative affect associated with the problem-solving process, and having less adaptive behavioural orientation. With regards to the problem-solving skills scale, the suicidal participants were less able to generate possible solutions and were less capable at decision-making. Social problem-solving, however did not correlate with suicide intent, medical lethality, or the Hopelessness Scale for Children (Kadzin, French, Unis, Esveldt-Dawson, & Sherick, 1983). However, there was a trend for suicide intent and lethality to be correlated with self-rated depression, this finding is consistent with previous research associating affective illness with suicidal intent (Brent, Kolko, Allan & Brown, 1990). This study is important in that it used a sample of hospitalised individuals, and demonstrated that suicidal adolescents have both poor cognitive and behavioural orientation to the problem-solving process.

There are several methodological limitations to this study. Firstly, the participants were assessed between 2-5 days post admission, hence the individuals in the "suicidal" group may have remitted from an acute phase. The study also employed the SPSI as its measure of problem-solving and this measure was developed with adult populations - hence little is known of its validity in adolescent groups.

Fremouw, Callahan, & Kashden (1993) aimed to examine among an adolescent sample the interaction of life stress and problem-solving ability in a model of suicidal risk (Clum, Patsiokas, and Luscomb, 1979). A "suicidal" group of 33 individuals was selected of adolescents hospitalised for reasons of suicidal ideation or behaviour. The psychiatric comparison group consisted of 20 adolescents who were hospitalised at the

same facility (mainly for substance abuse), but had no current suicidal behaviour or intent. A comparison group of 89 high school students was recruited from local schools. All participants completed the BDI (Beck et al, 1961), the Beck Hopelessness Scale (Beck et al, 1974), The Reasons for Living Inventory (Linehan, Goodstein, Nielson, & Chiles, 1983), the Life Experiences Inventory (Sarason et al, 1978) and the MEPS. The three groups differed on all of the dependent measures apart from the MEPS, where the suicidal group and the psychiatric comparison group produced similar score profiles. The MEPS also failed to predict current suicide risk among the sample. A further surprising finding was that life stress did not contribute to the assessment of current suicide risk as assessed by the Suicide Probability Scale (Cull & Gill, 1982). This study is important in that it attempted to consider the role that life stress played in the problem-solving and suicidality relationship among a group of adolescents.

On closer inspection, the format of the MEPS employed in this particular study may have influenced the results. The version of the MEPS used did not reflect the standard format, but included three of the original scenarios and two scenarios devised particularly for this study. It is plausible to suggest that the addition of these two adolescent-specific scenarios altered the measure in an unforeseen manner, and may have under-mined its previously demonstrated validity.

Limitations of this study include the fact the researchers did not state specifically at which point after admission that participants were interviewed - their paper states it was "within a few days", and later it identifies that some participants were interviewed up to three weeks post-admission. Therefore it is arguable that the participants in this study were not "acutely suicidal". Psychological characteristics in such groups have been demonstrated to change as a psychiatric crisis passes (Schotte, Cools, & Payvar, 1990). A further and important limitation of the study is that the "suicidal group" consisted of only 13 adolescents who had made an attempt on suicide, while a further 20 in the group had been hospitalised for suicidal ideation, and it is arguable that these groups have different profiles.

Overall, an important feature of this study is that it demonstrated the importance of properly defined clinical groups, and the need to assess suicidal behaviour and its concomitants at the time of admission in order to minimise any subsequent changes in the

suicidal group. Indeed, if this is adhered to, firmer conclusions concerning the nature of problem-solving and suicidality may be drawn.

1.8.2. Studies Of The Interaction Of Stress, Problem-Solving And Affect In Suicide.

A host of studies have drawn their impetus from the diathesis-stress-hopelessness model of suicidal behaviour (Clum, Patsiokas, & Luscomb, 1979; Schotte & Clum, 1982, 1987). According to this model, problem-solving skills may moderate the effects of stress on hopelessness, which in turn affects the occurrence of suicidal ideation. Thus suggests that people who are deficient in problem-solving abilities are exposed to naturally occurring conditions of high negative life stress, they are cognitively unable to develop effective alternative solutions necessary for adaptive coping, which in turn results in hopelessness. Such hopelessness is assumed to put the individual at an increased risk for suicidal behaviour. This is a mediating model, whereby hopelessness is postulated to mediate the relationship between problem-solving and suicidal behaviour. Similarly to the studies which have been conducted examining the relationship between depression and problem-solving, these studies can be divided into studies conducted with students and those with clinical samples. The sample sizes, main measures, and results and conclusions of the key studies with both student and clinical samples are detailed in *Table 1.3*.

1.8.2.1. Studies conducted with students examining the interaction of stress, hopelessness and affect in suicide.

Schotte & Clum (1982) were the first researchers to examine the relationship between problem-solving skills, negative life stress, hopelessness and suicide ideation in a college population. This study was conducted to test the etiological model of parasuicidal behaviour proposed by Clum et al (1979) that suggested that life stress interacts with cognitive rigidity and the difficulties in engaging the divergent thinking that are necessary for problem-solving to increase the probability of a suicidal attempt. Schotte & Clum examined the relationship between problem-solving and suicidality among 175 college students. Of these individuals, 96 were deemed to be "suicidal ideators" on the basis of giving affirmative responses to several questions taken from the Beck, Kovacs, & Weissman (1979) scale for suicidal ideation. Participants completed the Zung (1965) depression scale, the Life Experiences Survey (Sarason et al, 1978), the MEPS, and the Beck Hopelessness Scale (Beck et al, 1974). The results of the study suggested that student suicide ideators are under higher levels of negative life stress, are more hopeless, and have

Table 1.3.
Social Problem Solving and Suicidal Behaviour:
Studies Examining The Stress-Diathesis-Hopelessness Model of Suicidality

	Sample Size and Composition	Main measures	Results and Conclusions
Schotte & Clum (1982)	175 Psychology undergraduates. 50 % of the sample female. Of this, 96 individuals meeting criterion for "suicidal ideation" on an adapted form of the Suicide Ideation Scale (Beck et al, 1979). 515 of these individuals were female. Participants received course credits for participation	Self-Rating Depression Scale [SDS](Zung, 1965) Scale for Suicidal Ideation [SSI](Beck et al, 1979) - assessed up to 7 days after initial testing with other key measures Life Experiences Survey [LES] (Sarason et al, 1978) Beck Hopelessness Scale [BHS] Beck et al, 1974) Alternate Uses Test [AUT] (Wilson et al, 1975). MEPS (Platt et al 1975)	Student suicide ideators were under higher levels of negative life stress, were more hopeless, had higher depressive symptomatology than non-ideating peers. Poor problem-solvers under high stress had higher suicide intent than any other group.
Dixon, Heppner & Anderson (1991)	1) 277 undergraduate psychology students (50% of the sample female) 2) 382 undergraduate psychology students (50% of the sample female) all received credits for participation.	SSI BHS LES PSI	Positive skew of SSI data, with most participants showing little or no suicidal ideation. Hierarchical regression revealed that the PSI accounted for 1.4% of the variance in SSI and life stress a further 10.7%. In study 2, the PSI accounted for 15.2% of BHS variance.
Priester & Clum, 1993	303 first year psychology undergraduates (recruited in autumn and spring semesters). Received course credit for participation in study. Gender ratio not specified	BDI BHS Modified Scale for Suicidal Ideation [MMSI] Miller et al (1986) PSI LES	Assessed 6-8 days prior to exam and 2-8 days after results issued. 70 individuals received poor course grades (mild natural stressor). PSI did not contribute to LES, BHS, MMSI or BDI post exam. Individuals who prior to exam expressed low PSI confidence and also received poor exam marks had greatest increases in LES, BHS, and BDI.

<i>Cntd</i>	Sample Size and Composition	Main Measures	Results and Conclusions
Priester & Clum, 1993b	322 first year psychology undergraduates (recruited in autumn and spring semesters). Received course credits for participation in study. Gender ratio not specified.	BDI BHS MMSI Modified MEPS- to assess problem solving skills in relation to receiving poor grades.	Assessed 6-8 days prior to exam and 2-8 days after results issued. Hierarchical regression analyses suggested that the number of relevant irrelevant MMEPS means suggested at first assessment predicted the levels of depression & hopelessness at post-exam assessment. Significant interactions between the problem-solving measures and stress (exam grade) predicted MMSI and BHS scores.
Studies with clinical Samples			
Schotte & Clum (1987)	50 hospitalised patients on suicidal observations. 50 psychiatric patients with no suicidal behaviour or intention. 28% of the overall sample was female. Gender ratio of each group unspecified.	SDS SSI LES BHS AUT Modified MEPS - relating to personal problems	Suicidal patients found to be more deficient at problem-solving, experienced more stress, and displayed higher hopelessness than hospital control. Suicidal patients generated fewer solutions to interpersonal problems.
Dixon, Heppner, & Rudd (1994).	217 individuals attending an intensive outpatient programme targeting suicidal behaviour in young people. 41.9% referred following documented suicidal attempts, 58.1% for severe suicidal ideation. 16% of the sample female.	BHS MMSI PSI Suicide Probability Scale (Cull & Gill, 1982).	Structural equation modelling provided substantiation for the mediational model of Schotte & Clum (1982). Hopelessness mediates the relationship between problem-solving appraisal and suicidal ideation. Problem solving was related to suicide ideation through its impact on hopelessness.
Rudd, Rajab, & Dahm (1994)	43 individuals hospitalised following documented suicide attempts. 57 psychiatric referrals for suicidal ideation. 18% of the sample female.	MSSI BHS LES PSI Shipley Institute of Living Scale (Zachary, 1989)	PSI predicted BHS and MSSI. PSI appraisal scale accounted for double the variance in BHS than MSSI. The model held for both attempters and ideators. Life stress did not provide independent predictive power.

higher levels of depression than their non-ideating peers. Poor problem-solvers (as assessed by the MEPS) under high stress were found to be significantly higher on suicide intent than any other group. Schotte & Clum concluded that problem-solving deficits may play a role in the development of suicidal ideation and intent, but that the role of problem-solving is probably mediational in nature. While this study is most valuable in that it was among the first to identify the role that problem-solving plays in suicidal behaviour, the generalisation of its results are perhaps limited. The sample consisted entirely of students, none of whom were suicidal or displaying acute suicidal behaviour. Indeed, suicidality was assessed by means of a cut-off score on the Beck et al (1979) scale for suicidal ideation. Also, suicidal ideation was assessed up to seven days after the individuals completed the other measures, and it is plausible to suggest that the participants were not longer acute and that their suicidal ideation may have remitted.

Dixon, Heppner, & Anderson (1991) further studied the diathesis-stress-hopelessness model of suicidal behaviour. A main concern of these researchers centred around the fact that until this time, the majority of studies examining problem-solving among suicidal individuals had relied upon the MEPS to assess problem-solving. Dixon et al wished to explore the role of problem-solving appraisal as assessed by the Problem-Solving Inventory (PSI). Dixon et al argued that these two instruments assess notably different aspects of the problem-solving process.

The study was conducted with 277 student volunteers who gained course credits for their participation. All participants completed the Life Experiences Survey (Sarason et al, 1978), the Scale for Suicidal Ideation (Beck et al, 1979) and the Beck Hopelessness Scale (Beck et al, 1974). Overall, there appeared to be a positive skew in the suicidal ideation data, with few individuals expressing suicidal intent. Hierarchical multiple regression analyses revealed that problem-solving appraisal accounted for 14.0% of the variance in suicidal ideation, and negative life stress an additional 10.7% of the variance. The interaction of these two variables in predicting suicidal ideation was not significant. Hierarchical multiple regression also found that problem-solving appraisal accounted for 15.2% of the variance in hopelessness, and life stress and additional 1.8% of the variance. The interaction of these two variables in predicting hopelessness was not significant. The results of this study suggested that problem-solving appraisal and negative life-stress were significant and independent predictors of both suicide ideation and hopelessness, but did not work in an interaction. Dixon et al (1991) suggested that deficient coping as

indicated by suicide ideation and hopelessness, is a function of both life stress and self-appraised problem-solving skills.

However, the study has some important methodological difficulties. Firstly, it can be argued that the sample does not adequately reflect a suicidal population, in that the suicide ideation and hopelessness data was positively skewed. Skewed data creates difficulties in obtaining substantial estimates of variance in such variables and thus would have reduced the power of the statistical tests (which employed transformed data) and would have most likely under-estimated the strength of many relationships.

Priester & Clum (1993a) conducted a novel study in which problem-solving ability was assessed prior to exposure to a mild naturalistic stressors (poor exam gradings). The impetus for this research stemmed from their assertion that it is perhaps wrong to assess problem-solving ability, stress, and suicidal ideation concurrently. Although the general belief is that stress and problem-solving ability affect suicidal ideation, the converse relationship is equally plausible. By assessing problem-solving ability prior to a stressor, the directionality of the relationship can be observed.

Once again, this study used a group of 303 students who received course credits for their participation. Of these 303, 70 received poor grades which served as the stressor. During the 6-8 days prior to the exam, the participants completed the BDI (Beck et al 1961), the Beck Hopelessness Scale (Beck et al, 1974), the PSI (Heppner & Peterson, 1986), the MMSI (Miller et al, 1986) and the Life Experiences Survey (Sarason et al, 1978). Participants were re-assessed with the same measures 2-8 days after the results were issued. Using the LES as the stress variable, the study found that the PSI did not (either alone nor in any interaction with stress) contribute independently to depression, hopelessness, or suicide ideation. Only the scores on depression, hopelessness and suicidal ideation at the testing prior to the exam contributed to the scores of depression, hopelessness and suicidal ideation at the post-exam testing. At the post-exam testing, none of the PSI variables added significantly to the prediction of any dependent measure. However, individuals who prior to the exam had low confidence in their abilities to solve problems and also received poor exam marks had the greatest increases in depression, hopelessness, and suicidal ideation. There are similar limitations in this study as found in the Dixon et al study (1991) in that a student sample was used, with the vast majority displaying little or no suicidal ideation.

A similar methodology was employed by Priester & Clum (1993b) who conducted a further short-term longitudinal study prior to and after receiving a poor exam grade. The main difference in this study, was that it employed a problem-solving assessment similar to the MEPS, instead of an inventory assessment with the PSI. A total of 282 students took part in this study, 64 of whom received low exam grades. The first assessment was held 6-8 days prior to the exam, and the post-exam assessments were conducted 2-8 days after the results were issued. All participants completed the BDI (Beck et al, 1961), the Beck Hopelessness Scale (Beck et al 1974), the MMSI (Miller et al, 1986), and the Modified MEPS - a modified MEPS designed to deal with such situations as the students had just encountered with regards to exams. By means of hierarchical regression analyses, the number of relevant and irrelevant means identified at the first assessment predicted the levels of depression, and hopelessness at the post-exam assessment. Further, the number of relevant alternatives and the average number of negative consequences identified at the first testing also significantly and uniquely predicted the level of suicide ideation at the post-exam assessment. The hierarchical regression analyses also revealed significant interactions between irrelevant alternatives x stress and total alternatives x stress in the prediction of depression, and interactions between the number of relevant alternatives x stress and number of cons x stress in the prediction of hopelessness and suicide.

This study is important in that it highlights that different problem-solving variables can be predictive of hopelessness and suicidal ideation than are predictive of depressive symptoms and emphasises the importance of measuring all phases of problem-solving ability - suggesting that specific deficits in problem-solving lead to specific psychological dysfunctions. Individuals who generate more frequent irrelevant solutions are more vulnerable to the symptoms of depression and hopelessness, while individuals who anticipate more negative consequences for their defined solutions are more likely to experience suicidal ideation.

However, there are several caveats of this study. Firstly, it is unlikely that the student sample would have been representative of clinical samples. Secondly, the study employed a naturalistic stressor that was mild, and most probably unlike the events recently experienced by clinically presenting suicidal individuals. While it might be expected that problem-solving deficits would mediate the effects of a more severe stressor, it is possible that the effects of such a stressor would directly affect adjustment, regardless of the level of

problem-solving deficits. Thirdly, there was relatively low inter-rater reliability on some of the modified MEPS scale components such as irrelevant means.

1.8.2.2. Studies Conducted With Clinical Samples Examining The Interaction Of Stress, Hopelessness And Affect In Suicide.

Table 1.3. also details the sample sizes and composition, main measures, and results and conclusions of the key studies conducted with clinical samples. Schotte & Clum (1987) attempted to overcome the methodological difficulties inherent in their (1982) study by using a sample of suicidal psychiatric patients. They compared 50 hospitalised patients on suicidal observations with a comparison sample of 50 non-suicidal hospitalised patients. Participants completed the same battery of assessments as was employed in the previous (1982) study. The suicidal patients were found to be more deficient at problem-solving (as assessed by the MEPS), experienced more stress, and displayed higher hopelessness levels. They found that suicidal patients, in comparison to the nonsuicidal patients, tended to generate fewer alternatives to interpersonal problems; and also tended to focus on the potentially negative aspects of the solutions they generated. Moreover, the suicidal subjects were observed to implement fewer of the solutions that they generated. Schotte & Clum argued that this study provided further support for a diathesis-stress model of suicidal behaviour among suicidal ideators. This study is valuable in that it was the first to employ a clinical sample to examine the diathesis stress model of suicidal behaviour.

However, this study was not without problems, in that 85% of the sample were diagnosed as having a schizophrenic disorder. Thus it would be hard to disentangle which effects were due to suicidality, and which were the result of the higher levels of distress that accompany general psychiatric morbidity. Given the fact that researchers have demonstrated difficulties in problem-solving associated generally with schizophrenia (Bellack, Sayers, Mueser & Bennett, 1994), the results of Schotte & Clum (1987) may have been confounded by the level of morbidity found generally in the sample.

Rudd, Rajab, & Dahm (1994) conducted a study aimed at expanding the work of Dixon et al (1991) in a clinical sample - with both suicide ideators and attempters. The reason for this rests with the fact that previous investigators have focused upon non-clinical samples (mainly students) or clinical samples composed principally of ideators. The study involved 100 individuals - 43 of whom were referred to the emergency department of a local hospital following suicidal behaviour, and 57 who had reported episodic suicide

ideation of sufficient intensity to warrant psychiatric referral. Of this 57, 50 had previously made a suicide attempt at some point in their lives. All participants completed the Modified Scale for Suicide Ideation [MMSI] (Miller, Norman, Bishop, & Dow, 1986), the Life Experiences Survey (Sarason et al, 1987), the Beck Hopelessness Scale (Beck et al, 1974), the PSI (Heppner & Peterson, 1982) and the Shipley Institute of Living Scale [SILS] (Zachary, 1989) which assesses cognitive impairment. Both suicidal ideation and hopelessness was found to be at a clinical level in this sample. The sample also had a high mean PSI score - indicating that they appraised themselves as ineffective problem-solvers. There were no significant correlations between any of the key variables and verbal ability as assessed by the SILS.

The results of this study supported the inclusion of problem-solving as a critical variable in the stress-hopelessness-suicide model. Problem-solving appraisal as assessed by the PSI played an important role in the prediction of hopelessness and suicide ideation. Problem-solving appraisal accounted for almost double the amount of variance in hopelessness (36.7%) relative to suicide ideation (18.4%) - suggesting a complicated relationship between the variables. The PSI model held for the total sample, and also for the ideators and attempters separately. However, the study failed to demonstrate the critical role of negative life stress - which did not provide additional predictive power independent of the PSI. An important observation of the study is the recommendation that future research needs to examine moderator variables such as anxiety and depression which may mediate the relationships between negative life stress and cognitive variables such as problem-solving, hopelessness, and suicide ideation. From a perusal of the literature, it appears as though no study to date has adequately examined this in a clinical sample.

There are a few methodological caveats in this study. Firstly, some participants were seen up to four days post-referral, and thus may not have been as "acutely suicidal". Also the study utilised the PSI as its sole measure of problem-solving. It is debatable whether the trait features of self-assessed problem-solving ability are the most important contributors to the stress-hopelessness-suicide model. Future research should therefore employ two measures concurrently - one assessing trait deficits, and another assessing state deficits (such as the MEPS).

Dixon, Heppner, & Rudd (1994) aimed to assess the mediational role of hopelessness between problem-solving appraisal and suicidal behaviour - predicting that

problem-solving has a significant indirect effect upon suicide ideation by its impact on hopelessness. The study was conducted with 217 people who were in an intensive outpatient programme that targeted suicidal behaviour in young people. Of the sample, 41.9% had been referred following documented suicide attempts, while the additional 58.1% reported episodic suicidal ideation of adequate intensity to warrant outpatient presentation or referral to a local psychiatric department - around one third of these latter individuals had also made a suicide attempt in the past. All participants completed the PSI (Heppner & Petersen, 1982), the Beck Hopelessness Scale (Beck et al, 1974), and the MMSI (Miller et al, 1986), along with the Suicide Probability Scale (Cull & Gill, 1982). By means of structural equation modelling with latent variables, the results suggested for the mediational component of Schotte & Clum's (1982) theory, and clearly suggested that hopelessness mediates the relationship between problem-solving appraisal and suicidal ideation. Problem-solving appraisal was related to suicide ideation primarily through its impact on hopelessness. This study is important in that it used a large clinical sample.

A limitation of this study is that it only examined one relationship in the stress-hopelessness-suicidality model, in that it did not consider the stress component. Indeed future studies should examine the relationships among all the components. Secondly, it must be emphasised, that this study has a cross-sectional nature and therefore cause and effect relationships cannot be determined. Thus, suicidal ideation and feelings of hopelessness may lead individuals to think of themselves as ineffective problem-solvers, as opposed to ineffective problem-solving leading them to hopelessness and suicidal ideation.

1.8.3. The Interaction Of Social Support In The Stress-Hopelessness-Suicidality Model.

Over the past three years, some researchers have suggested that social support may be a further important factor in the Stress-Hopelessness-Suicidality model (Clum & Febbraro, 1994; Yang & Clum, 1994). They argue that social support has been shown to mediate the effects of significant life events, and has been shown to be useful and effective in minimising psychological impairment during times of severe stress, but does not appear to have a significant effect on psychological impairment during periods of lesser stress (Cassel, 1974; Cobb, 1974; 1976; Holahan & Moos, 1981). A host of univariate studies have already demonstrated the importance of social support in mediating suicidal behaviour (Bonner & Rich, 1987, 1988a, 1988b, Rich and Bonner, 1987). Rudd (1990) tested an integrative path model of suicidal ideation in which the predictive contribution of several variables, one of which was social support, were examined simultaneously and found that

the model accounted for 34% of the total variance in suicidal ideation. In a multiple regression analysis, D'Attilio, Campbell, Lubold, Jacobson, & Richard (1992) examined the relationship between adolescent suicide potential and both the quality and quantity of experienced social support. Their results indicated that adolescents at greater risk for suicide appear to have fewer social contacts and less satisfied with their social support.

Thus, it makes empirical sense to examine social support in relation to the diathesis-stress-hopelessness model of suicidal behaviour. To date, there appears to have been only two studies in the literature that have attempted to do this. Clum & Febbraro (1994) examined the relationship between stress, social support, and problem-solving ability in the prediction of suicide severity among a college sample. A total of 59 subjects were used, who had a minimum score on the Scale for Suicidal Ideation [SSI] (Beck et al, 1979). The participants completed the Life Experiences Survey (Sarason et al, 1978), the MMSI (Miller et al, 1986) the UCLA Loneliness Scale (Russell, Peplau, & Ferguson, 1978), a modified version of the MEPS (Platt & Spivack, 1975), and the PSI (Heppner & Petersen, 1982.) By means of regression analyses, problem-solving appraisal as assessed by the PSI emerged as the only important variable in predicting suicidal severity - accounting for 9.5% and 9.2% of the variance in the prediction of SSI and MSSSI severity respectively. The study also found that support was important in two interactions - problem-solving x stress, and problem-solving avoidance x stress, in the prediction of the SSI score, accounting for 8% and 6% of the variance respectively. Overall, the results of the study indicated that problem-solving appraisal and social support contribute uniquely and in interaction with stress to the prediction of severity of suicide intention. This study is most valuable in that it demonstrated the importance of social support variables in the diathesis-stress-hopelessness model of suicidal behaviour.

However, there are some limitations to this study. Firstly, the results of the stepwise and hierarchical regression analyses accounted for only a small part of the variance. Secondly a student sample was employed. It is possible to suggest that the students would respond differently to suicidal attempters or individuals who present themselves at hospitals with high suicidal intent. The very fact that these individuals had not presented themselves to the medical authorities displaying suicidal intent or behaviour may also have influenced results.

Yang & Clum (1994) conducted a similar study with 101 volunteer Asian students, who were paid for their participation or received course credits. All participants completed the MSSSI (Miller et al, 1986), Zung's Self-Rating Depression Scale [ZDS] (Zung, 1965), the Beck Hopelessness Scale (Beck et al, 1974), the Life Experiences Survey (Sarason et al, 1978), the UCLA Loneliness Scale (Russell et al, 1978) and a modified MEPS. By means of a hierarchical regression analysis, problem-solving confidence was found to account for 27.6% of the variance in suicide ideation, and the interaction between life stress x MEPS - cons and life events x social support a further 7.0% each. By means of a path analysis, depression was found to have a significant direct effect on suicidal ideation. Social support, problem-solving confidence, and life stress in turn showed significant direct effects on depressive symptoms. Problem-solving confidence and social support also showed significant direct effects on hopelessness, whereas hopelessness had a significant direct effect on depressive symptoms. In addition, life stress showed significant direct effects on social support.

There are several important methodological considerations in this study. Firstly, the sample may not have been comparable to a clinical sample in that only 22 of the participants had an MSSSI score of 4 or over (showing generally low intent). Secondly, it could be argued that the sample size may not have been large enough to allow generalisable conclusions to be drawn from the regression analyses and path analysis. Thirdly, in the path analysis model, the relationships between all the variables were assumed to be unidirectional as opposed to bi-directional - as it is equally plausible to suggest that being depressed, hopeless, and withdrawn may worsen one's social contact and weaken social support.

It is clear that current research should be directed towards examining the relationships between stress, social support, problem-solving ability, and affective states in clinically presented suicidal samples. It is to this end, that one of the studies in the current thesis will direct itself.

1.8.4. Methodological Considerations To Be Addressed In The Studies Of The Stress-Hopelessness-Suicidality Model.

From a perusal of the literature, there appears to be a host of studies that have examined the relationship of stress, problem-solving, and hopelessness in the development of suicidal behaviour. However, there appears to be a common thread of methodological

weaknesses that run through them. Firstly, the majority of research has stemmed from North America, thus it would be hard to determine if the findings can generalise cross-culturally. A significant proportion of the research studies have relied upon sub-clinical samples (mainly consisting of North American students) whose suicidality was determined by means of a cut-off score on the Beck et al (1979) Scale for Suicidal Ideation. Due to the positive skews that have been apparent in the distress profiles of these groups, it is arguable that the samples are not reflective of clinical samples of suicidal individuals, in that students generally express low suicidal ideation. An important consideration also centres around the fact that some studies used psychology undergraduates (Schotte and Clum, 1982; Dixon et al 1991; Priester & Clum, 1993a, 1993b) whose naiveté to the experimental hypotheses is questionable. Also, the fact that participants in each of the above studies received experimental credits for their participation leaves open a question regarding the motivations of the individuals who participated.

Studies which have used hospital samples have also often failed to distinguish between suicidal ideators and individuals who have displayed suicidal behaviour (Schotte & Clum, 1987). A further criticism concerns the fact that many of such "suicidal" are not always assessed as soon as possible after admission. For example, participants were assessed after 4 days in the Rudd et al (1994) study, and up to 2 weeks post-admission in the Schotte & Clum (1987) study. Hence it is arguable that the participants are no longer acutely suicidal. Current studies should aim to use samples of individuals who have been admitted to a hospital following an act of suicidal behaviour and assess them as soon after admission as possible.

A issue worth note, concerns the fact that researchers have become perhaps over-focused on the range of affect that they have considered in their studies of suicidality - with most examining depression and hopelessness. As Rudd et al (1994) recommend, current studies should examine if other affective states (such as anxiety) have a role to play in the problem-solving/suicidality relationship. Indeed, this will be considered in the study in the current thesis. While more recent studies have broadened their horizons to examine the interplay of such variables as stress and social support in this research, there is clearly much work that needs to be done.

With regards to the assessment of stress, there has been an over-reliance upon the Life Experiences Survey (Sarason et al, 1978) as the assessment instrument of choice. The

role of life experiences in the aetiology of both physical and psychological distress has come into question in recent years. Some investigators have suggested that the relationship between life experiences and subsequent psychiatric distress may in fact disappear when initial symptom levels of distress are controlled for (Grant, Patterson, Olshen, & Yager, 1987). It has been suggested that life-experiences inventories may be contaminated in these ways and thus artificially inflate the relationship between stress and dysfunction (Brett, Brief, Burke, George, & Webster, 1990). Another potential source of confounding in such instruments is that the measurement of specific stressful events may also tap ongoing life strain that is part of day-to-day life (Avison & Turner, 1988). The life events that people experience show some degree of continuity over time (Billings & Moos, 1982; Norris & Murrell, 1987), consistent with the idea that experiences inventories may reflect chronic strain and not only isolated discrete events. Indeed, there are certain groups in society (such as the unemployed, the un-married, those with low income) that are more likely to experience such stressful events - and these demographic differences may reflect a pre-existing vulnerability to life experiences as a result of chronic strain.

A recent and valuable approach has been to consider "self-perceived stressfulness", as many researchers have argued that perceived stress is a better measure of stress than the instruments that assess exposure to particular events in that people vary in what they consider to be stressful. A scale has been developed by Cohen, Kamarck, & Mermelstein (1983) to assess the levels of self-perceived stress. It is to this measure of stress that the current thesis will direct its use.

Social support has been demonstrated to have an important direct mediating effect in suicidal behaviour among students (Clum & Febraro, 1994, Yang & Clum, 1994). However, this relationship has never been adequately addressed in a clinical population. Studies which have demonstrated the importance of the inclusion of social support in the diathesis-stress-hopelessness model of suicide (Clum & Febraro 1994; Rich & Bonner, 1987; Rudd, 1990; Yang & Clum, 1994) have used the UCLA Loneliness Scale (Russell, Peplau, & Ferguson, 1978) to assess social support. While this scale has been demonstrated to be both valid and reliable (Russell et al, 1978), it does not consider the complexity of the functions of social support and examines only the perceived degree of social integration. As demonstrated, there are further important aspects of supportive relationships. The significance of further aspects of supportive relationships will be examined in a study in the current thesis by employing the Interpersonal Support Evaluation

List [ISEL] (Cohen, Mermelstein, Kamarck, & Hoberman, 1985) which is a more comprehensive measure of social support.

Studies with students have tended to use the SSI or MSSSI as its criterion measure of suicidality (Dixon et al, 1991; Priester & Clum, 1993a, 1993b; Schotte & Clum, 1982), both which assess suicidal ideation. The study in the current thesis will examine suicidal intention as assessed by the Suicidal Intent Scale [SIS] (Beck, Schulyer, & Herman, 1974). This scale has greater clinical validity than the SSI among a hospitalised group, as they have gone beyond the stage of "ideation" and have engaged in acts of suicidal behaviour. Thus the intention to die is a far more clinically valid measure for this group. From a perusal of the literature, it appears as though no study to date that has examined the stress-diathesis-hopelessness model of suicide has used the SIS as a criterion measure.

1.8.5. The State-Trait Debate Of Problem-Solving Deficits And Suicidality.

A debate on the state-trait nature of problem-solving has already begun in relation to the role of problem-solving deficits in suicidality, particularly concerning whether such deficits are antecedents or concomitants of suicidal ideation or behaviour (Schotte & Clum 1982, 1987; Schotte, Cools & Payvar, 1990; Ivanoff et al 1992).

Schotte and Clum (1982, 1987) worked with both student suicide ideators and suicidal psychiatric patients and proposed a stress-diathesis model of suicidal vulnerability, where deficits in interpersonal problem-solving skills could predispose the development of hopelessness, depression, and suicidal behaviour. Together, these research papers suggest that interpersonal problem-solving deficits may be representative of a trait vulnerability in suicidal-prone individuals. However, a later longitudinal study by Schotte, Cools & Payvar (1990) with hospitalised suicide ideators concluded that interpersonal problem-solving deficits may be a concomitant, rather than a cause of depression, hopelessness and suicidal intent.

The study by Ivanoff et al (1992) aimed to examine the state/trait debate in a penal population, and examined the effects of parasuicide history among suicidal and non-suicidal inmates with regards to interpersonal problem-solving and standard psychological distress and suicidality measures. The MEPS was used with 93 inmates, and the results indicated no differences in problem-solving performance between currently suicidal versus non-suicidal subjects with a history of parasuicide. Furthermore, among currently non-suicidal

inmates, the presence or absence of a history of parasuicide had no effect on problem-solving performance or their profile on psychological distress measures. Ivanoff et al (1992) concluded that their study supported the hypothesis of Schotte et al (1990), that suggests that trait problem-solving deficits are not causally linked to suicidality.

Thus the evidence for the state-trait debate appears at present to be equivocal. However, there are important methodological problems that warrant attention in most of the previous studies. Firstly, the study by Schotte and Clum (1982) used a sample of 175 polytechnic students who volunteered for the study in order to receive experimental credits. Suicidal ideation was assessed by several items adapted from Beck, Kovacs, & Weissman's (1979) Scale for Suicidal Ideators. Arguably, these student suicidal ideators differed in the severity of their psychological distress from suicidal attempters, in that the level of psychological distress experienced by the ideators would not be expected to be as acute as that experienced by suicidal attempters. Schotte and Clum (1987) attempted to remedy this by examining suicidality in a group of 50 suicidal psychiatric patients who had been placed on suicidal observation by treatment team members or had admitted current suicidal ideation in the interview with an investigator. However, of this sample, 85% had been diagnosed as having a schizophrenic disorder, and thus it would be hard to disentangle which effects were due to suicidality and which to schizophrenia or other psychiatric illness.

The study by Ivanoff et al (1992) is the only study that has employed an adult male penal population, however there are important methodological problems that need to be raised when assessing the relevance of this paper. Firstly there was a high incidence of psychiatric disorder in their sample. Out of the 93 inmate participants, 13 were diagnosed as having major affective disorder, 15 schizophrenia or psychotic disorder, 15 a V Code diagnosis, 33 adjustment disorder, and 47 reported psychoactive substance abuse (30 inmates had this as a second Axis I diagnosis). Although Ivanoff and others claimed there was an equal distribution of psychiatric cases across the research groups, the influence that psychiatric status itself played upon problem-solving skills deficits, independent of suicidality was not determined. Indeed it probably would have been too difficult to do so. Thus the results may be considered as confounded, given that it would be hard to disentangle which effects were due to suicidality, and those which were a result of psychiatric disorder or drug abuse, given the high reported incidence of illicit drug use within the sample. Given that a host of research studies have identified differential

problem-solving deficits in schizophrenics (Bellack, Sayers, Mueser & Bennett, 1994), incarcerated drug abusers (Platt, Scura & Hannon, 1973) and those with affective disorder (Marx, Williams & Claridge, 1992), this could be deemed an important confounding issue. Secondly, difficulties also exist in the method by which inmates were classed as suicidal. For example, in Ivanoff et al's study, inmates were placed in the suicidal group if they self-reported experiencing suicidal ideation within the two weeks prior to study inclusion as assessed in response to the Prison Suicidal Behaviours Questionnaire (Ivanoff & Jang, 1991). Thus, the inmates need not have exhibited any parasuicidal behaviour. Furthermore, given the time lag between study inclusion and the experience of suicidal ideation, the actual level of suicidal risk at time of inclusion may have worsened or more likely have lessened significantly. Indeed, it is unlikely that such inmates could be considered as acutely suicidal, as they were receiving the equivalent of outpatient mental health services within the prison, and were not removed from main circulation or placed on suicidal surveillance. Thus, the actual level of their suicidality is hard to determine.

One study in the current thesis aims to re-examine the state-trait debate of problem-solving deficits and suicidality in a group of Scottish incarcerated young offenders. The problem solving abilities of young offenders has not been adequately addressed to date. Such research could be considered of practical importance considering current concerns with deliberate self-injury and suicide among young offenders (Liebling, 1992; Power & Spencer, 1987), where self-harm is often reported as a problem-solving strategy exhibited by distressed prisoners in order to alter certain aspects of the prison environment. Understanding whether any deficit in problem-solving ability is linked intricately to a suicidal state or is a much more pervasive problem is likely to have important ramifications for clinical interventions with such individuals.

The study in the current thesis will hope to address some of the problems associated with previous research by employing a sample of inmates who are currently displaying suicidal intent and suicidal ideation, and are assessed to be a high risk of suicidal behaviour. What is more, in order to remove the concomitant effects upon problem-solving that may be associated with psychiatric illness or affective disorder, inmates were only considered for inclusion in the current study if they were free from a formal diagnosis of psychiatric illness at the time of inclusion.

1.9. The Problem Solving Abilities Of Prisoners.

Poor problem-solving abilities have previously been considered to be a characteristic common among prisoners (Zamble & Porporino, 1988). Indeed, some researchers have gone as far as to suggest that problem-solving deficits may be a contributing factor to the impulsive behaviours that can lead to incarceration (Reeker & Meissner, 1977). To date, there has been a paucity of systematic studies conducted within penal settings and the few studies that have been conducted have not been without methodological difficulties.

1.9.1. Empirical Studies With Prisoners.

Higgins & Thies (1982) examined social effectiveness and problem-solving thinking among reformatory inmates in North America. The MEPS was used with a group of 20 inmates who were judged by their peers to be "misfits" and "unable to function within any context within the prison", 20 inmates assessed by staff as having disciplinary problems, and 20 inmates judged to be successful in using institutional resources. The results indicated that the group judged as "misfits" showed the most pronounced deficits in problem-solving ability, giving less relevant problem-solving means, and more "irrelevant" problem-solving means. They were more deficient than the "disciplinary" group, who in turn displayed more deficits than the "adjusted" group. The authors concluded that the results of their study support the hypothesis that means-end thinking is related to social adaptation within the institution.

However, this particular study has some important methodological difficulties. Firstly, the criterion for group membership was ill defined, and thus each of the samples could have consisted of fairly heterogeneous groups of individuals. Secondly, the MEPS was not consistently administered, with some inmates completing a written form and other inmates being tested by means of an interview format. Also, the study had examined the IQ of the participants, but failed to report whether or not this had any relation to means-end problem solving in this particular population. However, this study is important as it was the first to display the heterogeneity of problem-solving abilities in relation to adjustment within the penal setting.

Grier (1988) examined the problem-solving abilities of incarcerated rapists, in relation to the hypothesis that it is their deficits in social problem-solving skills which may lead to their use of maladaptive behaviours (such as rape) as a means of attaining desired

goals. This study examined problem-solving by means of the MEPS with 30 adult male sex offenders in prison in North America. All of these participants had been classified as sex offenders secondary to a classification of having an antisocial personality. A comparison group was selected from 30 non-incarcerated males. The difficulty with this study lay with the fact that it employed a rather unique style of scoring the MEPS, where scores were computed for each individual scenario and were not summed together and averaged across the situations presented. Overall, the study suggested no differences between the groups on the MEPS. However, on closer examination this seems not to be the case, as a significant difference was apparent between the groups on the scenario concerning difficulties which may arise in a relationship with a girlfriend. On this scenario, the sex offenders produced less relevant means. Although the study argued that sex offenders are not as deficient in means-end thinking as previously suggested, it takes care to suggest that their difficulties may lie with some of the later stages of the problem-solving process (e.g. choosing of alternatives, behavioural implementation) that were beyond the scope of the study. A further variable that cannot be disregarded in the explanation of the results was the unusually high level of education found among the group of sex offenders. Since their abilities were not assessed, it would be hard to determine how important this variable was in their problem-solving ability as assessed by the MEPS.

Ivanoff et al (1992) used a prison sample to further examine a debate that has arisen concerning whether problem solving deficits could be considered as trait or state in nature, and also examined the effects of parasuicide history among suicidal and non-suicidal inmates with regards to interpersonal problem-solving and standard psychological distress and suicidality measures. The MEPS was used with 91 inmates, and the results indicated no differences in problem-solving performance between currently suicidal and non-suicidal subjects with a history of parasuicide. Furthermore, among currently non-suicidal inmates, the presence or absence of a history of parasuicide had no effect on problem-solving performance or their profile on psychological distress measures. Ivanoff et al (1992) concluded that their study supported the hypothesis of Schotte et al (1990), that suggests that trait problem-solving deficits are not causally linked to suicidality.

The study by Ivanoff et al (1992) is the only study that has employed an adult male penal population, however there are important methodological problems that need to be raised when assessing the results of this paper. Firstly there was a high incidence of psychiatric disorder in their sample. Although Ivanoff and others claimed there was an

equal distribution of psychiatric cases across the research groups, the influence that psychiatric status itself played upon problem-solving skills deficits, independent of suicidality was not determined. Indeed it probably would have been too difficult to do so. Thus the results may be considered as confounded, given that it would be hard to disentangle which effects were due to suicidality, and those which were a result of psychiatric disorder or drug abuse, given the high reported incidence of illicit drug use within the sample. Secondly, difficulties also exist in the method by which inmates were classed as suicidal. For example, inmates were placed in the suicidal group if they self-reported experiencing suicidal ideation within the two weeks prior to study inclusion as assessed in response to the Prison Suicidal Behaviours Questionnaire (Ivanoff & Jang, 1991). Thus, the inmates need not have exhibited any parasuicidal behaviour. Furthermore, given the time lag between study inclusion and the experience of suicidal ideation, the actual level of suicidal risk at time of inclusion may have worsened or more likely have lessened significantly. Indeed, it is unlikely that such inmates could be considered as acutely suicidal, as they were receiving the equivalent of outpatient mental health services within the prison, and were not removed from main circulation or placed on suicidal surveillance. Thus, the actual level of their suicidality is hard to determine.

Pugh (1993) looked at problem-solving ability (as assessed by the PSI) as part of a study to examine prisoner adjustment. This was part of a treatment study conducted with 168 prisoners, that was aimed at improving prisoners' problem-solving skills in order to enhance their internal control and thus promote adjustment. Participants were assessed prior to the "Decisions" group work intervention and also at 3 months post intervention. The results suggested that the prisoners sampled displayed an "adequate" solving ability, with a sample mean that was comparable to the norms for a college population. After ten sessions of group work aims at tackling deficiencies in problem-solving ability and an external locus of control, there were no differences in problem-solving ability as assessed by the PSI and problem-solving did not contribute significantly to the variance in responses to the Prisoner Adjustment Questionnaire (Wright, 1986). However, an important point to note is that the problem-solving measure used was an analogue assessment of the individuals' attitudes towards problem-solving which may not reflect their actual abilities. Future studies may consider assessing prisoners abilities to solve real, everyday problems.

1.9.2. The heterogeneity of the prison population.

So far, the research that has been conducted with penal populations has produced mixed results with regards to problem-solving. This could be for a host of reasons. Firstly, few studies have considered the heterogeneity of the prison population. There is a suggestion from the results of previous studies, that individuals with problem-solving difficulties may not be differentiated according to their offence types (Grier, 1988), but rather in terms of their adjustment to the prison regime and reactions to situational and personal factors that seem unique to the experience of incarceration (Higgins & Thies, 1982; Ivanoff et al 1992). It is to this end that the current research will address itself, in that it will examine the problem-solving abilities of particular sub-groups of prisoners which have been previously identified by independent researchers and prison staff as showing difficulty in adjusting to incarceration.

1.9.3. Sub-Groups Of Inmates Among The Young Offender Prison Population.

The present thesis also hopes to address the issue of "status" and problem-solving in relation to psychological distress experienced during incarceration. Over the past decade, the incidence of psychological distress and vulnerability has become an salient issue among young offenders. A host of "vulnerable" groups of inmates have been identified. Victimization among young offenders has lead to concern by the Prison Service, in that recent research has revealed high levels of bullying in young offenders (Walmsley, Howard & White, 1992; Wozniak, Gemmell, & Machin, 1994). A recent research stream has suggested that there may be a link between victimisation and deliberate self-harm in prison (Liebling, 1992; Power & Spencer, 1987). A further group of young offenders who have displayed difficulties in adjustment to prison life are those who have formally requested to be removed from routine circulation and placed on protection - thus requiring a particular form of management by the prison staff. Such prisoners have been hypothesised as having difficulties with their coping skills and prone to the experiences of exacerbated levels of psychological distress (Liebling, 1992). Indeed it is plausible to suggest that their requests for formal protection could be a reflection of their social problem-solving deficits -in that they often display difficulties in dealing with the kinds of difficulties that can arise with prison relationships. A final group of inmates who could warrant attention are those inmates who are placed on suicidal supervision by prison staff. Previous researchers have suggested that being placed on suicidal supervision is in fact a strong indicator that an individual does not possess the coping skills necessary for dealing with incarceration

(Liebling, 1992). Difficulties in problem-solving could be considered as such a deficit, and will be examined during the course of this thesis.

The young offender population has received little research attention generally and none with regards to problem-solving. Also there have been no previous studies of problem-solving within the British penal system. Thus, this will be a focus of the current thesis. Difficulties have existed with previous studies in regards to the mode of sample definition and selection (e.g. Higgins & Thies, 1982; Ivanoff et al, 1992) and this could have ramifications for the generalisation of results. It is thus suggested that future studies, including the present study should address this issue by using more stringently selected samples. What is more, the identification of problem-solving difficulties with particular sub-groups of inmates may allow more practical interventions designed to target their types of problem-solving difficulties.

CHAPTER 2:

**LITERATURE REVIEW: SUPPORTIVE RELATIONSHIPS
AND THE EXPERIENCE OF PSYCHOLOGICAL DISTRESS**

Chapter 2: Supportive Relationships And The Experience Of Psychological Distress: The Role Of Social Support And Parental Bonding.

A subsidiary theme of the present thesis will examine the nature and role of supportive relationships in the experience of psychological distress among two of the subject groups - the individuals who have engaged in suicidal behaviour and the incarcerated young offenders.

During the mid-1970s, several significant review papers presented the thesis that social support variables were important risk factors in the aetiology of a number of physical and psychological disorders. It was argued that social factors could influence the duration and course of many disorders, and that supportive relationships could protect individuals from the adverse effects of stress (Caplan, 1974; Cassel, 1976; Cobb, 1976). In spite of the methodological and conceptual concerns that many of these studies raised (see critical reviews by Cohen & MacKay, 1984; Heller, 1979; Thoits, 1982), they provided the impetus for more systematic research to examine the role of social support in the experience of psychological distress. Much of this work has dealt with depressive disorder (Coyne et al, 1981; Cornelis, Ameling, & de Jonghe, 1989; Billings & Moos, 1984; Broadhead et al, 1983; Brown & Harris, 1978; Brugha, Bebbington, MacCarthy, & Sturt, 1990; Flannery & Wiemann, 1989; George, Blazer, Hughes, & Fowler, 1989, Slack & Vaux, 1988), and since the nature and design of the current study provides little opportunity to add anything new to this literature, the clinically depressed will not be a focus of the social support research in the current thesis.

Instead, the thesis will examine the value of social support in the other two research groups used in the research studies - the individuals who have engaged in suicidal behaviour and the incarcerated young offenders. To date, there appears to be little systematic research in the literature pertaining to social support in either of these two groups. The first section of this review will hence discuss the concept of social support and its measurement, and will provide a synopsis of the literature that examines social support in these two groups.

A second type of important supportive relationship that could influence the experience of psychological distress is the important "bonding" relationships that an individual has with each parent. Previous research has demonstrated the importance of these relationships in the experience of distress among depressed individuals (MacKinnon, Henderson, Andrews, 1993; Parker, 1979a; Parker & Hadzi-Pavlovic, 1992; Parker, Hadzi-Pavlovic, Greenwald, & Weissman, 1995; Rodriguez, Bayon, Franco, Canas, Graell, & Salvador, 1993) and suicidal individuals (Adam et al, 1994; Goldney, 1985; Martin & Waite, 1994). Once more, since the nature and design of the current thesis provides little opportunity to add anything novel to these growing bodies of research, the research study will only attempt to address the nature of parental bonding and its role in relation to the experience of psychological distress among incarcerated young offenders. From a perusal of the literature, it appears as though this issue has never been previously examined. The second section of this review will hence address the concept of parental bonding and its measurement and discuss the potential value of such research among young offenders.

2.1. A Definition of Social Support.

One of the key problems endemic in early research lay with the inconsistencies in definition of social support used by researchers. While many researchers attempted to examine theoretically the many dimensions of social support (Barrera & Ainley, 1983; House, 1981; Kahn & Antonucci, 1980; Wills, 1984), others took sociological perspectives (Lin, Simeone, Ensel, & Kuo, 1979), while yet others tried to define social support in terms of its functions (Cobb, 1974; Weiss, 1974).

The most agreed upon working definition of social support stems from the work of Cobb (1974). This states that a relationship is said to involve social support if it is perceived by the recipient to be esteem-enhancing, provides aid to them in times of need, and makes them feel part of a communication network with mutual obligation. The term "perceived support" (Procidano & Heller, 1983) refers to a generalised appraisal that individuals believe that they are cared for and valued, and that significant others are available to them in times of need, and finally that they are satisfied with the support they have. Social support has also been examined in terms of its dimensions. Essentially, there are three dimensions which occur repeatedly in the literature (Thoits, 1986): a) Affect, b) Affirmation, and c) Aid. Researchers differ on which of these dimensions that they focus upon.

Cobb's (1976) definition of social support is important in that it emphasises the functional aspects of the supportive relationships over the structural aspects. Cobb looked at the specific provisions offered by social relationships he considered important helping the individual in times of stress: emotional, esteem, and network support. Weiss (1974) identified six elements of social support: attachment, social integration, opportunity of nurturance, reassurance of one's worth; a sense of reliable alliance, and a source of guidance. Later researchers have added the provision of material aid, tangible aids and services (Cohen, Mermelstein, Kamarck, and Hoberman, 1985; Schaefer, Coyne, and Lazarus, 1982). House (1981) identified four main forms of supportive behaviours : a) emotional support, b) instrumental support, c) informational support, d) appraisal support.

Kahn and Antonucci (1980) embraced these elaborate definitions in their perspective on social support as interpersonal transactions that embrace affect, affirmation, and aid. The element that is implicit in this definition is that social support is not simply a "provision" to the individual, but has a two-way, dynamic, transactional nature.

2.2. Social Support as a Coping Aid.

The bulk of research during the past two decades has focused upon the perceived supportiveness of relationships for an individual, examining how well social support buffers the effects of stress and assessing what contribution it makes directly to mental health (Cohen & Wills, 1985; Lin, Dean, & Ensel, 1986). There is fairly consistent evidence that the perceived availability of social support moderates the effects of stress on subsequent physical (Wallston, Alagna, DeVillis, & DeVillis, 1984; and psychological distress (Kessler & MacLeod, 1985) experienced by individuals. Research has examined a number of dimensions of social support, and it appears as though the perception of having available social support from close others accounts for much of the effect of social support on stress (Coyne & DeLongis, 1986). One of the ways that social support may protect people from the potentially damaging effects of exposure to stress is through its effects on mediating appraisals and coping processes (Lazarus & DeLongis, 1983; Lazarus & Folkman, 1984). According to DeLongis, Folkman, & Lazarus (1988), people who have adequate support should find that situations are less likely to tax or exceed their resources, and consequently they should experience less distress. Consequently, when such people do experience stress, having close others to rely upon should make it less likely that they will resort to maladaptive coping strategies and suffer negative outcomes.

Social support has been conceptualised as an "aid to coping" (Thoits, 1986) in stressful or problematic situations. Research has shown that strong social relationships seem to lessen the risk of physical, psychological, and emotional impairment (Caspi, Bolger, and Eckenrode, 1987; Cassel, 1974; Cobb, 1976; Dean and Lin, 1977; Gottlieb, 1981; 1983; Sarason and Sarason, 1985). However, a caveat of many of these early studies concerns the fact that they employed correlational designs which do not allow causal relationships to be ascertained. However, taken together, and in combination with results from animal studies, social psychology analogue experiments, and prospective studies, there is strong evidence to suggest that social support is a causal contributor to well-being (Cohen & Syme, 1985; Cohen & Wills, 1985; House, 1981; Kessler and MacLeod, 1985; Turner, 1983), the risk of depression (Coyne et al, 1981; Billings & Moos, 1984; Broadhead et al, 1983; Brown & Harris, 1978; Flannery & Wiemann, 1989), increased anxiety and neurosis (Henderson et al, 1981), and even mortality (Berkman and Syme, 1979; Schoenbach, Kaplan, Fredaman, & Kleinbaum, 1986). Such studies have provided an impetus for a growing body of social support research.

2.3. Methods of Research in Social Support.

Leavy (1993) identified five main research designs that have been used in social support research: (a) the comparison of the support systems of clinical and non-clinical populations (Neeleman and Power, 1994); (b) sampling particular clinical groups (such as the depressed) and examining their support (Brown, Bifulco, Harris, & Bridge, 1986; Paykel, Emms, Fletcher, and Rassaby, 1980; Slater and Depue, 1981); (c) assessing support among a population in order to provide an insight into the separate or interactive effects of support and life stress on forms of psychological distress (Holahan and Moos, 1981; LaRocco, House, and French, 1980; Phillips, 1981; Sandler & Lakey, 1982); (d) focusing upon the coping responses of individuals experiencing the same stressor (Hirsch, 1980; Kahn & Antonucci, 1980); and finally (e) examining the personal and demographic characteristics which separate the supported from the unsupported (Holohan and Moos, 1981; Phillips, 1981). In the current thesis, the second and third these approaches will be employed. The second approach, which examines social support in a particular group, will be employed in an investigation in the supportive relationships of young offenders and their relationship upon the levels of distress experienced by young inmates. The third approach, where social support is not examine in isolation but rather its separate and interactive

effects with other key mediating and moderating variables will be employed in an investigation into the contribution of social support, stress, and problem-solving ability to psychological distress and suicidal intent among a group of hospitalised patients admitted following an act of suicidal behaviour.

2.4. The Measurement of Social Support.

Social support is a multi-dimensional construct and has led to a host of assessment measures which tackle different aspects of social support. Examples of these would include the Interpersonal Support Evaluation List [ISEL] (Cohen et al, 1985), the Social Support Questionnaire [SSQ] (Sarason et al, 1983), the Significant Others Scale [SOS] (Power, Champion, & Aris, 1988), and the Inventory of Supportive Behaviours (Barrera, Sandler, & Ramsay, 1981).

2.4.1. Perceived Versus Structural Measures.

Researchers vary as to their preference for using structural or functional measures of social support. The structural measures are concerned with the social connections provided - e.g. whether or not key relationships exist for an individual (Marsella and Snyder, 1981), while the functional measures are concerned with the effects that such networks have upon an individual (Procidano and Heller, 1983). If social support networks are supposed to provide support, information, and feedback for an individual (Caplan, 1974), then perceived support can be defined as the extent to which an individual believes their needs for support, information, and feedback are fulfilled (Procidano & Heller, 1983). Leppin and Schwarzer (1990) conducted a meta-analysis of 80 studies that investigated social support and concluded that the qualitative aspects of social support and the individual's satisfaction with their level of social support are better predictors of health and stress outcomes than the objective aspects of social support - such as the number of social relationships, frequency of contacts, or density of social networks.

Coyne and DeLongis (1986) suggest that social support research has concentrated upon the personal experiences of supportive relationships rather than examining social support as a set of circumstances. Stokes and McKirman (1989) argue that this shift in conceptualisation is partly due to the fact that objective and subjective measures of social support are unrelated to each other (Sarason, Sarason, & Shearin, 1986), and partly due to

the fact that subjective measures have a stronger relationship to adjustment and psychological distress than the more objective measures (Billings and Moos, 1982; Cohen & MacKay, 1984).

The current thesis will utilise measures of perceived social support. This is motivated by the underlying assumptions of the transactional model of the stress-distress relationship, which argues that the protective effects of social support is primarily mediated by cognitive appraisal (Lazarus and Folkman, 1984) in that social support operates by influencing the individual's appraisal of the stressfulness of events and their personal abilities to cope with them (House, 1981).

There are methodological concerns embedded in such research. The prime concern rests with the issue of whether such indices accurately reflect the individual's personal available resources. It is conceivable to suggest that self-report measures may be influenced by the individual's mood. Studies have reported that self-report indices of psychological stressors and mental health are highly correlated with trait neuroticism and negative affect (Brett et al, 1990).

The current thesis will employ two separate measures of social support. In the study which will examine the contribution of social support to suicidality, the Interpersonal Support Evaluation List [ISEL] (Cohen et al, 1985) will be used. This 40-item, self-rating scale examines the perceived availability of four important dimensions of social support - appraisal support (the perceived availability of close and confiding others); belonging support (the perceived availability of others to socialise with); tangible support (the perceived availability of material and instrumental aid); and esteem support (the perceived availability of others to provide a self-comparison). The ISEL has been shown to have good reliability and validity (Cohen et al, 1985) and has previously been successfully employed in groups that include students (Cohen & Hoberman, 1983; Cohen et al, 1985; Schonfeld, 1991), osteoarthritic patients (Weinberger, Tierney, Booher, & Hiner, 1990), and intravenous drug users (Stow, Ross, Wodak, Thomas, & Larson, 1993). From a perusal of the literature, it appears as though the ISEL has never been used with parasuicidal individuals and hence a study in the current thesis hopes to address this.

A different measure of social support will be employed in the study examining social support among young offenders. This is partly due to the fact that many of the social support measures have limited validity in an incarcerated population, in that they question the availability of individuals to socialise with during the evening or to provide tangible aid with household tasks. Such questions for have limited value among an inmate population, with deprived liberty. A second issue that has to be considered in selecting a measure to assess inmate social support concerns the fact that incarceration leads to two distinct social and supportive networks - one inside and the other outside the prison. It is plausible to suggest that they may have differential effects upon the experience of psychological distress by inmates. Hence, the study which will examine social support among the young offenders will use the Significant Others Scale [SOS] (Power et al, 1988). The SOS samples a subset of an individual's important relationships, and looks at the perceived structural aspects of these relationships (i.e. whether they exist for an individual or not) and the functional aspects (assessing the type and quality of support that is provided in a particular relationship). Two functional types of support are assessed - 'emotional' and 'practical' on the logic that these are in fact the main categories of support identified in the literature (Barrera & Ainley, 1983). The first five items reflect the functions of emotional support (e.g. *'to what extent can you trust, talk frankly and share your feelings with'* a particular key individual) and the last five items concern aspects of practical support (*'get financial and practical help'* from a particular key individual). The questionnaire assesses the actual and ideal levels of both emotional and practical support from each of the key individuals. With such a questionnaire, the researchers can select a cohort of common key individual from both inside and outside the prison (e.g. mother, father, closest brother or sister, girlfriend, closest friend, an outside professional, closest prison friend, officer known best by the inmate on the wing they were housed, and their 'personal officer'). The SOS has been shown to be both valid and reliable (Power et al, 1988) and has been previously used in depressed and suicidal populations (Neeleman & Power, 1994), schizophrenic patients (Cresswell, Kuipers, & Power, 1992) and the elderly (Lam and Power, 1991). The study in the current thesis aims to examine its use with a group of incarcerated young offenders.

2.5. Groups of Interest in Social Support Research:

.I. Social Support and Suicidal Behaviour.

2.5.1. Cross-sectional Studies.

In attempting to understand why some individuals who experience high levels of distress do not manifest suicidal behaviour, social support has been considered as an important mediating variable. Surprisingly, there have been few empirical studies which have examined social support directly among individuals displaying suicidal behaviour. Early studies noted that deliberate self-harm is characterised by interpersonal hostility (Farmer & Creed, 1989; Weissman, Fox, & Klerman, 1973), and conflict-generating relationships with key individuals (Birtchnell & Alarcon, 1971). On the other hand, loneliness has been frequently cited as a reason for self-harm (Bancroft, Skrimshire, & Simkin, 1976).

Neeleman & Power (1994) conducted one of the most methodologically rigorous studies which compared the levels of depression and aspects of social support among a group of 26 hospitalised parasuicides and compared them with a group of 21 psychotic day-patients, 26 depressed out-patients, and a group of 26 individuals who were a non-psychiatric control group by means of the BDI (Beck et al, 1961) and Significant Others Scale (Power et al, 1988). The study revealed that the parasuicidal group were less likely to feel that they has a close friend or family member, and felt that they received less emotional and practical support than the other respondents. The largest reported "unmet needs" in terms of both emotional and practical support were found among the parasuicidal individuals.

Magne-Ingvar, Ojehagen, & Traskman-Bendz (1992) examined the social characteristics and self-ratings of social support among a group of 75 Swedish hospitalised parasuicides by means of the Interview Schedule for Social Interaction (Henderson, Duncan-Jones, Byrne, & Scott, 1980). The study suggested that only 13% of suicidal attempters had a well functioning relationship. Divorced patients and unemployed patients reported their social relationships as less satisfactory. Magne-Ingvar et al argued that since the deficiencies in social support among parasuicidal individuals are so salient, evaluations of social networks should be integral to the clinical handling of suicide attempters as they have important ramifications for the planning and delivery of care to such individuals.

2.5.2. Studies That Examine Social Support In A Transactional Model Of Suicidality.

Recently, it has been argued that such cross-sectional studies are of limited significance (Rich & Bonner 1989; Yang and Clum 1994) in that they do not address the predictive value of social support to the levels of psychological distress and suicidality experienced by individuals engaging in acts of self-harm. During the past decade, research has begun to address the importance of the contribution of social support to suicidal behaviour and its interaction with other key factors such as problem-solving ability (Rich & Bonner, 1987; Clum & Febraro, 1994; Yang & Clum, 1994). Previous studies with parasuicidal individuals have already suggested that in a high proportion of cases, suicidal behaviour is a reaction to interpersonal problems in the context of close social relationships (Paykel et al, 1975; Power et al, 1985) rather than as a result of emotional isolation. These results suggest that suicidal behaviour may in fact be used as a problem-solving mean. Consequently, the role of emotional isolation in suicidal behaviour is unclear.

Recently, a transaction, stress-vulnerability model of suicidal behaviour has become focal to research into suicidal behaviour (Bonner & Rich, 1987; Bonner & Rich, 1988a, 1988b; Clum & Febraro, 1994; Rudd, 1990; Yang & Clum, 1994). This model suggests that suicidal ideation and behaviour are best conceptualised as a multi-dimensional process that evolves through the ongoing transactions of social, environmental, cognitive, behavioural and emotional variables. The model suggests that social-emotional alienation, cognitive distortions, and deficient adaptive resources serve as a predispositional base in suicidal ideation and behaviour. These factors are hypothesised to create a "coping vulnerability" in an individual that renders them vulnerable to suicidal ideation when facing stressful situations. Once suicide ideation is elicited, the individual is seen to be at risk for increasing alienation, depression, and exacerbated stress, all of which lead to a magnification of the degree of suicide ideation. With repeated exposure to stress over time and a repeated failure to deal with it adequately, it is suggested that individuals develop an increasing sense of hopelessness, which in turn leads to more lethal and overt forms of suicidal behaviour. The model is hypothesised to operate in a fluid and transactional manner - as hopelessness increases, the intensity of suicidal ideation increases, which in turn intensifies the vulnerability factors and the experience of life stress, only to magnify the feelings of hopelessness further.

Research that examines the importance of social support in the prediction of psychological distress and suicidal ideation among parasuicidal individuals in such a transactional model is underway. Rudd (1990) tested an integrative path model of suicidal ideation in which the predictive contribution of several variables (including social support) were examined simultaneously, and found that the model accounted for 34% of the total variance in suicidal ideation. In a multiple regression analysis, D'Attilio et al (1992) examined the relationship between adolescent suicide potential and both the quantity and quality of social support. Adolescents at greater risk for suicide appeared to have fewer social contacts and were less satisfied with their social support from their friends and family than adolescents who were not at serious risk. Once more, it seems reasonable to suggest severe levels of suicidality are accompanied by lower levels of social support and this becomes antagonistic to the individual during periods of heightened stress.

Clum & Febrarro (1994) examined the relationship between stress, social support, and problem-solving ability in the prediction of the severity of suicide ideation among a college sample. The regression analyses revealed that problem-solving appraisal as assessed by the PSI and social support as isolated factors and in interactions accounted for 38% of the variance in suicidal ideation. However, there are some limitations to this study. Firstly, the results of the stepwise and hierarchical regression analyses accounted for only a small proportion of the variance in suicidal ideation. Secondly, a student sample was employed. It is possible to suggest that the students would respond differently from the suicidal attempters or individuals who present themselves at hospital with high suicidal intent. The very fact that the participants in the study had not presented themselves to medical personnel suggests that their levels of suicidality were not typical.

Yang & Clum (1994) conducted a similar study with 101 volunteer Asian students who were either paid or received course credits for their participation. By means of a hierarchical regression analysis, problem-solving confidence (as assessed by a modified MEPS) was found to account for 27.5% of the variance in suicide ideation, and the interaction between life stress x problem-solving ability and life events x social support a further 7.0% each. By means of a path analysis, further relationships between life stress, social support, problem-solving ability, depression, and hopelessness were delineated. There are several important methodological considerations in this study. Firstly, it is arguable that the sample had little relation to a clinical sample in that only 22 of the sample had a suicide intent score of 4 or above (showing generally low intent). Secondly, it is

arguable that such sample characteristics would reduce the generalisation of conclusions to clinical samples.

There appears to be a common thread of methodological considerations that run through previous studies that examine the diathesis-stress-hopelessness model of suicidal behaviour. Firstly, a significant proportion of these studies have relied upon sub-clinical samples (mainly consisting of North American students) whose suicidality was determined by means of a cut-off score on the Beck et al (1979) Scale for Suicide Ideation. Due to the floor effects that have been apparent in the scoring profiles of these groups, it is arguable that the samples do not adequately reflect clinically presenting samples of suicidal individuals. In many of these studies, the participants have not engaged in acts of suicidal behaviour (Clum & Febbraro; 1994; Dixon, Heppner, & Anderson, 1991; Priester & Clum, 1993a, 1993b; Yang & Clum, 1994). Studies which have used hospital samples have often failed to distinguish between suicidal ideators and individuals who have displayed suicidal behaviour. A further concern rests with the fact that in some instances, "suicidal" individuals have been interviewed up to 2 weeks post-admission, hence it is arguable that they are no longer acutely suicidal. In terms of the measures employed, several studies (Bonner & Rich, 1987; Clum & Febbraro, 1994; Yang & Clum, 1994) have depended upon the use of the UCLA Loneliness Scale (Russell, Peplau, & Ferguson, 1978) to assess social support. While this scale has been demonstrated to be both valid and reliable (Russell et al, 1978), it does not consider the complexity of the functions of social support and examines only the perceived degree of social integration. As demonstrated, there are further important aspects of supportive relationships. The significance of these to suicidality will hopefully be determined by using the ISEL which is a more fully embracing measure of social support.

The study in the current thesis will take the approach employed by the most recent studies of suicidality. Instead of examining suicide as a singular entity, it will examine the relationship between social support, stress, and problem-solving skills in the prediction of depression, hopelessness and suicidal intent among a group of hospitalised inpatients admitted following an act of suicidal behaviour. By means of regression analyses, it is hoped that the unique contribution of the above variables to suicidality and psychological distress will be examined.

2.6. Groups of Interest in Social Support: .II. Social Support And Prisoners.

Prisoners have been identified as being at risk of developing acute psychological health problems as a result of the stress and consequent distress associated with incarceration (Toch, 1977; Zamble & Porporino, 1988). These issues have become all the more focal, with recent concerns over the suicide rates in British prisons (Backett, 1987; Dooley, 1990; Liebling 1992; Power & Moodie, 1997).

To date, there has been a paucity of systematic studies which examine the role of social support in prison. Early studies examined the structural facets of the prison as potential sources of stress and distress. These studies suggested that inadequate living conditions - such as inadequate sanitation, overcrowding and poor recreational facilities - are major sources of stress in prison (Mathieson, 1965; Nagel, 1976; Paulus & McCain, 1983). However, more recent studies have suggested that changes to the prison environment alone are not sufficient to alleviate the distress of incarceration (Zamble and Porporino, 1988; 1990). The structural aspects of the prison which are considered noxious by the researcher may not in fact be deemed noxious by the prisoners nor contribute hugely to their consequent adjustment (Toch, 1977). Overall, researchers have become more aware of the "process" models of stress (Lazarus, 1966), where stress is regarded as multidimensional - incorporating not only the physical environment in which an individual finds themselves, but also the psychological, physiological and social realms of the individual. Subsequent distress stems from the mode in which the individual "appraises" the interaction of these variables (Cox, 1978). Thus, current prison researchers have suggested that it is necessary to know more about the characteristics of the individual in an attempt to understand and possibly enhance the way in which the individual deals with the stresses of prison (Zamble & Porporino, 1988).

Social support could be considered an important psychological and social variable that contributes to adjustment in prison and the amelioration of distress. Interpersonal relationships have been regarded as fulfilling a host of functions in the attempts to buffer the effects of stressors. It is consistently reported that supportive relationships with others, in particular those who could be regarded as intimates or confidants, can significantly lower the risk of psychological disturbance in response to stress exposure (Cohen & Wills, 1985; Turner, 1983). Social support has been considered to act as a "coping assistance" in an individual's attempts to manage a stressful situation (Thoits, 1983).

There has been a dearth of systematic research regarding the role that social support has to play in relation to the experience of psychological distress among inmates, and very little written in recent years. All inmates potentially have two main groups from whom they can obtain social support during the period of their incarceration - family, professionals and friends from outside the prison, and staff and fellow inmates within the prison. However, even in currently more liberal times, an inmates' contact with his closest friends and family is usually rationed and sparse. Anecdotal accounts (Toch, 1977) have argued that this lack of familial and outside contact can become an increasingly salient aspect of incarceration and can impinge upon an inmate's adjustment. Toch has argued that this lack of supportive, external contact also leads the inmate to question the level of support that is actually available to them.

While relationships outside the prison system can take a variety of forms, a different situation occurs within the prison as the relationships take a more formalised structure. Here the commonly perceived *modus operandi* appears to be a distinct relationship, formalised between the "keepers" and "the kept". One of the earliest analyses of the prisoner-staff relationship was that of Goffman (1961). This researcher-observation based theory emphasised that there is a great social distance between the inmates and the staff, both of whom Goffman argued, tend to perceive each other in terms of narrow stereotypes. Contemporary studies, however, appear to paint a different picture. Whitehead, Linqvist & Klofas' (1987) American research suggested a new role perception among prison officers, with many holding pro-inmate orientations and striving to encourage inmate rehabilitation. Other American research has suggested that prison officers now encourage a greater level of effort, support and openness in their role and are interested in expanding the supportive aspects of their duties (Fuller, 1985).

Of the research that has been conducted to examine the staff-prisoner relationship, the majority has examined the relationship from the staff perspective. As the other party in the relationship, inmate perceptions of staff-inmate relations are of substantial importance, particularly since inmate's welfare is a main reason for the existence of such a relationship. Only a few studies have tried to examine the inmates perceptions of staff-inmate relationships. Those that have, have often been problematic due to the small sample sizes employed (e.g. ten inmates in Fuller's (1985) study).

One notable exception is the study by Wozniak & McAllister (1992) which asked the entire population of incarcerated Scottish offenders. The study reported that 16% of prisoners felt that they did not have a good relationship with the officers in their hall, and 18% with other officers. An important point of note was that only 15% reported that they would approach an officer if they needed help. This study is valuable in that it employed a large sample, however has difficulties in that it did not examine in detail the structure of supportive relationships.

One of the very few systematic studies that examines inmate perceptions of staff-inmate relationships is that of Ben-David & Silfen (1994). This study aimed to examine both inmate and staff preference regarding the form that the relationship takes in a group of 49 staff and 158 inmates in an Israeli prison. The results of the analyses suggested that staff believed they should provide support, have an anti-authoritarian manner, and have some involvement with the inmates. Conversely, the inmates preferred to experience the staff as authoritarian patrons and wished to be controlled by a set of clear rules. This study is important in that it revealed differences in the perceptions of staff and inmates regarding the ideal function of the prison officer. A less rigorous examination of the staff-inmate interaction was conducted in a study by Liebling (1992), whose results were extrapolated from interviews with 100 inmates in a British penal institution. Liebling suggested that overall, inmates were content with the relationships with the staff and regarded staff as supportive.

To date, no study appears to have psychometrically studied the functional aspects of inmates' supportive relationships, e.g. looking at relationships in terms of the emotional and practical support that they provide for an individual. A further issue not adequately addressed by previous research concerns the manner in which an inmate's perceptions of the actual and ideal levels of support provided affect their psychological distress while incarcerated. It is to this end, that a study in the current thesis will address itself.

The issue of social support may be particularly pertinent in young offender institutions for a host of reasons. Although there is no body of research to support such suggestions, it is argued that the ethos found in young offender institutions is different to that of adult establishments. Firstly, a large proportion of young offenders in any institution at any one time are experiencing their first incarceration and having to deal with the subsequent loss of contact with friends and family that imprisonment brings. Secondly, the inmate structure in young offender institutions has been considered volatile

with incidents of victimisation (Beck, 1994), and inmates may rely on social support to take them through such difficult periods during their sentence.

The study which will examine social support among inmates will consider the complexity of the social support network of inmates discussed above. Due to the fact that the measure of social support used is rather detailed and does not provide a unitary indice of support, a detailed analyses of the form and function of a host of supportive relationships will be examined. Due to the paucity of systematic research examining the social relationships of prisoners, it is argued that a detailed cross-sectional study of the supportive relationships of prisoners is valuable in itself.

2.7. Parental Bonding And Psychological Distress Among Prisoners.

Other forms of supportive relationships which have been previously demonstrated to have repercussions for psychological distress are those known as "parental bonds". The assertion that childhood family relationships can affect adjustment in adolescence and adulthood underlies many schools of psychological thought, including psychoanalytic and attachment theories. While some of the more "classical" theories have focused on the role of the disruption of the parental bond e.g. through separation, death or divorce (Bowlby 1975, 1977); more recent studies have suggested that it is not the loss per se that can lead to dysfunction, but rather that ill effects are often the result of inadequate parent care (Tennant, 1988; Parker, Barrett & Hickie, 1992). Thus more recent research has examined the adequacy of parental "bonds".

2.7.1. The Form Of "Parental Bonds".

Theorists have argued for the existence of two important parental characteristics as determinants of dysfunction in a child: care and control/overprotection (Roe & Siegelmann, 1963; Perris, Jacobsson, Lindstrom et al 1980). Bowlby (1977) argued that these factors were at the core of the parental role - in that parents should be available and responsive to a child (*care*), and to know when to intervene in a child's life without resorting to the extremes of overprotection or neglect (*control*). These constructs have been confirmed through factor analytic studies, and form the basis for the most common assessment measures (Parker, Tupling & Brown, 1979; Arrindell et al, 1986).

2.7.2. The Assessment Of Parental Bonds.

The development of the Parental Bonding Instrument [PBI] (Parker et al, 1979) has facilitated much research on perceived parental characteristics as risk factors in the development of psychopathology (Parker et al, 1992). The PBI is a factor-analytically derived experiential measure, that weighs the participant's memories and experiences of their parents during the first sixteen years of life. Thus the instrument measures "perceived" rather than "actual" parenting. This makes intuitive sense, as people are more likely to be influenced by the way in which they subjectively regard their parents rather than any objective "reality" of how their parents actually behaved towards them during the first sixteen years of life. Indeed, Rutter (1981) maintained that it is a person's "perceptions" of their parents that has a significant role in the aetiology of different psychosocial problems. Studies using both treatment groups and samples from the general population have shown the PBI to be psychometrically stable and not influenced by personality traits or current mood states (Parker, 1983; Mackinnon et al, 1989). What is more, studies using groups of siblings or twins have suggested the PBI scales may indeed reflect the actual parental behaviour rather than just the perceptions of the respondent (Parker 1983, 1989; MacCrae & Costa, 1988; Mackinnon, Henderson, & Andrews, 1991).

The PBI provides an estimate of parental care and protection for the respondent throughout childhood as far as adolescence. The *care* scale assesses two dimensions - one characterised by affection, emotional warmth, empathy and closeness; and the other by emotional coldness, indifference and neglect. Likewise, the *protection* scale assesses two poles - the first characterised by control, overprotection, intrusion and excessive infantilisation and the discouragement of independent behaviour; and the second by items that suggest the encouragement of independence and autonomy. However, a well-designed large scale study by Cubis, Lewin & Dawes (1989) employing a factor analytic technique has derived 3 subscales in the PBI. Parker's original "protection" factor was divided into two new factors - known as "perceived social control" (dealing with the amount of restriction in day-to-day activities) and "personal control" (dealing with the extent the parents infantilise and dominate their child).

Four main types of bonding may also be examined by this instrument (Parker et al, 1979; Parker, Fairley, Greenwood, Jurd & Silvoe, 1982). These are *optimal bonding* (high care - low overprotection), *weak bonding* (low care - low overprotection), *affectionate*

constraint (high care - high overprotection), and *affectionless control* (low care - high overprotection).

The PBI has been used in a host of studies to examine the quality of parenting care in such populations as the depressed (Parker, 1979); social phobics and agoraphobics (Parker, 1979); conduct disordered adolescents (Rey & Plapp, 1989); alcoholics, (Bernadi, Jones, & Tennant, 1989); drug addicts (Schweitzer & Lawton, 1989); and suicidal people (Adam et al, 1994; Goldney, 1985; Martin & Waite, 1994) as well as the population at large (Cubis, Lewin & Dawes, 1989). However, the PBI has never been used in an incarcerated population. Thus, a study in the current thesis will examine PBI response profiles in a group of incarcerated young offenders and will examine its contribution to the levels of psychological distress experienced by such inmates.

2.7.3. Research On Parenting And Delinquency.

Although the PBI has not yet been used in a penal setting, it has previously been used to examine bonding in delinquent populations. The impetus for the present research stems from a number of studies published during the past 30 years suggesting a link between parental relationships and delinquency (Hetherington & Martin, 1979; Henggeler, 1982; Loeber & Dishion, 1983; Loeber, 1990). These studies have focused on aspects such as inadequate parental care (Atwood, Gold & Taylor, 1989; Rutter, 1981); and the home atmosphere - encompassing such variables as maternal affection and supervision, paternal deviance or absence (McCord, 1979). Gove & Crutchfield (1982) found that attachment between parents and their children was the strongest inhibitor of delinquency among the variety of demographic and family characteristics measured in their study. Another key variable in the study of delinquency has concerned parental control and supervision (Atwood et al, 1989). Dishion & Loeber (1985) also found that low parental monitoring has an indirect effect on adolescent substance abuse by increasing the likelihood that a youngster will spend time with deviant peers, which in turn leads to an increased probability of delinquency. This hypothesis has been further borne out by McCord (1979) and Wilson (1980). However, none of these studies employed ratings of parental characteristics made by the children.

While earlier research had an almost sexist bias focusing almost exclusively on maternal influences on delinquency (Caplan & Hall-McCorquodale, 1985; Caplan, 1989), recent researchers (Phares & Compas, 1992) have argued the importance of paying more attention

to the role of fathers in the socialisation process of offspring. Phares and Compas (1992) suggest that studies of adolescent deviancy have already highlighted that adolescents may perceive the characteristics of their mother and father differently. Thus the study in the current thesis aims to address this by giving equal attention to both parents.

There have been few systematic studies examining delinquency in relation to self-perceived parental bonding. A methodologically strong study by Mak (1994) in Australia, examined the PBI in relation to delinquency among 792 Australian secondary school pupils. Mak found correlations between low care and high protection by either parent associated with higher levels of delinquency in offspring, and that adolescents reporting this parental style of "affectionless control" were more delinquent than those with optimal parental bonding. The only real caveat of this study was the means by which delinquency was assessed and the small range of delinquent behaviours reported. For example, an analogue assessment of delinquency was used, comprising of a 34-item self-report scale considering a range of behaviours from the marginally deviant to the seriously delinquent. Most of the respondents reporting any level of delinquent behaviour had participated in only minor acts of delinquency. By considering a broader range of delinquent behaviour, the study may have been improved.

2.7.4. Parental Bonding And The Experience Of Psychological Distress By Delinquents.

Pederson (1994) presented a shortened version of the PBI to a group of 573 Norwegian adolescents in a study that examined parental relationships along with the development of anxiety, depression, and delinquency. Pederson's analysis suggested that poor paternal care was highly associated with anxiety and depression, and poor maternal care was characteristic among delinquents. This piece of research was important in that it was the first to document a link between parental bonding and psychological distress experienced by delinquents. This issue will be further examined in a study in the current thesis. Working on the hypothesis that prisoners are heterogeneous in their ability to cope with incarceration (Zamble & Porporino, 1988), the study will enquire whether parental bonding plays a role in adjustment to prison life and subsequent coping - as assessed by the inmates' levels of psychological distress while incarcerated. Given the large body of clinically oriented literature that documents a link between parental bonding with depression (Parker, 1983; Alnaes & Torgerson, 1990; MacKinnon, Henderson & Andrews, 1993) and anxiety (Bowlby, 1977; Parker, 1979; Arrindell et al, 1983), and Pederson's (1994)

research which demonstrates these links are evident in delinquents, the study in the current thesis will aim to examine the relationship between these variables among an incarcerated group of offenders. Furthermore, the majority of the research to date with the PBI has utilised Australian or Norwegian samples. Overall, the study aims to examine the relationships between self-perceived parental care and overprotection and the interactions with psychological distress experienced by inmates while incarcerated.

In the studies in the current thesis the nature of supportive relationships will be examined among two research groups a) individuals who have engaged in acts of suicidal behaviour, and b) incarcerated young offenders. The relationships between support variables and the experience of psychological distress will also be examined. In the next chapter, the indices of social support used in each of the studies will be illustrated.

CHAPTER 3:
METHODOLOGICAL ISSUES AND
THE RESEARCH QUESTIONS

Chapter 3: Methodological Issues and the Research Questions.

3.1. Introduction to the Thesis.

From an examination of the literature reviewed in Chapters 1 and 2 it can be seen that both social problem-solving ability and supportive social relationships have been highlighted as important mediating variables in the stress-distress relationship among such groups as those suffering from depressive disorders, parasuicidal individuals, and prisoners. The methodological difficulties associated with many of these studies were highlighted in these review chapters. In particular, it was noted that there were often difficulties with the selection of depressed and suicidal samples in previous studies - with an excessive reliance upon student analogue depressives who had received no formal diagnosis, or 'parasuicidal' individuals whose suicidality was determined by means of a cut-off score on a suicidal intent scale. Indeed, research with clinical samples has been quite rare. The present thesis wishes to address these issues by examining clinical samples in greater detail. Previous work with prisoners has also neglected to consider the heterogeneity of prisoners. The current thesis will hope to address this by examining particular sub-groups of the young offender prison population. A second major methodological issue concerns the measures used in previous studies to assess both problem-solving and social support. This issue will be addressed in the selection of measures used in current thesis.

3.2. Aims of the Thesis.

The current thesis aims to examine the problem-solving abilities of three distinct populations (clinically depressed inpatients, individuals who have been admitted to a general hospital following an act of suicidal behaviour, and sub-groups of incarcerated young offenders) to determine their levels of problem-solving ability and examine how problem-solving skills correlate with the levels of distress they respectively experience. Possible correlates of problem-solving deficits (such as verbal ability, autobiographical memory recall and information processing ability) will also be explored.

As a subsidiary theme, the role of supportive relationships in the experience of psychological distress will also be examined among the individuals who have engaged in suicidal behaviour and also the incarcerated young offenders. Detailed and specific aims for the separate studies are presented in *Section 3.7* at the end of this chapter.

3.3. The Methodology.

The two most common research designs in psychology research studies are cross-sectional and longitudinal designs. Cross-sectional design is the most simple and most commonly used of the correlational research designs and investigates the relationship between a number of independent variables and dependent variables of interest. With such designs, all data is collected at one point in time. These designs are useful in that they are the simplest to implement and that a host of possible relationships between variables can be examined. However, one important drawback is that such designs prevent conclusions concerning causality from being drawn. Longitudinal designs involve taking measurements from the same group of individuals on two or more occasions. These designs are extremely valuable in that they allow researchers to examine causal relationships. However, the practical implementation of such designs can be problematic on a number of grounds. Firstly, they can be costly to finance and can take a long time to implement. Secondly, researchers can have difficulties maintaining contact with participants. This is a particularly important issue with clinical groups, where researchers have commented upon the attrition rates in longitudinal studies of depression (Last, 1985; Bellack, Hersen, & Himmelhoch, 1983) and in similar studies with suicidal individuals (Frankish, 1994). Indeed, it is often the individuals with the most marked levels of disturbance that drop-out of studies (Frankish, 1994). For reasons of time constraints and the availability of participants for the studies in the current thesis, all studies will henceforth be cross-sectional in design.

The studies will employ structured interviews, self-report questionnaires that have previously been demonstrated to be both valid and reliable, and some orally administered tests of problem-solving, verbal ability, and concentration. Structured interviews will be used to gather demographic information. Self-report questionnaires were used to examine participants' levels of psychological distress, social support, and in some instances their problem-solving abilities. An important issue in questionnaire-based research concerns the fact that they cannot accurately assess the 'objective' individual, but rather assess 'subjective' perceptions. Given the approach of the current thesis, which considers an individual's 'subjective' experience to be an important indicator of their cognitive and emotional processes, such 'subjective' questionnaires will be used. Indeed, the 'subjective' experience is currently seen as an important facet of many transactional models of mental health. In some of the relationship between problem-solving ability and psychological distress, an orally administered assessment of problem-solving will be used. Inventory assessments of problem-solving ability have been criticised as not actually testing a

person's actual skills and merely assessing attitudes towards the problem-solving process (D'Zurilla & Maydeu-Olivares, 1995). Questionnaire-based tests have also been criticised as relying upon verbal ability in that individuals with poor verbal abilities will perhaps be unable to comprehend the test and may perform poorly as a result of this. Given that there are literacy problems among young offenders, many of studies which involve them will use an orally administered "outcome" measure of problem-solving ability in order to obtain a direct and comprehensive assessment of their problem-solving skills.

3.4. The Participants in the Research Studies.

The preceding literature reviews have demonstrated the methodological concerns associated with the types of samples used in previous studies, hence great care was exercised in the selection of the samples for the current thesis. The studies employed three distinct research groups: a) inpatients who have received a formal ICD(10) diagnosis of major (unipolar) depression; b) hospital inpatients from the acute admissions ward of a general hospital who were admitted following an act of suicidal behaviour; and c) a group of incarcerated young offenders from one of Scotland's largest Young Offenders Institutions. A detailed description of each of these samples now follows.

3.4.1. The Depressed Inpatients And Their Non-Clinical Comparison Group.

The clinically depressed group used to examine the nature and aetiology of problem-solving deficits evident in depressive disorder consisted of 25 hospital inpatients admitted to the psychiatric admission wing of a local general hospital following a ICD-10 diagnosis by a psychiatrist¹ of major depression (unipolar). Individuals were excluded if they were suffering from concomitant psychotic symptoms, organic brain disorders, and drug or alcohol problems. Individuals were also excluded if they had received ECT treatment in the three months prior to participation in the study. These individuals were initially approached by the psychiatrist, who informed the patients of the ongoing study and asked for their approval to be considered as a participant in the study. All participants were to be aged 16-65. A non-clinical comparison group of 25 individuals was recruited by the researcher. The comparison group were matched to the patient group in terms of gender, age, and educational level. The comparison group were recruited mainly from clerical, ancillary, teaching, and management staff from a Scottish University. As far as the researcher was aware, none of these individuals were currently suffering from any

diagnosed mental illness. Indeed, these individuals were asked to detail mental health problems. The research with the depressed patients and their comparison group is reported in Chapters 4 and 5 of the thesis.

3.4.2 The Hospitalised Individuals Who Had Engaged In An Act Of Suicidal Behaviour.

The group involved in the study of the relationship between problem-solving ability and social support in relation to suicidality consisted of a consecutive series of 50 hospital inpatients admitted to the acute admissions medical ward of a local general hospital following an incident of suicidal behaviour. All participants were to be aged 16-65. Individuals were excluded from the study if they were suffering from psychotic illness or organic brain disorders. During the research period (approximately 8 weeks), all possible participants were identified by means of a daily check on admissions to the ward, and were interviewed within 24 hours of admission. During this period, a further 4 patients refused to take part, 6 were deemed unsuitable for inclusion into the study (4 due to age, 1 due to mental handicap, 1 due to psychotic illness), and two discharged themselves prior to interview. The research with this group is reported in Chapter 6 of the thesis.

3.4.3. The Incarcerated Young Offenders.

The groups involved in the studies of the differential problem-solving abilities of young offenders in relation to psychological distress, and the studies of the relationships between supportive relationships and the experience of such distress consisted of 125 young offenders selected from one of Scotland's largest young offenders institutions. The sample consisted of 25 inmates placed on protection, 25 currently under suicidal supervision, 25 victims of bullying who were still resident within main prison circulation, 25 identified bullies, and 25 comparison inmates in routine circulation who were regarded as reasonably well adjusted to prison life. Care was exercised in the subject selections, in order to make them as representative of the inmate samples as possible.

Inmates on protection were selected at random from the inmates housed in the special protection wing within the institution, who for reasons of their own safety were completely segregated from mainstream prisoners in all their activities. Inmates placed upon protection were considered as vulnerable, for example, due to the nature of their

¹ I am indebted to Dr Keith Brown (Consultant Psychiatrist, Bellsdyke Health Care NHS Trust) for his help in linking me to the patients who participated in this study.

crime, or the fact that the inmate had been victimised while in main circulation. The inmates on suicidal supervision were selected from the first consecutive 25 cases brought to the surgery on Strict Suicidal Supervision (SSS). SSS is the highest of three levels of suicidal supervision implemented in the Scottish Prison Service and reserved for inmates thought to be at an immediate and high level of suicidal risk. These individuals had been placed on SSS as a result of parasuicidal threats or behaviour displayed in the wings following a period of incarceration. Inmates placed on SSS were not individuals who had displayed parasuicidal tendencies at the time of admission, rather their parasuicidal potential had only become apparent after a period of custodial confinement. The victims of bullying consisted of those who had recently presented themselves to the prison's residential officers with genuine distress and reported identifiable incidents of bullying. These inmates remained in routine circulation. Bullies were selected by means of their inclusion in the governor's punishment book - i.e. they had recently been brought to official attention specifically for their displays of bullying behaviour. The criterion used by the prison officers to select inmates for possible inclusion matched the theoretical definition employed by the study - i.e. these inmates had been disciplined as a result of deliberately hurting, threatening, or frightening another inmate in order to take away things from them or for the fun of such intimidation. The comparison inmates were selected by the prison's main welfare officer in conjunction with two wing supervisors. These were inmates with no known history of victimisation or difficulties adjusting to imprisonment.

In the studies of the problem-solving abilities and related levels of psychological distress (Chapters 7-9) the groups were treated as separate entities as they were selected a priori on the expectation that they would differ on the afore mentioned variables. However, since the groups were not differentiated a priori in terms of the supportive relationships examined in Chapters 10 and 11, the groups of young offenders were examined in an entirety (125 individuals).

3.5. The Measures Used in the Thesis.

Using valid and reliable measures is an integral aspect of empirical research. This has been a key concern in the design of the current thesis, and a selection of problem-solving measures and support measures were selected on the basis of their construct validity and reliability, the prominence of their use in previous research, and their suitability to the populations being examined. A description of the measures used in the thesis now follows. The order of presentation for each of the measures is reflected in the order in which they are described in each of the individual studies.

3.5.1. The Study Information And Consent Forms (*Appendix A*)

Three separate information and consent forms were designed for the depressed, suicidal, and prisoner groups respectively.

3.5.2. The Demographic Information Collected (*Appendix B*)

Three separate forms were designed to collect the demographic details of the depressed, suicidal, and prisoner groups respectively. All of the information was gathered by means of a structured interview.

3.5.3 *The Measures of Affective Functioning*

3.5.3.1. The Hospital Anxiety and Depression Scale [HADS] (Zigmond & Snaith, 1983).

(Appendix C) Used with all subjects in each of the research studies, Chapters 4-11.

The HADS was employed to examine the level of clinical affect in each of the research groups, and the relationship of such affective functioning to the independent variables (problem-solving/social support). This is a 14-item self-administered questionnaire which detects and distinguishes between anxiety and depression and measures the severity of emotional disorder. It has been shown as valid in hospital, primary care, outpatient and community settings (Wands, Merskey, Hachinski et al, 1990; Zakrzewska & Feinmann, 1990). The HADS has also been demonstrated to be sensitive for screening for psychiatric disorder among individuals who self-harm (Hamer, Sanjeev, Butterworth, & Barczak, 1991). It is a "present-state" instrument, and subjects are asked to rate their feelings 'over the last few days'. In all cases, the researcher was present to offer clarification of the questions and assistance with completion where necessary.

3.5.3.2. Beck Hopelessness Scale [BHS] (Beck, Weissman, Lester & Trexler, 1974).

(Appendix D) Used with all subjects in each of the research studies Chapters 4-11.

This 20-item self-report questionnaire is designed to quantify hopelessness and assess the degree to which an individual's cognitive schemata are dominated by negative expectations towards the future. Items include statements such as "All I can see ahead of me is unpleasantness rather than pleasantness", and each is rated on a true/false format. This questionnaire has been shown to be valid in both prison populations (Liebling, 1992; Power & Beveridge, 1990) and the general population (Greene, 1981). Its predictive validity of eventual suicide has been well documented (Beck, Steer, Kovacs, & Garrison, 1985). In all cases, the researcher was present to offer clarification of the questions and assistance with its completion where necessary.

3.5.3.3. Profile of Mood States [POMS] (McNair, Lorr & Droppleman, 1992).

(Appendix E). Used with the clinically depressed (Chapter 4) and the prisoners (Chapters 7&8)

This is a 65-item "present-state" self-report questionnaire that assesses the levels of fatigue, tension-anxiety, vigour, anger-hostility, depression-dejection, and confusion-bewilderment in the respondent. The POMS has been shown as valid in hospital, primary care, and community settings. (Holland, Korzun, Tross et al, 1986; LeUnes, Hayward & Daiss, 1988; McNair, Fisher, Kahn, & Droppleman, 1970). Its use in a penal setting is also reported (Lira & Fagan, 1978). This questionnaire was included in the above studies as a measure of general affective functioning. In all cases, the researcher was present to offer clarification of the questions and assistance with its completion where necessary.

3.5.3.4. Suicidal Intent Scale [SIS] (Beck, Herman, Schulyer, 1974).

(Appendix F). Used with the hospitalised suicidal participants only. Chapter 6.

This 15 item scale assesses the level of suicidal intention and is delivered in a structured clinical interview format. It evaluates the severity of the person's psychological intent to die at the time of a recent suicide attempt. The SIS examines pertinent aspects of the attempter's behaviour and ideation before, during, and after the suicidal act as well as the purpose of the suicidal attempt. Items are rated on a three-point scale, and allows the objective "circumstances of suicide attempt" and the subjective "self-reported suicidal intent", as well as a total suicide intent score, to be recorded. The SIS has been consistently validated as a measure of seriousness of intent of a suicide attempt (Silver,

Bohnert, Beck, & Marcus, 1971; Minkoff, Bergman, Beck, & Beck, 1973; Beck, Morris, & Beck, 1974) and its ability to discriminate between attempted and completed suicides has been demonstrated (Beck et al, 1974; Beck & Lester, 1976).

3.5.4 The Measure Of Stress Among Suicidal Individuals

3.5.4.1. Perceived Stress Scale [PSS] (Cohen, Kamarck, & Mermelstein, 1983).

(Appendix G). Used with the hospitalised suicidal participants only. Chapter 6.

This 10-item scale assesses the degree to which the situations experienced by an individual within the past month of their life were perceived by them as being stressful. This questionnaire was used to examine the levels of stress experienced by the participants in the month prior to their suicidal behaviour. Examples of scale items include "In the last month, how often have you found that you cannot cope with all the things you had to do?" and "In the last month, how often have you been able to control irritations in your life?" The scale has been shown to have good consistency and validity (Cohen et al, 1983; Cohen & Williamson, 1988), and is more successful at predicting a variety of health outcomes than measures of life events (Cohen et al, 1983; Cohen & Williamson, 1988). In all cases, the researcher was present to offer clarification of the questions and assistance with its completion where necessary.

3.5.5 The Measures of Problem-Solving Ability.

In order to overcome some of the methodological difficulties associated with the assessment of problem-solving ability, a selection of problem-solving measures were employed in the current thesis that were tailored to the suitability of use with the different research groups.

3.5.5.1. Means-End Problem Solving Procedure [MEPS] (Platt & Spivack 1975).

(Appendix H) Used with the clinically depressed inpatients (Chapters 4 & 5) and the young offenders (Chapters 7-9).

The MEPS was the primary measure of problem-solving ability used in the thesis. The MEPS is one of the most widely used measures of social problem solving, and is unique in that it allows a researcher to explore the actual problem-solving processes that an individual uses rather than examining the individual's attitudes towards problem-solving.

The MEPS examines problem-solving techniques that are required to handle “everyday” problems. Its strength lies in that it is an “outcome” measure - i.e. it is used to evaluate problem-solving performance or the ability of individuals to apply their problem-solving skills effectively to specific problems. The purpose of the MEPS is to measure a person’s ability to conceptualise the sequenced steps or “means” that are necessary to achieve a particular goal; their ability to anticipate possible obstacles that may interfere with the attainment of the goal; and the ability to appreciate that successful problem solving takes time or the fact that appropriate timing may be essential for effective solution implementation. Subjects are presented with a series of hypothetical scenarios of interpersonal problems or conflict situations, that have a specified beginning and ending. In the beginning of the scenario, the need or the goal of the protagonist is specified. At the end of the scenario, the protagonist has successfully achieved the goal. The task for the participant is to fill in the middle section - i.e. provide the means to solution.

The MEPS uses a quantitative scoring system that computes separate frequency scores for the number of relevant and irrelevant means, obstacles, the estimated time it would take a protagonist to solve a problem, and the number of non responses. Recently, some researchers have incorporated a qualitative scoring system alongside the traditional method and have examined such variables as ratings of effectiveness, appropriateness, passivity or avoidance (Fischler & Kendall, 1988; Freedman et al, 1978; Getter & Nowinski, 1981; Linehan et al, 1987; Marx et al, 1992). Ratings of whether responses could be regarded as active or passive in their valence, and experimenter ratings of response effectiveness were included in the current thesis. The MEPS has been shown to have satisfactory internal consistency, and its construct validity has been demonstrated on a number of studies that have demonstrated significant differences in problem solving in groups varying in social adjustment (Platt & Spivack, 1972; Platt et al, 1974; Platt & Peizer, 1976).

As has been the pattern with more recent studies (Gotlib & Asarnow, 1979; Ivanoff et al, 1992; Linehan, 1981; Marx et al, 1992; Schotte & Clum, 1987), a shortened version of the MEPS was applied. Platt & Spivack (1975) illustrated that it is not necessary to administer all ten scenarios in order to obtain a valid measure of means-end thinking. As the MEPS manual does not suggest part-whole correlations assessed with a representative sample on which to base the item selection, it was decided to administer the same scenarios as used in the study by Marx et al (1992) which assessed social problem-solving among

patients diagnosed of depression or anxiety. The four scenarios selected were chosen because on appearance, they seemed the most ecologically valid. The scenarios chosen related to the types of situations that the participants would probably have had direct experience of, or would most likely confront. The chosen scenarios dealt with problems in a romantic relationship, making new friends in a new environment, dealing with a breakdown in communication between friends, and rectifying a problem in a relationship with a supervisor at work.

In line with Marx et al (1992), it was decided that the instruction set of the original MEPS would be amended. Originally, the MEPS is presented as a "test of imagination" and the participants are invited to "make up a story" to connect the beginning to the end. However, D'Zurilla & Nezu (1982) have argued for the need to induce a clear problem-solving set in the instruction of such tests. Thus in the present study, a problem-solving instruction was employed: participants were asked to suggest the *ideal*, third person strategy for overcoming the problem. However, it has previously been demonstrated that MEPS responses are equivalent regardless of whether the scenarios are presented in the second or third person (Penn, Spaulding & Hope, 1993). The test was administered by the researcher, who read the instructions and then presented each scenario orally. These were also written on separate cards for the participant to use as a source of reference. Subjects' answers were tape-recorded to allow later coding by independent raters. The scenarios were presented in a randomised order.

Again, following the Marx et al (1992) study, subjective appraisals of problem solving were also assessed. This was to examine the confidence that the participants had in their own skills - i.e. whether or not they regarded a strategy as effective or not, or whether or not they would be willing to implement it themselves. Indeed, it is highly plausible that the problem-solving efforts of many clinical groups fail not as a result of their inability to generate plausible solutions, but rather as a result of their inability to implement these strategies due to negative appraisals of outcome expectancies (Bandura, 1982). Subjects were also asked to suggest how long (in weeks) they thought it would take to solve the situation and to use a four-point Likert scale to determine the amount of effort they would need to put into carrying out their response (*1 = no effort, 4 = a lot of effort*).

3.5.5.2. Problem Solving Questionnaire [PSQ] (Konig, Otto, Holling, & Liepman, 1980).²

(Appendix I). Used with the clinically depressed inpatients (Chapter 4) and the young offenders (Chapters 7 & 8).

This questionnaire was included to assess general attitudes towards problems and the problem-solving process. This is a German questionnaire, and has previously been employed in the study by Marx et al (1992), from whom the English translation was obtained. This questionnaire is believed to tap some of the components of the problem-solving process that are not sufficiently addressed in the MEPS, that have been highlighted by D’Zurilla & Goldfried (1971). Factor analysis of the 50-item questionnaire (Konig, Liepmann, Holling & Otto, 1985) suggested the existence of five main factors. These are:

1. *Problem orientation* - Considers pessimistic versus optimistic orientation (e.g. “Problems discourage me”).
2. *Denial of problems* - Looks at passivity in the perception of problems (e.g. “I think one should let a lot of problems go past untouched”).
3. *Tendency to use unconventional solutions* - Concerns the development of alternative solutions without direct judgement (e.g. “I solve many problems in a way others have not yet tried”).
4. *General problem solving strategies* - Examines the structuring of the problem-solving process and persistence in problem-solving (e.g. “When I have difficulties, I think about how I can change them”).
5. *Tendency to use conventional solutions* - Concerns the tendency to apply familiar and tested solutions (e.g. “In my opinion, long-standing solutions are the best ones.”)

The validity studies of Holling, Liepmann, Konig, Otto & Schmidt (1980) suggested that problem orientation correlated highly with general mood, inhibition and general readiness in decision making.

3.5.5.3. Social Problem-Solving Inventory-Revised [SPSI-R] (D’Zurilla, Nezu, & Maydeu-Olivares, 1995)³

(Appendix J). Used with the hospitalised suicidal individuals only (Chapter 6).

This new assessment measure was used to examine problem-solving ability among the individuals who had engaged in an act of suicidal behaviour. It consists of a 52-item

² I am grateful to Professor Mark Williams, University of Wales at Bangor, for providing me with an English translation of this questionnaire.

³ I am grateful to Professor Thomas D’Zurilla, University of New York at Stony Brook for providing me with this questionnaire and authorising its use in the current thesis.

self-report inventory and is used to assess five important facets of the problem-solving process. The five problem-solving dimensions that are assessed include:

1) *Positive Problem Orientation (PPO)* (5 items) - Taps a constructive problem-solving cognitive set e.g. "When my first efforts to solve a problem fail, I know if I persist and do not give up too easily, I will be able eventually to find a good solution".

2) *Negative Problem Orientation (NPO)* (10 items) - Addresses inhibitions and disruptive cognitive emotional orientations towards problems e.g. "I feel threatened and afraid when I have an important problem to solve".

3) *Rational Problem-Solving (RPS)* (20 items) - This has four subscales: (i) *Problem Definition and Formulation (PDF)* (5 items) e.g. "When I am having trouble understanding a problem, I try to get more specific and concrete information about the problem to help clarify it". (ii) *Generation of Alternative Solutions (GAS)* (5 items) e.g. "When I am trying to solve a problem, I often think of different solutions and then try to combine some of them to make a better solution". (iii) *Decision Making (DM)* (5 items) e.g. "When I have a decision to make, I weigh the consequences of each option and compare them against each other". (iv) *Solution Implementation and Verification (SIV)* e.g. "After carrying out my solution to a problem, I analyse what went right and what went wrong."

4) *Impulsivity/Carelessness Style (ICS)* (10 items) - Reflects a deficient problem-solving pattern that may be described as narrow, impulsive, careless, hurried, and incomplete e.g. "When I am attempting to solve a problem, I act on the first idea that occurs to me."

5) *Avoidance Style (AS)* (7 items) - Considers an defective problem-solving dimension characterised by procrastination, passivity, inaction, or dependency e.g. "I prefer to avoid thinking about the problems in my life instead of trying to solve them."

Participants report how they would typically respond to current general problems on a 5-point Likert-type scale ranging from "not at all true of me" to "extremely true of me". Higher scores on the Positive Problem Orientation and Rational Problem Solving scales indicate more constructive problem-solving processes, while higher scores on Negative Problem Orientation, Impulsivity/Carelessness Style, and Avoidance Style indicate more dysfunctional processes. Evidence for the validity of the SPSI-R have been reported (D'Zurilla & Maydeu-Olivares 1995; D'Zurilla et al, 1995; Sadowski, Moore, & Kelley, 1994).

3.5.6. The Autobiographical Memory Recall Task.

(Appendix K) Used with the clinically depressed inpatients only. Chapter 5.

In the study examining the aetiology of the problem-solving deficits evident in depressive disorders, an autobiographical memory task was used. The ten emotional cue words which had been previously employed in studies of Williams & Broadbent (1986) and Evans et al (1992) were used in the current study. These consisted of five positive words (happy, safe, interested, successful, surprised) and five negative words (sorry, angry, clumsy, lonely, and emotionally hurt) that were presented orally. The cue words were presented to the participants alternating between positive cues and negative cues. Participants were instructed to recall orally a specific memory that related to each cue word. The latency to the first word of each response made by the subject was recorded. If participants did not retrieve a memory that was specific, they were prompted to try and think of a particular time or episode. In the case that participants did not respond in the time available, a time of 60 seconds was recorded for that trial, and the next cue word was presented. When a memory was inappropriately general and required further prompting, the latencies to subsequent responses were accumulated. Responses were tape-recorded to allow transcriptions to be analysed by two independent raters. Similar to previous studies, (Williams & Dritschel, 1992; Goddard et al, 1996) memories were categorised according to the following criteria:

1. *Specific memories.* A memory was categorised as "specific" if the participant recalled an event referring to one particular day. In cases where there was the specificity was ambiguous, respondents were asked to try to date their memory as accurately as they could. The criterion of an experience that lasts less than one day has been used previously to define a "specific" memory (Williams, 1992).
2. *Extended general memories.* A memory was classified as "extended" if it referred to a specific event that lasted more than one day. A specific event in this categorisation was defined as something that had a definite beginning and end (Goddard et al, 1996) and is slightly more stringent than earlier classifications of extended memories which included examples of lifetime periods (Williams & Dritschel, 1992) such as "my holiday in Wales". A more precise definition is now employed in order to distinguish between extended memories that have a more general quality (e.g. "when I was at school") and extended memories that are more specific (e.g. "when I was at night-class").
3. *Categoric general memories.* A memory was classified as "categoric" if it referred to a series of repeated events (e.g. "playing squash on Friday nights"; Williams, 1996).

Responses were tape-recorded to allow later analyses. Memories were then classified by two independent raters and the main researcher according to these criteria. Kappa co-efficients calculated to examine inter-rater reliability were found to be between .87 and .92, suggesting good consistency.

3.5.7 The measures of Verbal Ability and Cognitive Functioning.

In studies examining the aetiology or the potential correlates of poor problem-solving ability, measures of verbal ability and cognitive functioning were employed.

3.5.7.1. National Adult Reading Test [NART] (Nelson & Willison, 1991)

(Appendix L). Used with the clinically depressed inpatients (Chapter 5) and the young offenders (Chapters 7-9).

This test was administered as a means of assessing verbal ability. The NART consists of 50 words that do not conform to regular rules of pronunciation and the participant's task is to read the words aloud. The NART has been found to produce high levels of split-half, inter-rater, and test-retest reliability (Crawford, Parker, Stewart, Besson, & De Lacey, 1989a; Nelson, 1982; O'Carroll, 1987; Schlosser & Ivison, 1989) and has been confirmed as a valid measure of general intelligence in the normal population (Crawford, Parker, Stewart, Besson, & De Lacey, 1989a) and its scores are converted to predictions of WAIS-R Verbal, Performance and Full Scale IQ scores. The NART was found to load highly on to 'g' (0.85), the general intelligence factor (Crawford, Parker, Stewart, Besson, & De Lacey, 1989b) also present in the analysis of the WAIS-R subtests. The NART has been demonstrated to have a potentially wide range of applicability in organic and functional disorders for estimating premorbid intelligence. Crawford and colleagues have investigated the ability of the NART to estimate premorbid IQ in depression (Crawford, Besson, & Parker, 1987) and schizophrenia (Crawford et al, 1992), producing positive results.

3.5.7.2. Paced Auditory Serial Addition Task [PASAT] (Gronwall 1977).

(Due to the nature of this instrument, there is no example in the Appendices).

Used with the clinically depressed inpatients only (Chapter 5).

The purpose of this test is to provide an estimate of an individual's information processing speed and efficiency, concentration skills and immediate memory. The participant is required to attenuate to the auditory input, respond verbally and attend to the next stimulus at an externally determined paced. The test presents the participants with a series of 61 digits ranging from 1-9, and their task is to add pairs of numbers such that each

number is added to the one immediately preceding it and verbally report the answer - thus they add the second number to the first and report the answer first, retain the second number in memory and add it to the third, report the answer, and so on. The participant hears a tape firstly that explains the instructions clearly and offers practice trials. There are four speeds of presentation to the PASAT. The current study employed the slowest presentation, that allows 2.4 seconds between trials. Gronwall and colleagues (Gronwall & Sampson, 1974; Gronwall & Wrightson, 1981) have found that this cognitive task has only a small correlation with arithmetic ability (.28) and general intelligence (.28).

3.5.8 The measures of Supportive Relationships.

Due to the fact that the validity of some social support questionnaires are questionable when used with clinical or forensic populations, the current thesis utilises two different social support measures of social support according to their suitability for the particular research group.

3.5.8.1. Interpersonal Support Evaluation List [ISEL] (Cohen, Mermelstein, Kamarck, & Hoberman, 1985) (Appendix M). Used with the hospitalised suicidal individuals only (Chapter 5).

The ISEL consists of 40 items which the respondent rates on a true/false format concerning the perceived availability of social support resources. The items are counterbalanced for desirability. The scale was developed on theoretical grounds to cover the domain of supportive social resources that could potentially facilitate coping with stressful events. The scale has four subscales of ten item statements, and each sub-scale is constructed to measure a different social support function that a social support network might provide. The four subscales are:

- 1) *Appraisal Support* - Addressed the perceived availability of someone to share problems with e.g. "When I need suggestions for how to deal with a personal problem, I know there is someone I can turn to".
- 2) *Belonging Support* - Looks at the perceived availability of people to socialise with e.g. "There are several different people with whom I enjoy spending time".
- 3) *Tangible Support* - Concerns the perceived availability of material aid e.g. "If I was sick, there would be almost no one I could find to help me with my daily chores".
- 4) *Esteem Support* - Deals with the perceived availability of a positive comparison when an individual compares themselves to others e.g. "I am able to do things as well as most other people".

Respondents indicate whether each statement is “probably true” or “probably false” for themselves, at the time of administration. The ISEL is scored by counting the number of responses indicating support for each of the four sub-scales, and an overall support score can be derived by summing the totals from the four sub-scales. The ISEL has been shown to have good validity (Cohen, 1985).

3.5.8.2. Significant Others Scale [SOS] (Power, Champion & Aris, 1988)

(Appendix N) Used with the incarcerated young offenders only (Chapter 10).

The SOS samples a subset of an individual's important relationships, and looks at the perceived structural aspects of these relationships (i.e. whether they exist for an individual or not) and the functional aspects (assessing the type and quality of support that is provided in a particular relationship). Two functional types of support are assessed - 'emotional' and 'practical' on the logic that these are in fact the main categories of support identified in the literature (Barrera & Ainley, 1983). The first five items reflect the functions of emotional support (e.g. *'to what extent can you trust, talk frankly and share your feelings with' someone*) and the last five items concern aspects of practical support (*'get financial and practical help' from someone*). Nine key relationships were presented to the inmates on this questionnaire. These were chosen by the researchers to reflect the repertoire of key figures that would be found both inside and outside the prison environment. The important relationships that were considered from outwith the prison environment were mother, father, closest brother or sister, girlfriend, closest friend, and an outside professional (which was identified by the respondent). The significant relationships identified from within the prison setting included closest friend, officer known best by the inmate on the wing they were housed, and their 'personal officer'. A personal officer is a particular officer from the wing in which the inmate lives, who has been allocated to the inmate as a point of contact throughout his sentence and to provide an identifiable source of support for the individual. The personal officer is also responsible for assessing an individual's progress regarding the plan of their sentence and to achieve this, the inmates meet with their personal officer at particular points during the inmate's sentence.

Inmates were asked to rate each of these relationships in terms of the 'actual support' currently offered in each of the current and applicable relationships and the 'ideal support' they would like to receive from each of the key figures if things were exactly as the respondent hoped. A seven-point frequency scale is used for rating sources

of support , ranging from 'Never' (1) to 'Always' (7). The questionnaire yields two grids of scores - one for the 'actual' and one for the 'ideal' support for each of the ten items for the nine relationships. Completing these grids can be quite complicated and time-consuming, thus the researcher was available to offer guidance and clarification to the participant.

From the SOS, a host of measures of social support can be derived. The present study aimed to examine the 'actual' (emotional, practical) support, the 'ideal' (emotional, practical) support, and the discrepancy between the 'actual' and 'ideal' levels of support reported by the inmates. The discrepancy score is calculated on a cell-by-cell basis and negative discrepancies (where the actual support appears to be higher than the ideal level of support - indicating an over-provision of social support) are recorded as zero. The study also aimed to examine the size of the individuals support group. The SOS also provides an overall support score, which is calculated by looking at the support levels reported across all the key relationships simultaneously.

3.5.8.3. Parental Bonding Instrument [PBI] (Parker, Tupling, & Brown, 1979) (Appendix O). Used with the incarcerated young offenders only (Chapter 11).

In the study which examines the relationship between parental bonding and the experience of psychological distress, the PBI was used. Participants completed Parker et al's (1979) 50-item version of the PBI. The PBI has been demonstrated to be psychometrically stable and not influenced by personality traits or current mood states (MacKinnon et al, 1989; Parker, 1983). Studies with siblings and twins have suggested that the PBI scales may indeed reflect the actual parenting behaviour rather than just the perceptions of the respondent (MacCrae & Costa, 1988; MacKinnon, Henderson, & Andrews, 1991; Parker, 1983;1989). The PBI has been used in a host of studies to examine the quality of parental care in such populations as the depressed (Parker, 1979a), social phobics and agoraphobics (Parker, 1979b), conduct-disordered adolescents (Rey & Plapp, 1989), alcoholics (Bernardi, Jones, & Tennant, 1989), and juvenile delinquents (Pederson, 1994). Inmates were instructed to indicate on 4-point Likert-type scales, the extent to which certain statements could be considered independently characteristic of their mothers and fathers as the inmate was growing up. In the current study, subjects in families with step-parents were asked to base their responses on the person they had come to consider as their father or mother figure.

Perceived parental neglect and rejection are reflected in low scores on the maternal/paternal care scales, while high scores suggest parents that are warm and understanding. High scores on the maternal/paternal protection scales suggest excessive parental control and intrusion, whereas low scores point to parental acceptance of the respondents' independence and autonomy. Examples of items from the Care scale include "Appeared to understand my problems and worries" and "Spoke to me with a warm and friendly voice". Examples of items from the Protection scale include "Tried to control everything I did" and "Gave me as much freedom as I wanted". The range of scores is 0-36 for the care scales and 0-39 for the protection scales. Responses were also encoded according to the three factors derived in the Cubis et al study (1989), which consisted of the original care factor along with a new factor measuring protection in the social domain (range of scores 0-24) and another measuring protection in the personal domain (range of scores 0-15).

3.6. The Data Analyses

With regards to the statistical analyses, a number of steps were followed. All data in the current thesis were examined by means of the Statistical Package for the Social Sciences/Windows Version (1994). In the first instance, descriptive frequencies were obtained for each variables to establish normality and examine the overall response patterns. The data for all participants in each of the respective studies were included in the analyses. Missing data were replaced with mean values. This is a conservative method to use as overall means are not affected (Tabachnick and Fidell, 1996). As the researcher was present when information was gathered from subjects, the amount of missing data was minimum. Prior to analysis, frequency plots of each of the variables were examined for normality, skewness, and kurtosis. In no case in the current thesis, were transformations necessary. To assess linearity, bivariate scatterplots of independent and dependent variables were used. Linear relationships were found in each case.

Different aspects of studies in the thesis required different styles of analyses according to the form of the data and the research questions being addressed. All nominal data were examined by Chi-square analyses. Interval data was compared by 2-tailed independent *t*-tests and analyses of variance (ANOVA). ANOVA was predominately used to investigate differences between group means. Post hoc comparisons were examined by means of the Scheffé tests. The Scheffé was used as it is the most conservative of all post-hoc tests (Howell, 1992). Where multiple dependent variables were assessed, multivariate

analyses of variance (MANOVA) were employed. MANOVA has the advantage of dealing economically with large numbers of variables, reducing the probability of Type 1 errors, and provides a more sensitive estimate of the effects of independent variables (Tabachnick and Fidell, 1996). MANOVA were generally used to examine group differences in the measures of problem-solving ability and psychological distress. Pearson's product moment correlations were used where appropriate to examine the strength and direction of relationships between variables. To assess the predictive ability of independent variables, stepwise regression analyses were most commonly employed. In the study with the parasuicidal individuals, stepwise regression preceded hierarchical regression analyses. Hierarchical regression analyses is a model testing procedure, while stepwise regression analyses is a model-building procedure. The analytical procedure used in the parasuicide study was based upon previous analyses conducted by Clum and Febbraro (1994) and Yang and Clum (1994) in their studies of the role of problem-solving ability and social support in the prediction of suicidal intent.

3.7. The Plan of the Thesis

The selection of the samples, study methodologies, and measures employed in the thesis are described in the methodology sections of each of the research chapters. The following set of research studies are devised to examine the nature and role of problem-solving and support variables respectively in the experience of psychological distress among three particular populations a) the clinically depressed; b) individuals admitted to hospital following an act of suicidal behaviour, and c) incarcerated young offenders. The studies will be undertaken as follows:

The Studies with Clinically Depressed Inpatients

Chapter 4: Social Problem-Solving And Depression: Assessment Issues And The Relationship With Distress Among An Inpatient Clinical Sample.

This chapter will attempt to consider some of the issues associated with problem-solving assessment, and will examine the nature of the deficits in problem-solving skills in a diagnosed group of inpatients suffering from major depression. The hypothesis is that there will be a relationship between problem-solving ability and depression. It is hypothesised that poor problem-solving ability will be associated with higher levels of depressive symptomatology and that this relationship will be strongest among the group of inpatients. The study will also examine the correlations of problem-solving difficulties with anxiety,

depression, and hopelessness and a measure of general affective functioning within such individuals.

Chapter 5: Social Problem-Solving And Depression: An Examination Of Its Form, Aetiology And Cognitive Correlates In A Clinical Sample.

This chapter examines the aetiology of the deficits in social problem-solving ability often evident with depression. The study considers the hypothesis that such deficits arise in clinical depression as a result of an impairment in patients' abilities to retrieve specific autobiographical memories. Further to this, the study also aims to examine if such deficits previously illustrated in the problem-solving performance and autobiographical memory recall of depressed individuals was related to their verbal and information-processing abilities.

Study of General Hospital Inpatients Admitted Following Suicidal Behaviour.

Chapter 6: Stress, Social Support And Problem Solving Ability: The Prediction Of Suicidal Intent, Hopelessness, And Symptoms Of Depression And Anxiety Among A Group Of Hospitalised Drug Overdosers.

This study aims to examine the transactional model of suicidal behaviour as proposed by Bonner and Rich (1987). The study examines the nature of both problem-solving ability and supportive social relationships in a group of hospitalised individuals who have recently engaged in suicidal behaviour. The hypothesis is that the level of suicidal intent and psychological distress evident among these individuals will be related to the levels of stress, social support, and problem-solving ability they have. The study will examine the problem-solving skills of such individuals by means of the Social Problem-Solving Inventory-Revised (SPSI-R), apparently never used previously in a suicidal population. By means of regression analyses, the study hopes to examine the value of problem-solving ability and social support in the prediction of depression, hopelessness, and suicidal intent.

The Studies with Incarcerated Young Offenders.

Chapter 7: Social Problem-Solving Skills And Psychological Distress Among Incarcerated Young Offenders: The Issue Of Bullying And Victimisation.

This chapter will examine the nature of the problem-solving abilities of three groups of incarcerated Scottish young offenders who had been identified within the institution as either bullies, victims of bullying, or a non-bully/non-victim control group. The hypothesis is that there will be notable differences in the problem-solving abilities and hence the levels of psychological distress experienced by these three groups of inmates. The study will also examine the correlations of problem-solving difficulties with anxiety, depression, and hopelessness and a measure of general affective functioning within such individuals. A further compare the use of two measures of problem-solving with an inmate population.

Chapter 8: A Comparison Of The Problem-Solving Abilities And Psychological Distress Of Suicidal, Bullied, And Protected Prisoners.

This chapter aims to determine if there is a hierarchy of problem-solving deficits and distress among vulnerable young offenders. Four groups of inmate will be examined: a) those placed on suicidal supervision; b) those removed from main circulation and placed on protection; c) victims of bullying who remain in main circulation; and d) a group who have adjusted reasonably to the prison regime. The hypothesis is that there will be notable differences in the problem-solving abilities of these four groups and this will be related to the levels of psychological distress they respectively experience. The study will also examine the correlations of problem-solving difficulties with anxiety, depression, and hopelessness and a measure of general affective functioning within such individuals. Further to this, it will investigate if the problem-solving difficulties of young offenders are related to their verbal abilities. The study will also address the value of some demographic characteristics of the participants in relation to the levels of distress experienced.

Chapter 9: Suicidality And The State-Trait Debate On Problem Solving Deficits: A re-examination With Incarcerated Young Offenders.

This study aims to examine the relationships between means-end problem solving and suicidality in a group of Scottish incarcerated young offenders. The hypothesis will consider whether trait or state problem-solving deficits are more inextricably linked to suicidality, or to depression and hopelessness.

Chapter 10: Social Support And Psychological Distress In A Group Of Incarcerated Young Offenders.

This study will examine the function and structure of social support in a group of incarcerated young offenders. Support across nine key relationships from both outside and inside the prison will be examined. Furthermore, the study will address the role that social support plays in the experience of self-reported psychological distress (anxiety, depression, and hopelessness) while incarcerated. It is hypothesised that supportive relationships from both inside and outwith the prison will play an integral role in the level of psychological distress experienced will incarcerated.

Chapter 11: The Quality Of Perceived Parenting Experienced By A Group Of Scottish Incarcerated Young Offenders And Its Relation To Psychological Distress.

This study will use the Parental Bonding Instrument [PBI] to examine the response profiles of incarcerated young offenders and compare the results to normative data, and demographics relating to family and penal experiences. It is hypothesised that parental care and overprotection variables will be linked to the level of psychological distress experienced by young offenders during incarceration. Furthermore, the study will investigate relationships between "parenting style" and levels of depression, anxiety, and hopelessness experienced during incarceration.

Chapter 12: Conclusions and Suggested Future Research.

The concluding chapter will summarise the results and consider their practical applications. Possible avenues for future research will also be suggested.

CHAPTER 4:

**SOCIAL PROBLEM-SOLVING AND DEPRESSION:
ASSESSMENT ISSUES AND THE RELATIONSHIP WITH
DISTRESS AMONG AN INPATIENT CLINICAL SAMPLE**

Chapter 4:
Social Problem-Solving And Depression:
Assessment Issues And The Relationship With Distress Among An
Inpatient Clinical Sample.

Abstract

This study aimed to assess the problem-solving abilities of 25 inpatients suffering from major (unipolar) depressive disorder, with a matched group of 25 non-depressed participants, using the Means-Ends Problem Solving Procedure (MEPS) and an analogue measure - the Problem Solving Questionnaire (PSQ). The study also aimed to examine the relationship between problem-solving difficulties, clinical measures of distress such as the Hospital Anxiety and Depression Scale (HADS) and the Beck Hopelessness Scale (BHS), and a general measure of negative affect - the Profile of Mood States (POMS). From the MEPS it was demonstrated that depressed participants showed difficulties in solving hypothetical, common social problems. They also showed a negative attitude towards and a low evaluation of their own problem-solving skills when compared to a non-clinical comparison group. The PSQ did not differentiate between the groups to the same extent, suggesting the validity of using oral "outcome" measures of problem-solving abilities over analogue "process" measures. Significant correlations were found between many of the problem-solving indices and the measures of psychological distress. However, despite these relationships being strongest in the clinical group, they were also apparent among the comparison group albeit to a lesser but nevertheless significant degree. The fact that problem-solving deficits were found to correlate with a range of both clinical mood states and indices of negative affect adds substance to the argument that problem-solving difficulties are not an artefact of depression, but are associated with negative affect in general. The role of hopelessness was highlighted as an important avenue for future research.

4.1 Introduction

Social problem-solving refers to the process by which individuals identify or discover effective means of coping with the kinds of problematic situations encountered in real life. Since the inception of problem-solving research, the importance of problem-solving ability to issues of mental health and psychological adjustment has been highlighted by a host of empirical studies. The central tenet of these studies is that problem-solving ability is positively related to personal and social adjustment and is inversely related to psychopathology and social maladjustment.

Individuals who are suffering from depression have received particular attention in recent years with regards to problem solving abilities. This has often been to investigate the proposed theory that social problem solving deficits may underlie the ineffective coping behaviours often evident accompanying depression, and thus may provide an important clinical channel for dealing with such affective states. McLean's (1976) work was among the first to suggest that deficits in problem-solving ability was an important etiological factor in depression. In more recent years, researchers have endorsed pluralistic models of depression (Nezu 1987; Nezu, Nezu & Perri, 1989) of which the central assertion suggests that depression is the result of an interaction between stressful events and problem-solving deficits. Indeed, some clinicians (D'Zurilla, 1986; Nezu, Nezu, & Perri, 1989) have already suggested the efficacy of problem-solving therapy as an intervention for depression.

Although there is now a wealth of empirical studies within the literature that have attempted to identify any apparent deficits in problem-solving abilities that can accompany depression, many of these studies have important methodological considerations. According to Marx, Williams, & Claridge (1994), many of these studies can firstly be differentiated by their underlying concept of problem-solving and hence the problem-solving assessment procedures that they employ. Some studies have adopted a trait approach to problem-solving and have assessed underlying trait dimensions of the problem-solving process, while others have regarded the problem-solving deficits apparent in depression as situation specific.

The studies which have taken the "trait approach" to problem-solving have typically employed "process" measures which aim to assess the general cognitive and behavioural activities which are associated with effective problem-solving. An example of such a

measure is the Problem-Solving Inventory [PSI] (Heppner & Peterson, 1982), which assesses an individual's attitudes towards the problem-solving process and a self-appraisal of their own abilities. Studies using this questionnaire have suggested that there is a link between depression and self-perceived difficulties with the problem-solving process (Heppner, Baumgardner & Jackson, 1985; Nezu, 1986; Nezu & Ronan, 1985).

According to Marx et al (1994), it is not clear how directly the self-appraisal of problem-solving skills is related to actual problem-solving ability. Marx et al argue that such a relationship is questionable if the characteristic cognitions that accompany depression (Beck, 1967) are brought into consideration - i.e. it would be hard to determine whether the self-perception of "being an ineffective problem-solver" prevalent among depressed individuals actually is a reflection of a deficit in problem solving ability or is a reflection of the general negative view of the self that accompanies depression.

Further studies have endorsed an alternative approach which suggests that the deficits in problem-solving ability apparent in depression are not trait in nature but rather are situation specific and that depression is responsible for a disturbance in an individual's particular problem-solving strategies. The majority of these studies have employed "outcome" measures which assess an individual's ability to apply their skills to particular problematic situations. An example of such a measure is the Means-Ends Problem Solving Procedure [MEPS] (Platt & Spivack, 1975). This technique presents the participant with a set of social problems that have a clearly defined beginning and end, and the participant's task is to suggest the problem-solving means which lead to the predetermined end goal. Thus, a researcher can witness in vivo the procedures which an individual would employ in typical problem scenarios. However, studies which have employed this measure have produced contradictory findings. Some studies have found a significant relationship between components of the problem-solving process and depression (Gotlib & Asarnow, 1979; Marx, Williams, & Claridge, 1992; Wierzbicki, 1984; Zemore & Dell, 1983), while others have not (Blankstein, Fleit, & Johnston, 1992; Doerfler, Mullins, Griffin, Siegel, & Richards, 1984).

A further methodological consideration concerns the fact that most of the studies examining problem-solving deficits and depression have almost uniformly used subclinical, student analogue depressives (Blankstein et al, 1992; Heppner et al, 1985; Doerfler et al, 1984; Gotlib & Asarnow, 1979; Haaga, Fine, Terrill, Stewart, & Beck,

1995; Marx & Schulze, 1991; Nezu & Ronan, 1985; Wierzbicki, 1984; Zemore & Dell, 1983) whose depression has been "diagnosed" by means of an inventory such as the Beck Depression Inventory [BDI] (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961). Such inventories merely assess the occurrence of depressive symptomatology and do not provide a diagnosis of depressive disorder. Thus it may be erroneous to generalise from such nonclinical student analogue depressives to those suffering from clinically significant depressive disorder. Indeed it appears that current research should direct itself towards examining problem-solving in clinical samples. From a perusal of the literature there appears currently to be only two studies which have examined the problem solving abilities of clinically depressed samples (Marx, Williams, & Claridge, 1992; Nezu 1986).

By means of the PSI questionnaire, Nezu (1986) demonstrated that depression-related problem-solving deficits identified in previous studies with subclinical populations also extend to individuals experiencing clinical levels of depression. The study suggested that depressed persons appraise themselves as less confident in approaching new problems, engage in less active and systematic attempts when confronted with social and interpersonal problems, and perceive their ability to engage in self-control in problem situations as less effective. However, there are a few methodological issues that compromise the generalisability of this study's results. Although the participants in the Nezu study were suffering from a clinical level of depression (as assessed by Research Diagnostic Criteria (Spitzer, Endicott, & Robbins, 1978) the BDI and the depression scale of the MMPI) all were volunteers who had entered the study as a result of expressing interest following announcements in various newspapers detailing an on-going therapy programmed for depression to be held at a university-based mental health centre. Thus, the level of their depression was only confirmed as a result of their participation in the study, and none of the participants had actively sought treatment from routine mental health services for their depression prior to this. Furthermore, it has been indicated that individuals with clinical disorders who are recruited for study inclusion by public advertisement tend to have less severe but more chronic disorders than those recruited via referral by medical practitioners (Aronson, 1987). It is unclear what impact such factors may have had upon the study's results and conclusions.

The study by Marx, Williams, & Claridge (1992) aimed to examine whether clinically depressed patients could be characterised as having problem-solving deficits, whether such deficits were specific to depression or could be evident with other diagnoses

such as anxiety, and to assess the problem-solving features in depression as specifically as possible through examining several levels of problem-solving. The different levels of problem-solving assessed included the hypothetical situations presented in the MEPS, personal problems, attitudes towards problem-solving, and a qualitative assessment of the effectiveness of the solutions offered by the patients. This study used a sample of 20 patients who had been diagnosed with major depressive disorder by means of Research Diagnostic Criteria. Of the participants, 12 were inpatients and 8 were outpatients. Comparison groups comprised a further clinical group of 17 patients with different forms of anxiety disorder plus a non-clinical comparison group of 20 individuals matched to the depressed group in terms of age, sex, and educational level.

The study demonstrated that clinically depressed participants showed a clear deficit in problem-solving when compared to a group of anxious patients and a non-clinical control group. Depressed patients had difficulties in providing solutions for both hypothetical and personal problems, and showed negative attitudes towards both problems and the problem-solving process. Hence, their deficits could be considered as multi-modal (Marx et al 1994). However, it should also be noted that many of these deficits were also apparent among the clinical comparison group - who also demonstrated difficulties in producing relevant means to the MEPS scenarios.

The Marx et al study (1992) is an important clinical study, however it is not without methodological difficulties. Firstly, previous studies have suggested that problem-solving difficulties are apparent among individuals who have been identified as suffering from sub-clinical depression. The "anxiety" comparison group in this study showed a high BDI profile, suggesting that they in turn were displaying sub-clinical levels of depression. A further issue which could have been addressed by the study concerned the effect of anxiety itself upon problem-solving ability (an issue not previously addressed among clinical samples). Indeed, the study assessed the depression levels in both clinical populations but not their concomitant levels of anxiety. The contribution of anxiety in relation to problem-solving among clinical samples appears worthy of further attention.

Current research should also devote more attention to the relation of other affective states with problem-solving ability among individuals who present a primary diagnosis of depression. It has previously been suggested that depression and anxiety symptoms correlate highly (Dobson, 1985). To date, no study has measured the concomitant level of

anxiety in a clinical sample of depressed patients when examining problem-solving ability. In the absence of such assessments, the hypothesis that problem-solving difficulties are not specific to depression but could be better characterised as a non-specific correlate of negative affect in general has been neglected. It is plausible to suggest that these other distressed states may have an influence on problem-solving ability. With the exception of the study by Haaga, Fine, Terrill, Stewart, & Beck (1995) which elucidated the role of that anxiety has upon problem-solving among a subclinical student sample, no other study appears to have examined the role of other general negative affective functioning upon problem-solving difficulties apparent among clinical populations. The current study will hope to consider both clinical and general negative affective mood states among such patients and will attempt to examine their role in problem-solving, since difficulties with problem-solving have been postulated to be associated with psychopathology in general (Jahoda, 1953,1958).

4.2. Aims Of The Current Study

The aims of the current study are threefold. Firstly, the study aims to deal with the issues relating to sample selection by using only patients admitted to a in-patient ward with a diagnosis of major depression according to ICD-10 (WHO,1992) classification. Secondly the study will examine the relationships that both clinical mood states and general negative affective functioning have with problem-solving ability among a clinically depressed group. Finally, the study also aims to examine whether a process and an outcome measure of problem-solving are equally sensitive in detecting problem-solving difficulties in a depressed sample, and whether or not such difficulties are correlated with participants' levels of psychological distress.

4.3. Method

4.3.1. Participants

The clinical group in the current study consisted of 25 hospital inpatients admitted following a ICD-10 (WHO, 1992) diagnosis by a psychiatrist of major depression (unipolar). A non-clinical comparison group of 25 individuals was recruited that were matched to the patient group in terms of gender, age, and educational level. These individuals were recruited mainly from clerical, ancillary, teaching, and management staff

of a Scottish University. These individuals were approached by the researcher, who asked if they would be willing to participate in the study.

4.3.2. Procedure

All participants were volunteers and took part in an individual session with the same research psychologist, which lasted for 1.5 hours. During this time, participants took part in a structured interview, completed a battery of questionnaires, and underwent an oral assessment of problem-solving skills. Participants were encouraged to complete the questionnaires by themselves, however the researcher was available to offer appropriate clarification and assistance where necessary. The confidentiality of responses and the anonymity of respondents was guaranteed.

4.3.3. Measures

Demographic Information

Participants' demographic details were ascertained by means of a structured interview. Information concerning the participants age, occupation, educational level, and mental health history was recorded.

The Hospital Anxiety and Depression Scale [HADS] (Zigmond & Snaith, 1983)

In examining the relationship of problem solving to clinical mood states, the HADS was employed. This is a 14-item self-administered questionnaire which detects and distinguishes between anxiety and depression and measures the severity of emotional disorder. It has been shown as valid in hospital, primary care, outpatient and community settings (Wands, Merskey, Hachinski et al, 1990; Zakrzewska & Feinmann, 1990). It is a "present-state" instrument, and subjects are asked to rate their feelings 'over the last few days'.

Beck Hopelessness Scale [BHS] (Beck, Weissman, Lester & Trexler, 1974)

This 20-item self-report questionnaire is designed to quantify hopelessness and assess a respondent's negative expectancies. Items include statements such as "All I can see ahead of me is unpleasantness rather than pleasantness", and each is rated on a true/false format.

Profile of Mood States [POMS] (McNair, Lorr & Droppleman, 1992)

This is a 65-item "present-state" self-report questionnaire that assesses the levels of fatigue, tension-anxiety, vigour, anger-hostility, depression-dejection, and confusion-bewilderment in the respondent. The POMS has been shown as valid in hospital, primary care, and community settings. (Holland, Korzun, Tross et al, 1986; LeUnes, Hayword & Daiss, 1988; McNair, Fisher, Kahn, & Droppleman, 1970). This questionnaire was included as a measure of general affective functioning.

Means-End Problem Solving Procedure [MEPS] (Platt & Spivack 1975)

The MEPS is one of the most widely used measures of social problem solving. The MEPS examines problem-solving techniques that are required to handle "everyday" problems. Its strength lies in that it is an "outcome" measure - i.e. it is used to evaluate problem-solving performance or the ability of individuals to apply their problem-solving skills effectively to specific problems. The purpose of the MEPS is to measure a person's ability to conceptualise the sequenced steps or "means" that are necessary to achieve a particular goal; their ability to anticipate possible obstacles that may interfere with the attainment of the goal; and the ability to appreciate that successful problem solving takes time or the fact that appropriate timing may be essential for effective solution implementation. Subjects are presented with a series of hypothetical scenarios of interpersonal problems or conflict situations, that have a specified beginning and ending. In the beginning of the scenario, the need or the goal of the protagonist is specified. At the end of the scenario, the protagonist has successfully achieved the goal. The task for the participant is to fill in the middle section - i.e. provide the means to solution.

The MEPS uses a quantitative scoring system that computes separate frequency scores for the number of relevant and irrelevant means, obstacles, the estimated time it would take a protagonist to solve a problem, and the number of non responses. Recently, some researchers have incorporated a qualitative scoring system alongside the traditional method and have examined such variables as ratings of effectiveness, appropriateness, passivity or avoidance (Fischler & Kendall, 1988; Freedman et al, 1978; Getter & Nowinski, 1981; Marx et al, 1992). Ratings of whether responses could be regarded as active or passive in their valence, and experimenter ratings of response effectiveness were included in the present study. The MEPS has been shown to have satisfactory internal consistency, and its construct validity has been demonstrated on a number of studies that

have demonstrated significant differences in problem solving in groups varying in social adjustment (Platt & Spivack, 1972; Platt et al, 1974; , Platt & Peizer, 1976).

As has been the pattern with more recent studies (Gotlib & Asarnow 1979; Ivanoff et al, 1992; Linehan, 1981; Marx et al, 1992; Schotte & Clum, 1987), a shortened version of the MEPS was applied. Platt & Spivack (1975) illustrated that it is not necessary to administer all ten scenarios in order to obtain a valid measure of means-end thinking. As the MEPS manual does not suggest part-whole correlations assessed with a representative sample on which to base the item selection, it was decided to administer the same scenarios as used in the study by Marx et al (1992) which assessed social problem-solving among patients diagnosed of depression or anxiety. The four scenarios selected were chosen because on appearance, they seemed the most ecologically valid for this particular group. The scenarios chosen related to the types of situations that the participants would probably have had direct experience of, or would most likely confront. The chosen scenarios dealt with problems in a romantic relationship, making new friends in a new environment, dealing with a breakdown in communication between friends, and rectifying a problem in a relationship with a supervisor at work.

In line with the Marx et al (1992) study, it was decided that the instruction set of the original MEPS would be amended. Originally, the MEPS is presented as a "test of imagination" and the participants are invited to "make up a story" to connect the beginning to the end. However, D'Zurilla & Nezu (1982) have argued for the need to induce a clear problem-solving set in the instruction of such tests. Thus in the present study, a problem-solving instruction was employed: participants were asked to suggest the *ideal*, third person strategy for overcoming the problem. However, it has previously been demonstrated that MEPS responses are equivalent regardless of whether the scenarios are presented in the second or third person (Penn, Spaulding & Hope, 1993). The test was administered by the researcher, who read the instructions and then presented each scenario orally. These were also written on separate cards for the participant to use as a source of reference. Subjects' answers were tape-recorded to allow later coding by independent raters. The scenarios were presented in a randomised order.

Again, following the Marx et al (1992) study, subjective appraisals of problem solving were also assessed. This was to examine the confidence that the participants had in their own skills - i.e. whether or not they regarded a strategy as effective or not, or

whether or not they would be willing to implement it themselves. Indeed, it is highly plausible that the problem-solving efforts of many clinical groups fail not as a result of their inability to generate plausible solutions, but rather as a result of their inability to implement these strategies due to negative appraisals of outcome expectancies (Bandura, 1982). Subjects were also asked to suggest how long (in weeks) they thought it would take to solve the situation and to use a four-point Likert scale to determine the amount of effort they would need to put into carrying out their response (*1 = no effort, 4 = a lot of effort*).

MEPS responses were classified by two independent raters and the main researcher. Kappa co-efficients calculated to examine inter-rater reliability were found to be between .84 and .91, suggesting good consistency.

Problem Solving Questionnaire (Konig, Otto, Holling, & Liepman, 1980)

This questionnaire was included to assess general attitudes towards problems and the problem-solving process. This is a German questionnaire, and has previously been employed in the study by Marx et al (1992), from whom the English translation was obtained. This questionnaire is believed to tap some of the components of the problem-solving process that are not sufficiently addressed in the MEPS, that have been highlighted by D'Zurilla & Goldfried (1971). Factor analysis of the 50-item questionnaire (Konig, Liepmann, Holling & Otto, 1985) suggested the existence of five main factors. These are:

1. *Problem orientation* - Considers pessimistic versus optimistic orientation (e.g. "Problems discourage me").
2. *Denial of problems* - Looks at passivity in the perception of problems (e.g. "I think one should let a lot of problems go past untouched").
3. *Tendency to use unconventional solutions* - Concerns the development of alternative solutions without direct judgement (e.g. "I solve many problems in a way others have not yet tried").
4. *General problem solving strategies* - Examines the structuring of the problem-solving process and persistence in problem-solving (e.g. "When I have difficulties, I think about how I can change them").
5. *Tendency to use conventional solutions* - Concerns the tendency to apply familiar and tested solutions (e.g. "In my opinion, long-standing solutions are the best ones.")

The validity studies of Holling, Liepmann, Konig, Otto & Schmidt (1980) suggested that problem orientation correlated highly with general mood, inhibition and general readiness in decision making.

4.4. Results

4.4.1. Demographics

The mean age of the participants in the study was 36.10 years (s.d. 11.60), the sample consisted of 18 males and 32 females. In terms of highest levels of educational achievement 28% (14) left school with no qualifications, 36% (18) possessed Scottish school-level qualifications such as ordinary grades and highers, 12% (6) had vocational diplomas and certificates, 16% (8) had professional qualifications - such as in nursing, and 8% (4) held degrees. There were no differences between the clinical and control groups in terms of age, gender, or educational achievement.

All of the participants in the depressed group were receiving psychotropic medication. All of the depressed patients were currently receiving antidepressants (12 receiving tricyclics, 13 were receiving 5-HT reuptake inhibitors), 6 were concurrently taking benzodiazepines, and a further 2 were receiving anti-convulsants. With regards to hospital admission, 7 of the depressed sample had never been admitted previously for depression, 11 had been admitted once previously, 4 had been admitted twice previously, and three had been admitted on three or more occasions for inpatient treatment for depression. None of the participants in the comparison group were currently receiving psychotropic medication.

4.4.2. Psychological Distress

Due to the fact that there are high inter-correlations between the two factors of the HADS and six factors of POMS respectively, separate MANOVAs were conducted in the first instance to consider the effects of the status of participants (patient, comparison group) on each these measures of psychological distress. MANOVA revealed a significant effect of the status of the participant on the HADS, Wilks's λ (2,47) 0.10, $F= 210.83$, $p < 0.0001$, and also on the POMS, Wilks's λ (6,43) 0.20, $F= 27.68$, $p < 0.0001$. *Table 4.1* illustrates the results of consequent univariate F tests for each of the two groups with regards to the POMS and HADS. From *Table 4.1* it is clearly seen that higher levels of psychological distress can be found among the depressed patients.

Table 4.1: Psychological Distress: Differences on the HADS, BHS, and POMS profiles of the depressed and comparison groups

	Depressed (n = 25)		Comparison (n=25)		F (df 1,48)	p
	M	SD	M	SD		
HADS						
Depression	16.16	(2.72)	5.16	(2.54)	427.48	<0.0001
Anxiety	14.16	(2.86)	2.28	(1.94)	137.48	<0.0001
BHS						
	11.36	(5.17)	2.36	(1.44)	70.28	<0.0001
POMS						
Anger-Hostility	18.00	(11.61)	7.52	(6.37)	15.66	<0.0001
Confusion- Bewilderment	19.44	(5.30)	6.80	(3.37)	101.10	<0.0001
Depression-Dejection	37.44	(12.87)	6.64	(8.02)	103.00	<0.0001
Fatigue	17.72	(6.84)	7.88	(6.03)	29.08	<0.0001
Tension-Anxiety	23.56	(7.50)	7.64	(5.53)	72.90	<0.0001
Vigour	7.12	(5.26)	16.36	(5.05)	40.07	<0.0001

Significant differences were apparent between the groups with regards to their levels of anxiety, depression and hopelessness, and have been illustrated in *Table 4.1*. With regards to the HADS-anxiety scale, the clinically depressed group were characterised by "moderate" to "severe" levels of anxiety, while the comparison group were characterised by "normal" levels of anxiety. Similarly, significant differences were observed on the HADS-depression scale, where the depressed group were characterised by "severe" levels of depression while the comparison group was once again characterised by "normal" levels of depression. Considering independently the BHS, the mean hopelessness score was significantly higher in the depressed group. Greene's (1981) normative study of the BHS suggests a mean of 4.45 (s.d. 3.09). In this respect, the levels of hopelessness evident among the comparison group could be considered as normal, while those in the depressed group were at a level that could be considered as clinically relevant.

Significant differences were apparent between the groups on all of the subscales on the assessment of general affective functioning provided by the POMS. The depressed patients showed the most elevated anger-hostility, confusion-bewilderment, depression-dejection, fatigue, and tension-anxiety, but the lowest levels of vigour. These differences have been illustrated in *Table 4.1*.

4.4.3. MEPS and PSQ

Due to the fact that there are high inter-correlations between many of the components of the MEPS and the subscales of the PSQ respectively, separate MANOVAs were conducted in the first instance to consider the effects of the status of participants (patient, comparison group) on each these measures of problem solving. MANOVA revealed a significant effect of the status of the participant with regards to their performance on the MEPS, Wilks's λ (11,38) 0.12, $F= 24.06$, $p < 0.0001$, and also to a slightly lesser extent concerning responses to the PSQ, Wilks's λ (5,44) = 0.69, $F= 3.80$, $p < 0.01$. Univariate F tests revealed significant differences between the groups on a number of problem-solving measures. The results of these are illustrated in *Table 4. 2*.

Overall, the largest differences in problem-solving ability between the groups were found by the MEPS procedure. This revealed that the depressed patients produced less relevant but more irrelevant problem-solving means, produced less active but more passive problem-solving means, produced more enumerations and more non responses. The

Table 4.2: Problem Solving Assessment: Differences in the MEPS and PSQ profiles for the depressed patients and the comparison group.

Problem-Solving	Depressed (n = 25)		Comparison (n=25)		F (df 1, 48)	p
	M	SD	M	SD		
<i>MEPS</i>						
Relevant means	4.96	(2.13)	12.24	(2.58)	117.98	<0.0001
Irrelevant means	1.72	(1.20)	0.32	(0.46)	29.05	<0.0001
Active means	5.36	(2.36)	12.08	(2.46)	96.90	<0.0001
Passive means	1.40	(1.00)	0.16	(0.34)	33.71	<0.0001
Obstacles	0.56	(0.96)	1.12	(1.45)	2.51	>0.05
Enumerations	1.04	(1.38)	0.40	(0.57)	4.82	<0.05
No responses	0.24	(0.43)	0.00	(0.00)	7.57	<0.01
Effort	4.24	(1.20)	2.96	(1.30)	13.01	<0.001
Effectiveness	3.16	(0.89)	3.92	(0.27)	16.34	<0.0001
Time	8.56	(3.48)	4.24	(3.23)	15.52	<0.0001
<i>PSQ</i>						
Conventional PS	18.52	(5.37)	19.72	(3.77)	0.83	>0.05
Unconventional PS	22.24	(7.19)	23.40	(3.04)	0.55	>0.05
Problem Orientation	60.52	(8.49)	56.92	(11.50)	1.58	>0.05
General PS Strategies	32.08	(8.19)	37.48	(7.03)	6.25	<0.05
Denial	18.76	(4.53)	15.32	(3.98)	8.10	<0.01

Note: For relevant means, irrelevant means, obstacles, active means, passive means, enumerations, *Ms* = summation of the scores over the four scenarios; for no responses, *M s* = average number of no responses summed across the four scenarios; for subjective effectiveness, *Ms* = summation of number of "yes" responses across the four scenarios; for subjective effectiveness, *Ms* = average rating of effectiveness over the four scenarios (four-point scale); for time, *Ms* = average score over the four situations(in weeks).

depressed patients also estimated that successful problem solving would take longer. No differences were found with regards to the identification of obstacles in the problem-solving process. These findings are similar to those of Marx et al (1992), with the exception that the Marx et al study found that depressed participants were less adept at obstacle recognition. However, unlike the Marx et al study, the depressed patients in the current study differed from the comparison subjects in their subjective appraisals in that they suggested that problem-solving required more effort upon the part of the protagonist and that the solutions that they personally produced were less effective. Furthermore, two small differences were apparent between the groups in that the depressed patients employed fewer general problem-solving strategies and had higher problem denial. The study by Marx et al found differences between the groups in that the depressed group showed a more negative problem orientation and showed a reduced tendency to apply unconventional solutions to problem situations, however these differences were not apparent in the current study.

4.4.4. The relationship of problem-solving and distress.

Pearson product-moment correlations were computed to examine the relationships between the measures of psychological distress (HADS, BHS, POMS) and the measures of problem-solving (MEPS, PSQ) for each of the samples independently. *Table 4.3* illustrates the correlation matrix of the relationships among the depressed sample, and *Table 4.4* illustrates them among the comparison group. From these tables, it appears as though the relationships between problem-solving and depression are stronger in the clinical group than in the comparison group.

From *Table 4.3* it can be seen that the most significant correlations were found in relation to problem-solving assessed by the MEPS among the clinical group. The clinical measures of psychological distress (HADS, BHS) were significantly and highly correlated with a decreased production of relevant means in the problem-solving process, and an increased production of irrelevant problem-solving means. As depression, anxiety and hopelessness increased, it appeared as though the clinically depressed participants suggested less solutions where the protagonist took an active role in the problem-solving process, and conversely suggested more solutions where the protagonist was passive and dependent upon the actions of others for successful problem solution. Increased distress as assessed by the HADS and BHS was also correlated with higher subjective appraisals of the amount of effort required by the protagonist in the problem-solving process, and subjective appraisals of lower effectiveness of the solutions that they had proposed.

Similar patterns were apparent with the POMS. The PSQ did not correlate with any of the measures of clinical psychological distress as assessed by the HADS and BHS. However, two PSQ correlations were found with regards to the POMS, where a significant positive correlation was found between tension-anxiety and general problem-solving strategies, and another significant positive correlation was found between fatigue and problem denial.

From *Table 4.4* it can be seen that there are fewer and less strong relationships between the problem-solving variables and psychological distress among the comparison group. Some of the clinical measures of psychological distress (HADS, BHS) were significantly correlated with a decreased production of relevant means in the problem-solving process, and but there were no significant relationships found with regards to the production of irrelevant problem-solving means. Similar to the clinically depressed group, increased anxiety and hopelessness were related to a decrease in the number of responses where the protagonist took an active role in the problem-solving process. Increased anxiety as assessed by the HADS was also correlated with higher subjective appraisals of lower effectiveness of the solutions that had been proposed. With regards to the POMS, some significant correlations were found in relation to depression-dejection, tension-anxiety, and vigour. Once again, the PSQ did not correlate with any of the measures of clinical psychological distress as assessed by the HADS and POMS. However, three PSQ correlations were found with regards to the POMS, where significant positive correlations were found between the use of conventional problem-solving strategies and anger-hostility and also with tension-anxiety, and depression-dejection correlated significantly with the use of unconventional problem-solving strategies.

Table 4.3. Correlation Matrix of the Measures of Psychological distress and Problem-Solving for the DEPRESSED sample (n=25)

	<i>H-Anx</i>	<i>H-Dep</i>	<i>BHS</i>	<i>P:ang-host</i>	<i>P:confus-bew</i>	<i>P:dep-dej</i>	<i>P:fatige</i>	<i>P:tens-anx</i>	<i>P:vigour</i>
MEPS									
M: Relevant	-.50 **	-.40*	-.63***	-.54**	-.75***	-.75**	-.60***	-.60***	.56**
M: Irrelevant	.59***	.67***	.55***	.31	.53**	.64***	.57***	.54**	-.52**
M: Obstacles	-.28	-.29	-.35	-.22	-.21	-.29	-.22	-.30	.15
M: No means	.17	.18	.19	.17	.21	.24	.06	.19	.12
M: No response	.23	.07	.49**	.12	.25	.18	.16	.28	-.15
M:Enumerations	.32*	.26	.22	.22	.32	.22	.15	.22	-.10
M: Effort	.42*	.44*	.43*	.38*	.40*	.37	.41*	.36	-.27
M:Effectiveness	-.58***	-.51***	-.55***	-.36	-.51**	-.49**	-.32	-.56**	.43*
M:Active	-.77***	-.73***	-.70***	-.57***	-.73***	-.76***	-.60***	-.74***	.57***
M:Passive	.62***	.68***	.70***	.48*	.59***	.71***	.62***	.67***	-.61***
PSQ									
Conventional PS	-.04	.04	.11	.14	.12	.21	.22	.15	.20
Unconventional PS	-.18	.21	-.25	.08	-.03	.08	.22	.03	.20
Problem Orientation	-.12	.28	.03	.09	.13	.17	.22	.03	.20
General PS Strategies	-.29	-.02	-.42	-.29	-.14	.33	-.21	.54**	.35
Denial	.23	.10	.27	.22	.35	.09	.45**	-.11	-.20

Table 4.4. Correlation Matrix of the Measures of Psychological distress and Problem-Solving for the COMPARISON sample (n=25)

	<i>H-Anx</i>	<i>H-Dep</i>	<i>BHS</i>	<i>P:ang-host</i>	<i>P:confus-bew</i>	<i>P:dep-dej</i>	<i>P:fatige</i>	<i>P:tens-anx</i>	<i>P:vigour</i>
MEPS									
M: Relevant	-.39*	-.38	-.61***	-.36	-.36	-.38	-.30	-.45*	.78***
M: Irrelevant	-.01	.37	.13	.02	.07	.26	.34	-.03	.12
M: Obstacles	-.21	-.33	-.27	-.22	-.10	-.24	-.26	-.17	.28
M: No means	.05	.10	.03	.38	.06	.12	-.12	.03	.52**
M: No response	.23	.07	.29	.12	.25	.18	.11	.28	-.12
M:Enumerations	.08	-.06	.01	.15	.20	-.08	.05	.11	-.01
M: Effort	.21	.06	.21	.29	.03	.10	.06	-.16	.12
M:Effectiveness	-.47**	.09	-.35	-.13	-.20	-.17	-.03	-.39	.19
M:Active	-.47*	-.30	-.65***	-.45*	-.33	-.41*	-.27	-.49*	.28
M:Passive	.40*	.22	.27	.03	.15	.47*	.30	.63**	-.40*
PSQ									
Conventional PS	-.05	.09	.11	.42*	.33	.09	.37	.44*	.09
Unconventional PS	-.48	.01	-.03	.29	.11	.42*	.35	.33	-.28
Problem Orientation	.21	.25	-.04	.36	.27	.17	.36	.35	-.07
General PS Strategies	.01	-.04	-.06	.08	-.13	.15	-.05	.03	.13
Denial	.07	.38	.05	.18	.36	.11	.30	.11	.24

4.5. Discussion

The results of the current study provide further indications of the deficits in problem-solving ability associated with clinical depression. The results suggest that many of the deficits in problem-solving skills identified in previous studies that employed subclinical populations do extend to individuals who are experiencing depression of clinical proportions. In the present study, problem solving as assessed by the MEPS, and to a lesser extent the PSQ, demonstrated that the depressed participants had difficulties in solving hypothetical common problem situations and also showed negative attitudes to both problems and the problem-solving process. Thus the low subjective ratings of their own problem-solving skills is similar to that found in previous studies of problem-solving attitudes (Heppner et al, 1985; Nezu, 1985, 1986; Nezu & Ronan, 1985). Similar to the findings of Marx et al (1992), the current study has substantiated the suggestion that the low subjective evaluation of problem-solving found among depressed patients is in fact paralleled by a genuine deficit in problem-solving performance. Also, in line with this previous study and contrary to the findings of Doerfler et al (1984), the clinically depressed patients showed difficulties in finding ideal solutions to MEPS problems - negating the claim the problem-solving difficulties apparent with depressed individuals does not lie in the cognitive stages of the process but centres upon their abilities to implement proposed solutions.

Contrary to the findings of Marx et al (1992), the current study demonstrated that the depressed participants had a more negative evaluation of their proposed problem-solving strategies. The depressed participants also showed differential attitudes towards the problem-solving process as assessed by the PSQ - in that they had a higher level of problem denial and also used general problem-solving strategies less. Indeed, such denial has been postulated as an inhibitor of the problem-solving process and should be targeted in problem-solving interventions (Nezu, Nezu, & Perri, 1989).

It should be noted that many of the problem-solving deficits evident among the participants in the current study are those that have been previously demonstrated as apparent in other clinical groups, suggesting that problem-solving deficits may be integral to psychopathology in general. Similar deficits have been apparent in conduct disordered adolescents (Joffe, Dobson, Fine, Marriage, & Haley, 1990), alcoholics (Intagliata, 1978), and parasuicidal individuals (Evans et al, 1992). In the current study the hypothesis that problem-solving difficulties are associated with negative affect in general is supported by

the fact that there were significant correlations between the MEPS and the HADS-anxiety scale and the BHS, and between the MEPS and some of the subscales of the POMS.

The stronger correlations found between many of the problem solving indices (e.g. relevant means, passive means) and the BHS compared to those found with the HADS-Depression scale is consistent with current developments in hopelessness theory. The hopelessness theory of depression (Abramson, Metalsky, & Alloy, 1989) implicates that three negative cognitive styles (the tendencies to attribute negative events to stable, global causes; to employ a negative self concept from the occurrence of negative events; and to infer negative consequences from negative events) as interacting with the occurrence of negative events to cause negative thinking which in turn can lead to hopelessness and hopelessness depression. The theory also leaves room for the possibility that other factors may lead to hopelessness, and it is entirely possible that a negative orientation to the problem-solving process could bypass the causal pathway associated with negative life events (Haaga et al, 1995). It is suggested that if an individual believes that they do not possess either the skills or the confidence to deal with potential problems, then it is plausible to suggest that hopelessness or some forms of hopelessness depression could follow. Future research may direct itself to examining explicitly the interactive role of problem-solving and hopelessness in depression.

There are a number of methodological considerations embedded in the current study. Firstly, the fact that unlike other studies (Haaga et al, 1985; Marx et al, 1992) the current study did not find differences in problem orientation between the clinical sample and the comparison group may be a result of the measure of problem-solving employed. The PSQ is perhaps an obscure measure of problem-solving, whose use has only previously been reported in one study of depression (Marx et al, 1992). Future studies with clinical samples may prefer to employ the more traditional measures of problem-solving assessment such as the Problem-Solving Inventory (PSI) (Heppner & Peterson, 1982) or the Social Problem-Solving Inventory Revised (SPSI-R) (D' Zurilla, Nezu, & Maydeau-Olivares, 1996) which have been previously shown to discriminate between clinical and comparison groups.

A further important caveat concerns the fact that the research psychologist was aware at the time of interview as to which of the study groups each participant belonged. Although there was little margin for this to have an influential effect upon the data as few subjective ratings from the interviewer were employed, future studies might aim for both interviewer and independent raters to be blind to the study group to which participants belong. In logistic terms, this would have been difficult to achieve in the current study as the location in which an individual took part in the study (hospital versus home) immediately disclosed the group to which they belonged.

An important methodological consideration that warrants particular attention in the current study concerns its cross-sectional nature which prevents any assessment of the direction of causality. While it can be suggested that deficits in problem-solving ability lead to depression, it is also entirely possible that becoming clinically depressed has an impact on an individual's problem-solving skills. Thus it is plausible to suggest that poor problem-solving may not be a predisposing factor in the stress-distress relationship, but a concomitant. From a perusal of the literature, it appears as though there is only one study to date that has attempted to address the issue of whether problem-solving deficits are antecedents, concomitants, or consequences of depressive symptoms. Dixon, Heppner, Burnett, Anderson, & Wood, (1993) conducted a study that utilised a prospective longitudinal design, and employed structural equation path models to test these competing models. The results of these analyses suggested that problem-solving deficits are both a cause and symptom of depressive symptoms, thereby providing substantiation for Nezu et al's (1989) suggestion that there is a downward cycle between problem-solving difficulties and depression. Unfortunately, there are methodological difficulties in the transferring of the results of the Dixon et al (1993) study to clinical populations, in that the study employed a sample of student volunteers that had not received a formal diagnosis of depression. The implications of this are most saliently demonstrated in the fact that the participants in the Dixon et al study had positively skewed depression scores, which differ from those generally observed in clinical populations in that they were consistently very low.

However, it should be emphasised that whatever the direction of the relationship between problem-solving deficits and distress, it does not negate the possibility that problem-solving training is an important line of intervention for some forms of depression. Indeed, one of the main proponents of problem-solving intervention (Nezu, 1987)

acknowledges the bi-directional nature of the relationship between problem-solving deficits and depression. Problem-solving interventions have been suggested as an important in-road for the treatment of depression for two decades (Hussain & Lawrence, 1981; McLean, 1976; Nezu & Perri, 1989; D'Zurilla, 1986). Such training focuses upon the imparting of adequate problem-solving heuristics and implementation skills which can be applied to a variety of everyday problems. Problem-solving interventions are generally multimodal in their approach, employing different techniques for different clients. For some clients, the most useful route involves training in problem-solving skills, while for others concentration on aspects of problem appraisal proves to be most beneficial, while other clients require both to be addressed. To date there has been little research to examine the efficacy of such training with depressed individuals. Such interventions generally follow the model of D'Zurilla & Goldfried (1971) - which employ a graded approach to problem-solving. Nezu (1986) compared the efficacy of problem-solving therapy, problem-focused therapy, and a waiting list control in the treatment of unipolar depression. The pre-post analyses results indicated that patients receiving problem-solving therapy reported a significant decrease in their depression, which was found to covary with concurrent increases in problem-solving effectiveness. These improvements were found to be maintained at a six month follow-up. Nezu, Nezu, & Perri (1989) demonstrated the efficacy of problem-solving therapy for unipolar depression with particular focus upon problem-orientation. The focus upon problem-orientation stems from its importance as the first stage of any problem-solving process in that it facilitates an individual's motivation to apply the skills of problem definition and formulation, the generation of alternatives, decision making, and the implementation and verification of solutions. Further work with problem-solving therapy and depression has also been described by Nezu et al, (1989) and D'Zurilla, (1986). Overall, additional research may wish to examine the profile of deficits among clinically depressed individuals through the course of a treatment-outcome study.

The current study underscores the need for further research into the cognitive aspects of the problem-solving process. A further important line of research (which will be a focus of a further study in the current thesis) concerns the aetiology of problem-solving deficits in clinical disorders such as depression. There are a number of reasons why depressed individuals may experience difficulties with problem solving. Firstly, such difficulties could be the result of a lack of knowledge of adequate strategies to employ in successful problem-solving. Secondly, it is also plausible to suggest that the inability to retrieve potentially useful strategies used in the problem-solving process may be due to an

negative problem-orientation. This was confirmed in the current study, where the depressed patients displayed all the hallmarks of a negative orientation in that they had a low expectancy of their abilities and appraised their own problem-solving effectiveness as poor. Such appraisals of ability have been suggested to affect behaviour (Lazarus, 1966) and thus in depressed individuals, self-appraised poor competency may lead to an aversive attitude to engaging oneself in the problem-solving process. Future studies may wish to examine such motivational factors. A third important line of research into the aetiology of deficits in social problem-solving that are evident in depression focuses upon the possibility that deficits may be the result of an inability to retrieve effective problem-solving strategies as a result of an over-generalised processing style (Williams & Broadbent, 1986; Williams & Scott, 1988). Such a processing style would lead to difficulties in retrieving formerly successful problem-solving situations and strategies (Marx et al, 1992). Indeed, empirical studies have suggested that overgeneral memories are commonly observed among depressed individuals. Overgeneral processing styles play a central role in many of the current cognitive theories of depression (e.g. Beck, 1976). An examination of the role of over-generalised processing biases in problem-solving will be examined in the next study of the current thesis.

In conclusion, the current study found clear evidence for deficits in problem-solving ability among depressed inpatients. The MEPS demonstrated that such individuals displayed difficulties in solving hypothetical, common social problems and showed a negative attitude and low evaluation of their own problem-solving skills when compared to a non-clinical comparison group. The PSQ did not differentiate between the groups to the same extent, suggesting the validity of using oral "outcome" measures of problem-solving abilities over analogue "process measures". Significant correlations were found between many of the problem-solving indices and the measures of psychological distress. However, despite these relationships being strongest in the clinical group, they were also apparent among the comparison group albeit to a lesser but nevertheless significant degree. The fact that problem-solving deficits were found to correlate with a range of both clinical and non-clinical mood states adds substance to the argument that problem-solving difficulties are not an artefact of depression, but are associated with negative affect in general. The role of hopelessness was highlighted and suggested as an important avenue for future research.

CHAPTER 5:

**SOCIAL PROBLEM-SOLVING AND DEPRESSION:
AN EXAMINATION OF ITS FORM, AETIOLOGY, AND
COGNITIVE CORRELATES IN A CLINICAL SAMPLE.**

**Chapter 5:
Social Problem-Solving And Depression:
An Examination Of Its Form, Aetiology And Cognitive Correlates
In A Clinical Sample**

Abstract

This study aimed to address the aetiology of the deficits in social problem-solving ability often evident with depression. The study considers the hypothesis that such deficits arise in clinical depression as a result of an impairment in patients' abilities to retrieve specific autobiographical memories. Further to this, the study also wished to examine if such deficits previously illustrated in the problem-solving performance and autobiographical memory recall of depressed individuals was related to their verbal and information-processing abilities. A group of 25 hospital inpatients diagnosed with major unipolar depression were compared to a matched comparison group in their performance on the Means-Ends Problem-Solving Procedure (MEPS), an Autobiographical Memory Task (ABM), the National Adult Reading Test (NART) and Paced Auditory Serial Addition Task (PASAT). Memories were categorised according to whether they were specific, categoric, or extended, and whether the valence of the memories was positive or negative. Results demonstrated that the two groups could be differentiated on each of the study's measures. Among the depressed group, the propensity to recall categoric memories was associated with poor problem-solving performance. The recall of categoric memories was also associated with poorer PASAT performance among this group. The ability to recall specific memories was associated with good problem-solving performance among the comparison group. The NART had no significant correlations with any of the study's measures. The cyclical links and need for further research to discover the causal pathways between depression, autobiographical memory recall and problem-solving deficits are highlighted.

5.1. Introduction

“Social problem-solving” has become an increasingly popular perspective for both research into and the treatment of depression. Social problem-solving refers to the process by which individuals identify or discover the effective means of coping with the kinds of problematic situations encountered in real life. Deficits in problem-solving abilities have been hypothesised as underlying the ineffective coping behaviours often evident in depression, and thus may provide an important clinical channel for dealing with such affective states. Depression is hypothesised to be the result of an interaction between stressful events and difficulties with problem-solving (Nezu, 1987). There is now a host of empirical studies conducted with student samples (Blankstein et al 1992; Doerfler, Mullins, Griffin, Siegel, & Richards, 1984; Gotlib & Asarnow, 1979; Heppner, Baumgardner, & Jackson, 1985; Marx & Schulze, 1991; Nezu & Ronan; 1985), and community samples (Davilla, Hammen, Burge, Paley & Daley, 1995) which validate the assertion that there are deficits in social problem-solving skills associated with depression.

Due to the paucity of systematic research of the problem-solving abilities of reliably diagnosed, clinically depressed patients (Nezu, 1986; Marx, Williams, & Claridge, 1992), there is still further research which needs to be conducted with regards to the nature and causes of such deficits in problem-solving skills among such clinical groups. To date, there is little known about the aetiology of problem-solving deficits. According to Marx, Williams & Claridge (1994) there are several potential causes of problem-solving deficits in depression that need to be addressed by future researchers. These include the possibility that deficits may be the result of an inability to retrieve effective problem-solving strategies as a result of an over-generalised processing style (Williams & Broadbent, 1986; Williams & Scott, 1988). Such a processing style would lead to difficulties in recalling formerly successful problem-solving situations and strategies (Marx et al, 1992). Indeed, empirical studies have suggested that overgeneral memories are commonly observed among depressed individuals. Overgeneral processing styles play a central role in many of the current cognitive theories of depression (e.g. Beck, 1976). Research during the past decade has suggested that overgeneral processing does extend to autobiographical memory recall in some clinical groups. Autobiographical memory concerns an individual's ability to recall and recognise past experiences and emotions from their own lives. Following Williams and Broadbent's (1986) research with parasuicidal individuals, Williams & Scott (1988) gave positive and negative cue words to 20 depressed in-patients. The patients' task was to recall a specific memory (which could be defined in terms of contextual features,

and referred to a time frame of no more than one day) to each of the cue words. When compared to a demographically matched comparison group, the depressed individuals were less likely to give specific memories as their first response to the cue words and produced general memories where no one particular occasion was demarcated. These patients also showed a greater tendency to be specific in response to negative cues than to positive cues. Moore, Watts, & Williams, (1988) further substantiated these findings when they presented eight positive and eight negative scenarios to depressed patients and matched controls. In each case, participants were asked to have a particular person in mind (e.g. "a neighbour who helped me with some practical problem" or "a time my partner criticised me"). The participant's task was to recall specific instances in response to each of these cues. The percentage of first responses that were found to be inappropriately general was significantly higher among the depressed group. Such findings have led to assertions that successful social problem-solving is dependent upon an individual's ability to retrieve specific memories, and that depressed and parasuicidal patients may be poor at this as a result of their inability to retrieve such specific information (Evans, Williams, O'Loughlin, & Howells, 1992; Williams, 1996).

Williams & Dritschel (1988) explained over-general memory in terms of the "descriptions" framework of Norman & Bobrow (1979). According to this model, individuals encode only a limited amount of possible information (consisting of an incomplete list of features or properties), and that in order to encode or retrieve any packet of information, a partial description or index is formed that acts as an initial entry point into memory. Intermediate levels of description are used at encoding and retrieval, and over-general recall is seen as a function of both encoding and retrieval processes. Where an individual is hypersensitive to the affective components of a situation, the result is that the episode will be encoded as an instance of a particular general category (the levels that carry the most affect are the most general, due to the fact that they evaluate behaviours according to longer term criteria). Thus the recollection of a specific incident may be poor, but access to a general class of memories would be more common. Access to positive and specific events may be impaired at the moment when their recall could be most useful in generating coping strategies for the individual. This model has since been refined (Goddard, Dritschel & Burton, 1996) in light of Williams & Dritschel's (1992) study that suggested that depressed individuals display biases in the type of general memory that they recall. Williams & Dritschel (1992) distinguished between two forms of general memory: a) categoric (where the memory concerns multiple occurrences of an event e.g. "When I

am playing squash”) and b) extended (where the memory concerns an extended time period e.g. “When I lived in Cambridge”). When overgeneral memories were categorised according to this distinction, the depressed patients were found only to differ in relation to their tendency to produce more categoric responses to the autobiographical memory word cues.

In a specific model of autobiographical memory retrieval based on the “descriptions” approach, Williams & Holan (1981) viewed autobiographical memory retrieval as a problem-solving activity. Williams & Dritschel (1988) and Williams & Broadbent (1986) speculated that a main effect of over-general memory styles is that problem-solving ability is likely to be affected in that both problem definition and the generation of possible solutions are dependent upon the ability to adequately use the memory “database”. General memories may have their purpose in closed problems (where the solution is fixed and invariable - such as knowing how to make a bed) whereas social problems are often far more open-ended in that there is a large number of potential solutions for each problem and insight is necessary to conduct successful problem-solving (Williams, 1996).

From a perusal of the literature, there appears to be only two studies to date that have examined explicitly the relationship between autobiographical memory recall and social problem-solving difficulties. Evans, Williams, O’Loughlin & Howells (1992) examined the relationship in a group of parasuicidal patients. The study found a significant correlation between the effectiveness of solutions proposed in the social problem-solving assessment, and the specificity of autobiographical recall among the parasuicidal individuals. The Evans et al study is important in that it was the first to examine this link, however it has a limitation in that the only mood states examined were hopelessness and anger. Although the model endorsed by the Evans et al study concentrated upon the link between problem-solving ability, autobiographical memory, and depression, they did not employ an assessment of this mood state.

The second study that is found in the literature that examines the relationship between autobiographical memory recall and social problem-solving among a clinical sample is by Goddard, Dritschel, & Burton (1996), who used a group of 16 depressed outpatients. The hypothesis of this study suggested that the valence of the memories retrieved may also contribute to difficulties with social problem-solving. A bias towards

negative memory retrieval is already well documented in depression (Bower, 1981; Clark & Teasdale, 1982; Williams & Broadbent, 1986). Goddard et al found that the ability to retrieve specific memories in an autobiographical memory test was related positively to MEPS performance in both the clinical and the comparison group. The study also suggested that the retrieval of categoric memories during the MEPS task was strongly associated with solutions that were less effective and contained fewer means in the depressed group.

Further reasons for the apparent problem-solving difficulties and impoverished autobiographical memory recall of depressed patients should be simultaneously investigated. Deficits in problem solving may be related to difficulties in aspects of general cognitive functioning such as concentration, attention, and speed of information-processing often found in these individuals. (Cohen, Weingarter, Smallberg, Pickar, & Murphy, 1982; Ingram, Fidaleo, Raymond, 1995; Willner, 1984). Willner (1984) has argued that many of the apparent deficits in performance that are evident in depressed individuals may in fact be an artefact of their inability to sustain effort or concentration. From an examination of the literature, it appears as though no researcher to date has addressed the issues of general cognitive functioning in relation to problem-solving ability among the clinically depressed. It is plausible to suggest that such general deficits may have an intrinsic or causal role in the development of the difficulties with problem-solving apparent among depressed individuals. This important relationship is a further issue which will be examined during the course of the current study.

The present research will also aim to assess the role that verbal ability plays in problem-solving, given that it appears that no previous study has examined this issue within the context of a clearly-diagnosed clinical population. Studies with students (where verbal ability is generally above average) have suggested that there is no significant relationship between verbal ability and problem-solving performance (Gotlib & Asarnow, 1979). However, studies with problem-drinkers and children displaying adjustment problems suggest that there is low, but significant relationship (Intagliata, 1978; Shure, Spivack, & Jaeger, 1971). This is an issue that will be brought into consideration during the course of the current study which will include a brief assessment of verbal ability. The current study aims to consider whether the problem-solving deficits previously apparent in clinical populations are related to their verbal abilities or are an epiphenomena of the difficulties with cognitive tasks that are apparent in many clinical disorders.

5.2. Aims Of The Current Study

The aims of the current study are threefold. Firstly, the study aims to deal with the issues relating to sample selection by using only patients admitted to an in-patient ward with a diagnosis of major depression according to the International Classification of Diseases [ICD-10] (WHO, 1992) criteria. The study will examine concomitant levels of anxiety, depression and hopelessness among the samples. A second aim is to examine the aetiology of problem-solving deficits in depression. The current study will pay particular attention to the proposed link found in the works of Williams and colleagues suggesting that an overgeneral style of retrieval from memory undermines individuals' attempts to use their memory effectively for problem-solving activities. This will be achieved by means of employing an autobiographical memory test concurrently with the assessment of problem-solving. To date, this has never been previously examined in a clinically depressed in-patient sample. Finally, the study will aim to examine whether there are deficits in the general cognitive functioning of depressed patients which may be partly responsible for apparent deficits in problem-solving ability. Due to the lack of systematic research to indicate otherwise, it is plausible to suggest that deficits in problem-solving are in fact an artefact of the deficits in cognitive functioning associated with depression. To this end, the current study will attempt to address whether a depressed individual's concentration and information processing abilities confound their problem-solving skills. The current study will also aim to assess the role that verbal ability plays in problem-solving, given that no study has examined this issue within the context of a clearly-diagnosed clinical population.

5.3. Method

5.3.1. Participants

The participants in the current study were the same individuals that took part in the study reported in Chapter 4. See *Section 4.3.1* for details.

5.3.2. Procedure

All participants were volunteers and took part in an individual session with the same research psychologist, which lasted for 1.5 hours. During this session, participants took part in a structured interview, completed questionnaires, and undertook oral assessments of autobiographical memory recall, social problem-solving, verbal ability, and information-processing ability. Participants were encouraged to complete the questionnaire

component by themselves, however the researcher was available to offer appropriate clarification and assistance where necessary. The confidentiality of responses and the anonymity of respondents was guaranteed.

5.3.3. Measures

The measures used in the current study are identical to those employed in the study reported in Chapter 4 of the current thesis. See *Section 4.3.3.* for a fuller description of these measures. The measures include:

1) Details of Demographic Information

2) The Hospital Anxiety and Depression Scale [HADS] (Zigmond & Snaith, 1983)

3) Beck Hopelessness Scale [BHS] (Beck, Weissman, Lester & Trexler, 1974)

4) Means-End Problem Solving Procedure [MEPS] (Platt & Spivack 1975)

Unique to the current study in the thesis, the participants also completed:

Autobiographical Memory Recall test

The ten emotional cue words which had been previously employed in studies of Williams & Broadbent (1986) and Evans et al (1992) were used in the current study. These consisted of five positive words (happy, safe, interested, successful, surprised) and five negative words (sorry, angry, clumsy, lonely, and emotionally hurt) that were presented orally. The cue words were presented to the participants alternating between positive cues and negative cues. Participants were instructed to recall orally a specific memory that related to each cue word. The latency to the first word of each response made by the subject was recorded. If participants did not retrieve a memory that was specific, they were prompted to try and think of a particular time or episode. In the case that participants did not respond in the time available, a time of 60 seconds was recorded for that trial, and the next cue word was presented. When a memory was inappropriately general and required further prompting, the latencies to subsequent responses were accumulated. Responses were tape-recorded to allow transcriptions to be analysed by two independent raters. Similar to previous studies, (Williams & Dritschel, 1992; Goddard et al, 1996) memories were categorised according to the following criteria:

1. *Specific memories.* A memory was categorised as "specific" if the participant recalled an event referring to one particular day. In cases where the specificity was ambiguous, respondents were asked to try to date their memory as accurately as they could. The

criterion of an experience that lasts less than one day has been used previously to define a "specific" memory (Williams, 1992).

2. *Extended general memories.* A memory was classified as "extended" if it referred to a specific event that lasted more than one day. A specific event in this categorisation was defined as something that had a definite beginning and end (Goddard et al, 1996) and is slightly more stringent than earlier classifications of extended memories which included examples of lifetime periods (Williams & Dritschel, 1992) such as "my holiday in Wales". A more precise definition is now employed in order to distinguish between extended memories that have a more general quality (e.g. "when I was at school") and extended memories that are more specific (e.g. "when I was at night-class").

3. *Categoric general memories.* A memory was classified as "categoric" if it referred to a series of repeated events (e.g. "playing squash on Friday nights"; Williams, 1996).

Responses were tape-recorded to allow later analyses. Memories were then classified by two independent raters and the main researcher according to these criteria. Kappa co-efficients calculated to examine inter-rater reliability were found to be between .87 and .92, suggesting good consistency.

National Adult Reading Test [NART] (2nd Edition) (Nelson & Willison, 1991)

This test was administered as a means of assessing verbal ability. The NART consists of 50 words that do not conform to regular rules of pronunciation and the participant's task is to read the words aloud. The measure shows a strong correlation with IQ (Crawford, Parker, Stewart, Besson, & De Lacey, 1989; Nelson & O'Connell, 1978) and its scores are converted to predictions of WAIS-R Verbal, Performance and Full Scale IQ scores. All three of these predicted IQ measures were examined in the current study.

Paced Auditory Serial Addition Task [PASAT] (Gronwall 1977)

The purpose of this test is to provide an estimate of an individual's information processing speed and efficiency, concentration skills and immediate memory. The participant is required to attend to the auditory input, respond verbally and attend to the next stimulus at an externally determined pace. The test presents the participants with a series of 61 digits ranging from 1-9, and their task is to add pairs of numbers such that each number is added to the one immediately preceding it and verbally report the answer - thus they add the second number to the first and report the answer first, retain the second number in memory and add it to the third, report the answer, and so on. The participant

hears a tape firstly that explains the instructions clearly and offers practice trials. There are four speeds of presentation to the PASAT. The current study employed the slowest presentation, that allows 2.4 seconds between trials. Gronwall and colleagues (Gronwall & Sampson, 1974; Gronwall & Wrightson, 1974) have found that this cognitive task has only a small correlation with arithmetic ability (.28) and general intelligence (.28).

5.4. Results

5.4.1. Demographics

The demographic data pertaining to the current sample is fully detailed in *Section 4.4.1.* of the previous chapter.

5.4.2 HADS And BHS

Significant differences were apparent between the groups with regards to their levels of anxiety, depression and hopelessness. With regards to the HADS-anxiety scale, the clinically depressed group were characterised by “moderate” to “severe” levels of anxiety ($M = 14.16$, s.d. 2.86) while the comparison group were characterised by “normal” levels of anxiety ($M = 5.16$, s.d. 2.54). These differences were significant ($t(48) 8.38$, $p < 0.0001$). Similarly, significant differences were observed on the HADS-depression scale, ($t(48) 20.68$, $p < 0.0001$), where the depressed group were characterised by “severe” levels of depression ($M = 16.16$, s.d. 2.76) while the comparison group was once again characterised by “normal” levels of depression ($M = 2.28$, s.d. 1.94). The mean hopelessness score for the depressed group was 11.36 (s.d. 5.17) and that of the comparison group was 2.36 (s.d. 1.44) ($t(48) 8.38$, $p < 0.0001$).

5.4.3. MEPS

Due to the fact that there are high inter-correlations between many of the components of the MEPS, a MANOVA was conducted in the first instance to consider the effects of the status of participants (patient, comparison group) upon MEPS performance. This analysis revealed a significant effect of the status of the participant with regards to their performance on the MEPS, Wilks's $\lambda(11,38) 0.12$, $F = 24.06$, $p < 0.0001$. A series of univariate F tests revealed a number of significant differences in MEPS performance between the groups. The results of these are illustrated have been previously illustrated in *Table 4.2* in the previous chapter. Overall, the depressed patients produced less relevant but more irrelevant problem-solving means, produced less active but more passive

problem-solving means, produced more enumerations and more non responses. The depressed patients also estimated that successful problem solving would take longer. No differences were found with regards to the identification of obstacles in the problem-solving process. These findings are similar to those of the Marx et al (1992) study that was examined problem-solving difficulties among depressed outpatients. However, unlike Marx et al, the depressed patients in the current study differed in their subjective appraisals in that they suggested that problem-solving required more effort upon the part of the protagonist and that the solutions that they personally produced were less effective.

5.4.4. Autobiographical Memory Test

Latency

The Mean latencies (in seconds) for each group to retrieve a positive and negative memory are illustrated in *Table 5.1*. A 2 (group: depressed vs. comparison) x 2 (valence: positive vs. negative) mixed analysis of variance (ANOVA) was used to analyse the time taken to retrieve a memory to positive and negative cues. This generated a significant group main effect, $F(1,48) 14.33, p < 0.001$. There was no valence main effect $F(1,48) 3.26, p > 0.05$. However, a Group x Valence interaction $F(1,48) 30.69, p < 0.0001$, explained differences in terms of the latencies to retrieve positive memories, with the depressed patients taking significantly longer to retrieve positive memories, simple effects $F(1,48) 15.46, p < 0.001$, but not significantly differing from the comparison participants in the time taken to retrieve a negative memory $F(1,48) 2.73, p > 0.05$.

Autobiographical Specificity

The number of specific memories retrieved as a first response to the autobiographical memory cue words are illustrated in *Table 5.1*. This was analysed by a 2 x 2 (Group x Valence) mixed ANOVA. A significant group main effect $F(1,48) 24.41, p < 0.0001$ showed that depressed respondents offered significantly less specific memories to cues ($M=4.68, s.d. 1.37$) than the comparison group ($M=8.44, s.d. 1.08$). Neither a main effect of valence $F(1,48) 2.26, p > 0.05$, nor a Group x Valence interaction $F(1,48) 1.04, p > 0.05$ was found.

When respondents failed to retrieve a specific memory, it was because they either failed to retrieve any memory or they offered an inappropriate overgeneral response. In the study, overgeneral memories were subdivided into either categoric or extended forms.

Table 5.1: The Autobiographical Memory Test - Means Latencies and Numbers of Specific Memories retrieved to Cues.

	Positive Cues		Negative Cues	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Depressed Group				
Latencies	19.36	(8.54)	13.52	(5.17)
Specific Memories	2.52	(1.38)	2.16	(0.89)
Comparison Group				
Latencies	12.31	(2.74)	15.28	(2.48)
Specific Memories	4.36	(0.70)	4.08	(0.75)

These were analysed using a 2 (group) x 2 (valence) x 2 (memory type such as categoric vs. extended) ANOVA. Results revealed a significant main effect of group $F(1,48) 74.93, p < 0.0001$, with depressed participants offering more extended and categoric memories than the comparison respondents (depressed $M = 4.80, s.d. 1.50$; comparison $M = 1.56, s.d. 1.08$). A significant main effect of memory type $F(1,48) 26.36, p < 0.0001$, revealed more memories to be inappropriate by way of being categoric than extended (M categoric = 2.48, $s.d. 1.79$; M extended = 0.76, $s.d. 0.80$). These main effects were qualified by a Group x Type interaction $F(1,48) 12.34, p < 0.0001$. Simple effects analyses showed these effects to be due to the depressed participants offering significantly more categoric memories than the comparison group, $F(1,48) 87.41, p < 0.0001$ (depressed group mean = 3.84, $s.d. 0.98$, comparison group mean = 1.00, $s.d. 1.15$); the number of extended memories did not significantly differ between the groups $F(1,48) 3.29, p > 0.05$ (depressed group mean = 0.96, $s.d. 0.97$, comparison group mean 0.56, $s.d. 0.10$). Again, no valence main effect $F(1,48) 2.26, p > 0.05$, and no interaction with valence $F(1,48) 2.28, p > 0.05$ were found.

The Association between Problem-Solving and Autobiographical Memory Recall

Pearson product-moment correlations were calculated between the problem-solving measures and the autobiographical memory (ABM) recall task for each of the two groups independently. The relationship between, the latency of recall, the valence of memories and the number of specific or categoric responses on the ABM task in relation to the most commonly employed MEPS indices (the number of relevant means, irrelevant means, obstacles, active responses, passive responses) was examined. *Table 5.2* illustrates the matrix of correlations for the depressed patients and *Table 5.3* illustrates the correlations for the comparison group. Significant correlations between the latency of ABM responses and some of the MEPS indices were found in the depressed group. Significant negative correlations were observed in that longer response latencies to both positive and negative cue words of the ABM task were related to an increased production of irrelevant problem-solving means, and passive means. A few significant correlations were also observed in relation to the quality of responses to the ABM task. Significant negative correlations were observed between some of the problem-solving indices and the measures of categoric responses to the ABM task, in that increased production of categoric memories were associated with the production of fewer relevant and active problem-solving means. No significant correlations were observed between any of the measures of problem-solving and the number of specific or extended memories produced in response to the ABM task. A

Table 5.2: Pearson Product moment correlations of the Problem-solving measures with the Autobiographical Memory task among the DEPRESSED group (n=25)

	MREL	MIRREL	MOBSTAC	MACTIVE	MPASSIV	MEFFRT
ABNEGL	-.05	-.41*	.16	-.04	-.40*	-.22
ABPOSL	-.30	-.40*	.09	-.30	-.32	-.28
CATEGTOT	-.50*	.10	-.20	-.49*	.10	.17
CATEGNEG	-.47*	.13	-.15	-.42*	-.01	.19
CATEGPOS	-.52**	-.03	-.07	-.54**	.16	-.02
EXTENTOT	-.06	.27	-.19	.02	.05	.07
EXTENNEG	.20	.12	-.27	-.09	.22	-.10
EXTENPOS	.26	.24	-.01	.12	-.09	.08
SPECTOT	.06	.04	-.01	.02	.15	-.02
SPECNEG	.12	.04	-.07	-.12	.11	-.13
SPECPOS	-.08	.04	-.09	.02	.08	.06

Table 5.3: Pearson Product moment correlations of the Problem-solving measures with the Autobiographical Memory task among the COMPARISON group (n=25).

	MREL	MIRREL	MOBSTAC	MACTIV	MPASSIV	MEFFRT
ABNEGL	.20	.22	.02	.20	.03	.19
ABPOSL	-.03	.42	-.23	-.04	.11	.08
CATEGTOT	-.15	.45	-.12	-.12	.19	-.22
CATEGNEG	.09	-.35	.15	.15	.22	-.21
CATEGPOS	-.08	.56**	-.18	-.31	.27	-.28
EXTENTOT	-.09	-.08	-.09	-.13	.16	.15
EXTENNEG	-.05	-.10	.04	-.09	-.06	.01
EXTENPOS	-.15	.01	.26	-.20	.26	.16
SPECTOT	.51**	-.45*	.41*	.56**	-.28	.16
SPECNEG	-.30	-.48*	.08	.54**	-.38	.04
SPECPOS	.56**	-.44*	.46*	.05	-.04	.19

KEY TO TABLES 5.2 AND 5.3**ABM TASK**

ABMNEGL - Response latency (- cues)

ABMPOSL - Response latency (+ cues)

CATEGTOT - Total number of categoric responses

CATEGNEG - Total number of categoric responses (- cues)

CATEGPOS - Total number of categoric responses (+ cues)

EXTENTOT - Total number of extended responses

EXTENNEG - Total number of extended responses (- cues)

EXTENPOS - Total number of extended responses (+ cues)

SPECTOT - Total number of specific responses

SPECNEG - Total number of specific responses (- cues)

SPECPOS - Total number of specific responses (+ cues)

MEPS

MREL - Number of relevant means

MIRREL - Number of irrelevant means

MOBSTAC - Number of obstacles

MACTIV - Number of active means

MPASSIV - Number of passive means

MEFFRT - Effort rating

* significant at the 0.05 level

** significant at the 0.01 level

different pattern of results was apparent among the comparison group. No correlations were found between any of the MEPS indices and the latency of ABM responses. Most of the significant correlations found in this group relate to the production of specific memories during the ABM task, in that significant positive correlations were found between the total number of specific memories produced, and the number of relevant and active problem-solving means suggested during the MEPS. The number of specific memories recalled in relation to the positive ABM cues correlated positively with the number of relevant problems solving means suggested and the number of potential obstacles in the problem-solving process that were identified, but also correlated negatively with the number of irrelevant problem-solving means suggested.

5.4.5. The Relationship Of Problem-Solving And Autobiographical Recall With Verbal Ability And Information Processing

NART

Raw NART scores are converted to predicted WAIS-R verbal, performance and full IQ scores. In the current study the mean predict NART Full IQ score was 112.61 (s.d. 5.89), the Verbal IQ score was 113.59 (s.d. 5.75), and the mean Performance IQ score was 114.59 (s.d. 6.46). There were no differences between the depressed and comparison groups with regards to the NART.

PASAT

Due to the inter-correlations between measures derived from the PASAT, a MANOVA was conducted. This analysis revealed a significant effect of the status of the participant with regards to their performance on the PASAT, Wilks's $\lambda(3,45) = 0.51$, $F = 13.94$, $p < 0.0001$. A series of univariate F tests revealed a number of significant differences in PASAT performance between the groups. Differences were apparent between the groups on each of the main PASAT variables. The depressed group produced less correct items ($F(1,47) = 32.86$, $p < 0.0001$, depressed group mean = 48.20 (s.d. 7.02), comparison group mean = 57.12 (s.d. 3.25). They also produced more strings of numbers - suggesting difficulties with concentration ($F(1,47) = 25.33$, $p < 0.0001$, depressed group mean number of strings = 6.12 (s.d. 4.14) comparison group mean = 1.88 (s.d. 0.78), and their strings were generally shorter ($F(1,47) = 38.27$, $p < 0.0001$, depressed group mean longest length of string = 18.79 (s.d. 11.16), comparison group

mean = 43.44 (s.d. 16.16). Taken together, these results suggest that the depressed participants had difficulties with information processing.

No significant correlations were found between NART predicted Verbal, Performance, and Full IQ scores and any of components of the MEPS (Pearson r s ranged from 0.09 - 0.24). These results verify the findings of previous studies which have used student samples that have suggested that problem solving ability as assessed by the MEPS is independent of IQ. Similarly, no significant correlations were found between the NART and any components of the autobiographical memory task (Pearson r s ranged from 0.02 - 0.16).

Since the two groups in the current study were found to differ on PASAT performance, independent Pearson product moment correlations were conducted to examine the relationships between the PASAT and the autobiographical and problem-solving performance for each group. *Table 5.4* illustrates these relationships for the depressed sample, and *Table 5.5* for the comparison sample. In the depressed group, there were few significant correlations between the PASAT and the ABM task, with the exception that an increase in categoric ABM responses was associated with poorer PASAT performance. Similarly, few significant correlations were found between the PASAT and the MEPS, with the exception that an increase in passive problem-solving means was associated with poorer PASAT performance. A slightly different pattern of relationships was apparent in the comparison group, where there were no significant correlations found between the PASAT with any part of ABM performance. A significant pattern emerged in that production of relevant and active MEPS problem-solving means was associated with better PASAT performance.

Two separate stepwise regression analyses were conducted to examine the contribution that the ABM task and the PASAT had upon problem-solving ability in the two samples. Due to the small sample sizes only one problem solving indice was examined - the ability to produce relevant means. This was selected on the grounds that clinically it is regarded as the most important, in that the ability to produce relevant problem-solving means has been linked to positive mental health, and deficits in this ability has been considered integral to mental health problems. In the regression equation for the depressed sample, the categoric memory variables from the ABM task and the three PASAT variables were used. The production of categorical memories to the positive cues of the ABM task emerged as the only significant variable, and accounted for 27.9% of the variance in the

**Table 5.4 : Correlation matrix of the MEPS and ABM with the PASAT
in the DEPRESSED Sample (n=25)**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
A	.17	.07	.03	.22	.18	-.28	-.31	-.57**	.08	-.27	-.09	.02	-.16	-.14	.11	-.48*	-.32
B	-.26	-.18	-.04	-.18	.14	-.40*	-.03	.41*	.28	-.24	.10	.05	-.04	-.20	.11	.49*	.03
C	-.24	.07	.10	.05	.17	.23	.28	-.50*	-.16	.19	-.03	.02	-.04	.15	-.08	-.51**	-.22

KEY

ABM

- 1 = Response Latency (+ cues)
- 2 = Response Latency (- cues)
- 3 = Number of Specific Responses (+ cues)
- 4 = Number of Specific Responses (- cues)
- 5 = Total Number of Specific Responses
- 6 = Number of Categorical Responses (+ cues)
- 7 = Number of Categorical Responses(- cues)
- 8 = Total Number of Categorical Responses
- 9 = Number of Extended Responses (+ cues)
- 10 = Number of Extended Responses(- cues)
- 11 = Total Number of Extended Responses

MEPS

- 12 = Number of Relevant Means
- 13 = Number of Irrelevant Means
- 14 = Number of Obstacles
- 15 = Number of Active Means
- 16 = Number of Passive Means
- 17 = Effort Rating

PASAT

- A = Number of Items Correct
- B = Number of Strings
- C = Length of Longest String

* significant at 0.05 level

** significant at 0.01 level

**Table 5.5 : Correlation matrix of the MEPS and ABM with the PASAT
in the COMPARISON Sample (n=25)**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
A	-.18	-.10	.16	-.25	-.07	-.21	.14	.09	-.28	.18	-.06	.41*	-.20	.21	.43*	-.35	-.03
B	.03	-.13	.08	.22	.16	-.07	-.16	-.18	.08	-.04	-.17	-.44*	-.05	-.07	-.36	.16	-.12
C	-.07	.27	.27	-.34	-.18	.05	.33	.25	-.17	-.06	.07	.42*	.13	.08	.56	-.14	-.04

KEY

ABM

- 1 = Response Latency (+ cues)
- 2 = Response Latency (- cues)
- 3 = Number of Specific Responses (+ cues)
- 4 = Number of Specific Responses (- cues)
- 5 = Total Number of Specific Responses
- 6 = Number of Categorical Responses (+ cues)
- 7 = Number of Categorical Responses(- cues)
- 8 = Total Number of Categorical Responses
- 9 = Number of Extended Responses (+ cues)
- 10 = Number of Extended Responses(- cues)
- 11 = Total Number of Extended Responses

MEPS

- 12 = Number of Relevant Means
- 13 = Number of Irrelevant Means
- 14 = Number of Obstacles
- 15 = Number of Active Means
- 16 = Number of Passive Means
- 17 = Effort Rating

PASAT

- A = Number of Items Correct
- B = Number of Strings
- C = Length of Longest String

- * significant at 0.05 level
- ** significant at 0.01 level

production of relevant problem-solving means ($R = 0.52$, Adjusted $R^2 = 0.279$, $B = -1.55$, Beta = $-.52$, $F = 8.53$, $p < 0.01$). No other variables contributed significantly to the variance in the production of relevant means. In the regression equation for the comparison sample, the specific memory variables from the ABM task and the PASAT were used. The total production of specific memories to cues of either valence in the ABM task emerged as the only significant variable, and accounted for 31.4% of the variance in the production of relevant problem-solving means ($R = 0.56$, Adjusted $R^2 = 0.314$, $B = 2.86$, Beta = $.56$, $F = 10.55$, $p < 0.01$). No other variables contributed significantly to the variance in the production of relevant means.

5.5. Discussion

The current study has substantiated many of the findings of previous studies. Firstly, it has confirmed that the deficits in problem-solving that are evident in sub-clinical populations do in fact extend to clinical depression. Secondly, the study has confirmed that the associated link between the difficulties in retrieving specific memories on an autobiographical memory task and difficulties in solving hypothetical, common problems that has been evident among parasuicidal individuals (Evans et al, 1992) and depressed outpatients (Goddard et al, 1996) is also evident among clinically depressed inpatients.

The depressed individuals' difficulties in problem-solving centred around their inability to generate relevant and active problem-solving means, and their low self-confidence in their abilities. These difficulties in social problem-solving have been more fully addressed in Chapter 4. However, the current study illustrated that these individuals also performed poorly on the autobiographical cueing task when compared to a matched control. Such difficulties with autobiographical retrieval have been highlighted in previous research. Similar to such previous studies (Goddard et al, 1996; Moore et al, 1988; Williams & Scott, 1988) the depressed participants in the current study took longer than the comparison group to retrieve a memory, and recalled more inappropriate general memories. Following the analyses conducted in more recent studies (Williams & Dritschel, 1992; Goddard et al, 1996) where overgeneral memories were sub-categorised into "categoric" and "extended" forms, it became apparent that the depressed individual's propensity to offer "categoric" memories is what distinguished the groups. In line with the findings of Goddard et al (1996), the depressed individuals were no more likely than the comparison group to retrieve "extended" memories.

Significant relationships were found between some of the autobiographical memory indices and some facets of problem-solving ability as assessed by the MEPS. Different patterns of association were found within the depressed and the comparison groups, in that the propensity to recall categoric memories was associated with poor problem-solving performance among the depressed group. The ability to recall specific memories was associated with good problem-solving performance among the comparison group. In the study by Goddard et al (1996), this later relationship was also apparent in the depressed group, however this effect was not found in the current study.

Unlike previous studies, the current study also attempted to assess whether the deficits in problem-solving ability or ABM recall could be considered as correlates of the general deficits in cognitive functioning experienced by individuals who are experiencing depression. Working on Willner's (1984) argument that many of the general performance deficits apparent in depression are an artefact of the inability to sustain concentration or attention, the current study attempted to assess the participants' concentration, attention, and information-processing abilities by means of the PASAT. Few significant correlations were found between PASAT performance and ABM recall, with an exception that an increase in categoric ABM responses was associated with poor PASAT performance among the depressed group.

With regards to problem-solving, an increase in passive problem-solving was associated with poorer PASAT among the depressed group while an increase in successful problem-solving was associated with more successful PASAT performance among the comparison group. The link between general problem solving ability and concentration among depressed patients has been raised in previous research (Watts, MacLeod, & Morris, 1988). Watts et al argue that solving problems requires a series of stages to be pursued sequentially. If one possible solution is attempted but is found to be inappropriate, the problem may have to be reformulated and another solution found. Switching between possible solutions is likely to be associated with weak dominance of the "action system", The action system stems from the work of Shallice (1978) which details a processing structure associated with the execution of particular tasks. Only one "action system" is dominant in consciousness at any time. In depression, the weak dominance of an action system is likely to lead to lapses in concentration, "blanking" and thus difficulties in problem-solving. Watts et al argue that depressives most vulnerable to blanking will be particularly likely to adopt low effort cognitive strategies to avoid the generalised inhibition

that results from cognitive effort. If this is the case, then problem-solving ability is likely to be reduced. Future research may wish to examine these relationships in more detail..

The current study also attempted to suggest whether deficits in problem-solving apparent in clinical groups were an artefact of verbal ability. The NART was used to examine verbal ability, and no differences were apparent between the groups. What is more, NART performance had no significant relationships with either ABM recall or problem-solving ability. This suggests that the deficits in autobiographical memory recall and problem-solving abilities apparent among the clinically depressed are not purely artefacts of the individual's verbal ability and could therefore be the consequence of the overgeneralised style of thinking that is characteristic of clinical depression.

Two independent stepwise regression equations indicated the role that the production of specific and categoric ABM responses played in the ability to produce relevant MEPS problem-solving means. Goddard et al (1996) attempted to address the issue how specific and categoric memories function at various stages of social problem solving within depressed and comparison groups. Previous researchers (Evans et al, 1992; Williams, 1996) have argued that specific memories may function at both the "problem definition" and "generation of alternatives stages" in that they offer a variety of cues from which an individual can develop an adequate problem-solving strategy for the situation they face. In line with the Goddard et al study, this was apparent in the comparison group of the current study. Also in line with the Goddard et al study, the current research indicates that categoric memories play a more integral role in the development of problem-solving difficulties among a depressed inpatient group. Williams (1992) proposed that a categoric retrieval style inhibits problem-solving due to the database it uses is restricted in that it does not hold enough specific information. Williams (1996) argued that categoric retrieval encourages a ruminative style. This in turn causes the individual to feel hopeless in terms of their past problem-solving experiences and leads to a poor orientation to new problems. In the current study, this was evident in the number of passive responses depressed individuals suggested - where they indicated dependence upon the actions of others to solve problems and were not motivated to actively engage in or control the problem-solving process themselves.

There are a number of methodological issues that need to be considered in the current study. Firstly, there is the issue that the research psychologist was aware at the

time of interview as to which of the study groups each participant belonged. Although there was little margin for this to have an influential effect upon the data as few subjective ratings from the interviewer were employed, future studies might aim for both interviewer and independent raters to be blind to the study group to which participants belong. In logistic terms, this would have been difficult to achieve in the current study as the location in which an individual took part in the study (hospital versus home) immediately disclosed the group to which they belonged.

A further important issue concerns the use of the PASAT to assess the participants' concentration, attention and information processing abilities. Although the current study illustrated the PASAT could differentiate the abilities of a clinically depressed group and a non-clinical control group, the PASAT was not designed for this type of usage. Originally, the PASAT was devised to examine the recovery of intellectual functions in studies of neuro-rehabilitation particularly following head injury. The PASAT may be criticised on the grounds that it is essentially a measure of attention and the speed of information processing. The latter of these facets is susceptible to impairment as a consequence or correlate of depressive symptomatology. Therefore future research may wish to rectify this shortcoming by using a more specifically focused measure which assesses information-processing ability alone, e.g. the information-processing subscale of Coughlan and Hollow's (1984) battery. In a similar vein, the NART was originally designed to assess premorbid intellectual abilities in elderly adults. However, Nelson & Willison (1991) advocate that the test can be used with depressed patients to assess intellectual functioning. In relation to general cognitive functioning, a further issue needs to be addressed in the research examining links between ABM and MEPS performance in clinical groups. This concerns the effects that psychotropic medication may have, in that nearly 50% of the depressed sample were receiving tricyclics, 25% benzodiazepines, and 50% 5-HT reuptake inhibitors at the time of participation. Tricyclics and benzodiazepines have been demonstrated to interfere with the information processing abilities of depressed patients (Eves, Curran, Shiner, & Lader, 1988; Hindmarch, 1995; Sherwood, 1995; Thompson, 1991). Clearly, the role that drug effects have with ABM recall and MEPS performance in clinical depression should be examined in future research.

A further issue that should be emphasised concerns the fact that the study employed a cross-sectional design, which hinders any assessment of the direction of causality. While it is possible to suggest that problem-solving deficits are causal in depression, it is also

equally plausible to suggest that deficits in problem-solving and autobiographical memory are reflective of diminished ability to attend and concentrate, and general fatigue that are regarded as key diagnostic symptoms of depression.

Finally, caution should be exercised in the interpretation of the regression analyses employed in the current study. Both equations highlighted the importance of the autobiographical memory indices in the production of relevant problem-solving means as assessed by the MEPS and suggested that the concentration and attention abilities of participants as assessed by the PASAT did not contribute any further to the variance. In order for regression solutions to be valid, samples considerably larger than the one found in the current study are required. With small samples, the regression can be often a reflection of the cases-to-IV ratio (Tabachnick & Fidell, 1996). Given the fact that attention and concentration abilities were found to correlate with both categoric recall on the ABM task and poor problem-solving as assessed by the MEPS in the present study, future studies may wish to consider the predictive value of the general cognitive functioning abilities of depressed patients further when attempting to examine their supposed difficulties in problem-solving.

Previous studies have illustrated that depressed and parasuicidal individuals perform poorly on both an ABM task and problem-solving as assessed by the MEPS. Taken in conjunction with the Evans et al (1992) study with parasuicidal individuals, and the Goddard et al study (1996) study with depressed outpatients, the current study has provided further support for the hypothesis that the processes which underlie these difficulties may be similar. Future research may wish to attempt to identify variables associated with autobiographical memory recall and general information processing ability to explain more adequately their respective value in the aetiology of problem-solving difficulties, and ultimately to try to identify the causal relationships that link depression, deficits in problem-solving ability and memory retrieval.

CHAPTER 6:

**STRESS, SOCIAL SUPPORT AND PROBLEM SOLVING
ABILITY: THE PREDICTION OF SUICIDAL INTENT,
HOPELESSNESS, AND SYMPTOMS OF DEPRESSION AND
ANXIETY AMONG A GROUP OF HOSPITALISED
DRUG-OVERDOSERS**

Chapter 6:**Stress, Social Support And Problem Solving Ability: The Prediction Of Suicidal Intent, Hopelessness, And Symptoms Of Depression And Anxiety Among A Group Of Hospitalised Drug Overdosers.****Abstract**

The current study assessed whether stress, social support and problem-solving ability were predictive of the levels of suicidal intent, hopelessness, and symptoms of depression and anxiety among a group of individuals recently admitted to a general hospital following an act of suicidal behaviour. Stepwise regression analyses were used to assess whether stress, social support, and self-perceived problem-solving ability were independently predictive of the criterion measures of suicidality and psychological distress. In addition, hierarchical regression analyses were used to examine the mediational nature of social support in the stress-suicidality and stress-psychological distress relationships. Social support variables were found to be the main predictor of the level of suicidal intent, hopelessness and depression. Problem-solving variables were also found to be important predictors, albeit to a lesser but still significant extent. In addition, both problem-solving skills and social support mediated the relationship between stress and both suicidal intent and hopelessness. The study emphasised the significance of social support variables in the prediction of psychological distress among individuals displaying suicidal behaviour. Results are discussed in relation to the possible role that social support variables may play in social problem-solving interventions that have been implemented to prevent further acts of suicidal behaviour among parasuicidal individuals.

6.1. Introduction

Every year, there are at least 100,000 admissions to UK hospitals as a result of parasuicidal behaviour (Hawton & Catalan, 1987). Studies have noted a steady increase in hospitalisation for deliberate self-poisoning in particular (Hawton & Fagg, 1992; McLoone & Crombie, 1996). This problem is made more significant by the fact that a considerable proportion of these individuals will repeat this behaviour within 12 months (Myers, 1988), and 1-2% will successfully kill themselves during this period (Hawton & Catalan, 1987). Indeed, the rate of successful suicide has increased during the past decade (Hawton, 1992; Pounder, 1991) and the incidence of parasuicide in Scotland has also been increasing steadily (Stark, Smith, & Hall, 1994). Suicide is now the third most important contributor to early death (after coronary heart disease and cancer) in the UK (Gunnell & Frankel, 1994). Targets have now been made in the *Health of the Nation* White Paper (Secretary of State for Health, 1992) to reduce the suicide rate in the UK. On the basis of such alarming statistics, researchers have oriented themselves to the task of identifying psychological risk factors. Such factors may allow the development of psychotherapeutic interventions aimed to reduce the possibility of such individuals' successful suicide. While early studies suggested that epidemiological factors alert clinicians to general risk factors, it is clear that factors pertaining to an individual's psychological state are more crucial in preventing suicide (Beck & Weishaar, 1990).

Stress, social support, and problem-solving ability have all been identified as important predictors of suicidal behaviour. Social support (Bonner & Rich, 1987; D'Attilio, Campbell, Lubold, Jacobson, & Richard, 1992) and problem-solving skills (Clum, Patsiokas, & Luscomb, 1979; Dixon, Heppner, & Anderson, 1991; Linehan, Camper, Chiles, Strosahl, & Shearin, 1987; Priester & Clum, 1993a, 1993b; Rudd, 1990; Sadowoski & Kelley, 1993; Schotte & Clum, 1982, 1987) have been found to predict suicidality directly and also to act as mediators in the relationship between stress and suicidality. Early studies tended to focus upon the differences between a suicidal group (ideators, attempters) and a comparison group on these key variables (Linehan, Camper, Chiles, Strosahl, & Shearin, 1987; Schotte & Clum, 1982, 1987).

The relationship between stress and suicidality has been well documented. Early studies indicated that suicidal ideators report four times as many negative life events in the six months preceding their attempts than non-suicidal people and one and a half times those

reported by depressed patients. (Paykel, Prusoff, & Myers, 1975). Further to this, a major proportion of these events occurred during the week prior to the attempt (Power, Cooke, & Brooks, 1985). However, it has been demonstrated that the correlation of the experience of major life events upon health is weak (Rabkin & Struening, 1976) and the strength and nature of this relationship remains obscure (Grant, Patterson, Olshen, & Yager, 1987). A further line of research has examined the role that minor events or "daily hassles" play in the stress-distress relationship, and research has suggested that they are prominent in parasuicidal individuals (Bancroft et al, 1977; Fieldsend & Lowenstein, 1981; Morgan et al, 1975). However, a major problem that has been embedded in this type of research concerns the fact that such studies have been concerned purely with the frequency of events reported or objectively assigned consensual weighting (Paykel et al, 1975).

A more recent and valuable approach addresses the "self-perceived stressfulness" of events - regardless of their particular form, the argument being that perceived stress is a better indicator of the level of distress an individual is experiencing than assessment of exposure to particular events. The central tenant of this approach is that individuals will differ with regards to the types of events which they perceive as "stressful". Such an approach would be consistent with current models of stress, which highlights an individual's appraisals of the perceived balance of demands and their own coping resources in a situation (Cox, 1987). A scale has been developed by Cohen, Kamarck, & Mermelstein (1983) to assess self-perceived stress, independent of the form and nature of recent life experiences an individual has undergone. With the Perceived Stress Scale [PSS], the individual rates how "stressful" they have appraised their life during the past month, without detailing the nature of recent life experiences.

An important line of research in the prediction of both suicide ideation (Bonner & Rich, 1987; 1988b; Schotte & Clum, 1982) and suicide risk (Schotte & Clum, 1987) has considered the role of deficits in problem-solving ability both as a predictor of and as a mediator in the stress-suicide behaviour relationship. Previous researchers have often postulated that suicidal behaviour is in itself a maladaptive problem-solving behaviour (Applebaum, 1963; Levenson & Neuringer, 1971; Linehan, 1981). Clum et al (1979) proposed a diathesis-stress-hopelessness model of suicidal behaviour in which problem-solving deficits were expected to mediate the relationship between stress and suicidal behaviour. According to this model, when individuals who are deficient in problem-solving abilities are exposed to life stress, they are cognitively unable to develop the effective

alternative solutions that are necessary for adaptive coping. Indeed, they are assumed to become hopeless under such circumstances (Neuringer, 1974). This state of hopelessness in turn places the individual at heightened risk for suicidal behaviour. Later research has suggested that problem-solving deficits do mediate the relationship between stress and suicide in both student and psychiatric groups (Schotte & Clum, 1982; 1987). Priester & Clum (1993b) also found that problem-solving deficits both alone and in interaction with the level of stress predicted depression, hopelessness, and the suicide ideation. In addition to problem-solving skills, perceived problem-solving ability or problem-solving appraisal has also been found to relate to suicide ideation (Dixon et al, 1991). Perceived problem-solving ability has been interpreted as a measure of self-efficacy in problem-solving situations (Dixon et al, 1991; D'Zurilla & Maydeau-Olivares, 1995). It seems reasonable to suggest that the more severe levels of suicidality are accompanied by lower levels of problem-solving ability, and this becomes antagonistic to the individual during periods of heightened stress.

In attempting to understand why some individuals who experience high levels of distress do not manifest suicidal behaviour, social support has been considered as a further important mediating variable. Social support is most useful and effective in minimising potential psychological distress during times of severe stress, but does not appear to have a significant effect upon psychological distress during periods of lesser stress (Cassel, 1974; Cobb, 1974, 1976; Holohan & Moos, 1981). Rudd (1990) tested an integrative path model of suicidal ideation in which the predictive contribution of several variables (including social support) were examined simultaneously, and found that the model accounted for 34% of the total variance in suicidal ideation. In a multiple regression analysis, D'Attilio et al (1992) examined the relationship between adolescent suicide potential and both the quantity and quality of social support. Adolescents at greater risk for suicide appeared to have fewer social contacts and were less satisfied with their social support from their friends and family than adolescents who were not at serious risk. Once more, it seems reasonable to suggest severe levels of suicidality are accompanied by lower levels of social support and this becomes antagonistic to the individual during periods of heightened stress.

The most recent research has suggested that social support may be a further important factor in the diathesis-stress-hopelessness model of suicide behaviour (Clum & Febraro, 1994; Yang & Clum, 1994). Clum & Febraro (1994) examined the relationship between stress, social support, and problem-solving ability in the prediction of the severity

of suicide ideation among a college sample. The stepwise regression analyses revealed that problem-solving appraisal as assessed by the Problem Solving Inventory [PSI] (Heppner & Petersen, 1982) emerged as the only important variable in the prediction of suicidal ideation - accounting for 9.5% of the variance. By means of hierarchical analyses, the study demonstrated the importance of the interactions between stress x social support and stress x problem-solving which accounted for 8.0% and 6.0% of the variance in suicidal ideation respectively. However, there are some limitations to this study. Firstly, the results of the stepwise and hierarchical regression analyses accounted for only a small proportion of the variance in suicidal ideation. Secondly, a student sample was employed. It is possible to suggest that the students would respond differently from suicidal attempters or individuals who present themselves at hospital with high suicidal intent. The very fact that the participants in the study had not presented themselves and their suicidal intent to medical personnel suggests that their levels of suicidality were not typical of those observed in clinical samples.

Yang & Clum (1994) conducted a similar study with 101 volunteer Asian students who were either paid or received course credits for their participation. A hierarchical regression analysis demonstrated that problem-solving confidence (as assessed by a modified Means-Ends Problem Solving Procedure) accounted for 27.5% of the variance in suicide ideation, and the interaction between life stress x problem-solving ability and life events x social support a further 7.0% each. By means of a path analysis, further relationships between life stress, social support, problem-solving ability, depression, and hopelessness were delineated. There are two important methodological considerations in this study. Firstly, it is arguable that the sample bore little relation to a clinical sample in that only 22 of the sample had a suicide ideation score of 4 or above (showing generally low intent). Secondly, it is arguable that such sample characteristics would reduce the generalisation of conclusions to clinical samples.

There appears to be a common thread of methodological considerations that run through previous studies that examine the diathesis-stress-hopelessness model of suicidal behaviour. Firstly, a significant proportion of these studies have relied upon sub-clinical samples which mainly consisting of North American students studies (Bonner & Rich, 1988a, 1988b; Clum & Febraro, 1994; Priester & Clum, 1993a, 1993b), whose suicidality was determined by means of a cut-off score on the Beck, Kovacs & Weissman (1979) Scale for Suicide Ideation [SSI] or the Modified Scale for Suicidal Ideation (Miller,

Norman, Bishop & Dow, 1986) [MSSI]. Due to the fact that the suicidal ideation scores of such individuals are often positively skewed (indicating low suicidal intent), it is suggested that the level of suicidal ideation found within such groups is not typically reflective of individuals admitted to hospital following an act of suicidal behaviour. Indeed, many of the participants in the "suicidal" groups in such studies have not engaged in acts of suicidal behaviour immediately prior to their inclusion in the study (Clum & Febraro, 1994; Yang & Clum, 1994; Priester & Clum 1993a, 1993b). A further concern rests with the fact that in some instances, "suicidal" individuals have been assessed up to 2 weeks after their inclusion in the study (Clum & Febraro, 1994), hence it is arguable that they are no longer acutely suicidal.

6.2. Aims Of The Current Study

There is evidence to suggest that stress, social support, and problem-solving appraisal/skills are important predictors of suicidal behaviour. It is clear that current research should direct itself towards an examination of the relationships between stress, social support, problem-solving ability, and affective states in clinically presenting samples. It is to this end that the current study will address itself. The current study aims to overcome some of the methodological considerations associated with sample selection by using a sample of hospitalised suicide attempters. Also, in a move away from an examination of suicidal ideation scores, the current study will examine suicidal intention by means of the Suicidal Intent Scale [SIS] (Beck, Schulyer, & Herman, 1974). This scale has greater clinical validity than the SSI among a hospitalised group, as they have gone beyond the stage of "ideation" and have engaged in acts of suicidal behaviour. Thus the intention to die is a far more clinically valid measure for this group. From a perusal of the literature, it appears as though no study to date that has examined the stress-diathesis-hopelessness model of suicide has used the SIS as a criterion measure.

The current study also wishes to examine the use of different assessment measures of social support and problem-solving ability than typically used in previous studies of suicidality. Such studies have commonly used the PSI to assess problem-solving (Bonner & Rich, 1988a; Dixon, Heppner, & Rudd, 1994; Priester & Clum, 1993a; Rudd, Rajab, & Dahm, 1994), or the Means-Ends Problem Solving Procedure [MEPS] (Platt & Spivack, 1975) or a modification of the MEPS (Clum & Febraro, 1994; Linehan et al, 1987; Schotte & Clum, 1982,1987; Priester & Clum, 1993b). Each of these tests have limitations concerning construction or their ecological validity (Butler & Meichenbaum,

D'Zurilla & Maydeu-Olivares, 1995; Heppner, 1988). From a perusal of the literature, it seems that little research has been done with the newer Social Problem-Solving Inventory-Revised [SPSI-R] (D'Zurilla, Nezu, & Maydeu-Olivares, 1996), a revision of the original Social Problem Solving Inventory [SPSI] (D'Zurilla & Nezu, 1990). This factor-analytically derived questionnaire has been shown to relate to internal locus of control, psychological stress, frequency of personal problems, and the general severity of psychological symptoms (D'Zurilla & Nezu, 1990; D'Zurilla & Sheedy, 1991,1992). Studies involving community samples have found the SPSI to be related to psychological distress, state anxiety, and depression (D'Zurilla & Nezu, 1990). In clinical populations, the SPSI has been found to be related to hopelessness and suicidality in adult psychiatric populations (Faccini, 1992). To date, there has been little published research with the SPSI-R within clinical populations in spite of growing support for its reliability and validity (D'Zurilla & Maydeu-Olivares, 1995; Sadowski, Moore, & Kelley, 1994). Thus, the current study will employ the SPSI-R as its primary measure of problem-solving ability.

Studies which have demonstrated the importance of the inclusion of social support into the diathesis-stress-hopelessness model of suicide (Clum & Febrarro 1994; Rich & Bonner, 1987; Rudd, 1990; Yang & Clum, 1994) have used the UCLA Loneliness Scale (Russell, Peplau, & Ferguson, 1978) to assess social support. While this scale has been demonstrated to be both valid and reliable (Russell et al, 1978; Russell, Peplau, & Cutrona, 1980), it does not consider the complexity of the functions of social support and examines only the perceived degree of social integration. As demonstrated, there are further important aspects of supportive relationships. The significance of these to suicidality will hopefully be determined by using the Interpersonal Support Evaluation List [ISEL] (Cohen, Mermelstein, Kamarck, & Hoberman, 1985) which is a more comprehensive measure of social support.

Thus the overall aim of the current study is to examine the relative importance of levels of life stress, problem-solving ability and social support as independent predictors of suicidal intent, hopelessness, depression, and anxiety among a group of clinically presenting individuals. Stepwise regression analyses will be used to test the importance of these predictor variables. It was further hypothesised that suicidal intent, hopelessness, depression and anxiety would be predicted by the interaction between life stress and problem-solving ability, and the interaction between life stress and social support. These

hypotheses in turn will be tested by hierarchical regression analyses, which will examine the mediational role of both problem-solving solving and social support.

6.3. Method

6.3.1. Participants

The clinical group in the current study consisted of a consecutive series of 50 hospital inpatients (aged 16-60) admitted to the acute admissions medical ward of a local general hospital following an incident of suicidal behaviour. During the research period (approximately 8 weeks), all patients were identified by means of a daily check on admissions to the ward, and were interviewed within 24 hours of admission. During this period, a further 4 patients refused to take part, 6 were deemed unsuitable for inclusion into the study (4 due to age, 1 due to mental handicap, 1 due to psychotic illness), and two discharged themselves prior to interview. Three patients in the study group were also re-admitted following further acts of suicidal behaviour during the research period. These individuals were not reassessed by the researcher.

6.3.2. Procedure

Each patient was informed about the purpose of their inclusion in the study and the confidentiality and anonymity of responses was guaranteed. The study was conducted in the interview room of the ward or in some cases at the bed-side of the individuals in single-occupancy rooms. This was done as soon as possible after admission, provided the patient consented and was free from the intoxicating effects of drugs and had regained normal consciousness. Some participants were interviewed before and some after the routine interview by the duty psychiatrist, but in all cases it was stressed that the information obtained in the study would not be used in deciding further management. A structured interview was used to collect demographic data and psychiatric histories and to assess suicidal intent. A package of questionnaires was used to assess the patients self-perceived levels of stress, social support, problem-solving ability, and affective functioning. The session took approximately one hour, and the participants were free to take breaks at any time they wished.

6.3.3. Measures

Demographic Information

Participants' demographic details were ascertained by means of a structured interview. Information concerning the participants age, occupation, educational level, marital status and living arrangements, mental health history, and history of previous suicidal behaviour was recorded as well as the circumstances leading to the attempt. Participants then completed the following measures:

1) Suicidal Intent Scale [SIS] (Beck, Schulyer, & Herman, 1974).

This 15 item scale assesses the level of suicidal intention and is delivered in a structured clinical interview format. It evaluates the severity of the person's psychological intent to die at the time of a recent suicide attempt. The SIS examines pertinent aspects of the attempter's behaviour and ideation before, during, and after the suicidal act as well as the purpose of the suicidal attempt. Items are rated on a three-point scale, and allows the objective "circumstances of suicide attempt" and the subjective "self-reported suicidal intent", as well as a total suicide intent score, to be recorded. The SIS has been consistently validated as a measure of seriousness of intent of a suicide attempt (Silver, Bohnert, Beck, & Marcus, 1971; Minkoff, Bergman, Beck, & Beck, 1973; Beck, Morris, & Beck, 1974) and its ability to discriminate between attempted and completed suicides has been demonstrated (Beck et al, 1974; Beck & Lester, 1976).

2) The Hospital Anxiety and Depression Scale [HADS] (Zigmond & Snaith, 1983).

(See *Section 3.5.3.1.* for fuller description).

The HADS has been demonstrated to be sensitive for screening for psychiatric disorder among individuals who self harm (Hamer, Sanjeev, Butterworth, & Barczak, 1991). It is a "present-state" instrument, and subjects were asked to rate their feelings 'over the last few days'.

3) Beck Hopelessness Scale [BHS] (Beck, Weissman, Lester & Trexler, 1974)

(see *Section 3.5.3.2.* for fuller description).

4) Perceived Stress Scale (PSS) (Cohen, Kamarck, & Mermelstein, 1983).

This 10-item scale assesses the degree to which the situations experienced by an individual within the past month of their life are perceived by them as being stressful, regardless of the nature and form of such situations. Examples of scale items include "In

the last month, how often have you found that you cannot cope with all the things you had to do?" and "In the last month, how often have you been able to control irritations in your life?". The scale has been shown to have good consistency and validity (Cohen et al, 1983; Cohen & Williamson, 1988), and is more successful at predicting a variety of health outcomes than measures of life events (Cohen et al, 1983; Cohen & Williamson, 1988).

5) Social Problem-Solving Inventory-Revised [SPSI-R] (D’Zurilla, Nezu, & Maydeu-Olivares, 1996)

This 52- item self-report inventory was used to assess five important facets of the problem-solving process. The five problem-solving dimensions that are assessed include:

- 1) *Positive Problem Orientation (PPO)* (5 items) - Taps a constructive problem-solving cognitive set e.g. "When my first efforts to solve a problem fail, I know if I persist and do not give up too easily, I will be able eventually to find a good solution".
- 2) *Negative Problem Orientation (NPO)* (10 items) - Addresses inhibitions and disruptive cognitive emotional orientations towards problems e.g. "I feel threatened and afraid when I have an important problem to solve".
- 3) *Rational Problem-Solving (RPS)* (20 items) - This has four subscales: (i) *Problem Definition and Formulation (PDF)* (5 items) e.g. "When I am having trouble understanding a problem, I try to get more specific and concrete information about the problem to help clarify it". (ii) *Generation of Alternative Solutions (GAS)* (5 items) e.g. "When I am trying to solve a problem, I often think of different solutions and then try to combine some of them to make a better solution". (iii) *Decision Making (DM)* (5 items) e.g. "When I have a decision to make, I weigh the consequences of each option and compare them against each other". (iv) *Solution Implementation and Verification (SIV)* e.g. "After carrying out my solution to a problem, I analyse what went right and what went wrong." In the current study, these four subscales were not considered independently, but were summed together to provide the Rational Problem-Solving score.
- 4) *Impulsivity/Carelessness Style (ICS)* (10 items) - Reflects a deficient problem-solving pattern that may be described as narrow, impulsive, careless, hurried, and incomplete e.g. "When I am attempting to solve a problem, I act on the first idea that occurs to me."
- 5) *Avoidance Style (AS)* (7 items) - Considers an defective problem-solving dimension characterised by procrastination, passivity, inaction, or dependency e.g. "I prefer to avoid thinking about the problems in my life instead of trying to solve them."

Participants report how they would typically respond to current problems in general on a 5-point Likert-type scale ranging from "not at all true of me" to "extremely true of me". Higher scores on the Positive Problem Orientation and Rational Problem Solving scales

indicate more constructive problem-solving processes, while higher scores on Negative Problem Orientation, Impulsivity/Carelessness Style, and Avoidance Style indicate more dysfunctional processes. The scale provides scores for each of the five subscales and also an overall problem-solving score. Evidence for the validity of the SPSI-R have been reported (D'Zurilla & Maydeu-Olivares 1995; Sadowski, Moore, & Kelley, 1994).

6) Interpersonal Support Evaluation List [ISEL] (Cohen, Mermelstein, Kamarck, & Hoberman, 1985)

The ISEL consists of 40 items which the respondent rates on a true/false format concerning the perceived availability of social support resources. The items are counterbalanced for desirability. The scale was developed on theoretical grounds to cover the domain of supportive social resources that could potentially facilitate coping with stressful events. The scale has four subscales of ten item statements, and each sub-scale is constructed to measure a different social support function that a social support network might provide. The four subscales are:

- 1) *Appraisal Support* - Addressed the perceived availability of someone to share problems with e.g. "When I need suggestions for how to deal with a personal problem, I know there is someone I can turn to".
- 2) *Belonging Support* - Looks at the perceived availability of people to socialise with e.g. "There are several different people with whom I enjoy spending time".
- 3) *Tangible Support* - Concerns the perceived availability of material aid e.g. "If I was sick, there would be almost no one I could find to help me with my daily chores".
- 4) *Esteem Support* - Deals with the perceived availability of a positive comparison when an individual compares themselves to others e.g. "I am able to do things as well as most other people".

Respondents indicate whether each statement is "probably true" or "probably false" for themselves, at the time of administration. The ISEL is scored by counting the number of responses indicating support for each of the four sub-scales, and an overall support score can be derived by summing the totals from the four sub-scales. The ISEL has been shown to have good validity (Cohen et al, 1985). Brookings and Bolton (1988) demonstrated by means of factor analyses the validity of the four factor model. They suggest that researchers the four subscale scores when possible, as they provide a richer measure of support. Sarason, Shearin, Pierce, & Sarason (1987) have also demonstrated the total ISEL score to be valuable in examining the relationship between social support and psychological distress.

6.4. Results

6.4.1. Demographics

The mean age of respondents was 32.1 years (s.d. 11.30, range 18-58). Of the sample, 31 participants were female and 19 were male. In terms of education, 62% of the sample (31 individuals) had left school with no qualifications, 22% (11 individuals) with school exam qualifications, and 16% (8 individuals) had received college or university-based education. With regards to current employment, 42% of the sample (21 individuals) were unemployed, 26% (13 individuals) were unskilled manual workers, 12% (6 individuals) were skilled manual workers, 10% (5 individuals) were students, and a further 10% (5 individuals) were home-makers.

Considering domestic arrangements, 48% (24 individuals) were single, 34% (17 individuals) were married or cohabiting, and 18% (9 individuals) were separated or divorced. In terms of residency, 40% (20 individuals) were resident with their family, 30% (15 individuals) lived with their partner, and 30% (15 individuals) lived alone. Of the sample 38% (19 individuals) stated that they were currently involved in a supportive and intimate relationship, and 62% (31 individuals) that they were not currently involved in such a relationship.

With regards to the admission details, the median time lapse between time of admission and time of participation in the study was 13.00 hours. Of the participants, 40% (20 individuals) reported their last GP consultation taking place in the week prior to their admission, 22% (11 individuals) in the month prior to their admission, 12% (6 individuals) in the six month period prior to their attempt and 26% (13 individuals) in the 6 to 12 months period prior to their admission. Of the sample, 52% (26 individuals) reported the current admission as their first attempt at suicidal behaviour, while 48% (24 individuals) had previously been admitted to a general hospital following acts of suicidal behaviour. Of the sample, 48% (24 individuals) had previous contact with mental health service personnel. Seventeen individuals had been referred as a result of previous suicidal behaviour, 7 had been referred for depression, 1 for anxiety disorder and 1 for an eating disorder.

All of the participants were admitted as a result of drug overdoses. Of the sample, 43 individuals (86%) had ingested aromatic analgesics. A total of 39 individuals had ingested paracetamol, with a mean intake of 27.83 (s.d. 15.17) tablets or capsules. Of these 39 individuals, 6 had taken concomitant benzodiazepines, and a further 6 had taken alcohol. A further 6 individuals had taken benzodiazepines, (mean tablets/capsules ingested

32.0, s.d. 10.3). Of these individuals, three took concomitant alcohol. One further individual ingested 60 iron tablets and alcohol. These trends parallel those recently reported by McLoone & Crombie (1996) who noted the high incidence of aromatic abuse (particularly paracetamol) in relation benzodiazepines among individuals engaging in acts of suicidal behaviour in Scotland in recent years.

6.4.2. The Main Measures

A summary of correlations, means and standard deviations of all the main measures are detailed in *Table 6.1*. The mean SIS Intent-Circumstances score was 5.84 (s.d. 4.07), the mean SIS Self-Report score was 5.70 (s.d. 3.72), and the mean overall SIS score was 11.54 (s.d. 7.39). The levels of suicidality in the current sample were reasonably elevated and are comparable to those found among individual employing methods of high lethality in previous British studies (Dyer & Kreitman, 1984; Goldney, 1981; Power et al, 1985). Similarly, the levels of hopelessness, HADS-Anxiety and depression found in the current sample were high. The mean BHS score was 14.20, indicating severe hopelessness among the participants. Beck et al (1985) reported that BHS scores of nine or greater were highly predictive of eventual suicide in a sample of inpatients followed up for ten years after discharge. The present levels are higher than previously reported among suicidal ideators (Dixon, Heppner, & Anderson, 1991; Rudd, Rajab, & Dahm, 1994; Schotte & Clum, 1982; Priester & Clum, 1993) but are comparable to the levels observed in groups of attempters examined in previous studies (Linehan et al, 1987; Rudd, Joiner & Rajab, 1995). The levels of HADS anxiety and depression were both at the moderate to severe end of the continuum. The authors of the HADS recommend using a HAD score of 11 as a criterion of a probable case of depression and anxiety. In the current study, 88% of the sample scored on or over 11 on the depression scale and 76% scored on or over 11 on the anxiety scale.

Table 6.1: Correlations, means, and standard deviations of the independent and dependent variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
14	.36**	.22	-.14	.22	.32*	.04	.12	-.20	.07	-.27*	-.32*	-.08	-.32*	
13	-.41**	-.62**	-.31*	-.52**	-.15	-.21	-.47*	.23	.45**	.49**	.38**	.09		
12	-.18	-.10	-.31**	-.30*	-.04	-.13	-.06	-.17	.09	.25	.36*			
11	-.38**	-.48**	-.17	-.30*	-.23	-.24	-.27*	.22	.20	.36**				
10	-.68**	-.62**	-.24	-.51**	-.19	-.17	-.40**	.06	.32*					
9	-.23	-.52**	-.12	-.30*	-.04	-.31*	-.26	.36**						
8	-.22	-.28*	.06	-.20	-.32*	-.06	-.10							
7	.43**	.36**	.40**	.32*	.50*	.46*								
6	.07	.19	.21	-.06	.29*									
5	.33*	.12	.04	.04										
4	.55**	.62	.38**											
3	.25	.21												
2	.62**													
1														
Mean	11.54	14.20	15.52	14.88	17.64	26.06	31.82	9.76	32.18	4.29	5.12	6.24	2.79	21.44
S.D.	7.39	3.80	4.30	4.52	7.84	8.71	7.13	4.01	15.02	2.38	3.11	3.12	2.19	3.93

KEY**Affective Functioning**

- 1 = Suicidal Intent
 2 = Hopelessness (BHS)
 3 = HADS Anxiety
 4 = HADS Depression

Problem Solving [SPSI-R]

- 5 = Avoidance Style (AS)
 6 = Impulsivity/Carelessness (ICS)
 7 = Negative Problem Orientation (NPO)
 8 = Positive Problem Orientation (PPO)
 9 = Rational Problem Solving (RPS)

Social Support [ISEL]

- 10 = appraisal support
 11 = belonging support
 12 = tangible support
 13 = self esteem support

Stress [PSS]

- 14 = Perceived Stress

- * Significant at 0.05 level
 ** Significant at 0.01 level

Since there appears to be no published study to date that has used the SPSI-R to assess problem-solving among a suicidal sample, the SPSI-R means for the participants in the current study were compared with the normative data (D'Zurilla, Nezu, & Maydeu-Olivares, 1996) for a group of 100 adult psychiatric patients. One sample *t*-test using the means for the sample that are reported in *Table 6.1* revealed that the participants in the current study scored above the norms for three of the sub-scales: a) Negative Problem Orientation [NPO] (norm 21.38, s.d. 10.89, t (df 49) = 10.36, $p < 0.001$), b) Impulsivity/Carelessness Style [ICS] (norm 16.63, s.d. 8.52, t (df 49) = 7.65, $p < 0.001$), and c) Avoidance Style [AS] (norm 11.20, s.d. 7.68, t (df 49) = 5.82, $p < 0.001$). No differences were evident with regards to the Positive Problem Orientation [PPS] and Rational Problem-Solving [RPS] subscales.

Considering stress, the mean Perceived Stress Scale [PSS] score for the current sample was 21.44 (s.d. 3.93). This differs considerably from the norm (13.02, s.d. 6.35; t (49) = 15.13, $p < 0.0001$) indicating that the individuals in the current study perceived their lives as considerably more stressful than a normative sample selected from the general population. Currently there are no established norms for the Interpersonal Support Evaluation List [ISEL]. Using the traditional scoring method, the range of possible scores for each of the scales is 0-10, with a total ISEL score of 40. In the current sample, the mean Appraisal Support score was 4.29 (s.d. 2.38), Belonging Support score was 5.12 (s.d. 3.11), Tangible Support score was 6.24 (s.d. 3.12) and Esteem Support was 2.79 (s.d. 2.19) respectively. Overall, these scores suggest a low level of social support in the sample, with the most marked deficits being with the availability of others to provide positive self esteem support for the individual. There are no comparative data available for the subscales with relation to other clinical samples. Cohen et al (1985) found a general population mean of 32.9 (s.d. 4.96) for the total ISEL score, in the current sample the total ISEL mean was 18.26 (s.d. 7.84), which is significantly lower than the general population norm (t (49) = -12.35 $p < 0.0001$).

From *Table 6.1* it can be seen that suicidal intent correlated significantly with perceived stress, and had significant negative correlations with Appraisal, Tangible, and Self-Esteem support. Significant positive correlations were found with the Avoidance Style of problem-solving, a Negative Problem Orientation, HADS depression, and hopelessness. Significant negative correlations were found between hopelessness and most of the problem-solving variables with the exception of the Avoidance Style of problem-solving and the

Impulsivity and Carelessness Style. In a similar pattern to suicidal intent, hopelessness correlated negatively with the social support variables. HADS anxiety showed few correlations with the key variables, with the exception of negative correlations with Tangible and Self-Esteem support, and a positive correlation with Negative Problem Orientation. Stronger relationships were found with HADS depression, which had significant negative correlations with all the social support indices and Rational Problem-Solving, and a positive correlation with a Negative Problem Orientation. Correlations between the four main measures of affective functioning were modest, with the exception of suicidal intent and hopelessness, where the correlation was strong ($r = .62$). Previous research has demonstrated that the correlation between hopelessness and suicidal intent is consistently high (Minkoff et al, 1973; Wetzel, 1976; Wetzel et al 1980) and remains strong even when depression is statistically controlled; while the relationship between depression and suicidal intent can disappear when hopelessness is controlled (Dyer & Kreitman, 1984). Correlations between the major predictor measures (perceived stress, social support, and problem-solving) were low to moderate.

Stepwise regression analyses were then conducted to explore if the relationships between the predictor variables (perceived stress, social support, and problem-solving) were independently predictive of the criteria variables (SIS, BHS, HADS-anxiety and depression). The criterion for entry into the equation was $p = 0.05$, and the criterion for removal from the equation was $p = 0.1$. The results of these equations are shown in *Table 6.2*.

In the model where SIS scores were regressed upon social support, stress, and problem-solving measures, the variables accounted for 48.2% overall in the prediction of suicidal intent scores. The perceived ability of individuals to share troubles (Appraisal Support) accounted for 45.3% of the variance. A propensity to use an inactive, passive or dependent style of problem-solving (Avoidance Style) accounted for a further 2.9% of the variance in SIS scores. No further problem solving, stress, or social support variables significantly accounted for the variance in suicidal intent scores.

In the model where Hopelessness (BHS) scores were regressed upon social support, stress, and problem-solving measures, the measures accounted for 57.8% of the variance overall. The availability of Appraisal Support accounted for 37.4 of the variance in hopelessness scores. The perceived availability of individuals to provide a positive

Table 6.2:
Stepwise Regressions Testing Main Effects of Predictor Variables for Criteria of Suicidal Intent, Hopelessness, HADS Anxiety and Depression

Variable Entered	df	Beta	R ²	Adjusted R ²	F (0.05 limit)
<i>Criterion -</i>					
<i>Suicidal Intent</i>					
ISEL Appraisal	1,48	-.68	.461	.453	41.54
SPSI-R -(AS)	2,47	.20	.504	.482	23.97
<i>Criterion -</i>					
<i>Hopelessness</i>					
ISEL Appraisal	1,48	-.62	.386	.374	30.29
ISEL Esteem	2,47	-.41	.512	.495	25.07
SPSI-R (RPS)	3,46	-.26	.568	.544	20.27
ISEL Belonging	4,45	-.21	.603	.578	17.27
<i>Criterion -</i>					
<i>HADS Depression</i>					
ISEL Esteem	1,48	-.52	.278	.261	18.54
ISEL Appraisal	2,47	-.24	.364	.337	13.44
SPSI-R (RPS)	3,46	-.22	.401	.358	11.91
<i>Criterion -</i>					
<i>HADS Anxiety</i>					
SPSI-R (NPO)	1,48	.40	.165	.148	9.23
ISEL Tangible	2,47	-.29	.242	.217	7.67
ISEL Esteem	3,46	-.24	.264	.239	5.42

KEY

- ISEL Appraisal = ISEL Appraisal Support Scale
 ISEL Esteem = ISEL Self-Esteem Support Scale
 ISEL Belonging = ISEL Belonging Support Scale
 ISEL Tangible = ISEL Tangible Support Scale
 SPSI-R (AS) = SPSI-R Avoidance Style of problem-solving
 SPSI-R (RPS) = SPSI-R Rational Problem Solving
 SPSI-R (NPO) = SPSI-R Negative Problem Orientation

comparison for the self (Esteem Support) accounted for a further 12.1% of the variance in hopelessness, the ability to use rational problem-solving techniques (RPS) accounted for a further 4.9%, and the availability of people with whom to socialise (Belonging Support) accounted for a further 3.4% in hopelessness scores. No further problem solving, stress, or social support variables significantly accounted for the variance in hopelessness scores.

In the model where HADS-Depression scores were regressed upon the same measures, the variables accounted for 35.8% overall in the prediction of depression scores. The perceived availability of esteem support accounted for 26.1% of the variance in depression scores, the availability of appraisal support accounted for a further 7.6%, and the ability to use rational problem solving techniques (RPS) accounted for a further 2.1% in the variance of HADS-Depression scores. No further problem solving, stress, or social support variables accounted for the variance in depression scores. In the model where HADS-Anxiety scores were regressed on the key measures, the variables accounted for 23.9% overall in the prediction of anxiety scores. Having a negative orientation to the problem-solving process (NPO) accounted for 14.8% of the variance in anxiety scores. The perceived availability of individuals who could provide material aid in times of need (Tangible Support) accounted for a further 6.9% of the variance, and the availability of esteem support accounted for a further 2.2% in the variance. No further problem solving, stress, or social support variables or interactions between them significantly accounted for the variance in anxiety scores.

Hierarchical regression analyses were used to test the interactions of both social support x stress and problem-solving x stress to the four criteria variables (SIS, BHS, HADS-Depression, HADS-Anxiety). For the hierarchical regression analyses, 10 variables were forced into the model (SPSI-R - AS, ICS, NPO, PPO, RPS; ISEL - Appraisal, Tangible, Belonging, Esteem Support; PSS) for each of the criteria scales. Interactions of social support x stress and problem-solving x stress were then tested in a stepwise fashion. For the purpose of examining these interactions, total SPSI-R and ISEL scores were used. The results of these hierarchical regression analyses are presented in *Table 6.3*.

The summary of the hierarchical regression analyses for predicting SIS severity yielded significant interactions for stress x social support and stress x problem-solving. The model accounted for 49.9% of the variance, with the stress x social support and stress x problem-solving interactions accounting for 3.3% and 1.5% of the variance respectively.

Table 6.3: Hierarchical Regression Analyses Examining Interactions of Stress x Problem-Solving and Stress x Social Support in predicting SIS, BHS, and HADS.

Variable Entered	df	R ²	Adjusted R ²	F (0.05 limit)
Criterion -				
Suicidal Intent				
Step 1 Variable Entered SPSI-R AS, ICS, NPO, PPO, RPS; ISEL-ApS, TS, BS, ES; PSS	10,39	.569	.459	5.16
Step 2 Variable Entered				
PSS x ISEL	11,38	.042	.033	4.71
PSS x SPSI-R	12,37	.026	.015	4.23
Total R		.658	.499	
Criterion -				
Hopelessness				
Step 1 Variable Entered SPSI-R AS, ICS, NPO, PPO, RPS; ISEL-ApS, TS, BS, ES; PSS	10,39	.623	.527	6.46
Step 2 Variable Entered				
PSS x ISEL	11,38	.062	.058	6.09
PSS x SPSI-R	12,37	.044	.032	5.44
Total		.729	.617	
Criterion -				
HADS-Depression				
Step 1 Variable Entered SPSI-R AS, ICS, NPO, PPO, RPS; ISEL-ApS, TS, BS, ES; PSS	10,39	.561	.449	5.00
Step 2 Variable Entered				
PSS x ISEL	11,38	.024	.118	4.46
Total		.585	.567	
Criterion -				
HADS Anxiety				
Step 1 Variable Entered SPSI-R AS, ICS, NPO, PPO, RPS; ISEL-ApS, TS, BS, ES; PSS	10,39	.31	.13	3.83
Total		.31	.13	

KEY**SPSI-R**

AS = Avoidance Style of problem-solving
 ICS = Impulsivity/Carelessness
 NPO = Negative Problem Orientation
 PPO = Positive Problem Orientation
 RPS = Rational Problem Solving

ISEL

ApS = Appraisal Support Scale
 TS = Tangible Support Scale
 BS = Belonging Support Scale
 ES = Self-Esteem Support Scale

PSS = Perceived Stress Scale

Similarly, the analyses for predicting BHS yielded significant interactions. The model accounted for 61.7% of the variance, with stress x social support and stress x problem-solving accounting for 5.8% and 3.2% of the variance respectively. Concerning HADS-Depression, the hierarchical model accounted for 56.7% of the variance, with the stress x social support interaction accounting for 11.8% of the variance. The variables accounted for 13.0% of the variance in HADS-Anxiety scores, however no interactions were found to be significant.

6.5. Discussion

The current study is an extension of previous work (Bonner & Rich, 1987; 1988; Clum et al; 1979; Clum & Febraro, 1994; D'Attilio et al 1992; Dixon et al, 1991; Linehan et al, 1987; Priester and Clum, 1993b; Rudd, 1990; Rudd et al, 1994; Sadowski & Kelley, 1993; Schotte & Clum, 1982, 1987; Yang & Clum, 1994) which document stress, social support, and problem-solving abilities as important predictors of suicidal behaviour. The current study has attempted to build on these findings in two ways: a) by examining the independent contributions of these predictors to suicidal intent, hopelessness, HADS depression and anxiety, and b) by investigating whether the above factors were predictive of the level of suicidality within an acutely suicidal group of individuals recently admitted to a general hospital following an act of suicidal behaviour. In these stepwise analyses, social support variables emerged as the prime predictors of suicidal intent, hopelessness, and HADS depression. Problem-solving variables also contributed to the variance in these indices of psychological distress to a lesser but still significant extent. Overall, the variables explained the most variance with regards to hopelessness. The hierarchical analyses also demonstrated the importance of two interactions - problem-solving x stress and social-support x stress in the prediction of suicidal intent and hopelessness. These results indicate specifically, that individuals who lack problem-solving skill or social support during periods of high stress are prone to higher levels of suicidal intent. This finding is consistent with other recent studies (Dixon et al, 1991; Clum & Febraro, 1994; Priester & Clum, 1993b).

Previous studies (Bonner & Rich, 1987; 1988a, 1988b; Braucht, 1979; Dubow, Kausch, Blum, Reed, & Bush, 1989; Friedrich, Reams, & Jacobs, 1982; Rich & Bonner, 1987) have demonstrated linear relationships between social support, depressive symptoms, hopelessness, and suicidal ideation. However, few studies (Clum & Febraro, 1994; Rudd,

1990; Yang & Clum 1994) have tested how social support may act as a “buffer” between life stress and symptoms of psychological distress, as would be demonstrated from interactions between social support and stress in predicting the level of psychological distress. In Rudd’s (1990) study, evidence supporting the moderating role of social support between life stress and suicide ideation was found. Rudd’s theory places perceived social support as a cognitive-emotional factor parallel to depression and hopelessness.

In the current study, social support was found to interact with life stress when predicting suicidal intent, hopelessness, and depression. This provides supportive evidence for Rudd’s (1990) view of social support as a moderator between life stress and suicidality. There are several explanations for the moderating role of social support in the stress-suicidality relationship. According to Yang & Clum (1994), social support may enable individuals to adopt more positive attitudes toward life problems and increase their confidence in dealing with them. In addition, as Rudd (1990) suggested, it is possible that stressful life situations may enable individuals to evaluate their social support and, under such conditions, individuals with poor support may pay more attention to the weakness of their support leading to increased suicidal ideation. It is also plausible that individuals with poor support may be more sensitive to life stress and therefore experience higher levels of distress. The current study also provided evidence that social support may predict suicidality directly. It is plausible that this may be a reflection of the measure of social support used (the ISEL), which is a more detailed measure than used in previous studies which almost uniformly have used the UCLA-Loneliness Scale (Clum & Febraro, 1994; Rich & Bonner, 1987; Rudd, 1990; Yang & Clum, 1994).

The Avoidance Style of problem-solving emerged as a predictor of suicidal intent, and Rational Problem-Solving abilities emerged as significant predictors of both hopelessness and HADS-depression. It is suggested that this “Avoidance Style” of problem-solving is related to the problems in “general orientation to problems” (D’Zurilla & Goldfried, 1971) that have been demonstrated to be an important predictor of the level of suicidality in severely suicidal samples. A Negative Problem-Oriented emerged as the prime predictor of HADS-anxiety. In comparison to the measure of social support, few of the SPSI-R scales were found to be predictive of suicidal intent, hopelessness, HADS-depression and anxiety. This is inconsistent with past research which has demonstrated the importance of problem-solving appraisals and skills (Dixon et al, 1994; Priester & Clum, 1993; Schotte & Clum, 1982; 1987; Yang & Clum, 1994). It is arguable that many of the

results of studies examining the importance of problem-solving abilities upon suicidality are dependent upon the measures used to assess problem-solving. Some studies have employed the MEPS procedure, which is generally considered to be a good indice of an individual's "in vivo" problem-solving skills (Schotte & Clum, 1982; 1987; Priester & Clum, 1993b). Such studies found that problem-solving deficits mediated the relationship between stress and suicidal ideation by means of idiosyncratic problems identified by the individuals or known to be experienced by the individuals. Yet other studies have used the Personal Problem-Solving Evaluation technique (Clum & Febraro, 1994), and others the Problem-solving Inventory (Dixon et al, 1994; Priester & Clum, 1993a). The current study employed the Social Problem-Solving Inventory-Revised. Therefore it is plausible to suggest that that the measure of problem-solving ability used may have implications for results. Current work is underway to examine the discriminant and concurrent validity of different measures of problem-solving with suicidal individuals.

Overall the results of the current study support the general hypotheses that problem-solving skill and social support both contribute uniquely and in interaction with the level of self-perceived stress to the prediction of suicidal intent, hopelessness and depressive symptoms evident among a group of individuals who have recently engaged in acts of suicidal behaviour. The variables explained more of the variance in hopelessness than in suicidal intent. This may be indicative of the complex relationships in the diathesis-stress-hopelessness model of suicidal behaviour. In accordance with Schottè and Clum's model (1982,1987) problem-solving influences suicidal behaviour mainly through its impact on hopelessness.

However, there are limitations to the current study. Firstly, an analogue measure of problem-solving was used, and it would have been perhaps more fruitful to employ an "outcome" measure of problem-solving (such as the MEPS) which allows the researcher to examine the actual problem-solving processes that an individual uses. Secondly, the sample size was reasonably small ($n = 50$) and a larger sample would be necessary to provide more reliable conclusions to be drawn from both the stepwise and hierarchical regression analyses. Indeed, with small studies such as the present, the results of such analyses can often be an artefact of the cases-to-independent variable ratio (Tabachnik & Fidell, 1996). However, the current study is comparable in size to that of Clum and Febraro (1994) who also conducted regression analyses with a similar model. Given the cross-sectional and correlational design of the current study, conclusions regarding causal relationships cannot

be made. Such designs take a unidirectional view of the relationships between relationships, an assumption that has methodological problems, as it is plausible to suggest that there are more complex bi-directional relationships between many of the variables linked with suicidality. For example it is possible that losing social support and having poor problem-solving skills may elevate psychological distress and suicidality, but is also possible that being depressed, hopeless, and withdrawn may damage an individual's problem-solving ability, limit social contact, and weaken social support. Future research is needed to clarify and expand the findings of the current study.

To date there is very little research that has addressed such relationships. Dixon et al (1993) conducted a prospective study with a group of college students to examine the direction of the relationships with problem-solving deficits and depression. This study provided preliminary evidence to suggest that problem-solving appraisal is both a cause (antecedent) and a symptom (concomitant) of depressive symptoms - providing substantiation for Nezu, Nezu, & Perri's (1989) model that suggests a downward cycle between problem-solving ability and depressive symptoms. The model suggests that individuals who perceive themselves as poor problem-solvers may be more prone to psychological distress, and psychological distress may cause further decrements in problem-solving appraisal and ability, which in turn may lead to further psychological distress. To date, there appears to be little research that has examined such relationships with regard to suicidality.

Indeed, such research with more complex, transactional models have a number of research and therapeutic implications. Problem-solving interventions for suicidal behaviour have already been suggested and implemented (Linehan & Clum, 1990; Linehan et al, 1991; Sakinofsky et al, 1990; Salkovskis, Atha, & Storer, 1990; Rudd et al, 1996). If there appears to be a reciprocal relationship between suicidal behaviour and problem-solving, treatment interventions that focus on an individual's problem-solving appraisal and ability may play a preventative and remedial role in the treatment of individual's who repeatedly engage in acts of suicidal behaviour. In light of the results of the current study, it is suggested that such interventions should possibly consider the availability of social support for an individual - since many problem solutions are dependent upon the availability of others to provide a host of supportive functions (e.g. offering advice, providing practical assistance). If such support is negligible, then the efficacy of problem-solving interventions for some individuals may be challenged. Studies have also demonstrated that suicidality is

linked to poor self-appraisals of problem-solving ability (Clum & Febbraro, 1994; Dixon et al, 1994; Priester & Clum, 1993a; Rudd, 1994) indicating that such individuals have a poor self-efficacy with regards to problem-solving skill and perhaps lowered self-esteem. The results of the current study has suggested that such individuals also lack a supportive network of individuals who could provide positive self-esteem feedback to the individual about how they are dealing with problems during trying life periods. If an individual has no source of such feedback, then the efficacy of interventions that address difficulties with the appraisal component of the problem-solving process with suicidal individuals may be questionable. Future research may also wish to examine the role of supportive relationships in interventions designed for individuals who engage in suicidal behaviour.

CHAPTER 7:

**SOCIAL PROBLEM-SOLVING SKILLS AND PSYCHOLOGICAL
DISTRESS AMONG
INCARCERATED YOUNG OFFENDERS:
THE ISSUE OF BULLYING AND VICTIMISATION**

**Chapter 7:
Social Problem-Solving Skills and Psychological Distress among
incarcerated young offenders:
The issue of bullying and victimisation.**

Abstract

This study examines the relationships between means-end problem-solving and psychological distress in a group of incarcerated Scottish young offenders who had been identified within the institution as either bullies, victims of bullying, or a non-bully/non-victim control group. The Means-End Problem Solving Procedure [MEPS] was used alongside the Hospital Anxiety and Depression Scale [HADS], Profile of Mood States [POMS], and the Beck Hopelessness Scale [BHS]. On all of these measures, the results suggested a greater level of distress and poorer means-end thinking in the group of victims of bullying. While distress was also correlated to the age of the respondent and the total amount of time they had spent incarcerated, ANCOVA revealed main effects for the bullying status of the individual (i.e. bully, victim, non-bully/non-victim) with regards to distress when age and total amount of time incarcerated were covariates. Numerous deficits in problem-solving skills as measured by the MEPS were found to correlate with higher levels of distress.

7.1 Introduction

Although poor problem-solving skills have previously been considered as a characteristic of prisoners (Zamble & Porporino, 1988), there has been a paucity of systematic research in penal settings. Of the handful of penal studies that have been conducted, some have compared the problem-solving skills of offender and non-offender populations and found no significant differences between them (Grier 1988; Ingram, Dixon & Glover, 1983). However, what these studies have failed to consider is the heterogeneity of the prison population. This may be masked in studies which compare inmates to non-inmates. It could be argued that greater attention should be dedicated to assessing the differences between inmates - since identification of prisoners with particular problem-solving difficulties may have practical relevance for their management while incarcerated.

From a perusal of the literature, there appears to be only two penal studies that have investigated problem-solving in different types of incarcerated prisoners. Higgins & Thies (1982) conducted a study in a US reformatory, looking at the differences in problem-solving as measured by the Means-End Problem Solving Procedure (MEPS). Higgins & Thies found differences in the problem solving abilities of a group of inmates who had successfully integrated into the prison regime (n=20), a disciplinary group (n=20), and a group of inmates who were unable to function in any context within the prison (n=20). The group that were identified as unable to function within the prison regime showed the largest detriment in problem-solving skill. The authors believed that problem-solving abilities could discriminate personal and social adjustment within the prison. This study was valuable in that it distinguished differences in problem-solving abilities among inmates. However, one caveat of the study concerns the fact that it did not employ any psychometric assessment of psychological distress (e.g. depression or anxiety), and thus the assertions concerning the relationship of problem-solving to personal adjustment may be regarded as somewhat tenuous.

The only other study found in the literature that compares different types of inmates is that of Ivanoff, Smyth, Grochowski et al (1992). This study examined problem-solving in relation to suicidality in a group of 91 male inmates from the New York State prison system. The sample consisted of 14 inmates who were currently suicidal, 34 inmates with a history of parasuicide although not currently suicidal, and 43 inmates with no current suicidal ideation and no history of parasuicide. Once again the MEPS was employed to examine problem-solving. This study, however, found no differences in the

problem-solving abilities of the inmates according to current or previous suicidality. However, there are methodological problems embedded in this study. There was a high incidence of psychiatric caseness in the sample (including schizophrenia or psychotic illness). It is unknown how the level of psychiatric morbidity among the sample may have affected the results.

Over the past decade, bullying and victimisation have been regarded as a core problem in British prisons, in particular among young offenders. Recent research has suggested that between 20- 45% of prisoners in Young Offenders Institutions (YOIs) report that they have been bullied in their current sentence - particularly in the period immediately following admission; and around 20% of young offenders may have been bullied by other inmates during their current sentence (Adler, 1994; Beck, 1992). Home Office research has indicated that almost one fifth of inmates in English prisons do not feel safe from malicious injury or bullying by fellow inmates (Walmsley, Howard & White, 1992). The Scottish picture has suggested that 24% of Scottish inmates report that they fear for their safety from other prisoners (Wozniak, Gemmell & Machin 1994). A recent self-report study of all Scottish young offenders has indicated that 29% have been bullied during the course of their current sentence (Power, Dyson & Wozniak, 1997). A research stream has developed to address the bullying issue, partly motivated by the links that have been suggested between victimisation and deliberate self-injury or suicide in prison (Liebling, 1992; Power & Spencer, 1987). While previous studies have concentrated upon the identification of particular high risk groups, the present study hopes to examine some specific vulnerability factors and deficits in problem-solving skills that may predispose maladaptive coping with the prison environment.

In order to proceed, it is necessary to provide a definition of both bullying and victimisation. Bullying can be adequately defined for the purposes of the present study as "*...when someone deliberately hurts, threatens, or frightens someone either in order to take things from them or just for the fun of it.*" (Beck, 1994, p.p. 17). Victimisation in penal settings can be described as being the directed object of such acts. It appears as though there is an obvious gap in the literature with regards to social problem-solving research among young offender populations and in British penal settings.

The hypotheses of the current study is that there are differences in the social problem-solving skills and hence the psychological adjustment of bullies and victims

among incarcerated young offenders. It is hypothesised that bullies will be more skilled at problem solving, and have more confidence in their abilities. Bullying in prison perhaps takes a different form from the bullying examined previously in community studies. Such community based studies have suggested that young, aggressive boys and bullies are deficient in non-aggressive problem-solving techniques (Lochman, Lampron, & Rabiner, 1989; Slee, 1993), however, it is argued that these studies do not provide a direct comparison with a penal sample in terms of the age of the participants or the nature of bullying examined. Bullying within prison is a covert activity (Besag, 1989), with the perpetrator employing methods to reduce the likelihood of detection by staff, and using the minimum of overt behaviour necessary to cause fear and distress. It is thus hypothesised that to be a successful prison bully requires a certain amount of confidence and manipulation of conventional and unconventional problem-solving techniques. It is suggested that prison bullies will be more active problem solvers and be capable of thinking of different ways to deal with difficult interpersonal situations. What is more, prison bullying is associated with the maintenance of a particular hierarchy within the prison, where sophisticated bullying enhances an inmate's status. It is hypothesised that such inmates are perhaps more successful at problem-solving, as successful bullying within a prison setting is very much dependent upon the social support from the "gang" a bully can muster (Johnson & Toch, 1982), and the cohesion found within such a group of inmates. Thus, a successful prison bully must possess good group skills. Victims on the other hand, may be regarded as poor problem-solvers - being able to think of fewer ways to tackle difficult situations and having less confidence in their abilities which may lead to or exacerbate the effects of bullying. Studies with clinical samples have already demonstrated a link between inadequate social-problem solving skills and psychological distress in that those with poorer skills also display higher distress on psychometric indices of depression or anxiety (Haaga et al 1995; Marx et al, 1992). It is hypothesised that this effect will also be evident in a penal sample.

7.2 Aims of the Current Study

The present study aims to examine social problem-solving skills among a group of young offenders who have been identified as bullies or victims of bullying. It is argued that bullies are characterised by having an active style of dealing with problems and being more socially manipulative, while the "victim" status in itself is evidence of a lack of adequate interpersonal-conflict handling skills. From a perusal of the literature, it appears that this is an issue that has never been systematically examined, but could be considered as important

in that the identification of the profiles of the problem-solving skills of different inmate groups has potential ramifications for intervention strategies that are associated with the current drive to curtail bullying in prisons.

7.3. Method

7.3.1. Participants

Participants consisted of 75 inmates selected from one of the largest Scottish Young Offender Institutions - which incarcerates males from the ages of 16-21 inclusive. The sample consisted of 25 known bullies, 25 known victims of bullying, and 25 comparison subjects. Identification of the samples of bullies and victims was as stringent as possible. Bullies were selected by means of their inclusion in the governor's punishment book - i.e. they had recently been brought to official attention specifically for their displays of bullying behaviour. The criterion used by the prison officers to select inmates for possible inclusion matched the theoretical definition employed by the study - i.e. these inmates had been disciplined as a result of deliberately hurting, threatening, or frightening another inmate in order to take away things from them or for the fun of such intimidation. This method of selection has been used previously by researchers to identify troublesome inmates (e.g. Bonta & Nanckivell, 1980; Ekland-Olson, 1986; Higgins & Thies, 1982), although these previous researchers did not then go on to use this information to approach the identified individuals as part of further research. In the present study, many of the identified bullies were among the most notorious individuals in the prison, who had been reprimanded on numerous occasions for bullying. The types of behaviour that constitute bullying in the prison and were considered in the present study included threatening, spreading untrue rumours, assault, and "taxing" - where consumer goods such as tobacco and sweets are regularly taken from an inmate. Victims consisted of those who had recently presented themselves to the prison's welfare officers with genuine distress and reporting particular incidents of bullying - i.e. the inmates had presented with incidents of being deliberately hurt, threatened or frightened by another inmate whose aim was to intimidate or extract property. These incidents could be verified by prison staff. This practical definition is consistent with the theoretical definition employed in the study. To the researchers' knowledge, this method of identification of prison victims has not been previously employed by researchers. The comparison inmates were selected by the prison's main welfare officer in conjunction with the wing supervisors. These were inmates with no known history of bullying or victimisation in prison. This was verified by staff inspection of the inmates' computerised records, which details information on both

discipline and welfare of the inmates. Currently, Scottish officers have a heightened awareness of the bullying issue and are attuned to the recognition of both bullies and victims. Thus, as a precautionary measure to the infallibilities of the computer records system, the status of the inmates in the comparison group were verified independently by two officers on the wings in which these inmates were housed.

7.3.2. Procedure

All participants took part in an individual two-hour session with the same research psychologist, conducted in the interview room of the wing in which they were housed. This involved a semi-structured interview and a battery of questionnaires - with a sub-section of these being pertinent to the present study. Inmates were kept unaware of the reason why they were selected to take part in the study in order to prevent priming and any repercussions that this may have for their position within the prison. The study was presented to all participants as a study of "coping and adjustment to prison life". At no point was the inmate informed that they were an identified bully or victim or a control subject, and the issue of bullying was never directly mentioned by the researcher. The confidentiality of responses and the anonymity of respondents was guaranteed. Inmates were encouraged to complete the questionnaires by themselves. Where there were obvious literacy difficulties, the psychologist helped administer the questionnaires, offering clarification of the questions where appropriate. No reward or payment was given to the inmate for taking part in the study and therefore participation was voluntary.

Demographic and prison details were obtained in the structured interview. Not all of this information is pertinent to the present study, and only a subset is reported here. Information concerning the inmates age, education, conviction type, length of sentence, and total amount of time to date spent in prison was recorded. Participants then completed a package of questionnaires to assess the level of their distress and completed an assessment of problem-solving ability in an oral format. Overall, the inmates were presented with the following measures. Most have been described in previous sections of the current thesis:

1) The Hospital Anxiety and Depression Scale [HADS] (Zigmond & Snaith, 1983).

(See *Section 3.5.3.1* for fuller description).

2) Beck Hopelessness Scale [BHS] (Beck, Weissman, Lester & Trexler, 1974)

(See *Section 3.5.3.2.* for fuller description).

3) Profile of Mood States [POMS] (McNair, Lorr & Droppleman, 1992)

(See *Section 3.5.3.3* for fuller description).

4) Means-End Problem Solving Test [MEPS] (Platt & Spivack 1975)

(See *Section 3.5.5.1* for fuller description)

5) Problem Solving Questionnaire (Konig, Otto, Holling & Liepman, & 1980)

(See *Section 3.5.5.2* for fuller description)

7.4. Results

7.4.1. Demographics and Prison Experience

The mean age of respondents was 18.7 years (s.d. 1.3). In terms of education, 34.7% of the sample had left school prior to the age of 15.5 years which is the legal minimum school leaving age in Scotland. Overall, 88% had left school by the age of 16. With regards to educational attainment, 42.7% left school with no qualifications, 29.3% had attained standard grades, 26.7% possessed vocational training in the form of SCOTVEC certification. Only 1.3% of the sample had received education to the level of Higher Grade examinations or above.

The average sentence length was 26.3 months (s.d. 11.8), and the average amount of time to date spent in prison was 19.2 months (s.d. 11.6). The majority of inmates had been incarcerated as a result of multiple charges, hence their most major charge is reported here. Of the sample, 72% were convicted of crimes of dishonesty (mainly theft) - 46% of these had concomitant crimes of violence, 5.3% of drug offences, 2.7% of fire-raising or vandalism, 1.3% of crimes of indecency, 12% motor vehicle offences (not including theft), and 6.7% were convicted of miscellaneous crimes. Breach of Public Justice ran as a common concurrent sentence, with 21% of the sample also being convicted of this.

ANOVA with post-hoc Scheffé tests revealed that bullies were older (19.2 years.) than the victims (17.8 years.) but not the controls (19.1 years.), and that the controls were older than the victims ($F(2,72) = 11.28, p < 0.01$; post hoc Scheffés < 0.05). Chi-square analyses revealed no differences in the educational achievement nor in the number of years of full-time education received in any of the groups.

ANOVAs revealed that bullies had longer current prison sentences (36.0 months) compared to those of the victims (17.6 months) and the controls (25.7 months) ($F(2,72) = 5.25, p < 0.05$; post hoc Scheffés < 0.05). Bullies had also spent more time incarcerated throughout their lives than the victims or the controls, with a mean total incarceration time of 27.2 months, compared to the 12.2 months for the victims, and 18.24 months for the controls ($F(2,72) = 13.74, p < 0.001$; post hoc Scheffés < 0.05). However, no differences were found in terms of time left in the current sentence to be served ($F(2,72) = 2.73, p > 0.05$). All in all, it appears as though the bullies are more "experienced" inmates. When convictions were considered, chi-square analyses revealed no differences between the groups in terms of the types of crimes for which they were convicted.

7.4.2. Psychological Distress

Correlations were found between age, the total amount of time spent in jail and many of the indices of psychological adjustment. Age had a negative correlation with the BHS ($r(74) = -0.36, p < 0.001$), HADS-Anxiety ($r(74) = -0.38, p < 0.001$), and HADS-Depression ($r(74) = -0.27, p < 0.01$), along with some of the POMS factors including tension-anxiety ($r(74) = -0.22, p < 0.05$), and confusion-bewilderment ($r(74) = -0.32, p < 0.01$). This suggests that the highest levels of psychological distress, in particularly hopelessness, anxiety and depression are found in the youngest inmates and this dissipates as the inmates get older. What is more, the same indices of psychological distress are most salient in the less experienced inmates in terms of time spent incarcerated, with those who have spent longer in prison showing less distress. The total time an inmate had spent in prison was negatively correlated with the BHS ($r(74) = -0.24, p < 0.05$), HADS-Anxiety ($r(74) = -0.27, p < 0.01$) and HADS-Depression ($r(74) = -0.23, p < 0.05$). Zamble & Porporino (1988) also reported a similar pattern of results and argued that psychological well-being is dependent upon adjustment to the patterns of the prison regime, which is a result of experience of being in the prison system.

Due to the fact that there are high inter-correlations between the two factors of the HADS and six factors of POMS respectively, separate MANOVAs were conducted considering the effects of the status of the inmates (bully/victim/comparison) on each of these measures of psychological distress. MANOVA revealed a significant effect of the status of the inmate on the HADS, Wilks's $\lambda (4,142) = 0.62, F= 9.40, p < 0.0001$, and also on the POMS, Wilks's $\lambda (12,134) = 0.45, F= 5.43, p < 0.0001$. *Table 7.1* illustrates the results of the univariate F tests with post hoc Scheffé comparisons for each of the three groups with regards to the POMS, HADS, and Beck Hopelessness Scale (BHS). From *Table 7.1* it is clearly seen that higher levels of psychological distress can be found in the victims of bullying than evidenced in either the control group or the bullies.

With regards to the HADS - higher levels of both anxiety and depression are found in the victims. However, caution should be exercised in the interpretation of these scores. When the norms for the HADS are considered (Snaith & Zigmond 1994), both the bullies and the control group are found to be within the normal range for both depression and anxiety, while the victims appear to be showing only mild depression and moderate anxiety.

When the POMS is considered, differences between the groups were apparent on most of the subscales. The victims of bullying displayed the highest distress on all the subscales, and were significantly more distressed than both the bullies and the control group on the tension-anxiety, depression-dejection, and confusion-bewilderment subscales. The victims also differed significantly from the control group on the anger-hostility and the vigour subscales. There were no differences between the groups in terms of fatigue. The manual for the POMS provides three norms for comparative groups, which include an outpatient normative sample, a college student normative sample and an adult normative sample (McNair, Lorr & Droppleman 1992). Although none of these could be considered directly comparable to the present sample in terms of demographics, comparisons with the norms for the student sample were considered most appropriate. The justification for this lay with the fact that the students were of a comparable age to the sample in the current study, and the adjustment to college life could be considered similar to the adjustment to prison life in that both involved separation from the family and a new institutional routine. One sample t -tests of each of the inmate groups and the POMS norms revealed that the victims of bullying scored significantly higher than the POMS student normative sample on

Table 7.1. Means and Standard Deviations for Bullies, Victims and Controls for the HADS, POMS and BHS (df = 2, 72)

Scale	Gp 1 (n=25) Bully		Gp 2 (n=25) Victim		Gp 3 (n=25) Control		F	p	Scheffé *
	M	SD	M	SD	M	SD			
HADS									
<i>Depression</i>	4.20	2.95	8.80	4.24	3.52	3.22	17.44	<0.001	1-2, 2-3.
<i>Anxiety</i>	6.08	4.19	11.60	4.88	5.60	3.55	15.41	<0.001	1-2, 2-3.
BHS									
	4.28	3.57	10.76	4.45	4.36	2.73	11.49	<0.001	1-2, 2-3.
POMS									
<i>tension-anxiety</i>	10.36	5.52	20.32	8.65	11.80	7.39	13.57	<0.001	1-2, 2-3.
<i>depression-dejection</i>	10.60	7.37	27.32	14.22	16.88	10.67	14.43	<0.001	1-2, 2-3.
<i>anger-hostility</i>	19.56	11.66	23.68	11.82	14.32	10.74	4.41	<0.01	2-3.
<i>vigour</i>	17.92	6.73	13.28	7.21	20.12	8.32	6.66	<0.001	2-3.
<i>fatigue</i>	7.52	6.89	11.32	8.09	9.00	6.72	3.12	<0.05	
<i>confusion-bewildered</i>	8.80	5.64	16.24	4.99	10.16	6.68	11.58	<0.001	1-2, 2-3.

* Post-hoc Scheffé tests distinguished groups separated by the hyphen as significantly different from each other at the 0.05 level of significance

the tension-anxiety ($t(24) = 4.24, p < 0.001$), depression-dejection ($t(24) = 3.45, p < 0.001$), anger-hostility ($t(24) = 6.74, p < 0.001$) and confusion-bewilderment ($t(24) = 3.03, p < 0.001$) subscales. Neither the bullies nor the control group differed significantly from the POMS student normative sample on any of the POMS subscales.

A similar pattern emerges concerning the Beck Hopelessness Scale (BHS) in that the highest levels of hopelessness are found in the group of victims. Greene's (1981) normative study for this scale suggests a mean of 4.45 with a standard deviation of 3.09. In the current study it could be ascertained that mean BHS scores for the bullies (4.28, s.d. 3.57) and the control group (4.36, s.d. 2.73) are within the range that would be considered as normal, while the victims display a level of hopelessness (10.76, s.d. 4.45) which could be regarded as clinical.

ANCOVA were then used to examine the relative importance that bullying status, age and total time in prison had upon the three main distress measures. The status of the respondent was used as the main independent variable, and age and the total time in prison were held as covariates. All analyses revealed a significant main effect for status, and non-significant results for the covariates. The results were as follows; for the HADS-Anxiety scale, (status $F = 8.30, p < 0.001$; covariates - age $F = 1.42, p > 0.05$ and time in prison $F = 0.031, p > 0.05$); HADS-Depression Scale (status $F = 12.04, p < 0.0001$; covariates - age $F = 0.01, p > 0.05$ and time in prison $F = 0.03, p > 0.05$); and the Beck Hopelessness Scale (status $F = 17.38, p < 0.0001$; covariates - age $F = 0.61, p > 0.05$ and time in prison $F = 0.43, p > 0.05$). Similar patterns were found for each of the POMS subscales. This suggests the importance that the status of the individual (whether they are a bully, victim, comparison inmate) has upon their profile on the distress measures regardless of their age or the amount of time spent incarcerated.

7.4.3. Problem Solving

In line with previous research two independent raters were used to compare the consistency of scoring with the main researcher, using 50% of the sample overall. Raters were blind to any demographic or status information concerning the respondents. Kappa co-efficients ranged from 0.76 to 0.91, suggesting good consistency in the way the different components of the MEPS were scored. Answers were scored on a variety of dimensions. Some taken from the original protocol - e.g. assessing the number of relevant and irrelevant means, obstacles, and no responses and others being those introduced by

more recent researchers - *e.g.* subjective appraisals of effort, effectiveness, the amount of time it would take to successfully remedy the situation, and whether the participants would use their proposed strategy themselves (Marx et al, 1992). Further to this, two alternative scores were derived by the present researchers, concerning whether or not the solution could be considered active (where the protagonist takes an active role in all stages of the problem-solving process) or passive (where the protagonist is dependent upon the actions of others for problem solution). This particular procedure has been used previously by Linehan et al 1987 in their study of problem-solving in relation to suicidality.

Significant negative correlations were found between age and the number of irrelevant means produced on the MEPS ($r(74) = -.28, p < 0.01$), and the subjective ratings of the amount of effort needed by the protagonist to implement a problem solution ($r(74) = -0.32, p < 0.01$). Similarly significant correlations were found between the total amount of time spent incarcerated and the number of irrelevant means produced on the MEPS ($r(74) = -.29, p < 0.01$), and the subjective ratings of the amount of effort needed by the protagonist to implement a problem solution ($r(74) = -.28, p < 0.01$). In addition, significant positive correlations were found between the amount of time spent incarcerated and the number of active problem-solving means produced ($r(74) = .25, p < 0.05$) and the number of relevant means produced ($r(74) = .27, p < 0.05$).

Due to the fact that there are high intercorrelations between many of the indices of problem-solving taken from the MEPS, a MANOVA was conducted to consider the effects of the status of the inmates (bully/victim/comparison) upon problem-solving by using the most commonly used MEPS indices (relevant means, irrelevant mean, active means, passive means, the number of obstacles anticipated in the problem solving process, the number of no responses, and the amount of effort required by the protagonist). The MANOVA revealed a significant effect of the status of the inmate on the MEPS, Wilks's $\lambda(10,136) = 0.54, F = 4.67, p < 0.0001$, *Table 7.2* illustrates the results of the univariate F tests with post hoc Scheffé comparisons for each of the three groups on these quantitative MEPS measures. *Table 7.2* suggests that the most relevant means in the problem solving process were produced by the bullies, while the highest level of irrelevant means were found in the victims. Bullies produced more active means, while the victims produced the most passive problem-solving means. There were no differences in the number of obstacles proposed (all groups were equally low) or in the number of "no responses" to the individual problem-solving scenarios. However differences occurred as regards how much

Table 7.2. Means and Standard deviations for incarcerated bullies, victims of bullying, and a control group on the Means-End Problem Solving Procedure [MEPS] (df = 2,72)

	Gp1		Gp 2		Gp 3		F	p	Scheffé*
	(n = 25)		(n = 25)		(n = 25)				
	Bully		Victim		Control				
MEPS	M	SD	M	SD	M	SD			
Relevant Means	1.71	0.71	1.00	0.71	1.26	0.42	8.03	< .001	1-2,1-3.
Irrelevant Means	0.37	0.38	0.78	0.45	0.47	0.57	5.03	< .01	1-2.
No responses	0.03	0.06	0.03	0.08	0.00	0.20	2.72	> .05	
Active Means	1.69	0.71	1.00	0.71	1.26	0.42	7.51	< .001	1-2.
Passive Means	0.00	0.00	0.20	0.35	0.05	0.18	5.20	< .01	1-2
Effort	1.58	0.62	3.08	0.93	1.66	0.85	26.22	< .0001	1-2,2-3.

* Post-hoc Scheffé tests distinguished groups separated by the hyphen as significantly different from each other at the 0.05 level of significance

effort would be required and how long it would take to implement their solution. With regards to effort, the victims believed that it would take considerably more effort to solve interpersonal difficulties when compared to the other groups.

Qualitative analyses of the MEPS were then considered, where the subjects had been asked to rate the effectiveness of their solutions on a two-point scheme (effective/non-effective), how long it would take to implement their strategy (measured in weeks), and whether or not they would use their proposed solution themselves. No differences were found in the groups concerning their subjective ratings of solution effectiveness ($\chi^2(4) = 7.82, p > 0.05$) or whether or not they would be willing to use their proposed solution themselves ($\chi^2 = 6.85, (4), p > 0.05$). Victims also believed that the situation would take longer to solve than the bullies, with mean responses in terms of weeks as 2.49(victims) 1.89(controls) and 1.36(bullies); ($F(2,72) = 5.31, p < 0.01$, post hoc Scheffé < 0.05).

ANCOVA were then used to examine the relative importance that bullying status, age and total time in prison had upon the MEPS indices where significant correlations were found. The status of the respondent was used as the main independent variable, and age and the total time in prison were held as covariates. All analyses revealed a significant main effect for status, and non-significant results for the covariates. These results suggest the importance of the status of the individual (bully/victim/comparison inmate) upon problem-solving ability regardless of the effects of age or time incarcerated.

Table 7.3 illustrates the inmates' response profiles on the PSQ. Very few differences were found between the groups with regards to this measure. The only significant result suggested that there is a higher level of problem denial among the victimised inmates, which one might expect. Overall, the results of this measure would suggest that examining problem solving on a metacognitive level (*i.e.* assessing attitudes towards problem solving) may not be particularly valid in distinguishing sub-groups of this particular population nor in determining where their particular problem-solving difficulties arise. No correlations were found with the PSQ and either age or the total amount of time spent in jail.

Table 7.3. Means and standard deviations for responses on the Problem Solving Questionnaire among bullies, victims, and a control group (df =2,72).

	Gp 1		Gp 2		Gp 3		F	p	Scheffé*
	(n=25)		(n=25)		(n=25)				
	Bully	Victim	Control						
	M	SD	M	SD	M	SD			
Problem Orientation									
Denial of Problems	14.96	4.57	18.48	4.90	16.76	4.57	3.52	< .05	1-2
Unconventional Means	26.80	6.91	25.48	4.36	24.68	4.32	0.93	> .05	
General Problem-Solving Strategies									
Conventional Means	39.56	6.24	36.56	6.39	38.04	8.06	1.16	> .05	
Conventional Means	15.60	6.33	17.72	4.79	15.08	3.80	1.89	> .05	

* Post-hoc Scheffé tests distinguished groups separated by the hyphen as significantly different from each other at the 0.05 level of significance.

In order to test the hypothesis that there may be a link between problem-solving skills and psychological adjustment, Pearson product-moment correlations were computed between

the adjustment indices (HADS, POMS, BHS) and the problem-solving measures (MEPS, PSQ) for each of the three inmate groups. Among the group of bullies, there were no significant correlations between the measures of psychological distress and problem-solving (r s in the range of .06 - .34), with the exception of HADS-Depression which had a significant negative correlation with PSQ-General Problem-Solving Strategies ($r(24) = -.52, p < 0.01$). Among the comparison group of inmates, there were also few significant correlations between the measures of psychological distress and problem-solving (r s in the range of .04 - .32), with the exception that there was a significant positive correlation between the number of MEPS irrelevant means and hopelessness ($r(24) = .41, p < 0.05$). Also, there was a significant correlation between HADS-Anxiety and PSQ problem-orientation ($r(24) = .47, p < 0.05$). The largest number of correlations between the measures of psychological distress and problem-solving were found among the victims of bullying. HADS-Anxiety correlated positively with the number of irrelevant MEPS means ($r(24) = .41, p < 0.05$), PSQ problem-orientation ($r(24) = .40, p < 0.05$). HADS-Depression correlated positively with the number of irrelevant MEPS means ($r(24) = .45, p < 0.05$). Hopelessness correlated with the number of irrelevant MEPS means ($r(24) = .51, p < 0.01$) and negatively with the number of relevant MEPS means ($r(24) = -.55, p < 0.05$). Among this group, the number of PSQ unconventional problem-solving procedures also correlated significantly with POMS anger-hostility ($r(24) = .55, p < 0.01$), confusion-bewilderment ($r(24) = .60, p < 0.01$), and depression-dejection ($r(24) = .55, p < 0.01$).

No further multivariate analyses of the relation between problem-solving and psychological adjustment were possible, due to the little variation in the scores of many of the indices (such as the MEPS and PSQ) which would not allow the data to meet requirements necessary for regression analyses.

7.5. Discussion

The present study aimed to examine psychological adjustment and social problem-solving skills in a group of young offenders, and aimed to determine whether or not the bullying status of the respondent played a function in this relationship. Although adjustment seemed to be correlated to both the age and the prison experience of the inmate (calculated in terms of the total amount of time they had spent in prison), it appeared as though the bullying status of the individual played a more important role. With regards to the HADS, the victims of bullying - who could be considered as the most distressed group -

displayed a mild level of depression and a moderate level of anxiety. The highest levels of distressed mood states as assessed by the POMS were also found in the victims of bullying, who were over 1.5 standard deviations away from the mean on the tension-anxiety, depression-dejection, anger-hostility and confusion-bewilderment subscales. This is a level of distress that could warrant clinical attention.

One result is particularly salient, in that the level of hopelessness found in the victims of bullying is comparable to that found in a host of clinical studies of severe depression and parasuicide (Evans et al 1992; Williams & Broadbent, 1986; Williams & Dritschel, 1988; MacLeod, Rose & Williams, 1993). Indeed, the present study has shown the victims of bullying to have a comparable level of hopelessness to a group of prison parasuicides (Ivanoff et al 1992) and to a group of previously suicidal inmates who on follow-up were still showing poor adaptation to prison life (Smyth & Ivanoff, 1994).

Although studies have looked at the levels of hopelessness in prisoners generally, few studies have assessed the levels of hopelessness among different sub-groups of prisoners. Intuitively, it may be expected that the general level of hopelessness among prisoners would be slightly more elevated than would be generally found in the community, due to the effects that incarceration has upon self-esteem and feelings of self-control. However, the study by Power & Beveridge (1990) found that the level of hopelessness in a representative sample of inmates from a Scottish Young Offenders Institution was not excessive, with the highest mean being 4.53 at the beginning of incarceration, and showing a general decrease as the prisoner became more adjusted to prison life. However, in terms of the management and assessment of a subsample of victims, it would appear that the non-clinical index of hopelessness is a more sensitive to differentiating them from other inmates in terms of their psychological distress than the clinical measures of depression or anxiety. Hopelessness is a reactive state that results from self-appraisals of the environment around an individual, and is not regarded as an endogenous trait nor described as a clinical "condition" (Needles & Abramson, 1990). Liebling (1992) and Zamble & Porporino (1990) have discussed that the prison environment, where the individual has few personal choices, may exacerbate feelings of hopelessness.

Differences in the problem-solving abilities of the groups were also found. Zamble & Porporino (1989) previously identified vulnerable inmates as having avoidant or maladaptive problem-solving skills. The present study has gone one step further and detailed where these difficulties may in fact lie. As hypothesised, the MEPS revealed that the victims of bullying produced less relevant and active means and more irrelevant and passive means in the problem-solving process. The victims also believed that solving problems took a lot longer and would require more effort. This is perhaps indicative of a higher level of "helplessness" among the victims. Bullies were more active and confident in their problem-solving style, but still displayed a "deficient" problem-solving ability, in that they still produced few problem-solving means.

From this information, the ramifications for intervention are considerable. Studies with school-age children have already suggested that social skills and problem solving training for victims can be an important tool in combating bullying (Arora, 1991; Goddard & Cross, 1987). By arming the potential or previous victim with a repertoire of social-problem solving skills, their coping may be enhanced. Thus prison programmes for vulnerable inmates may benefit from incorporating some form of training in means-end thinking.

In line with the original assertion concerning the role that social problem-solving skill deficits play in the development and maintenance of psychological distress, correlations showed a decrease in adequate problem-solving with an increase in psychological disturbance as measured by the HADS, POMS, and BHS particularly among the group of victims. Such distress was found to be linked with poor use of general problem solving strategies and an increased use of unconventional problem-solving styles. In light of the evidence that suggests a link between victimisation, distress, and self-harm in prisons (Liebling, 1992; Power & Spencer, 1987); where self-harm is often reported as a problem-solving strategy by distressed prisoners to remove them from a noxious environment; this particular variable is of immense importance.

Although the MEPS yielded significant results with regards to finding differences in problem-solving, it should be noted that concerns have been voiced over the validity of this particular instrument in penal populations (Ivanoff et al, 1992). The MEPS was not developed or standardised for use in penal groups, and published work on its use with incarcerated offenders is limited and mostly dated (Higgins & Thies, 1982; Ivanoff et al,

1992; Platt, Scurra, & Hannon, 1973). In addition, the very low MEPS scores found throughout the groups in this study are substantially lower than the levels of problem-solving abilities found in other groups which are believed to be "deficient" in problem-solving (Evans et al 1992; Marx et al, 1992; Schotte & Clum, 1987). However, the levels of problem-solving in the present study are comparable to those in the Ivanoff et al study (1992) of suicidal and non-suicidal American inmates and the Higgins & Thies (1982) study of groups differing in adjustment to the prison regime. This suggests that the exceedingly low level of problem-solving ability achieved on the MEPS is not an artefact of this particular instrument, but is in fact demonstrative of the abilities of prison population generally. The Ivanoff et al (1992) study failed to pick up any differences between the groups of suicidal and non-suicidal inmates, and they concluded that the MEPS may not be sensitive enough for work with penal populations, since inmates are generally poor at problem-solving and the MEPS is not sensitive enough to pick up subtle differences. However, like the Higgins & Thies (1982) study, the present study did manage to distinguish the problem-solving abilities of three groups of inmates. Taken together, these studies suggest that the MEPS may not be as insensitive in penal populations as previously believed. However, there are still further issues that need to be investigated, in particular concerning the MEPS' relation with verbal ability, which is thought to be lower in inmate populations than in the population at large (Hirschi & Hindelang, 1977). In response to the comment by Ivanoff et al (1992) concerning the validity of an "outcome" measure of problem-solving that relies upon verbal responses in research with prisoners, the analogue indice of problem-solving (the PSQ) used in the present study did not distinguish the differences in problem-solving ability between the groups to the same extent as the MEPS. This suggests that verbal rating scales are not as sensitive in this particular population as more involved, "outcome" measures of problem-solving such as the MEPS - where the researcher can observe hypothetical problem-solving related to real-life scenarios and examine the accompanying means-end cognitive processes.

To date, the present research appears to be the first study that has examined the problem-solving skills of incarcerated victims of bullying and bullies. However, there are a number of methodological problems with the present study. Firstly, all inmates were chosen from one Scottish institution, and the role that a particular institution and its regime has to play in the amount of distress reported, and indeed in the development of the particular characteristics of the bullies and victims cannot be determined by the present study. Also, the current study only considered the extremes of the bullying spectrum -

where most of the respondents were archetypal bullies and victims, although the authors did try to compensate for this by selecting a control group from non-problematic inmates. There could be problems with the identification of such samples for research studies. Beck (1992) has noted that the status of bully/victim can be transient, and indeed there are more complicated taxonomies of bullies and victims which would further include anxious-insecure bullies, provocative victims and bully/victims. Future research may wish to direct itself to a comparison of these groups, although identification of these groups may be problematic. A further important caveat concerns the fact that the research psychologist was aware at the time of interview as to which of the study groups each inmate belonged. Although there was little margin for this to have an influential effect upon the data as no subjective ratings from the interviewer were employed, future studies might aim for both interviewer and independent rater to be blind to the study group to which inmates belong.

An important methodological consideration that warrants particular attention in the current study concerns its cross-sectional nature which prevents any assessment of the direction of causality. It is entirely possible, for example, that becoming a victim (through the process of being bullied) has an impact on an individual's problem-solving skills. Thus it is plausible to suggest that poor problem-solving may not be a predisposing factor in the stress-distress relationship, but a concomitant consequence of being on the receiving end of aggressive actions. However, it should be emphasised that if this is the direction of the relationship between problem-solving deficits and distress, it does not negate the possibility that problem-solving training could be an important intervention.

In conclusion, the present study has demonstrated the differences in problem-solving abilities in three groups of inmates distinguished by their bullying status and the level of their interplay with psychological distress - in particularly hopelessness. It is hoped that these are issues that might be considered in future intervention strategies for dealing with bullying in prisons. Some researchers have argued that prisons contain "an excessive number of people with poor or limited coping skills, and it is within this group that are found those particularly vulnerable to the effects of stress" (Backett, 1988). Given the subsequent drive to identify such deficits in coping skill, it is hoped that the present study has contributed to this by not only identifying who may be "vulnerable prisoners", but also by showing where these deficits may lie.

CHAPTER 8:

**A COMPARISON OF
THE PROBLEM-SOLVING ABILITIES AND PSYCHOLOGICAL
DISTRESS OF SUICIDAL, BULLIED, AND PROTECTED
PRISONERS**

Chapter 8: A Comparison Of The Problem-Solving Abilities And Psychological Distress Of Suicidal, Bullied, And Protected Prisoners

Abstract

This research examines the relation between means-end thinking and psychological distress in a group of incarcerated Scottish young offenders who exhibited difficulties in adjusting to the prison regime. Four groups of inmate were examined: a) those placed on suicidal supervision; b) those removed from main circulation and placed on protection; c) victims of bullying who remained in main circulation; and d) a group who had adjusted reasonably to the prison regime. The Means-End Problem Procedure [MEPS] was used in conjunction with the Hospital Anxiety and Depression Scale [HADS] and Beck Hopelessness Scale [BHS]. Results suggested a hierarchy of problem-solving deficits and psychological distress, both of which were most pronounced in the inmates placed on suicidal supervision. Deficits in problem-solving were also found to correlate with higher levels of distress. Analyses of covariance revealed the importance of the status of the individual in relation to their adjustment to prison when age and total amount of time spent incarcerated were controlled for. The results are discussed in relation to possible interventions to promote adjustment to prison life among such vulnerable inmates.

8.1 Introduction

In recent years, researchers have questioned the assumption that prisons and the regimes they impose are responsible for the psychological well-being of prisoners. Empirical studies have suggested that specific "structural" conditions of confinement such as overcrowding, or long-term incarceration have failed to show any profound detrimental effect upon the psychological health of prisoners (see Bonta & Gendreau 1990, for review) and perhaps individual "moderating" variables have greater efficacy in predicting prison adjustment (Bonta & Gendreau, 1990; Zamble & Porporino, 1988, 1990). The identification of such individual moderating variables has ramifications for the development and implementation of intervention programmes which could assist the subsection of the penal population which display difficulties in coping with prison life.

In the study conducted in Chapter 7, the problem-solving abilities and psychological distress of a group of individuals who had been victims of bullying in prison was examined. As detailed in *section 7.1.*, these individuals have warranted special consideration by the Scottish Prison Service in recent years who have taken preventative measures to stop bullying reaching endemic proportions in Scottish penal institutions. Two additional groups of vulnerable inmates have come to the attention of prison staff and researchers in recent years. Firstly, there are a group of young offenders who display difficulties with living in main circulation and formally request to be removed from, or are deemed by prison staff as unsuitable for routine circulation. Such prisoners have been regarded as vulnerable to experiencing elevated distress, and their management requires special consideration (Liebling, 1992). Such inmates warrant research attention, particularly to investigate whether their requests for protection may reflect a deficit in the coping skills that are necessary for dealing with incarceration. Inmate requests to be placed upon protection may well be a very adaptive response to a threatening situation, and should not be considered as maladaptive. Nevertheless, it is a reaction to a situation where an individual is exhibiting an inability to cope with the demands or pressure placed upon them without resorting to institutionally sanctioned avoidance through withdrawal from main circulation. Thus, it is suggested that such individuals may be lacking in personal coping resources.

Secondly, the number of inmates being placed on suicidal supervision has increased in recent years, as the prison service takes more precautionary measures to prevent successful suicide by inmates. A recent study examining a total of 44,093

admissions over a 12 month period into Scottish prisons reported that 4.5% of this group were identified as "at risk" of suicidal behaviour at the time of reception while a further 1.9% of inmates were classified as "at risk" at some other point during custody (Power & Moodie, 1997). Inmates identified as at suicidal risk by prison staff comprise a large proportion of false positives, thereby reflecting the high level of staff concern in response to the rising number of inmate suicides that have been observed in recent years in both Scottish and English penal establishments - particularly among young offenders (Home Office, 1984, 1986; Lloyd, 1990; Scottish Home and Health Department, 1985). It has been suggested that being placed on suicidal supervision is a strong indicator that an individual does not possess the coping skills necessary for adjusting to routine prison life (Liebling, 1992).

It appears that there is an obvious gap in the literature with regards to social problem-solving research among young offender populations in British penal settings. As the prison population at large can be considered to be heterogeneous, it is suggested by the current authors that the population of inmates experiencing difficulty in coping with imprisonment may also be heterogeneous with regards to their psychological adjustment and problem-solving abilities. Within the group of "weaker" inmates found in any establishment, there are distinct groups.

8.2. Aims of the Current Study

The current study aims to examine the problem-solving skills and psychological distress among three such groups: a) victims of bullying who have remained in routine circulation (as used in the study in Chapter 7 of the current thesis); b) a group of inmates who have been removed from routine circulation and placed on protection for their own safety; and c) a group of inmates who have been considered a serious suicidal risk by prison staff and placed on suicidal supervision in the prison's surgery. The third classification usually follows an incident of parasuicidal behaviour while in routine circulation. It is argued that these three groups show different strategies and degrees of avoidance, all indicative of difficulties in dealing with the situational demands and pressures found in routine circulation.

The aim of the current study is to examine potential differences in the social problem-solving skills and the psychological distress of these three sub-groups of incarcerated young offenders. This is an issue that has never been systematically examined,

but could be considered as important since the identification of the profiles of the problem-solving skills of different vulnerable inmate groups has potential ramifications for intervention strategies designed to reduce distress levels experienced during imprisonment. Studies with clinical samples have already demonstrated a link between inadequate social-problem solving skills and psychological distress such as depression or anxiety (Haaga et al 1995; Marx et al, 1992). It is hypothesised that this effect will also be evident in a penal sample. A further aim of the current study is to examine the role that verbal ability has to play in the problem-solving ability of young offenders, given concerns their impoverished skills may be an artefact of their verbal abilities (Ivanoff et al, 1992),

8.3. Method

8.3.1. Participants

Participants consisted of 100 inmates selected from the same Scottish Young Offender Institution as used in the study reported in Chapter 7. The sample consisted of 25 inmates placed on protection, 25 currently under suicidal supervision, 25 victims of bullying who were still resident within main prison circulation (as used in the study in Chapter 7 of the current thesis), and 25 comparison inmates in routine circulation who were regarded as reasonably well adjusted to prison life circulation (as used in the study in Chapter 7 of the current thesis). Inmates on protection were selected at random from the inmates housed in the special protection wing within the institution, and for reasons of their own safety were completely segregated from mainstream prisoners for all their activities. Inmates placed upon protection were considered as vulnerable, for example, due to the nature of their crime, or the fact that the inmate had been victimised while in main circulation. The inmates on suicidal supervision were selected from the first consecutive 25 cases brought to the surgery on Strict Suicidal Supervision (SSS). SSS is the highest of three levels of suicidal supervision implemented in the Scottish Prison Service and reserved for inmates thought to be at an immediate and high level of suicidal risk. These individuals had been placed on SSS as a result of parasuicidal threats or behaviour displayed in the wings following a period of incarceration. Inmates placed on SSS were not individuals who had displayed parasuicidal tendencies at the time of admission, rather their parasuicidal potential had only become apparent after a period of custodial confinement. The victims of bullying consisted of those who had recently presented themselves to the prison's residential officers with genuine distress and reported identifiable incidents of bullying. These inmates remained in routine circulation. The comparison inmates were selected by the prison's main welfare officer in conjunction with two wing

supervisors. These were inmates with no known history of victimisation or difficulties adjusting to imprisonment.

8.3.2. Procedure

All participants took part in an individual two-hour session with the same research psychologist, conducted in the interview room of the hall in which they were housed or within the prison surgery if they were currently on SSS. Only a subsection of the data collected was pertinent to the current study. Inmates were kept unaware of the reason that they were individually selected to take part in the study in order to prevent priming effects. The study was presented to all participants as a study of "coping and adjustment to prison life". The confidentiality of responses was guaranteed. Participants took part in a structured interview with the research psychologist and completed a package of questionnaires. Inmates were encouraged to complete the questionnaires by themselves. Where inmates displayed obvious literacy difficulties, the psychologist helped to administer the questionnaires, offering clarification of the questionnaires where appropriate. No reward or payment was given to the inmate for taking part in the study, and hence participation was voluntary. Compliance was 100%. The research psychologist was aware prior to the interview as to which study group each inmate belonged. However, this is unlikely to have confounded the data as there were no subjective ratings made during the course of the session. The only subjective ratings made at a later stage involved two components of the MEPS, which was scored with no attached identifier and also scored by two blind independent raters.

Demographic and prison details were obtained in a structured interview. Not all of this information is pertinent to the present study, and only a subset is reported here. With regards to the prisoners who were no longer in normal circulation (i.e. those on protection and SSS), they were also asked to detail the reasons why they had been placed on protection or SSS. Participants then completed a package of questionnaires to assess the level of their distress and completed an assessment of problem-solving ability in an interview format. The inmates were presented with the following measures. Most have been described in fuller detail in previous sections of the current thesis:

1) The Hospital Anxiety and Depression Scale [HADS] (Zigmond & Snaith, 1983).
(See *Section 3.5.3.1* for fuller description).

2) Beck Hopelessness Scale [BHS] (Beck, Weissman, Lester & Trexler, 1974)

(See *Section 3.5.3.2.* for fuller description).

3) Profile of Mood States [POMS] (McNair, Lorr & Droppleman, 1992)

(See *Section 3.5.3.3* for fuller description).

4) Means-End Problem Solving Test [MEPS] (Platt & Spivack 1975)

(See *Section 3.5.5.1* for fuller description)

5) The National Adult Reading Test [NART] (Nelson & Willison, 1991) .

This scale was administered to the inmates to assess verbal ability. The NART consists of 50 words that do not conform to regular rules of pronunciation and the participant's task is to read the words aloud. The measure shows a strong correlation with IQ (Crawford, Parker, Stewart, Besson, & De Lacey, 1989; Nelson & O'Connell, 1978) and its scores are converted to predictions of WAIS-R Verbal, Performance and Full IQ scores.

8.4. Results

8.4.1. Demographics and Prison Experience

The mean age of respondents was 18.7 years (s.d. 1.3). In terms of education, 27.0% of the sample had left school prior to the age of 15.5 years which is the legal minimum school leaving age in Scotland. Overall, 65% had left school by the age of 16. With regards to educational attainment, 35% left school with no qualifications, 30.0% had attained standard grades, 32.0% possessed vocational training in the form of SCOTVEC certification. Only 3.0% of the sample had received education to the level of Higher Grade or above.

One-way ANOVA with post-hoc Scheffé tests revealed that the victims of bullying were younger (17.8 years) than the inmates on suicidal observation (18.8 years), those on protection (19.0 years), and the control group (19.1 years) $F(4,96) = 6.37, p < 0.0005$; post hoc Scheffés < 0.05 . Otherwise, no other demographic or sentencing differences were noted, except that more of the inmates that had been placed on protection were convicted of crimes of indecency, $\chi^2(3) = 21.85, p < .0001$.

The NART was administered to 95 inmates (5 inmates were unable to complete the test due to literacy difficulties). Analyses with the NART revealed a mean verbal IQ of 99.42 (s.d. 9.07, range 73-118), a mean performance IQ of 100.84 (s.d. 9.88, range 71-121), and a mean full IQ of 100.29 (s.d. 8.75, range 75-119) among the groups generally. One-way ANOVAs failed to reveal any differences between the groups.

8.4.2. Psychological Distress

One-way ANOVAs with post-hoc Scheffé tests were used to examine group differences. *Table 8.1* illustrates that the lowest levels of HADS-Depression and Anxiety can be found in the comparison group, who differ significantly from all the other groups. The highest levels of depression as measured by the HADS can be found in the inmates who were currently on SSS, who differed significantly from all the other groups. Also, the comparison group differed significantly from all the other groups - displaying a significantly lower level of depression. When the norms for the HADS are considered, both the comparison group and the inmates on protection could be considered as displaying a "normal" level of depression, the victims of bullying who remained in routine circulation showed a "mild" level of depression, and the inmates on SSS a "moderate" level of depression. With regards to HADS-Anxiety, the lowest levels of anxiety were found in the comparison group, who differed statistically from all the other groups. The inmates on protection, those on SSS, and the victims of bullying did not differ significantly from each other, all displaying a "mild" to "moderate" level of anxiety.

Considering the Beck Hopelessness Scale, the lowest levels of hopelessness were found again in the comparison group, who differed significantly from all the other groups. The highest overall level of hopelessness could be found in the victims of bullying, although post hoc Scheffé tests did not differentiate them from any of the other groups. Greene's (1981) normative study of the BHS suggests a mean of 4.45 with a standard deviation of 3.09. In that context, all three victim groups reported clinical levels of distress. Beck et al, (1985) reported that BHS scores of 9 or above could be predictive of the level of psychological morbidity associated with successful suicidal behaviour.

Table 8.1: Means and Standard Deviations for the victims of bullying, inmates on protection, inmates on SSS and comparison inmates

for the HADS, POMS and BHS (df = 3,99)

Scale	Gp 1 (n=25) Control		Gp 2 (n=25) Victim		Gp 3 (n=25) Protection		Gp 4 (n=25) SSS		F	p	Scheffé *
	M	SD	M	SD	M	SD	M	SD			
HADS											
<i>Depression</i>	3.52	3.22	8.80	4.24	7.08	4.20	12.88	4.66	22.35	<0.0001	1-2,1-3,1-4, 2-4, 3-4.
<i>Anxiety</i>	5.60	3.55	11.60	4.88	9.80	4.15	10.30	5.26	8.26	<0.0001	1-2, 1-3, 1-4
BHS	4.36	2.73	10.76	4.45	7.80	3.74	8.72	4.55	11.49	<0.0001	1-2, 1-3, 1-4
POMS											
<i>tension-anxiety</i>	11.80	7.39	20.32	8.65	18.28	9.28	25.00	8.28	11.41	<0.0001	1-2, 1-4, 3-4
<i>depression-dejection</i>	16.88	10.67	27.32	14.22	23.80	12.51	35.00	14.81	8.20	<0.0001	1-4, 3-4
<i>anger-hostility</i>	14.32	10.74	23.68	11.82	21.92	10.55	23.52	8.85	4.41	<0.005	1-2, 1-4
<i>vigour</i>	20.12	8.32	13.28	7.21	15.92	9.21	9.44	9.85	12.00	<0.0001	1-2, 1-3, 1-4
<i>fatigue</i>	9.00	6.72	11.32	8.09	12.52	7.51	15.04	7.23	2.87	<0.05	1-4
<i>confusion-bewildered</i>	10.16	6.68	16.24	4.99	15.04	5.59	19.36	5.80	10.84	<0.0001	1-2, 1-3, 1-4

* Post-hoc Scheffé tests distinguished groups separated by the hyphen as significantly different from each other at the 0.05 level of significance

The POMS also revealed differences in psychological distress patterns across the four groups. The levels of tension-anxiety and depression-dejection was highest in the inmates on SSS (group 4), who differed significantly from all groups apart from the victims of bullying (group 2). Anger-hostility was highest in the victims of bullying who remained in routine circulation, they differed from the comparison group but not from the inmates on suicidal observation nor the inmates on protection. The lowest levels of vigour and the highest levels of fatigue were found in the inmates on SSS. Finally, with regards to confusion-bewilderment, the highest levels were found among the inmates on SSS, and the lowest levels were in the comparison group, who differed from all the other groups.

The manual for the POMS provides three normative comparison groups, which include an outpatient sample, a college student sample and adult sample (McNair, Lorr & Droppleman, 1992). Although none of these populations could be considered to match a penal sample, the current study chose to employ the norms based on the administration of the POMS to 340 male students. The reason for this being that they were of a comparable age, and both had experienced a change of life style associated with the adjustment to university or prison - involving significant changes to accommodation, family contacts, and social supports. Although there are POMS norms available for a delinquent population (Lira & Fagan, 1978), these were considered unsuitable for the current study. The delinquent norms were based on an administration of the POMS to incarcerated male offenders in America, whose age was more reflective of a British adult population (mean 24.6 years) and whose racial and socio-economic make-up was not reflective of that found among British penal populations.

One sample *t*-tests were used to examine the differences in the distress levels displayed in each of the four groups in the present study and the student normative data (McNair, Lorr & Droppleman, 1992). These norms suggest mean scores of 12.9 (s.d. 6.8) for tension-anxiety, 13.1 (s.d. 10.5) for depression-dejection, 10.1 (s.d. 7.8) for anger-hostility, 15.6 (s.d. 6.0) for vigour, 10.4 (s.d. 6.2) for fatigue, and 10.2 (s.d. 5.2) for confusion-bewilderment. The inmates on SSS showed the largest differences from the student normative samples (all *t* tests significant at <0.0001 level), indicating the most elevated levels of psychological distress. The victims of bullying also differed significantly from the student normative sample (all *t* tests significant at <0.0001 level) with the exception of fatigue, where there were no significant differences. The inmates on protection differed significantly from the student normative sample (all *t* tests significant

at <0.0001 level) with the exception of fatigue and vigour on which there were no differences. The inmate comparison group did not differ from the student normative data on any of the scales. Overall, the inmates on suicidal supervision showed the highest levels of distress on the POMS, followed by the victims of bullying.

ANCOVA were used to examine the relative importance of the status of the individual (comparison inmate, victim of bullying, inmate on protection, inmate on suicidal observation), their age and total time spent incarcerated upon the three main distress measures of HADS-Anxiety and Depression and Hopelessness. The status of the individual was held as the main independent variable, and the age and total time spent incarcerated were held as covariates. All the analyses revealed significant main effects for status, and non-significant results for the covariates. The results were as follows: for the HADS-Anxiety scale (status $F = 6.91$, $p < 0.001$, covariates - age $F = 1.19$, $p = > 0.05$ and time incarcerated $F = 1.81$, $p > 0.05$); HADS-Depression (status $F = 21.02$, $p < 0.001$, covariates - age $F = 1.41$, $p > 0.05$, and time incarcerated $F = 1.01$, $p > 0.05$); and Hopelessness (status $F = 9.90$, $p < 0.001$, covariates - age $F = 1.54$, $p > 0.05$, and time incarcerated $F = 1.45$, $p > 0.05$). These results taken together suggest the importance that the status of the individual (that is, the effects due to personal experiences within the prison) has upon their self-reported psychological distress regardless of the effects of age or time incarcerated. Contrary to previous research (Toch, Adams, & Grant, 1989; Zamble & Porporino, 1990), no U-shaped relationship was found between psychological distress and time spent incarcerated. This relationship has previously been observed in long-term adult offenders. It is suggested that the absence of this effect in the current study may be due to the relatively short periods of incarceration served by the prisoners in the current sample.

8.4.3. Problem Solving

Two independent raters were used to compare the consistency of MEPS scoring with the main researcher, using 60% of the overall sample. All raters were blind to the any demographic or status information concerning the respondents (all responses were identified solely by a reference number). Kappa coefficients ranged from 0.86 to 0.92, suggesting good consistency in the scoring of the MEPS. Answers were scored on a host of dimensions, some taken from the original protocol (assessing the number of relevant and irrelevant means, obstacles, and no responses) while others derived from more recent

research with the MEPS (e.g. whether the response could be regarded as active or passive, subjective appraisals of effort).

Table 8.2 illustrates the quantitative mean responses for the groups with regards to the MEPS. *Table 8.2* shows that there is no differences between the groups with regards to the number of relevant means produced for the MEPS scenarios. All groups performed at a very low level. Indeed, some researchers have suggested the presence of a floor effect in problem-solving ability among penal samples (Ivanoff et al, 1992). The highest endorsement of irrelevant means was found in the group on SSS and the lowest number in the protection group, with post hoc Scheffé tests differentiating these two groups. The highest number of active means was produced by the inmates on SSS and the lowest in the victims of bullying. Again, post hoc Scheffé tests differentiated these groups. Conversely, the highest number of passive means was also found in the SSS group, who were differentiated from all other groups by post hoc Scheffé tests. With regards to the number of obstacles identified in the problem-solving process and the number of no responses, a floor effect precluded analyses. Indeed, these close-to-zero scores may be taken as demonstrating that there is pervasive deficit among such prisoners in the problem-solving skill of being able to adequately attend to problems that may arise during the course of the problem-solving process.

Qualitative analyses of the MEPS were then considered. Differences occurred between the groups with regards to the amount of effort it would take to successfully implement a strategy. The control group reported the lowest levels of effort needed in problem solving (mean = 1.66) and they differed significantly from both the victims of bullying (mean = 3.08) and the inmates on protection (mean = 2.73) $F(4,96) = 8.48$, $p < 0.001$, post hoc Scheffé < 0.05 .

MEPS responses were also compared with NART verbal, performance and full IQ scales in order to test whether problem-solving ability as assessed by this outcome measure was an artefact of verbal ability. No significant correlations were found between the NART and any of the MEPS components (Pearson r 's ranged from $- .03$ to $.23$), illustrating that in this particular group, problem-solving ability was not dependent upon verbal skills.

Table 8.2: Means and Standard Deviations for the MEPS among victims of bullying, inmates on protection, inmates on SSS and a control group.

	Gp 1 (n = 25) Control		Gp 2 (n = 25) Victim		Gp 3 (n = 25) Protection		Gp 4 (n = 25) SSS		F	p	Scheffé*
	M	SD	M	SD	M	SD	M	SD			
MEPS											
Relevant Means	1.26	0.42	1.00	0.71	1.76	0.73	1.51	0.63	1.82	n/s	
Irrelevant Means	0.47	0.57	0.78	0.45	0.38	0.26	0.85	.65	5.13	<0.01	3-4
No responses	0.00	0.20	0.03	0.08	0.04	0.20	0.20	0.50	2.72	<0.05	
Active Means	1.26	0.42	1.00	0.71	1.40	0.73	1.70	0.71	4.89	<0.01	2-4
Passive Means	0.05	0.18	0.20	0.35	0.16	0.27	0.61	0.68	8.66	<0.0001	1-4, 2-4, 3-4

* Post-hoc Scheffé tests distinguished groups separated by the hyphen as significantly different from each other at the 0.05 level of significance

In order to examine the hypothesis that there may be a link between problem-solving ability and psychological distress, Pearson product-moment correlations were computed between the adjustment indices (HADS, POMS, BHS) and the MEPS among each of the four groups. As reported in Chapter 7 there were few significant correlations between the measures of psychological distress and the MEPS among the comparison group of inmates, (r s in the range of .04 - .32), with the exception that there was a significant positive correlation between the number of MEPS irrelevant means and hopelessness ($r(24) = .41, p < 0.05$). A number of correlations between the measures of psychological distress and the MEPS were found among the victims of bullying. HADS-Anxiety correlated positively with the number of irrelevant MEPS means ($r(24) = .41, p < 0.05$), PSQ problem-orientation ($r(24) = .40, p < 0.05$). HADS-Depression correlated positively with the number of irrelevant MEPS means ($r(24) = .45, p < 0.05$). Hopelessness correlated with the number of irrelevant MEPS means ($r(24) = .51, p < 0.01$) and negatively with the number of relevant MEPS means ($r(24) = -.55, p < 0.05$). There were few significant correlations between the measures of psychological distress and the MEPS among the inmates on protection, (r s in the range of .17 - .37), with the exception that there was a significant negative correlation between the number of MEPS relevant means and HADS-Anxiety ($r(24) = .42, p < 0.05$) and a significant negative correlation between POMS depression-dejection and the number of active problem-solving means proposed in response to the MEPS scenarios ($r(24) = .44, p < 0.05$). A greater number of correlations between the measures of psychological distress and the MEPS was apparent among the group of inmates on SSS. Here, the number of irrelevant MEPS means correlated significantly with HADS-Depression ($r(24) = .43, p < 0.05$), and hopelessness ($r(24) = .55, p < 0.01$). The number of relevant MEPS means was also negatively correlated with hopelessness ($r(24) = .47, p < 0.05$), and the number of passive MEPS responses was also significantly correlated with hopelessness ($r(24) = .43, p < 0.01$).

8.5. Discussion

The present study addressed the issue of psychological distress and problem solving abilities in a group of incarcerated young offenders who had displayed difficulties in adjusting to the prison regime. Although previous researchers (Zamble & Porporino, 1988) have suggested the importance of such factors as age and the total amount of time spent incarcerated in relation to the level of distress experienced, the present study highlighted the unique role that situational experiences (such as being a victim of bullying,

living in a protected area, or being placed on suicidal supervision) play in the experience of anxiety, depression and hopelessness among prisoners.

With regards to the affective states, there appeared to be a hierarchy of distress, where the inmates on SSS displayed the most elevated levels of distress (often at a level that could merit clinical intervention), followed by the victims of bullying, then the inmates placed on protection. The lowest levels of distress were found in the comparison group.

It is interesting to note that the highest levels of hopelessness were found among the victims of bullying, and not among the inmates who had recently displayed parasuicidal behaviour, as might have been expected. Although the reasons for this are unclear, it is suggested that this may be a reflection of the fact that the victims of bullying had not formally requested assistance from the prison staff and remained housed in main stream circulation where essentially they still faced their sources of fear and conflict. However, it should be noted that the levels of hopelessness found among the victims of bullying and the inmates on SSS is comparable to that found in a host of clinical studies examining severe depression or parasuicide (Evans et al, 1992; MacLeod, Rose & Williams, 1993; Williams & Dritschel, 1988). Indeed the level of hopelessness found in these two inmate groups is comparable to that found in Ivanoff et al, (1992) study of prison parasuicides, and is more acute than that previously found in Scottish young offenders (Power & Beveridge, 1990). The present study illustrated that while hopelessness seems to be an important corollary of the victims of bullying, it is the clinical mood states of anxiety and depression that are the main corollaries of inmate placement on suicidal observation.

Zamble & Porporino (1989) previously suggested that vulnerable inmates have avoidant or maladaptive problem-solving skills. Toch, Adams & Grant (1989) also anecdotally suggested that inmates under formal protection have a very passive problem-solving style and become dependent on others as a means of dealing with their problems. The present study has gone one stage further and identified different sub-groups of vulnerable inmates with specific and characteristic problem-solving deficit profiles. There were no significant differences between the groups in the number of relevant means (reasonable strategies) given to the MEPS scenarios; all groups appeared to have a pervasive deficit in orienting themselves to successful problem-solving strategies. Overall, the groups showed a floor effect in identifying obstacles and problems that may occur within the problem-solving process, potentially indicating a lack of fore-thought and

general impulsiveness in problem-solving style. The highest number of irrelevant problem-solving means (unreasonable strategies) was found among the inmates who were on SSS. This group also gave the highest number of passive problem-solving means, differing from all of the other groups sampled. Taken together, these results suggest a high level of helplessness and sense of inadequacy among inmates on SSS. According to Spivack (1973), individuals who are more capable of thinking through stated goals are more likely to be successful in attaining them due to their ability to think through difficult obstacles that may be in the way or to devise alternative solutions if an obstacle is too difficult to overcome. Spivack argues that if the person does not have such a repertoire of problem-solving abilities, then they may face repeated failure which in turn, could lead to maladaptive behaviour. Thus, in the context of the present study, the behaviour exhibited by the inmates on SSS may be regarded as maladaptive behaviour resulting from repeated failure to deal with everyday life as it occurs in prison. The deficits in problem-solving ability apparent in the present sample are reflective of those evident in previous clinical studies that have suggested the suitability of problem-solving training as an intervention (Linehan et al, 1987; Marx et al, 1992; Schotte & Clum, 1987).

With regard to the assertions concerning the role of social problems solving deficits in the development and maintenance of psychological distress, the current study demonstrated that an increase in psychological distress was correlated with certain deficits in problem-solving ability as assessed by the MEPS. In a similar vein to the "hierarchies" of deficits of problem-solving ability observed and the level of psychological distress, the strongest correlations between problem-solving ability and psychological distress were found among the SSS inmates, followed by the victims of bullying, with few significant relationships found with the inmates on protection or the comparison group.

Of course, due to the correlational nature of this study, the causal sequence cannot be specified. Problem-solving deficits may lead to increased distress but the relationship could equally be in the converse direction. Indeed, it is plausible that both of these constructs may pre-date assignment to the "distress" groups examined in this study, although the situational influence of the inmates' status is likely to enhance distress.

To date, the current research is the first study to examine in detail the problem-solving skills of a group of incarcerated young offenders who have displayed difficulties in adjusting to the regime. However, there are a number of methodological issues that need

to be considered in the design of the study. Firstly, all the inmates came from one Scottish institution, and the interplay between particular institutions, their regimes, in the amount of distress reported, and the development of particular characteristics among sub-groups of prisoners cannot be determined in the present study. Secondly, each of the groups examined in the current study may not be historically exclusive in terms of their past histories of prison experiences, but are certainly mutually exclusive in their presently adopted methods of coping with prison related distress and current problem-solving strategies. Inmate status is often transient, for instance, 32% of the inmates who were in the SSS group also reported having been bullied prior to being placed on SSS. However, it is suggested that the position in which an inmate is found (being placed upon protection, suicidal supervision, or remaining in routine circulation) is a reflection of how different individuals will react to a prison stress. While some inmates feel they can rely upon their own resources and remain in routine circulation, others request to be removed from their source of stress. Yet others will self-harm as a means of indicating their distress and removing them temporarily from their source of stress. It is suggested that these differences in ways of dealing with a prison stressor may be mediated by problem-solving skills. Future research might attempt to examine mutually exclusive samples of inmates, although in practice this might be difficult to achieve. Finally, the research psychologist was aware at the time of interview as to which of the study groups each inmate belonged. Although there was little margin for this to have an influential effect upon the data as no subjective ratings were employed, future studies might aim for both interviewer and independent rater to be blind to the study group to which inmates belong. During the course of the present study this would have been difficult to achieve, as the geographical location in which each inmate was interviewed (such as the protection wing, or the surgery for inmates on SSS) immediately revealed the group to which the inmate belonged.

The present study suggests that problem-solving training could be an important approach for therapeutic intervention with vulnerable prisoners, in that prisoners could be trained to think through difficult interpersonal situations. Indeed D'Zurilla and Goldfried (1971) have developed such a programme which trains individuals in the cognitive aspects of problem-solving which can be applied generally to all forms of difficult interpersonal and social situations that individuals might encounter. To date no such work has been done with incarcerated young offenders although the efficacy of social problem solving training has been demonstrated among adult prisoners.

Platt, Perry, & Metzger (1980) demonstrated the efficacy of training in interpersonal problem-solving skills particularly with real-life problems as an integral component of a program to address narcotic addiction among a group of North American male prisoners aged 19 and above. In a controlled intervention study with a group of North American male prisoners Bornstein, Winegardner, Rychtaril, Paul, Naifeh, Sweeney, & Justman (1979) randomly assigned inmates to either interpersonal effectiveness training or a waiting list control. Following six one-hour sessions during which inmates rehearsed, modelled, and were trained in generating appropriate responses to socially problematic conflict situations, the inmates in the interpersonal effectiveness training group demonstrated greater effectiveness in addressing the difficult interpersonal situations used for the training sessions and increased their social competence as well. Bornstein et al suggested an important improvement to this particular intervention would be the inclusion of work with the cognitive components of the problem-solving process - such as were examined in the current study. Taken together, such studies suggest that problem-solving interventions may be useful with prisoners.

Previous writers have argued that prisons contain a disproportionate number of individuals with poor or limited coping skills who are particularly vulnerable to the effects of stress (Backett, 1988). The present researchers have suggested that by arming such vulnerable prisoners with a repertoire of social problem-solving skills, they may be better equipped to deal with the stresses of incarceration. Such training may also be relevant to both a prevention or treatment paradigm. Predicting vulnerability prior to an inmate experiencing conflict, distress, and enforced segregation from general circulation would also be of value to the management of offenders.

CHAPTER 9:

**SUICIDALITY AND THE STATE-TRAIT DEBATE ON
PROBLEM SOLVING DEFICITS:
A RE-EXAMINATION WITH INCARCERATED YOUNG
OFFENDERS.**

Chapter 9: Suicidality And The State-Trait Debate On Problem Solving Deficits: A Re-examination With Incarcerated Young Offenders.

Abstract

This study examines the relationships between means-end problem solving and suicidality in a group of Scottish incarcerated young offenders. The study examines the issue concerning whether trait or state problem-solving deficits are more inextricably linked to suicidality. Using the Means-End Problem-Solving Procedure [MEPS] with 61 inmates, results suggested a more complex interaction between problem-solving deficits, affective state, and suicidality than previously suggested. The current study suggests that although problem-solving is not a trait phenomenon, it may be a state corollary of suicidality. The current study also provides evidence to suggest that psychological distress is both a trait and state indicator of parasuicidal behaviour - in particularly concerning depression, which was more pronounced among inmates with a parasuicidal history than found in the comparison group.

9.1. Introduction

Research conducted over the past 15 years has illustrated the relationship between deficits in social problem-solving skills and suicidal behaviour. This relationship has been demonstrated in both clinical samples (Evans, Williams, O'Loughlin & Howells, 1992; Linehan, Camper, Chiles, Strosahl & Shearin, 1987; Orbach, Bar-Joseph & Dror, 1990) and non-clinical samples, that have in the main consisted of students (Clum & Febbraro, 1994; Dixon, Heppner & Anderson, 1991; Priester & Clum, 1993a, 1993b).

A recent debate among researchers has concerned whether deficits in problem-solving could be regarded as a state or a trait phenomenon among parasuicidal individuals. Schotte and Clum (1982, 1987) worked with both student suicide ideators and suicidal psychiatric patients and proposed a stress-diathesis model of suicidal vulnerability, where deficits in interpersonal problem-solving skills could predispose the development of hopelessness, depression, and suicidal behaviour. Together, these research papers suggest that interpersonal problem-solving deficits may be representative of a trait vulnerability in suicidal-prone individuals. However, a later longitudinal study by Schotte, Cools & Payvar (1990) with hospitalised suicide ideators concluded that interpersonal problem-solving deficits may be a concomitant, rather than a cause of depression, hopelessness and suicidal intent.

The study by Ivanoff, Smyth, Grochowski, Joon Jang & Klein (1992) aimed to examine the state/trait debate in a penal population, and examined the effects of parasuicide history among suicidal and non-suicidal inmates with regards to interpersonal problem-solving and standard psychological distress and suicidality measures. The MEPS was used with 93 inmates, and the results indicated no differences in problem-solving performance between currently suicidal versus non-suicidal subjects with a history of parasuicide. Furthermore, among currently non-suicidal inmates, the presence or absence of a history of parasuicide had no effect on problem-solving performance or their profile on psychological distress measures. Ivanoff et al (1992) concluded that their study supported the hypothesis of Schotte et al (1990), that suggests that trait problem-solving deficits are not causally linked to suicidality.

Thus the evidence for the state-trait debate appears at present to be equivocal. However, there are important methodological problems that warrant attention in most of the previous studies. Firstly, the study by Schotte and Clum (1982) used a sample of 175

polytechnic students who volunteered for the study in order to receive experimental credits. Suicidal ideation was assessed by several items adapted from Beck, Kovacs, & Weissman's (1979) Scale for Suicidal Ideators. Arguably, these student suicidal ideators differed in the severity of their psychological distress from suicidal attempters, in that the level of psychological distress experienced by the ideators would not be expected to be as acute as that experienced by suicidal attempters. Schotte and Clum (1987) attempted to remedy this by examining suicidality in a group of 50 suicidal psychiatric patients who had been placed on suicidal observation by treatment team members or had admitted current suicidal ideation in the interview with an investigator. However, of this sample, 85% had been diagnosed as having a schizophrenic disorder, and thus it would be hard to disentangle which effects were due to suicidality and which to schizophrenia or other psychiatric illness.

The study by Ivanoff et al (1992) is the only study that has employed an adult male penal population, however there are important methodological problems that need to be raised when assessing the relevance of this paper. Firstly there was a high incidence of psychiatric disorder in their sample. Out of the 93 inmate participants, 13 were diagnosed as having major affective disorder, 15 schizophrenia or psychotic disorder, 15 a V Code diagnosis, 33 adjustment disorder, and 47 reported psychoactive substance abuse (30 inmates had this as a second Axis I diagnosis). Although Ivanoff and others claimed there was an equal distribution of psychiatric cases across the research groups, the influence that psychiatric status itself played upon problem-solving skills deficits, independent of suicidality was not determined. Indeed it probably would have been too difficult to do so. Thus the results may be considered as confounded, given that it would be hard to disentangle which effects were due to suicidality, and those which were a result of psychiatric disorder or drug abuse, given the high reported incidence of illicit drug use within the sample. Given that a host of research studies have identified differential problem-solving deficits in schizophrenics (Bellack, Sayers, Mueser & Bennett, 1994), incarcerated drug abusers (Platt, Scura & Hannon, 1973) and those with affective disorder (Marx, Williams & Claridge, 1992), this could be deemed an important confounding issue. Secondly, difficulties also exist in the method by which inmates were classed as suicidal. For example, in Ivanoff et al's study, inmates were placed in the suicidal group if they self-reported experiencing suicidal ideation within the two weeks prior to study inclusion as assessed in response to the Prison Suicidal Behaviours Questionnaire (Ivanoff & Jang, 1991). Thus, the inmates need not have exhibited any parasuicidal behaviour.

Furthermore, given the time lag between study inclusion and the experience of suicidal ideation, the actual level of suicidal risk at time of inclusion may have worsened or more likely have lessened significantly. Indeed, it is unlikely that such inmates could be considered as acutely suicidal, as they were receiving the equivalent of outpatient mental health services within the prison, and were not removed from main circulation or placed on suicidal surveillance. Thus, the actual level of their suicidality is hard to determine.

9.2. Aims of the Current Study

The current study aims to re-examine the state-trait debate of problem-solving deficits and suicidality in a group of Scottish incarcerated young offenders. The problem solving abilities of young offenders has not been adequately addressed to date. Such research could be considered of practical importance considering current concerns with deliberate self-injury and suicide among young offenders (Liebling, 1992; Power & Spencer, 1987), where self-harm is often reported as a problem-solving strategy exhibited by distressed prisoners in order to alter certain aspects of the prison environment. The current researchers argue that such inmates warrant research attention, particularly to investigate whether their parasuicidal behaviour may reflect a deficit in the coping skills that are necessary for dealing with incarceration. However, some might argue that during imprisonment, the intimation of suicidal intent and exhibition of suicidal behaviour may well be an adaptive response to an actual or potential threatening situation, and therefore should not be considered as maladaptive. Alternatively, one might view such behaviour as a reaction to a situation where an individual is exhibiting an inability to cope with the demands or pressure placed upon them without resorting to potentially life-threatening behaviour in order to achieve avoidance or placement in the prison hospital. Thus, it is suggested that such individuals may be lacking in personal coping resources. Understanding whether any deficit in problem-solving ability is linked intricately to a suicidal state or is a much more pervasive problem is likely to have important ramifications for clinical interventions with such individuals.

The current study hopes to address some of the problems associated with previous research by employing a sample of inmates who are currently displaying suicidal intent and suicidal ideation, and are assessed to be a high risk of suicidal behaviour. What is more, in order to remove the concomitant effects upon problem-solving that may be associated with psychiatric illness or affective disorder, inmates were only considered for inclusion in

the current study if they were free from a formal diagnosis of psychiatric illness at the time of inclusion.

Although not addressed in their study of problem solving and suicidality among adult prison inmates, Ivanoff et al (1992) suggested that the deficits in problem solving skills evidenced in penal populations may in fact be a reflection of their intellectual level. In order to empirically assess if intellectual ability plays a confounding effect upon problem-solving, the current study also aims to examine the role that verbal ability plays in problem-solving.

9.3. Method

9.3.1. Participants

Participants were 61 inmates selected from the inmates who participated in the study reported in Chapter 8 of the current thesis. The mean age of respondents was 18.8 years (s.d. 1.2 years), and the average length of sentence was 34.0 months (s.d. 126.0 months). The average amount of time spent incarcerated as a result of multiple sentences was 16.5 months (s.d. 14.3 months). The average number of years of full-time education was 9.8 years (s.d. 2.9 years).

The inmates in the current study were a sub-section of inmates interviewed as part of a larger study on adjustment to prison life. For the purpose of the current study, inmates were categorised into three groups - a) a group of 15 inmates with a parasuicide history who were regarded as currently suicidal, b) a group of 21 inmates with a parasuicide history but not currently suicidal, and c) a group of 25 inmates those with no parasuicidal history and not currently regarded as suicidal. None of the participants had any current psychiatric diagnoses. This was verified through detailed inspection of medical records. Inmates were identified as being suicidal if they had made an attempt at deliberate self-harm within the previous 72 hours and had been removed from normal circulation and placed in the prison surgery on Strict Suicidal Supervision (SSS) by the prison medical or nursing officers. Within the Scottish Prison Service, SSS is the highest level of 3 possible levels of supervision, reserved for those inmates who are deemed as at high and imminent risk of suicidal behaviour by prison health staff. All of the inmates in the suicidal group were currently on SSS at the time of taking part in the present study. No further analogue measure was employed to assess their suicidal ideation or suicidal intent, although inmates maintained on SSS remain so by virtue of continued suicidal ideation or intent and

this was evident during interviews with the researcher. Inmates' parasuicidal history was confirmed through detailed inspection of their medical records and the examination of the POS-1 (Prevention of Suicide) forms, and where relevant POS-2 forms among their records. The POS-1 form is completed as part of the assessment made by medical staff during the formal admission procedures for all Scottish prisoners, and determines their suicidal risk based on a number of factors - including previous attempts at self-harm. POS-2 forms are completed by nursing and medical staff if an inmate exhibits any suicidal intent at some later point during custody after formal admission. All inmates currently suicidal and on SSS described incidents of parasuicidal behaviour exhibited during their present period of incarceration and verified on POS-2 forms. With regards to the group that were not currently suicidal but had had a history of parasuicidal behaviour, their status was also confirmed by detailed inspection of their medical records and verified by an appropriate POS-1 form. All of these inmates also confirmed their prior parasuicidal behaviour during the interview stage of the study. These inmates were living in routine circulation in the prison. The comparison group of inmates with no current or previous parasuicidal behaviour were selected from the inmates within routine circulation in a similar manner. In this case, the absence of any suicidal indicators on their POS-1 forms and the fact that none of these inmates intimated previous parasuicidal attempts during the interview stage of the study was taken as evidence of their history.

ANOVA revealed no differences between groups with regards to age, number of years of full-time education received, length of their current sentence, nor the total amount of time spent incarcerated to date. Of the sample, 26.2% reported illicit drug use during the previous 14 days of incarceration. All of these (16 individuals) reported using cannabis. Of the individuals using other drugs along with cannabis use, 5 inmates reported misuse of benzodiazepines, and 1 of opiate-based painkillers. The incidence of drug use in this Scottish sample appears to be lower than that in the sample used in the Ivanoff et al study (1992). The highest incidence of drug use in the current study was in the comparison group of inmates who had no history of parasuicide and were not currently considered as suicidal $\chi_2 (4) = 10.02, p < 0.05$. Of the entire sample 67.2% had previous psychiatric contact, with educational problems, court assessments, recidivism, drug rehabilitation and aggression management being the main reasons for referral. None had been previously referred due to mental health problem such as depression or psychotic illness.

9.3.2. Measures

All participants completed the following measures. All of these have been described in fuller detail in previous sections of the current thesis.

1) The Hospital Anxiety and Depression Scale [HADS] (Zigmond & Snaith, 1983).

(See *Section 3.5.3.1.* for fuller description).

2) Beck Hopelessness Scale [BHS] (Beck, Weissman, Lester & Trexler, 1974)

(See *Section 3.5.3.2.* for fuller description).

3) Means-End Problem Solving Test [MEPS] (Platt & Spivack 1975)

(See *Section 3.5.5.1.* for fuller description).

4)The National Adult Reading Test [NART] (Nelson & Willison, 1991)

(See *Section 3.5.7.1.* for fuller description).

9.4. Results

The mean scores for the three inmate groups on each of the measures are illustrated in *Table 9.1*. Firstly, Pearson product-moment correlation coefficients were used to examine the possibility of a relationship between intellectual ability and MEPS performance. These failed to reveal any relationship between predicted WAIS-R IQ scores as derived from the NART and any of the MEPS measures (r 's ranged from -0.03 to 0.16), suggesting that in this particular population, intellectual ability does not confound problem-solving ability. No differences were found between the groups with regards to NART scores. Thus intellectual ability was not included in any further analyses.

In line with the analyses conducted in previous research studies (Ivanoff et al, 1992, Schotte et al, 1990) four separate multivariate analyses of variance (MANOVA) were computed in order to investigate the state-trait hypotheses of problem-solving skills and psychological distress measures. MANOVA were used due to the inter-correlations between the measures of psychological distress and the MEPS measures.

Table 9.1: Mean Scores and Standard Deviations for Inmates With and Without a History of Parasuicide on the HADS, BHS ,MEPS and NART.

	<u>History of Parasuicide</u>				<u>No history of parasuicide & not currently Suicidal</u>	
	<u>Currently Suicidal</u>		<u>Not currently Suicidal</u>			
	<i>(n= 15)</i>		<i>(n=21)</i>		<i>(n=25)</i>	
MEASURE	M	SD	M	SD	M	SD
HADS - Anxiety	11.66	4.13	10.06	5.43	5.56	3.70
HADS - Depression	12.66	4.25	8.90	5.05	3.24	2.48
BHS	9.86	4.85	8.85	4.00	4.56	3.04
MEPS						
Relevant Means	1.41	0.67	1.89	2.32	1.91	0.45
Irrelevant Means	0.97	0.62	0.52	0.50	0.51	0.54
No responses	0.19	0.05	0.03	0.06	0.00	0.00
Active Means	1.46	0.66	1.48	0.64	1.19	0.45
Passive Means	0.91	0.68	0.08	0.18	0.09	0.25
NART (predicted IQ)						
Full IQ	98.54	8.08	99.37	7.03	97.79	7.42
Performance IQ	99.37	7.03	103.90	7.71	102.70	7.94
Verbal IQ	97.79	7.42	102.26	7.83	100.86	8.09

Note. HADS = Hospital Anxiety and Depression Scale; BHS = Beck Hopelessness Scale; MEPS = Means-End Problem-Solving Procedure, NART = National Adult Reading Test - using scores converted to WAIS-R Full IQ, Performance IQ and Verbal IQ scores.

9.4.1. Inmates with a history of parasuicide: Currently suicidal versus not currently suicidal

The first two analyses examined state effects among subjects positive for the trait, that is, those with a parasuicide history. In the first MANOVA, the total scores on the HADS and BHS served as dependent variables, and current suicidality (considered currently suicidal versus not considered currently suicidal) as the independent variable among inmates with a parasuicide history. As expected, the results of this analyses revealed a significant effect for current suicidality, Wilks's $\lambda (3,32) = 0.70, p < 0.01$. Among those who shared a common parasuicidal history, currently suicidal participants scored higher on the psychological distress measures in comparison to those not currently suicidal. Subsequent analyses of variance were then calculated to test for the differences on each of the individual measures between the inmates who were currently suicidal and those who were not suicidal. No significant differences were found with regards to anxiety $F (1,34) = 1.00, p > 0.05$ in that both groups displayed a moderately high level of anxiety. Again, for those with a history of parasuicidal behaviour, differences were however found regarding depression $F (1,34) = 9.44, p < 0.01$, in that the group not currently suicidal displayed a mild level of depression while the inmates considered to be currently suicidal displayed a moderately high level of depression. For the immediately aforementioned groups, contrary to the findings of Ivanoff et al (1992) the current study did not find any differences with regards to the Beck Hopelessness Scale $F (1,34) = 0.53, p > 0.05$, in that both groups displayed a level of hopelessness that has been previously considered of warranting clinical attention and could be predictive of future successful suicide (Beck, Steer, Kovacs, & Garrison, 1985).

The next step of the analyses was to determine if there were concomitant differences in the MEPS measures between the same groups. Four MEPS performance scores (relevant means, irrelevant means, active means, passive means) were used as dependent variables, and the presence or absence of current suicidality among those with a parasuicidal history was the independent variable. Contrary to the findings of the Ivanoff et al study (1992) this MANOVA revealed a significant effect for current suicidality among inmates with a parasuicide history, Wilks's $\lambda (4,31) = 0.70, p < 0.01$ with regards to problem-solving ability. Overall this suggests that among inmates with a history of parasuicide, currently suicidal individuals show more deficits in problem-solving ability than those not currently suicidal. Subsequent analyses of variance were then calculated, among inmates with a common parasuicidal history, to test for the differences on each of the individual MEPS measures between the inmates who were currently suicidal and those

who were not suicidal. No significant differences were found with regards to the number of active means produced $F(1,34) = 0.09, p > 0.05$ nor the number of relevant means produced $F(1,34) = 0.58, p > 0.05$. However, differences were observed with regards to the number of irrelevant means produced $F(1,34) = 5.57, p < 0.05$ and the number of passive means produced $F(1,34) = 28.49, p < 0.001$ in that currently suicidal inmates responded with more irrelevant and passive problem-solving means.

9.4.2. Not currently suicidal: History of parasuicide versus no history of parasuicide.

The second set of two MANOVAs, investigating trait effects, examined the effect parasuicide history had on the HADS, BHS, and MEPS for all inmates who were not currently suicidal. The first MANOVA used the HADS and BHS as dependent variables, and the presence or absence of a parasuicide history as the independent variable. Contrary to the findings of the study of Ivanoff et al (1992), this analysis revealed a main effect for parasuicide history, Wilks's $\lambda(3,42) = 0.47, p < 0.001$. Subsequent analyses of variance were calculated to test for the differences on each of the individual measures between the inmates with a parasuicide history and those without among all the inmates that were not currently suicidal. Significant differences were found with regards to anxiety $F(1,44) = 24.84, p < 0.0001$, depression $F(1,44) = 25.33, p < 0.001$, and hopelessness $F(1,44) = 17.66, p < 0.001$. These results suggested that inmates with a parasuicidal history but not currently suicidal showed higher levels of psychological distress as assessed by their self-reported levels of anxiety, depression and hopelessness than the comparison group that were characterised by no suicidal behaviour either past or present.

The second MANOVA used the MEPS problem-solving measures as the independent variables and parasuicidal history as the dependent variable failed to reveal a main effect for group, Wilks's $\lambda(4,41) = 0.88, p > 0.05$. This suggested that there were no overall differences in the problem-solving abilities of inmates with a parasuicidal history who were not currently suicidal and the comparison group of inmates with no history of parasuicide and who were not currently suicidal.

9.5. Discussion

The validity of the MEPS in incarcerated populations has previously been questioned (Ivanoff et al, 1992). MEPS performance has previously been considered to be inextricably linked to verbal and general intelligence (Butler & Meichenbaum, 1981; Gotlib & Asarnow, 1979). By means of the NART, the present study aimed to determine whether low verbal intelligence explained the poor problem-solving performance generally evidenced in penal populations. No significant relationships were found between MEPS performance and neither predicted verbal, performance nor full IQ scores - suggesting that other factors are accountable for the observed deficits in problem-solving ability found in such samples. The present study demonstrated a clear relationship between the factor suicidality and deficits in problem-solving.

The results of the current study are not in consistent agreement with those of Ivanoff et al (1992). The present study validated some of Ivanoff and others' findings in that there were no differences in the present study between the comparison group who had no history of parasuicide and were not currently suicidal and the group of inmates who did have a parasuicidal history but were not considered as currently suicidal with regards to problem-solving ability. As suggested by Ivanoff and others and Schotte et al (1990), such findings cast doubt that problem solving deficits are trait characteristics of parasuicidal individuals.

Contrary to Ivanoff et al (1992), the current study found differences with regards to the levels of psychological distress displayed in the above two groups in that the group with a parasuicidal history (though not currently considered suicidal) displayed higher levels of anxiety, depression and hopelessness than the comparison group. The current authors suggest that these differences in results may be reflective of the fact that there may have been a generally higher level of psychological distress in Ivanoff and others' samples that could be a concomitant of the high level of psychiatric caseness found in all of their groups. Thus, in Ivanoff and others' study, the level of disturbance displayed may be confounded with more general psychiatric morbidity, regardless of parasuicidal history. However, the differences found in the current study may be more representative of a trait-like vulnerability to exhibit psychological distress that can remain with parasuicidal individuals and is antagonised by acute, stressful situations such as incarceration.

It is noteworthy also that the present study failed to find differences with regards to anxiety and hopelessness among currently suicidal individuals who had a history of parasuicide compared to those who had a parasuicide history and were not currently suicidal. Ivanoff et al (1992) had suggested that these groups differed with regards to hopelessness. In failing to differentiate between these groups in terms of hopelessness, the present study found that hopelessness was at a clinical level in both groups. However, the current study agreed with Ivanoff and others in terms of the fact that currently suicidal individuals displayed a higher level of depression. Cole (1989) and Rudd (1990) have previously demonstrated the importance of depression over hopelessness in suicidal ideation and self-reported behaviour among non-clinical adolescent samples.

However, contrary to the Ivanoff et al (1992) study, the present study found differences among currently suicidal individuals with a parasuicide history and individuals with a parasuicide history who could not be currently considered as suicidal with regards to their problem-solving abilities as assessed by the MEPS. Currently suicidal individuals produced more irrelevant and more passive means of problem solution. This is comparable to the patterns of deficits in suicidal individuals found by previous researchers employing other clinical samples (e.g. Linehan et al, 1987; Orbach et al, 1990). The differences in the findings of the current study and the Ivanoff and others study may appear difficult to explain. However, the current author suggests that this may be a reflection of the differences inherent in the samples used. The individuals in Ivanoff and others' sample were selected by means of reporting having experienced "suicidal ideation" during the two week period prior to their study interview and inclusion in the study. Thus the sample may not have adequately represented a group of acutely suicidal individuals. This in turn may account for the lack of differences in problem-solving abilities found between the groups. Conversely, the sample in the present study were selected by means of their current displays of suicidal intent and behaviour, rather than previous ideation, and were still considered to be at continued risk. Hence, the current sample may be more representative of an acutely suicidal group - and thus explain the deficits in problem-solving ability that are apparent in the present study.

Ivanoff et al (1992) concluded on the basis of their findings that the relationship between problem-solving and suicidality is neither state nor trait, and argues that the relationship is more complex and interactive. However, the current study suggests that although problem-solving is not a trait phenomenon, it may be a state corollary of

suicidality. The current study also provides evidence to suggest that psychological distress is both a trait and state indicator of parasuicidal behaviour. With regards to current suicidality, the issue is focused on the level of depression - which was more pronounced among inmates with a parasuicidal history than found in the control group.

It is suggested that trait vulnerability for depression may in fact predispose towards poor problem-solving ability and ultimately suicidal behaviour when faced with acute stressors (such as incarceration). The model posits that a trait depression associated with a parasuicidal history may predispose poor problem-solving ability rather than vice versa. This is contrary to the stress-diathesis model (Schotte & Clum 1982, 1987), and supports the alternative model of Schotte et al (1990) which suggests that problem-solving deficits become apparent under stressful situations among a subset of individuals who are then at risk for negative consequences. Nevertheless, the present study has demonstrated that a simple stress-diathesis model appears to be inadequate in explaining the relationship between problem-solving deficits and suicidal behaviour. Clearly, the results are more complex and interactive, and the issue of the directionality of the relationship has not yet been adequately resolved.

There are limitations to the present study that are worthy of consideration. Firstly, the sample was entirely male, and it cannot be determined if the same profiles would be apparent among females. Secondly, the study employed a sample of incarcerated young offenders, and thus no conclusions can be firmly drawn concerning the relevance of these findings to adult prisoners or generally to community samples of parasuicidal individuals. Indeed, work in this area is currently ongoing. A third caveat rests with the size of the sample of the current study. Although the sizes of the critical groups are comparable to those found in the Ivanoff et al (1992) study and the study deals with highly selected samples, it could be argued that the small sizes of these groups creates difficulty in drawing firm conclusions about the nature of problem-solving deficits, depression, and suicidality. What is more, the sample sizes weakens the strength of the statistical analysis and increases the probability of making type I or type II errors.

Further methodological considerations centre around the mental health status of individuals who participated in the study. The researcher took care to include only individuals who were free from a formal diagnosis of psychiatric illness at the time of participation in order to control for the possible confounding effects that such disorders may

have upon problem-solving skills. This was a concern embedded in previous studies (Ivanoff et al, 1992). However, many of the individuals in the present study had previous psychiatric contact for educational difficulties, court assessments, drug rehabilitation, or aggression management. It should be noted that chi-square analyses revealed no differences between the groups with regards to previous psychiatric referral. It is important to acknowledge that the latter reasons for referral (drug rehabilitation, aggression management) suggest that at least some of the offenders could have warranted a diagnosis of axis II (personality disorder) according to DSM-IV criteria. It is thought that individuals with personality disorders cope differently with life stresses (Perry, 1988) and perhaps may use different problem-solving stratifies (Kehrer & Linehan, 1996).

With regards to the measure of suicidality used in the current study, it could be argued that the definition the study employed was vague. While the actions of the inmates had suggested high levels of suicidal intent and ideation, no formalised measure of these states was taken. Further studies would do well to include a measure such as the Suicidal Intent Scale (Beck et al, 1974). Such a measure would be of value when considering the issue of differences in suicidal risk among incarcerated individuals.

Perhaps the most important methodological issue in the current study concerns the use of cross-sectional designs to examine the quasi-longitudinal nature of the relationships between depression, problem-solving deficits and suicidality. Indeed, the cross-sectional design employed in the current research has previously been employed in studies examining such relationships both in penal settings (Ivanoff et al, 1992) and in a less stringent form in community samples (Schotte & Clum, 1982, Schotte et al 1990). However, due to the correlational nature of such designs, the direction of the relationships cannot be clearly ascertained. While the current study has suggested that a trait vulnerability for depression may predispose deficits in problem-solving ability and ultimately suicidal behaviour, an argument may still be formulated to suggest that suicidal intent and behaviour interferes with cognitive processes and leads to poor problem-solving ability. In order to thoroughly address these issues, traditional longitudinal studies would have to be employed. In logistical terms, this may prove difficult, due to the initial sample sizes required, the inherent difficulties in maintaining follow up contact and the ultimate cost of such studies. Also this form of research focuses upon vulnerable populations, many of whom have chaotic lifestyles and are thereby exceedingly difficult to monitor longitudinally.

CHAPTER 10:

**SOCIAL SUPPORT AND PSYCHOLOGICAL DISTRESS IN A
GROUP OF INCARCERATED YOUNG OFFENDERS**

Chapter 10: Social Support And Psychological Distress In A Group Of Incarcerated Young Offenders

Abstract

Using Power, Champion & Aris's (1988) Significant Others Scale, the present study examined the function and structure of social support in a group of incarcerated young offenders. Support across nine key relationships from both outside and inside the prison were examined. The study aimed to examine social support as a key variable in coping with incarceration. Furthermore, the study examined the role that social support plays in the experience of self-reported psychological distress (anxiety, depression, and hopelessness) while incarcerated. The importance of prison relationships - with a close friend and members of prison staff in the experience of psychological distress was highlighted, where distressed inmates were more likely to report discrepancies in the actual/ideal levels of both emotional and practical support. Regression analyses highlighted the importance of relationships with the staff as predictors of anxiety, depression and hopelessness.

10.1. Introduction

Prisoners have been identified as being at risk of developing acute psychological health problems as a result of the stress and consequent distress associated with incarceration (Toch 1977; Zamble & Porporino, 1988). These issues have become all the more focal, with recent concerns over the suicide rates in British prisons (Backett, 1987; Dooley, 1990; Liebling 1992). Generally, criminologists agree that the function of the penal system is to deprive an individual of their liberty, and this in itself is the most fitting punishment for crime (Gresham, 1971). The penal system is not designed to intentionally induce psychological distress, and consequently attempts have been made to identify aspects of prison life which may exacerbate psychological distress among prisoners.

Early studies examined the structural facets of the prison as potential sources of stress and distress. These studies suggested that inadequate living conditions - such as inadequate sanitation, overcrowding and poor recreational facilities - are major sources of stress in prison (Mathieson, 1965; Nagel, 1976; Paulus & McCain, 1983). However, more recent studies have suggested that changes to the prison environment alone are not sufficient to alleviate the distress of incarceration. The structural aspects of the prison which are considered noxious by the researcher may not in fact be deemed noxious by the prisoners nor contribute hugely to their consequent adjustment (Toch, 1977). Overall, researchers have become more aware of the "process" models of stress (Lazarus, 1966), where stress is regarded as multidimensional - incorporating not only the physical environment in which an individual finds themselves, but also the psychological, physiological and social realms of the individual. Subsequent distress stems from the mode in which the individual "appraises" the interaction of these variables (Cox, 1978). Thus, current prison researchers have suggested that it is necessary to know more about the nature characteristics of the individual in an attempt to understand and possibly enhance the way in which the individual deals with the stresses of prison (Zamble & Porporino, 1988).

Social support could be considered an important psychological and social variable that contributes to adjustment in prison and the amelioration of distress. Since the 1970s, research in the community has consistently linked the availability of supportive social relationships to both psychological health and the aetiology of mental disorder (Cohen & MacKay 1984; Sarason, Sarason & Pierce, 1990). Interpersonal relationships have been regarded as fulfilling a host of functions in the attempts to buffer the effects of stressors. It is consistently reported that supportive relationships with others, in particular those who

could be regarded as intimates or confidants, can significantly lower the risk of psychological disturbance in response to stress exposure (Cohen & Wills, 1985; Turner, 1983).

Indeed, it is argued that coping and social support share a host of common functions. Problem-focused coping and instrumental support are both directed at changing or managing a stressful situation, and emotion-focused coping and emotional support each address the negative affective responses that can accompany a stressful situation. Perception-focused coping and informational support attempts to alter the meaningful aspects of stressful situations (Thoits, 1986). Thus social support might be considered as "coping assistance" in an individual's attempts to manage a stressful situation.

While there has been considerable attention to the more "structural" aspects of imprisonment, there has been a dearth of systematic research regarding the role that social support has to play in relation to the experience of psychological distress among inmates. All inmates potentially have two main groups from whom they can obtain social support during the period of their incarceration - family, professionals and friends from outside the prison, and staff and fellow inmates within the prison. However, even in currently more liberal times, an inmates' contact with his closest friends and family is usually rationed and sparse. Anecdotal accounts (Toch, 1977) have argued that this lack of familial and outside contact can become an increasingly salient aspect of incarceration and can impinge upon an inmate's adjustment. Toch has argued that this lack of supportive, external contact also leads the inmate to question the level of support that is actually available to them.

While relationships outside the prison system can take a variety of forms, a different situation occurs within the prison as the relationships take a more formalised structure. Here the commonly perceived modus operandi appears to be a distinct relationship, formalised between the "keepers" and "the kept". One of the earliest analyses of the prisoner-staff relationship was that of Goffman (1961). This researcher-observation based theory emphasised that there is a great social distance between the inmates and the staff, both of whom Goffman argued, tend to perceive each other in terms of narrow stereotypes. Contemporary studies, however, appear to paint a different picture. Whitehead, Linquist & Klofas' (1987) American research suggested a new role perception among prison officers, with many holding pro-inmate orientations and striving to encourage inmate rehabilitation. Other American research has suggested that prison officers now

encourage a greater level of effort, support and openness in their role and are interested in expanding the supportive aspects of their duties (Fuller, 1985).

Research that has been done concerning the staff-prisoner relationship, the majority of this has examined the relationship from the staff perspective. As the other party in the relationship, inmate perceptions of staff-inmate relations are of substantial importance, particularly since inmate's welfare is a main reason for the existence of such a relationship. Only a few studies have tried to examine the inmates perceptions of staff-inmate relationships. Those that have, have often been problematic due to the small sample sizes employed (e.g. ten inmates in Fuller's (1985) study).

One of the very few systematic studies that examines inmate perceptions of staff-inmate relationships is that of Ben-David & Silfen (1994). This study aimed to examine both inmate and staff preference regarding the form that the relationship takes in a group of 49 staff and 158 inmates in an Israeli prison. The results of the analyses suggested that staff believed they should provide support, have an anti-authoritarian manner, and have some involvement with the inmates. Conversely, the inmates preferred to experience the staff as authoritarian patrons and wished to be controlled by a set of clear rules. This study is important in that it revealed differences in the perceptions of staff and inmates regarding the ideal function of the prison officer. A less rigorous examination of the staff-inmate interaction was conducted by Liebling (1992), whose results were extrapolated from interviews with 100 inmates in a British penal institution. Liebling suggested that overall, inmates were content with the relationships with the staff and regarded staff as supportive.

To date, no study appears to have psychometrically studied the functional aspects of inmates' supportive relationships, e.g. looking at relationships in terms of the emotional and practical support that they provide for an individual. A further issue not adequately addressed by previous research concerns the manner in which an inmate's perceptions of the actual and ideal levels of support provided affect their psychological distress while incarcerated. It is to this end, that the present study addresses itself.

The issue of social support may be particularly pertinent in young offender institutions for a host of reasons. Although there is no body of research to support such suggestions, it is argued that the ethos found in young offender institutions is different to that of adult establishments. Firstly, a large proportion of young offenders in any institution at any one

time are experiencing their first incarceration and having to deal with the subsequent loss of contact with friends and family that imprisonment brings. Secondly, the inmate structure in young offender institutions has been considered volatile with incidents of victimisation (Beck, 1994), and inmates may rely on social support to take them through such difficult periods during their sentence.

10.2. Aims of the Current Study

The aim of the current study is to examine self-perceived “actual” and “ideal” levels of support and any discrepancies between them in a group of incarcerated young offenders. The study attempts to examine the structure and function of support in a subset of potentially supportive relationships selected from the main relationships that an inmate could have both inside and outside of the prison. Furthermore, the study examines the role that social support plays in the experience of self-reported psychological distress while incarcerated in relation to the support received from a number of the key figures, i.e. parents, siblings, close friends, outside professionals and staff and inmates within the prison. Finally, the study focuses on the manner in which overall perceived levels of actual/ideal emotional and practical support relate to psychological distress experienced during incarceration.

10.3. Method

10.3.1. Participants

The participants in the present study were the 125 incarcerated young offenders selected from one of Scotland’s largest Young Offenders Institutions that were used in the studies reported in Chapters 7 and 8 of the current thesis.

10.3.2. Measures

As part of a larger study programme, all participants took part in a short, structured interview with the same research psychologist to ascertain demographic and prison details that were required for the study. The confidentiality of all material and the anonymity of responses was guaranteed. Not all the components of the interview are integral to the present study, hence only the most relevant parts are here described. Information concerning the participants age, education, living arrangements outside the prison, parental marital status, parental criminal record, and parental drug and alcohol problems were recorded. Information concerning penal demographics was gathered

concerning the nature of their current and previous convictions, the length of current sentences, and the total amount of time to date spent in prison establishments. Participants then completed a package of questionnaires which examined their levels of psychological distress and their self-perceived social support. Some of these measures have been described in previous studies in the current thesis.

1) Hospital Depression and Anxiety Scale [HADS] (Zigmond & Snaith, 1983)

(See *Section 3.5.3.1.* for fuller description).

2) Beck Hopelessness Scale [BHS] (Beck, Weissman, Lester & Trexler, 1974)

(See *Section 3.5.3.2.* for fuller description).

3) Significant Others Scale [SOS] (Power, Champion & Aris, 1988)

The SOS samples a subset of an individual's important relationships, and looks at the perceived structural aspects of these relationships (i.e. whether they exist for an individual or not) and the functional aspects (assessing the type and quality of support that is provided in a particular relationship). Two functional types of support are assessed - 'emotional' and 'practical' on the logic that these are in fact the main categories of support identified in the literature (Barrera & Ainley, 1983). The first five items reflect the functions of emotional support (e.g. '*to what extent can you trust, talk frankly and share your feelings with*' someone) and the last five items concern aspects of practical support ('*get financial and practical help*' from someone). Nine key relationships were presented to the inmates on this questionnaire. These were chosen by the researchers to reflect the repertoire of key figures that would be found both inside and outside the prison environment. The important relationships that were considered from outwith the prison environment were mother, father, closest brother or sister, girlfriend, closest friend, and an outside professional (which was identified by the respondent). The significant relationships identified from within the prison setting included closest friend, officer known best by the inmate on the wing they were housed, and their 'personal officer'. A personal officer is a particular officer from the wing in which the inmate lives, who has been allocated to the inmate as a point of contact throughout his sentence and to provide an identifiable source of support for the individual. The personal officer is also responsible for assessing an individual's progress regarding the plan of their sentence and to achieve this, the inmates meet with their personal officer at particular points during the inmate's sentence.

Inmates were asked to rate each of these relationships in terms of the 'actual support' currently offered in each of the current and applicable relationships and the 'ideal support' they would like to receive from each of the key figures if things were exactly as the respondent hoped. A seven-point frequency scale is used for rating sources of support, ranging from 'Never' (1) to 'Always' (7). The questionnaire yields two grids of scores - one for the 'actual' and one for the 'ideal' support for each of the ten items for the nine relationships. Completing these grids can be quite complicated and time-consuming, and at times the researcher had to offer guidance and clarification to the participant.

From the SOS, a host of measures of social support can be derived. The present study aimed to examine the 'actual' (emotional, practical) support, the 'ideal' (emotional, practical) support, and the discrepancy between the 'actual' and 'ideal' levels of support reported by the inmates. The discrepancy score is calculated on a cell-by-cell basis and negative discrepancies (where the actual support appears to be higher than the ideal level of support - indicating an over-provision of social support) are recorded as zero. The study also aimed to examine the size of the individuals support group. The SOS also provides an overall support score, which is calculated by looking at the support levels reported across all the key relationships simultaneously.

10.4. Results

10.4.1. Demographic Details and Prison Histories

The mean age of respondents was 18.8 years (s.d. 1.3). In terms of education, 29.6% of the sample had left school prior to the age of 15.5 years - which is the legal minimum age for leaving school in Scotland. Overall, 88% had left school by the age of 16. With regards to educational attainment, 37.6% had left school with no qualifications, 28.8% had attained standard grades, 30.4% possessed vocational training in the form of SCOTVEC certification. Only 3.2% of the sample had received education to the level of Higher Grade examinations or above.

The average length of the current sentence was 26.3 months (s.d. 11.8), and the average amount of time to date spent in prison was 17.3 months (s.d. 14.0). The majority of inmates had been incarcerated as a result of multiple charges, hence only their most major charge is reported here. Of the sample, 62.4% were convicted of crimes of dishonesty (mainly theft) - 51.2% of these had concomitant crimes of violence, 4.8% of drug offences, 4.0% of fire-raising or vandalism, 8% of crimes of indecency, 14.4% of

motor vehicle offences (not including theft), and 6.4% were convicted of miscellaneous crimes. Breach of public justice ran as a common concurrent sentence, with 22.4% of the sample being convicted of this.

With regards to parental marital status, 44.8% of the sample reported their parents as currently married, 11.2% were separated, 36.8% divorced, and 7.2% were widowed. Considering the separated and divorced parents, 53.4% of them had been apart for less than 5 years, a further 17.5% for 5-10 years, and 29.1% for more than 10 years.

In terms of living arrangements prior to incarceration, 66.4% of the sample claimed that they lived with their immediate family, 5.6% with their extended family, 12.0% with a partner, 4.0% with friends, and 12.0% lived alone.

When parental criminal history was considered, 47.2% of the sample believed their father had been in prison during some period of their childhood. A further 36.8% reported having an alcoholic father.

10.4.2. Psychological Distress

The mean score on the HADS-Anxiety Scale was 8.7 (s.d. 5.0), the HADS-Depression Scale 8.0 (s.d. 9.7); and for the Beck Hopelessness Scale was 7.2 (s.d. 4.67). Of the group, 44.8% could be characterised as displaying normal levels of anxiety; 18.4% mild anxiety; 21.6% moderate anxiety; and 15.2% severe anxiety. With regards to depression, 52.8% were within the range considered as normal, 20.8% displayed mild depression, 14.4% moderate depression, and 12.0% had the signs of severe depression. When the hopelessness scores are considered, 61.6% are within the range that would be considered as normal (Greene, 1981), however, 38.4% scored over two standard deviations above the mean, reflecting high levels of hopelessness that could warrant clinical attention.

For the analyses examining psychological distress in relation to social support as measured by the SOS, the respondents were divided by "caseness"; that is, whether or not on the basis of a recommended normative cut-off score on the relevant measures they could be considered to be displaying clinical levels of anxiety, depression or hopelessness. Thus 55.2% of the sample (69 individuals) were considered to be displaying a level of anxiety that could be regarded as warranting clinical intervention, 47.2% of the sample (59 individuals) a clinical level of depression, and 38.4% (48 individuals) a high level of

hopelessness. The mean score on the HADS-Anxiety scale for the non-cases was 4.28 (s.d. 2.06) and for cases was 12.23 (s.d. 3.64). The mean score on the HADS-Depression scale for the non-cases was 3.33 (s.d. 2.24) and for the cases was 11.76 (s.d. 3.55). The mean score on the Beck Hopelessness scale was 4.16 (s.d. 2.45) for the non-cases and 12.02 (s.d. 2.59) for the cases.

10.4.3. Social Support

The results of the SOS revealed that not all of the inmates had all nine key figures as potential sources of support. The mean number of key relationships that were rated by the inmate was 7.0 (s.d. 1.0, range 4-9). With regards to the relationships outwith the prison, 96% of the sample were able to report their mother as a source of support, 89.6% their father, 93.6% a brother or sister, 98.4% a close friend, and 42.4% a girlfriend respectively. When the relationships within the prison were considered, 96% of the sample were able to rate the support of an officer which they knew on the wing in which they were housed, 62.4% were able to rate the support of a personal officer, and 91.2% the support of a new friend that was made during the course of their current sentence.

Chi-square analyses revealed no differences between the groups divided according levels of psychological distress and the absence of any of the individual key figures. *T*-tests also revealed no differences in the number of key relationships reported - showing no differences with regards to the size of the support group. Overall, it could be argued that there were no differences in the 'structural' aspects of the support groups with regards to caseness.

Chi-square analyses, Pearson product-moment correlations, *t*-tests, and ANOVA revealed no differences in the function of any of the support indices according to any of the general demographic information from the inmates which included their age, educational level, living arrangements, parental marital status, parental criminal record, nor parental history of drug/alcohol problems. No differences in the ratings of social support for any of the 9 relationships were found according to the nature of the inmate's conviction, the length of their current sentence, nor the total amount of time they had spent in prison (used as an indice of their familiarity of the prison regime).

Multiple *t*-tests were then computed to examine the levels of perceived actual and ideal support and the discrepancies between them for the different role relations according

to the scores on the psychological distress measures in order to determine which were the key relationships that played a role in the development of psychological distress. *Tables 10.1 to 10.3* illustrate the significant differences between the groups divided in terms of whether or not they could be considered as displaying a level of anxiety, depression or hopelessness that could warrant clinical attention.

Table 10. 1 indicates the differences in perceived social support according to whether or not the respondents could be considered as displaying a clinical level of anxiety. It appears as though the main differences between the groups in terms of their supportive relationships are found in relation to the supportive relationships within the prison. There is one exception to this, in that there is also a significant discrepancy in the levels of emotional support received from fathers reported by the anxious inmates. Overall, it appears as though the experience of anxiety in a penal setting has a more notable relationship to the quality of supportive relationships within the prison than the quality of those outside. The inmates who could be considered as "anxious" believed they were getting less practical support than they wanted from their closest fellow inmate, and less emotional and practical support than they considered as necessary from the officer they knew best on the wing in which they were housed and also from their personal officer. A stepwise regression analysis was carried out to examine the strength of the relationship between the support variables and HADS-Anxiety. The discrepancy in practical support from the best known officer was the first variable entered, and accounted for 21.6% of the variance in anxiety scores ($R=0.47$, Adjusted $R^2 = 0.216$, $B = 1.48$, $Beta = 0.478$, $F=18.41$, $p<0.0001$). Discrepancy in emotional support from the best known officer was the second variable entered and accounted for a further 4.9% of the variance ($R=0.53$, Adjusted $R^2 = 0.265$, $F=12.41$, $p<0.0001$). No other support variables contributed significantly to the variance in anxiety scores.

Table 10.1: Significant differences in the actual, ideal and discrepancy support mean scores for the different role relationships according to HADS-Anxiety

<i>ROLE RELATION</i>	<i>Non- Case M</i>	<i>Case M</i>	<i>t</i>	<i>p</i>
Father	<i>(n=52)</i>	<i>(n=60)</i>	<i>(df=110)</i>	
Emotional Discrepancy	0.91	1.68	-2.31	< .05
Prison Friend	<i>(n=54)</i>	<i>(n=61)</i>	<i>(df=113)</i>	
Actual Practical	4.14	3.22	2.32	< .05
Practical Discrepancy	0.66	1.24	-2.08	< .05
Officer	<i>(n=54)</i>	<i>(n=66)</i>	<i>(df=118)</i>	
Ideal Emotional	2.67	4.07	-3.57	< .001
Emotional Discrepancy	0.64	1.83	-3.69	< .001
Ideal Practical	2.58	3.70	-3.12	< .001
Practical Discrepancy	0.61	1.48	-3.14	< .001
Personal Officer	<i>(n=34)</i>	<i>(n=43)</i>	<i>(df=75)</i>	
Ideal Emotional	2.64	4.59	-3.83	< .001
Emotional Discrepancy	0.34	1.65	-3.44	< .001
Ideal Practical	2.84	4.18	-2.63	< .01
Practical Discrepancy	0.63	1.43	-2.29	< .05

Table 10.2 examines the differences in the groups regarding their supportive relationships in terms of whether they could be characterised as “depressed” or not. *Table 10.2* indicates that there are a larger number of relationships that differentiate the “depressed” and the “non-depressed” than are functional in differentiating the “anxious” from the “non-anxious”. The magnitude, however, of the differences between the “depressed” and the “non-depressed” is often not as great as the differences found between the “anxious” and the “non-anxious”. The levels of support received from relationships from outside the prison begin to differentiate the groups. Depressed inmates report less actual practical support from their mothers, less actual emotional support from their closest friend, and a larger discrepancy in emotional support from their girlfriend. All three relationships from within the prison are considered as deficient in support. Depressed inmates report less actual emotional and practical support from friends within the prison - however, they also desire a lower level of support from their fellow inmates, suggesting that this is not a source of support that is as valued by them. Overall, they request a higher ideal level of both emotional and practical support from both the officer they know best and their personal officer, and a higher discrepancy in the actual/ideal support levels. A stepwise regression analysis was carried out to examine the strength of the relationship between the support variables and HADS-Depression. The discrepancy in emotional support from the best known officer was the first variable entered, and accounted for 14.1% of the variance in depression scores ($R=0.39$, Adjusted $R^2 = 0.141$, $B = 1.00$, $Beta = 0.39$, $F=13.32$, $p < .001$). No other support variables contributed significantly to the variance in depression scores.

Table 10.3 examines the differences in key supportive relationships according to whether or not the respondents could be considered as suffering from a clinical level of hopelessness. *Table 10.3* illustrates that once again, relationships from outwith the prison play a role in the differentiation of the group displaying a high level of ‘hopelessness’ from the other inmates. These individuals report a higher discrepancy in the support levels given by their fathers, and higher discrepancies in the emotional and practical support levels from their mothers. Moreover, they report lower actual emotional and practical support from their girlfriends, and a larger emotional discrepancy. They report a practical support discrepancy in the support received from their closest friend from outwith the prison.

Table 10.2: Significant differences in the actual, ideal and discrepancy support mean scores for the different role relationships according to HADS-Depression

<i>ROLE RELATION</i>	<i>Non- Case M</i>	<i>Case M</i>	<i>t</i>	<i>p</i>
Mother	(<i>n=64</i>)	(<i>n=57</i>)	(<i>df=119</i>)	
Actual Practical	5.44	4.71	2.18	< .05
Friend	(<i>n=66</i>)	(<i>n=57</i>)	(<i>df=121</i>)	
Actual Emotional	4.90	4.16	2.24	< .05
Girlfriend	(<i>n=28</i>)	(<i>n=25</i>)	(<i>df=51</i>)	
Emotional Discrepancy	0.18	0.60	-2.45	< .05
Prison Friend	(<i>n=61</i>)	(<i>n=53</i>)	(<i>df=112</i>)	
Actual Emotional	6.60	2.75	2.76	< .05
Ideal Emotional	4.25	3.42	2.03	< .05
Actual Practical	4.06	3.19	2.19	< .05
Ideal Practical	4.58	3.70	2.03	< .05
Officer	(<i>n=65</i>)	(<i>n=55</i>)	(<i>df=118</i>)	
Ideal Emotional	3.06	3.89	-2.06	< .05
Emotional Discrepancy	0.89	1.78	-2.67	< .01
Ideal Practical	2.86	3.59	-1.99	< .05
Practical Discrepancy	0.77	1.46	-2.45	< .01
Personal Officer	(<i>n=45</i>)	(<i>n=33</i>)	(<i>df=76</i>)	
Ideal Emotional	3.04	4.65	-3.06	< .01
Emotional Discrepancy	0.50	1.84	-3.55	< .001
Ideal Practical	3.11	4.24	-2.25	< .05
Practical Discrepancy	0.67	1.62	-2.73	< .01

Table 10.3: Significant differences in the actual, ideal and discrepancy support mean scores for the different role relationships according to the Beck Hopelessness Scale

<i>ROLE RELATION</i>	<i>Non- Case M</i>	<i>Case M</i>	<i>t</i>	<i>p</i>
Father	(<i>n</i> =68)	(<i>n</i> =43)	(<i>df</i> =110)	
Emotional Discrepancy	0.93	1.95	-3.05	< .01
Mother	(<i>n</i> =75)	(<i>n</i> =46)	(<i>df</i> =119)	
Emotional Discrepancy	0.92	1.73	-2.52	< .01
Practical Discrepancy	0.59	1.24	-2.80	< .01
Girlfriend	(<i>n</i> =33)	(<i>n</i> =20)	(<i>df</i> =51)	
Actual Emotional	6.61	6.02	2.25	< .05
Emotional Discrepancy	0.25	0.61	-1.96	< .05
Actual Practical	6.38	5.71	2.26	< .05
Friend	(<i>n</i> =77)	(<i>n</i> =46)	(<i>df</i> =121)	
Practical Discrepancy	0.59	1.00	-2.12	< .05
Officer	(<i>n</i> =73)	(<i>n</i> =47)	(<i>df</i> =118)	
Ideal Emotional	2.95	4.20	-3.12	< .01
Emotional Discrepancy	0.87	1.96	-1.01	< .01
Ideal Practical	2.74	3.90	-3.18	< .01
Practical Discrepancy	.78	1.57	-2.79	< .01
Personal Officer	(<i>n</i> =45)	(<i>n</i> =33)	(<i>df</i> =76)	
Ideal Emotional	3.16	4.66	-2.76	< .01
Emotional Discrepancy	0.61	1.83	-3.07	< .01
Ideal Practical	3.15	4.33	-2.24	< .05
Practical Discrepancy	0.70	1.70	-2.82	< .01

There are no differences regarding the relationships with a friend within the prison. However, differences are found regarding support from an officer from the wing and from their personal officer, from whom they desire more emotional and practical support and report higher discrepancies in actual/ideal support levels. A stepwise regression analysis was carried out to examine the strength of the relationship between the support variables and Hopelessness. The discrepancy in emotional support from the personal officer was the first variable entered, and accounted for 15.9% of the variance in hopelessness scores ($R=0.41$, Adjusted $R^2 = 0.159$, $B = 1.05$, $Beta = 0.41$, $F=15.26$, $p<.001$). No other support variables contributed significantly to the variance in hopelessness scores.

In *Table 10.4* the significant differences in the overall levels of perceived actual and ideal support are given. These scores are calculated by collapsing the key figures together. The results in *Table 10.4* suggest that the inmates reporting higher levels of psychological distress in terms of anxiety, depression and hopelessness desire a higher ideal level of both emotional and practical support, and report a higher discrepancy in their overall actual/ideal levels of support. Overall, they regard themselves as more deficient in social support. The differences between the groups are all in terms of 'ideal' support levels, with the exception of depression in which the depressed inmates believe they receive less actual emotional support.

To examine the relationships between and psychological distress further, three stepwise regression analyses were performed, with the HADS anxiety and depression scores and the Beck Hopelessness Scale score as dependent variables and the total SOS scores (*Table 10.4*) as explanatory variables. *Table 10.5* illustrates the results of the three regression analyses. Overall, it appears as though the support discrepancy scores have the most consistent relationships with the levels of psychological distress. The perceived discrepancy in emotional support accounted for 11% of the variance in anxiety, and the overall ideal level of emotional support accounted for a further 5% of the variance. Considering depression, once again it was the overall discrepancy in emotional support that accounted for 5% of the variance. No other support variable significantly contributed to the prediction of depression. Regarding hopelessness, it was the overall discrepancy in emotional support that accounted for 15% of the variance. Once again, no other support variable significantly contributed to the prediction of depression. The actual support scores and the practical support scores did not explain any further variance in the distress indices.

Table 10.4: Significant differences in the ratings of perceived and ideal levels of emotional and practical support in relation to HADS-Anxiety, HADS-Depression and the Beck Hopelessness Scale

	<i>Non- Case</i>	<i>Case</i>	<i>t</i>	<i>p</i>
	<i>M</i>	<i>M</i>		
HADS-ANXIETY	<i>(n=56)</i>	<i>(n=69)</i>	<i>(df=123)</i>	
Ideal Emotional	4.46	5.29	-2.99	< .01
Emotional Discrepancy	0.73	1.32	-4.37	< .001
Ideal Practical	4.56	5.10	-2.51	< .01
Practical Discrepancy	0.77	1.15	-2.91	< .01
HADS-DEPRESSION	<i>(n=66)</i>	<i>(n=59)</i>	<i>(df=123)</i>	
Actual Emotional	4.91	3.93	2.30	< .05
Emotional Discrepancy	0.83	1.31	-3.50	< .001
Ideal Practical	4.87	5.38	-2.82	< .01
Practical Discrepancy	0.81	1.17	-2.74	< .01
BHS	<i>(n=77)</i>	<i>(n=48)</i>	<i>(df=123)</i>	
Ideal Emotional	4.69	5.28	-2.07	< .05
Emotional Discrepancy	0.78	1.50	-5.33	< .001
Ideal Practical	4.80	5.35	-2.01	< .05
Practical Discrepancy	0.77	1.32	-4.20	< .001

Table 10.5: Stepwise regression analyses of the distress measures using the SOS as explanatory variables

<i>Variable entered</i>	<i>df</i>	<i>Beta</i>	<i>R²</i>	<i>Adj. R²</i>	<i>F (<0.05 limit)</i>
HADS- Anxiety					
overall emotional discrepancy (1st)	1, 123	0.35	0.12	0.11	17.70
overall ideal emotional support (2nd)	2, 122	0.23	0.17	0.16	12.87
HADS-Depression					
overall emotional discrepancy (1st)	1, 123	0.24	0.06	0.05	7.87
Beck Hopelessness Scale					
overall emotional discrepancy (1st)	1, 123	0.39	0.15	0.15	23.12

10.5. Discussion

The present study aimed to examine the importance of social support in the development of psychological distress experienced during incarceration. The function and importance of particular key figures from both inside and outside the prison setting were considered as moderators. The study also aimed to examine the overall forms of support and their predictive role in the development of psychological health problems.

The importance of prison relationships - with a close friend, a well-known officer on the wing, and an inmate's personal officer - in the experience of anxiety, depression and hopelessness was highlighted. "Anxious" inmates reported less practical support than regarded as optimal from fellow inmates and less practical and emotional support than they regarded as optimal from the best known officer and their personal officer. "Depressed" inmates reported less emotional and practical support from fellow inmates and prison officers than considered optimal. Inmates showing a high level of hopelessness reported less emotional and practical support from the officers than regarded as personally optimal. The study empirically validates Liebling's (1992) suggestion that prisoners in general would prefer staff to be more supportive in both personal and practical ways.

The results of the present study reflect the comments made by Liebling (1992) concerning the importance of staff relationships over those with fellow inmates when considering an inmate's adjustment to prison life. The study empirically validates the observation-derived assertions of Clemmer (1940) and Mathieson (1965) that there is not a comforting solidarity among inmates who can often remain atomised and distressed, in that the inmates displaying psychological distress in the current study desire more support from their fellow inmates. However, Zamble & Porporino (1988) argue that inmates in reality can be cautious about opening themselves to possible entanglements from friendships in prison. They argued that the type of "support" inmates often expect from each other can involve getting involved in a fight or other forms of trouble in order to "help" another inmate. Thus, some inmates prefer to limit the depths of their social alliances within the prison, or choose their own company. What is more, it could be argued that the nature of the prison regime - with limited hours for social contact in privacy - hinder the formation of close friendships.

Regression analyses highlighted the importance of staff relationships, in that perceived deficits particularly in support from officers were the major predictors of anxiety, depression and hopelessness. Regarding anxiety, heightened anxiety levels were associated with a perceived deficit in practical support from the best known officer. The fact that anxiety is associated with practical support is not surprising. It is often argued that anxiety in prison is a result of an unfamiliarity with the prison regime, and the patterns of prison life (Zamble & Porporino, 1988). To this end, the officers can be regarded as an important source of practical support in guiding the inmate to adjustment to the prison regime and awareness of its routines. When an inmate feels a lack in such support, their anxiety may increase. A perceived deficit in emotional support from the best known officer was the best predictor of heightened levels of depression. A lack of close confiding relationships has been well documented as a vulnerability factor for depression in community studies (Bebbington, Sturt, Tennant & Hurry 1984; Brown & Harris 1978) and it appears as though this pattern is emulated during incarceration, when depression arises when an inmate feels there is not adequate emotional support from the main sources of contact (i.e. the officers). A lack of emotional support from an inmate's personal officer was the best predictor of hopelessness - suggesting that hopelessness is increased by an inmate's belief that there is not an adequate personal point of contact for emotional help.

In some respects, the results of this study are contrary to the findings of Ben-David and Silfen (1994), which suggested that inmates often show a preference for a "patronage" style relationship with prison staff. This particular kind of relationship is characterised by an authoritative figure who grants assistance and protection to inmates and tends for their instrumental needs. The results of the current study suggest that vulnerable inmates show a desire for a more "therapeutic" relationship with staff. It should be noted that such a "therapeutic" relationship should not necessarily be at the expense of the staff position of authority - where a professional social distance can still be maintained (Ben David & Silfen, 1994). The differences between Ben-David & Silfen's research and the current study may reflect a number of differences in the cultures, populations, and regimes sampled. While the Ben-David & Silfen study was conducted in an Israeli maximum security prison and a division of a mental health centre affiliated to the Israeli prison centre with "mentally disturbed patients", the current study was conducted in a medium security Scottish Young Offenders Institution with a random sample of inmates - none of which were regarded as "mentally disturbed". Thus there is notable differences in the types of inmates and regimes sampled. A further difference is that Ben-David & Silfen noted that

the inmate group in their study were reluctant to discuss staff-inmate relationships for fear of retaliation, which may in turn have influenced the inmates' response profiles. This problem was not so apparent in the current study, where inmates were aware that the researcher was independent from the prison service and had guaranteed the confidentiality of responses. A further difference lies in the fact that the Ben-David & Silfen (1994) study employed an adult sample, while the inmates in the current study were aged 16-21. It is more likely that young offenders require a higher level of social support than adults - as for young offenders their incarceration is most likely to be the first significant period that they have spent away from their friends and family. The young offenders in the current sample are also most probably at an age when social support is generally of great importance, both inside and outside the prison. Overall, the differences in the results of these two studies are not unexpected due to the differences in cultures, regimes and types of inmates sampled.

However, caution should be exercised in focusing the responsibility for unmet needs upon prison officers. The issue is far more complex than could be addressed by the current study. Smith (1984) discussed the ambiguity of the ethos of the prison system - as to whether its role was to provide custody or treatment. Smith argued that this leads to a role conflict in which problems can arise for prison officers i.e. the conflict between the security and the welfare aspects of their role. Smith maintained, that in difficult situations, officers will revert to a custodial role in order to prevent a "double bind" of the two functions. Furthermore, it is plausible to suggest that prisoners may not want to be identified by other inmates as having a close personal relationship with the staff for fear of being branded a "grass" or a "snitch".

An overall discrepancy in emotional support across all the relationships was the greatest predictor of anxiety, depression and hopelessness. Again this mirrors previous research (Brown & Harris, 1978). Brown, Andrews, Harris, & Bridge (1986) have suggested that an unexpected absence of support in times of acute crisis (of which imprisonment could be considered, where an individual is removed from the supportive social group) may precipitate depression by the consequent negative effects that this has upon self-esteem. A perceived lack of emotional support may also enhance feelings of loneliness, which has been shown in a prospective study to predict the development of feelings of hopelessness (Bonner & Rich, 1991).

The current study is the first, according to a perusal of the literature, to systematically examine the nature and quality of inmates' supportive relationships. There are problems embedded in this research. Firstly, the inmates had no formalised diagnoses of their mental health status, and depression, anxiety and hopelessness were assessed by analogue scales. Also, all inmates were selected from one institution, thus it cannot be determined whether or not the relationships reported with the staff are an artefact of that particular institution, or can be generalised throughout the system.

Due to the fact that all inmates completed all three psychological distress measures, it could be argued that there is potentially an overlap in symptomatology. However, the groups were distinguished by different perceived support deficits, suggesting that different relationships are associated with different forms of psychological distress. It is also not possible to determine in a cross-sectional design such as is employed by the current study to examine whether perceived deficits are causes or antecedents of psychological distress.

The current study examined social support in relation to psychological distress experienced during incarceration. In many respects, the type and availability of supportive relationships examined in this study reflect the artifactual nature of institutionalisation. Indeed, the experiences and relationships common to incarceration are unlikely to transfer to life outside the prison where different support networks are likely to operate and provide different functions. A further line of research is plausible, in that the prison environment may exacerbate social support deficiencies that are present in the pre-existing relationships of inmates with poor supportive relationships outside the prison - which in turn increases the vulnerability of such inmates while incarcerated. Future research might direct itself to a comparison of the structure and function of the social networks of prisoners both inside the prison and post-release and their role in mediating or moderating psychological distress.

CHAPTER 11:

**THE QUALITY OF PERCEIVED PARENTING EXPERIENCED
BY A GROUP OF SCOTTISH INCARCERATED YOUNG
OFFENDERS AND ITS RELATION TO PSYCHOLOGICAL
DISTRESS**

Chapter 11: The Quality Of Perceived Parenting Experienced By A Group Of Scottish Incarcerated Young Offenders And Its Relation To Psychological Distress

Abstract

This study utilised the Parental Bonding Instrument [PBI] in a group of 125 incarcerated Scottish young offenders aged 16-21. The study examined the response profiles of young offenders and compared the results to normative data, and demographics relating to family and penal experiences. Furthermore, it investigated relationships between parenting style and levels of depression, anxiety, and hopelessness experienced during incarceration. Significant differences between the current sample and the normative sample were found. Stepwise regression analyses highlighted the role that parental overprotection plays in any psychological distress experienced during incarceration. The study also considered parental style, and discusses the place of Parker's (1979) "optimal parenting" style in this particular population. The practical ramifications of these findings are also discussed in relation to the effects that current perceptions of the parenting role has upon the individual's own parenting behaviour.

11.1. Introduction

The assertion that childhood family relationships can affect adjustment in adolescence and adulthood underlies many schools of psychological thought, including psychoanalytic and attachment theories. While some of the more "classical" theories have focused on the role of the disruption of the parental bond *e.g.* through separation, death or divorce (Bowlby 1975, 1977); more recent studies have suggested that it is not the loss *per se* that can lead to dysfunction, but rather that ill effects are often the result of inadequate parent care (Parker, Barrett & Hickie, 1992; Tennant, 1988). Thus more recent research has examined the adequacy of parental "bonds".

Theorists have argued for the existence of two important parental characteristics as determinants of dysfunction in a child: care and control/overprotection (Perris, Jacobsson, Lindstrom et al 1980; Roe & Siegelmann, 1963). Bowlby (1977) argued that these factors were at the core of the parental role - in that parents should be available and responsive to a child (*care*), and to know when to intervene in a child's life without resorting to the extremes of overprotection or neglect (*control*). These constructs have been confirmed through factor analytic studies (Arrindell et al, 1986; Parker, Tupling & Brown, 1979).

The development of the Parental Bonding Instrument [PBI] (Parker et al, 1979) has facilitated much research on perceived parental characteristics as risk factors in the development of psychopathology (Parker et al, 1992). The PBI is a factor-analytically derived experiential measure, that weighs the participant's memories and experiences of their parents during the first sixteen years of life. Thus the instrument measures "perceived" rather than "actual" parenting. This makes intuitive sense, as people are more likely to be influenced by the way in which they subjectively regard their parents rather than any objective "reality" of how their parents actually behaved towards them during the first sixteen years of life. Indeed, Rutter (1981) maintained that it is a person's "perceptions" of their parents that has a significant role in the aetiology of different psychosocial problems. Studies using both treatment groups and samples from the general population have shown the PBI to be psychometrically stable and not influenced by personality traits or current mood states (Mackinnon et al, 1989; Parker, 1983). What is more, studies using groups of siblings or twins have suggested the PBI scales may indeed reflect the actual parental behaviour rather than just the perceptions of the respondent (MacCrae & Costa, 1988; Mackinnon, Henderson, & Andrews, 1991; Parker 1983, 1989).

The PBI provides an estimate of parental care and protection for the respondent throughout childhood as far as adolescence. The *care* scale assesses two dimensions - one characterised by affection, emotional warmth, empathy and closeness; and the other by emotional coldness, indifference and neglect. Likewise, the *protection* scale assesses two poles - the first characterised by control, overprotection, intrusion and excessive infantilisation and the discouragement of independent behaviour; and the second by items that suggest the encouragement of independence and autonomy. However, a well-designed large scale study by Cubis, Lewin & Dawes (1989) employing a factor analytic technique has derived 3 subscales in the PBI. Parker's original "protection" factor was divided into two new factors - known as "perceived social control" (dealing with the amount of restriction in day-to-day activities) and "personal control" (dealing with the extent the parents infantilise and dominate their child).

Four main types of bonding may also be examined by this instrument (Parker et al, 1979; Parker, Fairley, Greenwood, Jurd & Silvoe, 1982). These are *optimal bonding* (high care - low overprotection), *weak bonding* (low care - low overprotection), *affectionate constraint* (high care - high overprotection), and *affectionless control* (low care - high overprotection). The PBI has been used in a host of studies to examine the quality of parenting care in such populations as the depressed (Parker, 1979); social phobics and agoraphobics (Parker, 1979); conduct disordered adolescents (Rey & Plapp, 1989); alcoholics, (Bernadi, Jones, & Tennant, 1989); drug addicts (Schweitzer & Lawton, 1989); and suicidal people (Adam et al, 1994; Goldney, 1985; Martin & Waite, 1994) as well as the population at large (Cubis, Lewin & Dawes, 1989). The aim of the present study is to examine the quality of parental care and protection in a quite different population - that of incarcerated young offenders.

The PBI has not yet been used in a penal setting, although it has previously been used to examine bonding in delinquent populations. The impetus for the present research stems from a number of studies published during the past 30 years suggesting a link between parental relationships and delinquency (Henggeler, 1982; Loeber, 1990 ; Loeber & Dishion, 1983; Hetherington & Martin, 1979). These studies have focused on aspects such as inadequate parental care (Atwood, Gold & Taylor, 1989; Rutter, 1981); and the home atmosphere - encompassing such variables as maternal affection and supervision, paternal deviance or absence (McCord, 1979). Gove & Crutchfield (1982) found that attachment between parents and their children was the strongest inhibitor of delinquency among the

variety of demographic and family characteristics measured in their study. Another key variable in the study of delinquency has concerned parental control and supervision (Atwood et al, 1989). Dishion & Loeber (1985) also found that low parental monitoring has an indirect effect on adolescent substance abuse by increasing the likelihood that a youngster will spend time with deviant peers, which in turn leads to an increased probability of delinquency. This hypothesis has been further borne out by McCord (1979) and Wilson (1980). However, none of these studies employed parental ratings made by the children.

While earlier research had an almost sexist bias in the study of maternal influences on delinquency (Caplan, 1989; Caplan & Hall-McCorquodale, 1985), recent researchers (Phares & Compas, 1992) have argued the importance of paying more attention to the role of fathers in the socialisation process of offspring. Phares and Compas (1992) suggest that studies of adolescent deviancy have already highlighted that adolescents may perceive the characteristics of their mother and father differently. Thus the present study aims to address this by giving equal attention to both parents.

There have been few systematic studies examining delinquency in relation to self-perceived parental bonding. A methodologically strong study by Mak (1994) in Australia, examined the PBI in relation to delinquency among 792 Australian secondary school pupils. Mak found correlations between low care and high protection by either parent associated with higher levels of delinquency in offspring, and that adolescents reporting this parental style of "affectionless control" were more delinquent than those with optimal parental bonding. The only real caveat of this study was the means by which delinquency was assessed and the small range of delinquent behaviours reported. For example, an analogue assessment of delinquency was used, comprising of a 34-item self-report scale considering a range of behaviours from the marginally deviant to the seriously delinquent. Most of the respondents reporting any level of delinquent behaviour had participated in only minor acts of delinquency.

Pederson (1994) presented a shortened version of the PBI to a group of 573 Norwegian adolescents in a study that examined parental relationships along with the development of anxiety, depression, and delinquency. Pederson's analysis suggested that poor paternal care was highly associated with anxiety and depression, and poor maternal care was characteristic among delinquents. There is one important caveat in this study in

that it employed an analogue assessment of delinquency which was restricted to a six-item questionnaire. From this, it would be hard to ascertain how "delinquent" the respondents in the sample actually were. The present study aims to overcome the difficulties associated with the definition of delinquency by employing a prison sample. The very status of being incarcerated is considered evidence enough of serious delinquent behaviour.

11.2 Aims of the Current Study

An important research problem that has not been adequately addressed concerns the tendency of previous research examining parental relationships to regard delinquents as a homogeneous group. A wealth of research has already documented the heterogeneity of delinquent samples. For example, delinquents not only differ in the types of crimes they commit, but they also differ in their ability to cope with incarceration (Zamble & Porporino, 1988). This will be examined in the course of the current study. A further area of enquiry in the present study is to consider whether parental bonding plays a role in adjustment to prison life and subsequent coping - as assessed by the inmates' levels of psychological distress while incarcerated. Given the large body of clinically oriented literature that documents a link between parental bonding with depression (Alnaes & Torgerson, 1990; MacKinnon, Henderson & Andrews, 1993; Parker, 1983) and anxiety (Arrindell et al, 1983; Bowlby, 1977; Parker, 1979), the present study aims to examine the relationship between these variables among an incarcerated group of offenders. Furthermore, the majority of the research to date with the PBI has utilised Australian or Norwegian samples. The present study is the first to utilise a Scottish sample, and the first to examine PBI profiles in a group of incarcerated young offenders. Overall, the current study aims to examine the relationships between self-perceived parental care and overprotection and their interactions with psychological adjustment while incarcerated. It was hypothesised that the sample would be overall characterised by low parental care and low control.

11.3. Method

11.3.1. Participants

The participants in the present study are the same individuals described in the previous study in *Section 10.3.1*.

11.3.2. Measures

As part of a larger study programme, all participants took part in a short, structured interview with the same research psychologist. The confidentiality of all material and the anonymity of responses was guaranteed. Information concerning the participants age, area of residency, education, living arrangements outwith the prison, parental marital status, family size, parental criminal record, and parental drug and alcohol problems were recorded. Penal information was also gathered concerning the nature of their current and previous convictions, the length of their current sentences, and the total amount of time to date they had spent in prison. This latter measure was used as an indice of their criminality. Following the interview stage, participants then completed a package of questionnaires which included the following:

1) The Hospital Depression and Anxiety Scale [HADS] (Zigmond & Snaith, 1983)

(See *Section 3.5.3.1*. for fuller description).

2) Beck Hopelessness Scale [BHS] (Beck, Weissman, Lester & Trexler, 1974)

(See *Section 3.5.3.2*. for fuller description).

3) Parental Bonding Instrument [PBI] (Parker et al , 1979)

Participants completed Parker et al's (1979) 50-item version of the PBI. Inmates were instructed to indicate on 4-point Likert-type scales, the extent to which certain statements could be considered independently characteristic of their mothers and fathers as the inmate was growing up. In the current study, subjects in families with step-parents were asked to base their responses on the person they had come to consider as their father or mother figure.

Perceived parental neglect and rejection are reflected in low scores on the maternal/paternal care scales, while high scores suggest parents that are warm and understanding. High scores on the maternal/paternal protection scales suggest excessive

parental control and intrusion, whereas low scores point to parental acceptance of the respondents' independence and autonomy. The range of scores is 0-36 for the care scales and 0-39 for the protection scales. Responses were also encoded according to the three factors derived in the Cubis et al study (1989), which consisted of the original care factor along with a new factor measuring protection in the social domain (range of scores 0-24) and another measuring protection in the personal domain (range of scores 0 -15).

11.4. Results

11.4.1. Prison and Demographic Details

The demographic details and prison histories of the participants in the current study are reported in *Chapter 10, Section 10.4.1.*

11.4.2. PBI

PBI and the normative data

Table 11.1 illustrates the mean responses reported by the sample for the original and amended subscales of the PBI. The table also illustrates the results from the male group in Cubis et al's (1989) large normative Australian study. One-sample *t*-tests were computed to examine the differences between the sample in the present study and the Cubis norms.

From an examination of the one-sample *t*-tests that compare the results of the present study with the male norms provided by Cubis et al, it is seen that the inmates consistently report lower care and protection from both their parents than the normative sample with the exception of maternal care - which is significantly higher.

No correlations between the maternal care and protection scales ($r = -.04$) nor the paternal care and protection scales ($r = -.08$) was found, suggesting independence of these factors in this particular group. There was no correlation between maternal and paternal care ($r = .15$), suggesting there was no consistent style of child-rearing in this particular domain. However there was a significant correlation between the original maternal and paternal protection factor ($r = .38, p < 0.001$), which carried over to a correlation of how the parents were viewed concerning control in the personal domain ($r = .36, p < 0.001$), but not concerning their control in the social domain ($r = .16, p > 0.05$).

Table 11.1: Means for the PBI in a group of Scottish Young Offenders in relation to Cubis et al's (1989) male norms

PBI Variable	Study		Cubis et al		t	(df)	p
	M	SD	Mean	SD			
Maternal Care	25.24	(7.92)	23.72	(5.59)	1.96	(120)	<0.05
Maternal Prot.	9.99	(6.49)	14.99	(6.24)	-6.55	(120)	<0.0001
Maternal - SD	5.57	(4.77)	9.12	(4.30)	-8.14	(120)	<0.0001
Maternal - PD	5.73	(3.76)	5.86	(2.98)	-0.37	(120)	>0.05
Paternal Care	17.93	(10.57)	22.22	(6.61)	-4.33	(113)	<0.0001
Paternal Prot.	7.39	(7.09)	13.30	(6.41)	-8.89	(113)	<0.0001
Paternal - SD	4.75	(5.50)	8.99	(4.47)	-8.27	(113)	<0.0001
Paternal - PD	2.78	(3.20)	4.31	(2.78)	-4.33	(113)	<0.0001

KEY

Prot - Overprotection Score (from Parker et al 1979)

SD - Overprotection in Social Domain Score (From Cubis et al 1989)

PD - Overprotection in Personal Domain Score (From Cubis et al 1989)

11.4.3. PBI and Demographic/Prison Details

No correlations between bonding scores and age were found. This is in line with previous studies (e.g. Parker et al 1979) - which suggests that perceptions of parental care remain consistent during the life-span. No correlations were found between the care and overprotection scores and the time the respondent had spent incarcerated nor the length of their current sentence - suggesting that amount of prison experience is not related parental perceptions. *T*-tests revealed no difference in the bonding scores according to whether or not the participants' parents were currently together. No correlations were found between any of the PBI factors and the length of time the parents were separated. *T*-tests also found no differences in the response profiles of those who reported living with their parents outwith the prison and those who lived elsewhere. This suggests that in this particular sample, the status of the family did not appear to alter the participants perceptions of their parents. Two differences did arise in relation to having a father with alcohol problems or a prison record. Paternal overprotection was higher in the group of inmates whose father had an alcohol problem ($t(113)=3.38, p<0.001$) and maternal care was higher in those inmates whose father had been incarcerated ($t(113)=5.07, p<0.001$).

11.4.4. Psychological Adjustment Measures and the PBI

The mean score on the HADS-Anxiety Scale was 8.7 (s.d. 5.0), the HADS-Depression Scale 8.0 (s.d. 9.7), and the Beck Hopelessness Scale was 7.2 (s.d. 4.67). Of the group, 44.8% could be characterised as displaying normal levels of anxiety; 18.4% mild anxiety; 21.6% moderate anxiety; and 15.2% severe anxiety. With regards to depression, 52.8% were within the range considered as normal, 20.8% displayed mild depression, 14.4% moderate depression, and 12.0% had the signs of severe depression. When the hopelessness scores are considered, 61.6% are within the range that would be considered as normal (Greene, 1981), however, 38.4% scored over two standard deviations above the mean, reflecting high levels of hopelessness that could warrant clinical attention. The scores on the three distress measures appeared to be highly correlated. HADS-Anxiety correlated with HADS-Depression ($r = 0.59, p<0.0001$), HADS-Anxiety with Hopelessness ($r = 0.46, p<0.0001$) and HADS-Depression with Hopelessness ($r = 0.53, p<0.0001$).

Pearson product-moment correlations were then used to examine the relationships between the PBI care and overprotection scores and the psychological adjustment measures. *Table 11.2* illustrates these. The results of *Table 11.2* illustrate that in this

group of young offenders, maternal care had an antagonistic effect upon depression and hopelessness, in that those reporting lower care showed higher distress while incarcerated. The relationship between the paternal care variables and the distress measures were in the same direction, but non-significant with the exception of hopelessness. The overprotection factors are also generally positively and significantly correlated with the distress measures, suggesting that higher parental control is related to psychological distress experienced while in prison.

To examine these complex interactions further, stepwise regression analyses were carried out to examine the relationship between the parental variables and the HADS Anxiety and Depression scales along with the Beck Hopelessness Scale. Only the parental variables that were found to significantly correlate with the adjustment dependent variables were included, due to the fact that stepwise regression can produce a solution that does not generalise if too many variables are examined in relation to the size of the sample (Tabachnick & Fidell 1996). *Table 11.3* demonstrates the results.

For anxiety, maternal overprotection in the social domain was the first variable entered, accounting for 9% of the overall variance. The last variable entered was paternal overprotection in the social domain that accounted for a further 3% in the variance. For depression, maternal protection in the social domain was the first variable entered, accounting for 7% of the total variance. Paternal overprotection accounted for a further 3% of the variance. For Hopelessness, paternal overprotection in the social domain was the first variable entered accounting for 10% of the overall variance. Maternal care accounted for a further 9% of the variance.

11.4.5. Parental Styles

Parker (1979, 1983) suggested using the care and overprotection scales to define the four quadrants of parenting style by intersecting both scales at their means using normative data. Although Parker (1979) provided norms, recent studies have opted for the use of the norms suggested by Cubis et al (1989) derived from their study of over 2000 Australian adolescents. These were the norms employed in the present analysis to derive the parental styles. The means for the normative sample were: maternal care = 24.76; maternal overprotection = 14.55; paternal care = 22.53; paternal overprotection = 13.88.

Table 11.2: Pearson Correlations of the PBI factors with the measures of psychological adjustment (HADS, BHS).

	<u>PBI Factor</u>							
	MC	MOP	MPD	MSD	PC	POP	PPD	PSD
HADS- A	-.03	.25**	.11	.26**	-.01	.23**	.03	.26**
HADS -D	-.19*	.28**	.17*	.28**	-.02	.23**	.22*	.15
BHS	-.27**	.11	-.04	.15	-.19*	.27**	.15	.28**

* significant at 0.05 level

** significant at 0.01 level

KEY

MC - maternal care, MOP- maternal overprotection, MPD- maternal protection in personal domain, MSD - maternal protection in the social domain. PC - Paternal care, POP - paternal overprotection, PPD - Paternal protection in the personal domain, PSD- paternal protection in the social domain. HADS-A HADS-Anxiety Scale, HADS-D HADS-Depression Scale, BHS -Beck Hopelessness Scale.

Table 11. 3: Stepwise regression analyses using PBI subscales as variables

Variable Entered	df	R	Adjusted R ²	F (0.05 limit)
HADS-ANXIETY				
<i>Maternal SD (first)</i>	1,109	0.30	0.09	11.10
<i>Paternal SD (last)</i>	2,108	0.38	0.12	9.11
HADS-DEPRESSION				
<i>Maternal SD (first)</i>	1,109	0.27	0.07	8.44
<i>Paternal OP (last)</i>	2,108	0.34	0.10	7.14
HOPELESSNESS				
<i>Paternal SD (first)</i>	1,109	0.46	0.10	14.59
<i>Maternal Care (last)</i>	1,108	0.32	0.19	12.99

KEY

SD = overprotection in the social domain, OP = Parker's (1979) original overprotection factor

The number of parents assigned to each quadrant for the sample in the current study is displayed in *Figure 11.1*, which illustrates a highest proportion of inmates reported optimal parenting from their mothers and neglectful parenting from their fathers.

It is plausible to suggest that this particular group is not displaying "optimal parenting" from their mothers, but rather a style of "permissive parenting"- given the significantly lower protection scores compared to the normative sample. Indeed, this is a style of parenting which is not addressed by the Parker et al (1979) taxonomy of parenting styles, and may play an important role in delinquency. Chi-square analyses revealed no differences in parental style according to whether the parents were married or not, whether there was an alcoholic parent, nor whether the father had been in prison.

11.4.6. Parental type and psychological adjustment

Chi-square analyses were there used to examine the relationship between parental type and the HADS and Beck Hopelessness Scale. For these analyses, the respondents were divided by "caseness", that is, whether or not on the basis of a cut-off score on the relevant measures they could be considered to be displaying clinical levels of anxiety, depression or hopelessness. Two of these analyses were insignificant, in that there was no relation between HADS-Anxiety and paternal type ($\chi_2 = 2.42, p > 0.05$) nor HADS-Depression and paternal type ($\chi_2 = 6.68, p > 0.05$). The significant results are illustrated in *Table 11.4*.

The pattern that is evident in *Table 11.4* suggests that more of the inmates who could be considered as reasonably well adjusted in prison (i.e. non-cases) have "optimal bonding" with particularly their mother, as opposed to their father. Fewer of the inmates who could be described as "cases" according to each of the adjustment measures display "optimal bonding" but rather report "weak bonding" or "affectionless control".

Figure 11.1: Assignment of parents to PBI quadrants by Scottish incarcerated Young Offenders.

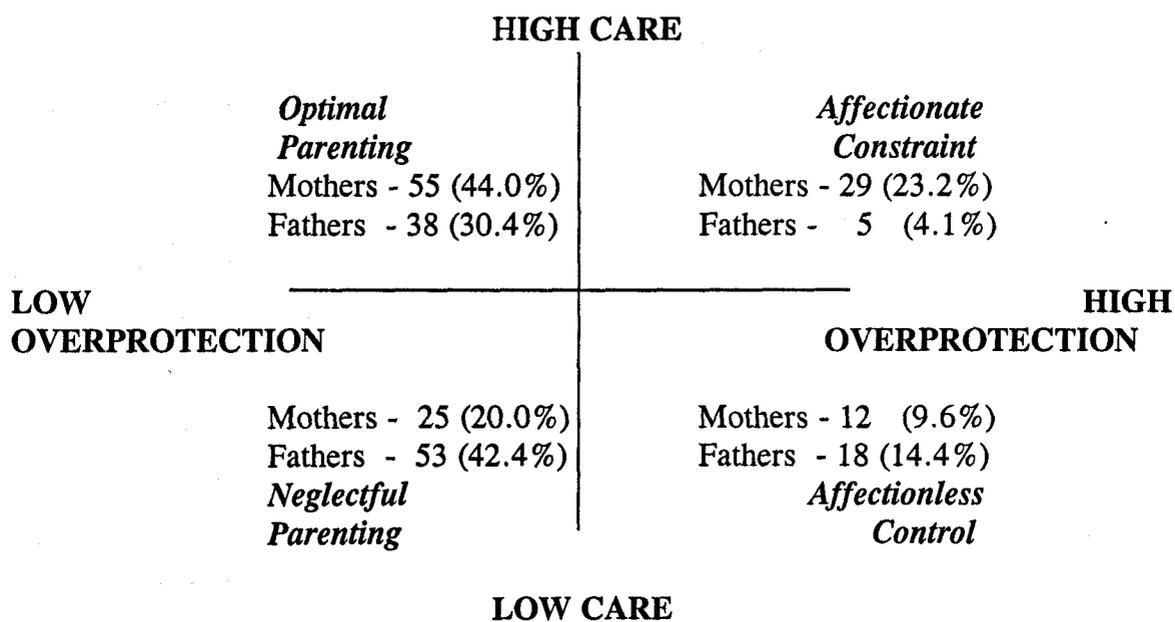


Table 11.4: Chi-square analyses of the PBI parental types according to "caseness" on the psychological adjustment indices (df=3)

	Optimal	Weak	Affectionate	Affectionless	χ_2	<i>p</i>
		Bonding	Constraint	Control		
HADS-A+M-Type						
<i>non - case (n=55)</i>	60.0%	16.4%	18.1%	5.5%	9.83	<0.05
<i>case (n=66)</i>	34.8%	22.7%	28.8%	13.7%		
HADS-D+M-Type						
<i>non-case (n=63)</i>	57.1%	14.3%	22.2%	6.4%	9.53	<0.05
<i>case (n=58)</i>	34.4%	25.9%	25.9%	13.8%		
BHS+ M-Type						
<i>non-case (n=74)</i>	54.0%	16.2%	25.7%	4.1%	10.93	<0.05
<i>case (n=47)</i>	34.0%	25.5%	21.3%	19.2%		
BHS+ P-Type						
<i>non-case (n=71)</i>	40.8%	47.9%	2.8%	8.5%	9.46	<0.05
<i>case (n=43)</i>	23.3%	44.2%	4.7%	27.9%		

KEY

HADS-A - HADS-Anxiety Scale

HADS-D - HADS-Depression Scale

BHS - Beck Hopelessness Scale

M-Type - Maternal Type

P-Type - Paternal Type

11.5. Discussion

The present study examined the levels of self-perceived parental bonding and its subsequent effects upon the self-reported levels of psychological distress associated with incarceration in a group of Scottish young offenders. Firstly, the levels of bonding were compared to the normative data of Cubis et al (1989) in order to determine if different patterns of care and overprotection were found among individuals who could be regarded as serious delinquents. Overall, the care and control levels that were reported by the sample in the current study were lower than the norms, with the exception of maternal care, which was significantly higher. The lower care and control scores are reflective of the patterns of parental behaviour reported in early research on the family and delinquency, where low care and supervision is reported (Atwood, Gold & Taylor, 1989; McCord, 1979).

However, the high level of maternal care reported in the current study is different to that of Pederson (1994) and Mak (1994) who found that low maternal care was a higher predictor of delinquency. Hezel (1969) of institutionalised male delinquents in the USA found that they often report their mothers to be lax in discipline but high in care. The current study did not attempt to address the factors which may lead to the high levels of maternal care evident in the sample. It could be argued that this is influenced by the circumstances surrounding the fact that 47.2% of the inmates reported their fathers incarcerated and 36.8% of them also had fathers with alcohol problems. Further issues of child abuse (not the remit of the current study) could have also influenced the levels of care and control apparent. Although the present study demonstrated lower control from both parents and lower care from the father, caution must be exercised in drawing conclusions about causal relationships. The correlational nature of this study does not allow any inferences to be made concerning causality in parental bonding and delinquency.

No relationship between any of the PBI factors and the length time that the individual had spent in prison, nor the individual's living arrangements prior to incarceration (i.e. concerning whether the participant lived with, or away from, their parents) was found. This addresses an issue that has been raised by previous researchers (Mak 1994; Pederson, 1994) concerning the influence that being resident with parents plays in the reported perceptions of past parental behaviour- as responses may be influenced by separations in a relationship. The results of the present analyses suggest that the PBI is relatively unaffected by such social factors in an incarcerated population.

With regards to the psychological distress indices, 55.2% of the sample could be considered as displaying a level of anxiety that could merit clinical intervention, 47.2% a comparable level of depression, and 38.4% a high level of hopelessness. Stepwise regression analyses were used to examine the relative contribution of each of the parental indices to each of these measures of psychological distress. Maternal and paternal overprotection in the social domain accounted for 12% of the variance of the anxiety experienced in prison. This result would be expected - having an overcautious parent who regulated social behaviour and interactions would not provide an individual with the kinds of self-preservation skills that are necessary for coping with imprisonment. The role that overprotection plays in the development of anxiety has previously been acknowledged (Parker, 1983). While maternal overprotection accounted for the largest percentage of the variance in the anxiety scores, the present study also demonstrated the role of paternal overprotection. The role that paternal variables play in mental health issues - including anxiety - has already been documented (Phares & Compas, 1992). When depression was considered, it was again maternal overprotection in the social domain accounted for the largest percentage of the variance - accounting for 7% and paternal overprotection accounted for a further 3% in the depression scores. Once again, this relationship between parental overprotection and depression is acknowledged in the literature (Parker 1983). When it came to hopelessness, it was paternal overprotection in the social domain that accounted for 10% of the variance in the scores, and maternal care for a further 9%. Overall, it appears as though having overprotective parents antagonised any psychological distress experienced by the inmates as a result of their incarceration.

The present study suggested that it is not so much the parental care variables that contributed to the experience of psychological distress in prison but the protection variables. Pederson's (1994) study found that poor paternal care most strongly characterised the adolescent group in his sample that displayed symptoms of anxiety/depression as assessed by the GHQ-12 compared to his symptom-free comparison-group; and that poor maternal care distinguished the delinquents. Since these results taken together may produce a somewhat ambiguous picture of the relationship between parental bonding and mental health issues, it may be plausible to suggest that the teasing out of particular parental variables and attempting to relate them to the development of particular pathologies is somewhat arbitrary. It may be the case that the PBI assesses general risk factors for the development of psychosocial problems, and the pattern that the particular pathology takes (e.g. anxiety, depression, hopelessness, delinquency) is a result of an

interaction between parental bonding, social variables (such as class, residency environment, education) and personality variables. The social situations in which individuals find themselves may determine which parental variables play the largest role in the development of psychopathology at that particular time. For instance, parental overprotection antagonises psychological distress in a situation where an individual has to possess the ability to look after themselves (such as prison); while parental care may be a more important risk factor for the development of psychopathology in an adolescent faced with the host of common problems that are common in growing-up. These are issues that have not yet been adequately addressed in research, and perhaps future studies should direct themselves to the interaction of the PBI with personality and social variables.

Being "overprotected" has ramifications for how an individual copes with the experiences associated with incarceration. Recently, the incidence of bullying has become a core issue. Research has suggested that 24% of Scottish inmates fear for their own safety from other prisoners (Wozniak, Gemmell, & Machin, 1994). A recent study of all Scottish young offenders has indicated that 29% have been bullied in the course of their current sentence (Power, Dyson, & Wozniak, 1997). Being "overprotected" may prevent an individual from developing adequate coping strategies to deal with such experiences and may exacerbate psychological distress experienced in prison.

A further issue that warrants attention concerns the fact that 47.2% of the current sample had a father who had been incarcerated during some period of their childhood. Previous research has demonstrated that this variable is strongly associated with delinquency. West (1982) found that 38% of the boys in his study with criminal fathers acquired a criminal record. It is argued that for many young men, incarceration could thus be seen as a reference point (Hagell & Newburn, 1994; Utting, Bright, & Henricson, 1993). Hence, prior familiarity with the penal system through family links may have ramifications for the experience of psychological distress or the way in which a youth copes with incarceration.

When the data was considered in relation to Parker's (1979) parental styles, the highest proportions of inmates reported "optimal" parenting from their mothers and "neglectful parenting" from their fathers. Forms of "neglectful parenting" by fathers of delinquents have been found in earlier studies (Borduin, Pruitt & Henggeler, 1986; Wilson 1980).

It could be argued that this group is not displaying "optimal parenting" from their mothers. Parker defined "optimal parenting" as high care and low control. However, in the works of Baumrind (1967, 1971) this style of parenting is regarded as "permissive". Baumrind argues that there has to be an optimal level of control in that a child has to have clear, structured and acceptable rules to guide their conduct. The issue of "permissive parenting" in delinquency has been central to much of the work by Farrington and colleagues. Farrington (1989) suggests that this is an important issue to address as poor parenting skills are transmitted from one generation to another. He argues that offenders tend to provide the same kind of deprived and disrupted family background for their own children that they experienced themselves.

While Parker and Baumrind may differ on their definition of control, it is still argued by the present authors that Parker's original taxonomy of parental styles may have one parental style missing. This is perhaps the one that emulates Baumrind's "authoritative parenting" where the child experiences high care along with a clear structure of rules for conduct. To suggest that high care/low control is reflective of "optimal bonding" as Parker does, may be misguided when "control" as he defines it is assessed by such items as *"Let me do things I like doing"*, *"Gave me as much freedom as I wanted"* and *"Let me go out as often as I wanted"*. It could be argued that allowing a child to have such a level of autonomous behaviour creates a potential for delinquency.

Parker's original parenting styles were used to examine differences in psychological distress. More of the inmates reporting psychological distress in each of the measures reported "weak bonding" or "affectionate constraint" with their parents than those who were regarded as reasonably well-adjusted and were characterised by "optimal bonding" with both of their parents.

A caveat of the present study is that it examined an incarcerated population in relation to the normative data from an Australian study. Given the evidence that the PBI is sensitive to cultural differences in parenting (Parker & Lipscombe, 1979), the present study cannot determine the level that the Scottish culture has to play on the parenting scores generally. A sociological study from Scotland (Laybourn, 1986) has argued that a traditional, Scottish working class up-bringing in which the child experiences high parental control actually provides a protective factor against delinquency in high-risk populations and should not always be considered as an antagonist to delinquency.

A further issue discussed in the Laybourn study, that is not addressed by the studies employing the PBI, concerns the fact that over-protection is not an isolated factor. Indeed, it has to be considered in an interaction with the type of environment to which the child is exposed. For instance Wilson & Herbert, (1978) have found that there are good reasons why working class parents will adopt an authoritarian style if the environment is full of potential physical and social hazards for the child. Although exact information concerning the class of the respondents was not examined by the present study, a post hoc examination of the areas in which the inmates were resident prior to their incarceration suggested that the majority of the sample came from urban working class areas, where such hazards may have been evident. Thus, on the basis of previous Scottish research, there may be nothing unusual about the levels of parental overprotection displayed in the current sample.

The current study is the first British study to examine the forms of parental bonding in a group of young offenders. It is also the first to employ the PBI in a penal institution. However, there are a number of methodological problems with it. Firstly, the sample size is relatively small. Secondly, it examined bonding in a group of male offenders; and thus nothing can be extrapolated about the nature of bonding in female offenders. This could be important since studies by Cubis et al (1989) and Pederson (1994) suggest that there may be differences in the profiles of parenting behaviour reported by male and female respondents. Further work may be done to examine bonding and adjustment in a female incarcerated population. Thirdly, it did not examine the PBI in relation to any personality variables.

The findings of the current study may have important practical ramifications. By examining delinquents' perceptions of their own parents and parenting behaviour experienced to the age of sixteen, clinicians and others working with inmates may use this information to form a basis for the understanding of the inmate's own concept of the parenting role. Considering there was a high incidence of paternity in the young sample examined in the current study (42% of respondents reported having children), raising their awareness of the responsibilities involved in parenthood may be of use in educating them to become successful parents with their own family. This would prove to be important if the cycle of poor parenting proposed by Farrington and colleagues is to be broken. Caddle (1991) investigated the importance of the use of such courses in YOIs, and demonstrated

that such courses led to changes in the participants' knowledge and attitudes concerning preparation for fatherhood, child development, the effects of a new-born upon personal lives and relationships, and parental care and discipline.

In conclusion, the current study has demonstrated the differences in parental bonding found in a population of incarcerated young offenders when compared to a normative sample. The study also demonstrated the interplay of parental factors to psychological distress experienced as a result of incarceration. The results are not uniformly consistent with previous research considering bonding with regards to psychological distress, and it is suggested that the PBI may in fact assess general risk factors that are associated with the potential for the development of psychopathology within an individual - the nature and form of which is determined by an interaction with other social and personality variables.

CHAPTER 12:

**MAIN FINDINGS, PRACTICAL IMPLICATIONS, AND
RECOMMENDATIONS FOR FUTURE RESEARCH**

Chapter 12: Main Findings, Practical Implications, and Recommendations For Future Research.

The current thesis aimed to investigate the relationships between social problem-solving skills and social support variables in the experience of psychological distress among three distinct research populations - clinically depressed inpatients, individuals who had recently engaged in an act of suicidal behaviour, and sub-groups of incarcerated young offenders. To recapitulate, the thesis intended to examine the problem-solving abilities of the above three groups and the possible correlates of problem-solving deficits (such as verbal ability, autobiographical memory recall, information processing ability). The thesis also explored the role of supportive relationships in the experience of psychological distress among two of the research groups - those individuals who had recently engaged in acts of suicidal behaviour and incarcerated young offenders. A series of eight cross-sectional studies were conducted to examine these relationships.

The purpose of the current chapter is to discuss the general findings of the thesis. Due to the fact that each chapter entails a distinct study, the findings of each study are detailed in the appropriate discussion section. The current chapter will henceforth attempt to discuss the overall findings of the work with each of the groups, to consider the extent to which the research objectives were achieved, to note the limitations of the research, and to discuss the practical implications of the findings and possible avenues for future work.

The main research aims were to: a) examine the form and correlates of problem-solving ability among three distinct research populations previously identified as "deficient" in this ability; b) to overcome some of the difficulties previously associated with sample selection c) to determine the relationship between problem-solving ability and the experience of psychological distress; d) to examine the use and outcomes of different methods of problem-solving assessment; and e) to examine the nature and role of supportive relationships in the experience of psychological distress among individuals engaging in suicidal behaviour and incarcerated young offenders. It is argued that the results of the studies in the current thesis may have a number of implications for future research with such groups and also practical implications with regards to clinical intervention.

A major concern of the thesis was to utilise samples which were reflective of clinical samples or which were representative of specific sub-groups of inmate populations.

Data was collected by structured interviews, reliable and valid self-report questionnaires, and some standardised oral assessments of problem-solving ability, concentration, and verbal ability. All individuals participated on a voluntary basis and received no reward or payment for taking part in any study. The first two research studies of the thesis examined the nature and cognitive correlates of problem-solving ability among clinically depressed individuals and the relationship of these variables to the levels of psychological distress experienced by clinically depressed individuals. The third research study examined an interactional model of suicidality among a group of individuals who had recently engaged in an act of suicidal behaviour, and examined the role of social problem-solving and social support variables in the prediction of suicidal intent and levels of psychological distress experienced. The fourth, fifth and sixth research studies examined the nature and correlates of the problem-solving abilities of specified sub-groups of young offenders, and the relationships between their problem-solving skills and the levels of psychological distress experienced by the sub-groups while incarcerated. Finally, studies seven and eight examined the structure and function of social support relationships and parental bonding relationships among the young offenders taken as an entirety and the relationships of these variables to psychological distress. The main findings of these studies were as follows:

12.1. The Studies With The Clinically Depressed Patients.

The studies examining the problem-solving abilities of depressed individuals attempted to overcome some of the difficulties highlighted in Chapter 1 of the current thesis that concern the selection of samples in previous studies. Thus, only patients who had been admitted to a psychiatric wing of a hospital following an ICD-10 diagnosis of major (unipolar) depression were included in the present studies. A matched comparison group was also used. The first of these studies aimed to examine some of the issues associated with the assessment of problem-solving techniques by using two measures of problem-solving assessment concurrently - an orally delivered outcome measures, and an analogue assessment.

- *The orally delivered, outcome measure of problem-solving [MEPS] was more sensitive at distinguishing the problem-solving abilities of the depressed and comparison groups than the analogue inventory [PSQ].*

The study demonstrated the sensitivity of outcome measures - where an individual has to "solve" a common but hypothetical problem - in detailing the particular problem-solving difficulties of depressed patients. The orally delivered assessment technique (the Means-Ends Problem Solving Procedure) also demonstrated the low self-evaluations of problem-solving ability apparent among depressed individuals. Such low self-confidence in problem-solving ability is a clinically relevant indice. However, the current study takes this further and suggests that low self ratings of problem-solving skill are paralleled by genuine deficits in problem-solving performance. The analogue measure of problem-solving (the Problem-Solving Questionnaire) did not differentiate the groups to the same extent.

- *Problem-solving ability was correlated with the levels of psychological distress experienced in both the patient and comparison group, although the relationships were strongest in the patient group. Problem-solving ability was also related to a number of clinical mood states and general affective functioning.*

Previous research has demonstrated that problem-solving ability is often related to the level of depression experienced by depressed individuals. Further evidence for this relationship was apparent in the current thesis. However, significant correlations were found between problem-solving ability and other clinical mood states such as anxiety and hopelessness, along with other measures of general affective functioning as assessed by the POMS. Despite these relationships being strongest in the clinical group, they were also apparent in the comparison group, albeit to a lesser but nevertheless significant effect. Such a finding suggests that the relationship between problem-solving difficulties and the experience of psychological distress is not particular to clinical groups or clinical mood states but can be a feature of psychological disturbance in general.

The studies with the depressed patients also attempted to examine the aetiology of the deficits in social problem-solving ability associated with depression. To date, there appears to be little published literature pertaining to this. Following the most recent research, the thesis aimed to examine whether such deficits arise as a result of an impairment of patients' abilities to retrieve specific autobiographical memories. Further to this, the current thesis also wished to examine whether such deficits could be related to the individual's verbal and information-processing abilities.

- *Clinically depressed individuals were found to differ from a matched comparison group in their autobiographical memory recall specificity, and general concentration as assessed by the PASAT. Poor autobiographical memory and concentration correlated with clinically depressed individuals' problem-solving difficulties.*

Similar to previous research studies (Moore et al, 1988; Williams & Scott, 1988), depressed patients in the current study showed a propensity to recall categoric memories in response to an autobiographical memory cueing task. In line with the findings of Goddard et al (1996), this propensity to recall categoric memories was associated with poor problem-solving performance in the current study. The ability to recall specific memories was associated with good problem-solving performance among the comparison group. The recall of categoric memories was also associated with poor PASAT performance among the depressed individuals, suggesting a link between categoric responses and the patients' abilities to concentrate. A passive problem-solving style was associated with poor PASAT performance among the depressed patients.

- *Deficits in problem-solving apparent among depressed patients were not an artefact of their verbal ability (as assessed by the National Adult Reading Test [NART]).*

NART performance had no significant relationship with either autobiographical memory recall or problem-solving ability in either the depressed or comparison groups. This suggests that the deficits in problem-solving ability and autobiographical memory recall evident among the clinically depressed are not purely artefacts of the individual's verbal ability and therefore could be considered as the consequence of the overgeneralised style of thinking that is characteristic of clinical depression.

12.1.1. Limitations Of The Studies And Directions For Possible Future Research.

The main limitations of the studies conducted with clinically depressed individuals in the current thesis is that they employed cross-sectional designs, which prevent assessments of the direction of causality of the relationships between the variables. While it makes intuitive sense to suggest that deficits in problem-solving are causal in depression, the results of the current thesis indicate that it is equally plausible to suggest that deficits in problem-solving ability and autobiographical memory recall are reflective of a diminished ability to attend and concentrate that often accompanies clinical levels of depression.

Future research may wish to examine these relationships in more detail, and may also consider in further detail the overgeneralised style of processing and concentration difficulties that accompany depression. By means of a treatment-outcome study, it would be interesting to investigate if the problem-solving abilities of depressed individuals improved as the severity of their clinically symptomatology lessened.

12.1.2. The Practical Implications Of The Research.

The studies in the current thesis demonstrated the problem-solving difficulties of clinically depressed individuals. Indeed, this has practical implications for interventions for depression that employ a problem-solving approach. The value and efficacy of such interventions have previously been reported (D'Zurilla, 1986; Nezu & Perri, 1989). The results of the current study have perhaps highlighted the need for such interventions to take a multimodal approach, as there are a variety of different components in the problem-solving process with which depressed individuals have difficulty. Additional research which evaluates the efficacy of problem-solving interventions may wish to examine the profile of problem-solving deficits among clinically depressed individuals through the course of a treatment-outcome study. The results of the current studies suggest that such interventions should also consider the cognitive aspects of the problem-solving process among depressed individuals. There are a number of reasons why depressed individuals may have difficulties with the problem-solving process. Firstly, they could be the result of impoverished knowledge. However, in line with the findings of the current thesis, such deficits could also be the result of an inability to retrieve effective problem-solving strategies as a result of an over-generalised processing style or diminished concentration. Over-general processing styles play an integral role in many of the current cognitive interventions for depression (e.g. Beck, 1967). Future problem-solving interventions for depressed individuals may also wish to consider the efficacy of including a component to address over-general processing.

12.2. The Study With Individuals Who Had Engaged In Suicidal Behaviour.

The third study in the thesis aimed to examine whether stress, problem-solving skill and social support variables were predictive of the levels of suicidal intent, and the levels of psychological distress experienced in a group of individuals who had been hospitalised following an act of suicidal behaviour. The study aimed to deal with some of the

methodological difficulties associated with previous studies that examined such relationships among students whose suicidality was determined by the Beck Suicidal Ideation Scale (Beck et al, 1979) by using instead a clinically presenting sample and examining their suicidal intent. The study also aimed to use a relatively new, factor-analytically derived measure of problem-solving - the Social Problem Solving Inventory-Revised (D'Zurilla et al, 1996). The study further aimed to examine the inclusion of social support variables in the stress-diathesis-hopelessness model of suicide with a clinical sample.

- *An analogue measure of problem-solving successfully differentiated the problem-solving abilities of individuals engaging in acts of suicidal behaviour from normative data.*

From a perusal of the literature, the study in the current thesis appears to be one of the first to use the SPSI-R to assess problem-solving in a suicidal sample. This factor-analytically created questionnaire illustrated that the suicidal individuals had a highly negative problem orientation, avoided dealing with difficult situations, and were careless and impulsive in their problem solving style. These findings are similar to those found in previous studies employing outcome measures of problem-solving (Evans et al, 1992; Linehan et al, 1987) and suggest that the SPSI-R is a valuable measure for assessing problem-solving.

- *Social support variables emerged as the prime predictors of suicidal intent, hopelessness and depression. Social problem-solving variables also emerged as predictors, albeit to a lesser extent.*

By means of stepwise regression analyses, the results of the study suggested the importance of social support variables as the main predictors of suicidal intent, hopelessness and depression among individuals engaging in acts of suicidal behaviour. Problem-solving variables were found to be less important than social support variables. Social support and problem-solving variables explained the most variance in hopelessness. These findings have implications for the stress-hopelessness-suicidality model, in that they emphasises the importance of the inclusion of social support variables as components of the model.

- *Social support and problem-solving variables also emerged as significant moderator variables in the relationship between stress and suicidality.*

Hierarchical regression analyses demonstrated the interactions of stress and social support and stress and problem-solving in the prediction of suicidal intent, hopelessness and depression, illustrating that they are important moderator variables in the relationship between stress and suicidality. Once more, the social support variables compared to the problem-solving variables explained most of the variance in hopelessness.

12.2.1 Limitations Of The Study And Directions For Possible Future Research.

There are limitations to the study. Relatively speaking, the sample size was small and a larger sample would be necessary to allow more reliable conclusions to be drawn from the regression analyses. Furthermore, the cross-sectional nature of the study prevents firm conclusions from being drawn with regards to causal relationships. Future research may wish to use larger samples and longitudinal designs to examine the relationships between social support and problem-solving variables in more detail among clinically presenting samples.

12.2.2. The Practical Implications Of The Research.

The ability of the SPSI-R to discriminate the problem-solving abilities of individuals who engage in acts of suicidal behaviour from a normative sample and demonstrate the same deficits in ability as previously illustrated in studies employing outcome measures of problem-solving suggest it has valuable use as a clinical instrument. What is more, it is quicker to administer than most outcome measures of problem-solving and does not require the same level of expertise in administering problem-solving assessments.

The results of the study also have potential ramifications for therapeutic interventions with individuals engaging in acts of suicidal behaviour. The value of problem-solving interventions for these individuals have already been demonstrated (Linehan & Clum, 1990; Linehan et al, 1991; Salkovskis, Atha, & Storer, 1990; Rudd et al, 1996). In light of the results of the study in the current thesis which demonstrates the importance of social support variables in the prediction of the distress levels experienced by individuals engaging in acts of suicidal behaviour, it is plausible to suggest that such interventions should consider the availability of social support for the individual. Indeed, many problem-solving solutions are dependent upon the availability of others to provide a

host of supportive functions (e.g. offering advice, providing practical assistance). If such support is negligible for an individual, then the efficacy of problem-solving interventions may be challenged. As discussed in the appropriate section, studies have demonstrated that suicidality is linked to poor self-appraisals of problem-solving ability (Clum & Febraro, 1994; Dixon et al, 1994; Rudd, 1994) indicating that such individuals have poor self-efficacy with regards to problem-solving skill and perhaps lowered self-esteem. The results of the study in the current thesis suggest that suicidal individuals often lack a supportive network of others who could provide positive self-esteem feedback to the individual about how the individual is dealing with problems during difficult periods of life. If an individual has no source of such feedback, then the efficacy of interventions that address difficulties concerning the appraisal component of the problem-solving process with suicidal individuals may be questionable. Future research may also wish to examine the role of supportive relationships in interventions designed for individuals who engage in suicidal behaviour. These studies could investigate the value of formal agencies such as the Samaritans in the community or the Listeners Scheme in prisons in providing forms of social support.

12.3. The Studies Examining The Problem-Solving Skills Of Sub-Groups Of Incarcerated Young Offenders.

Chapter seven of the current thesis aimed to examine the problem-solving abilities of three groups of incarcerated Scottish young offenders who had been identified within the institution as either bullies, victims of bullying, or a non-bully/non-victim comparison group. The study aimed to examine if these three groups differed in their problem-solving ability and levels of psychological distress experienced while incarcerated and if such variables were correlated.

- *An orally delivered, outcome measure of problem-solving [MEPS] distinguished the problem-solving abilities of inmates to a greater extent than an analogue measure.*

Previous researchers have been concerned with the validity of the MEPS in penal populations (Ivanoff et al, 1992) as it was not developed and standardised for penal groups. Ivanoff et al have argued that the instrument is not sensitive to the difficulties in problem-solving apparent among prisoners, in that it suggests that prisoners are particularly deficient at problem-solving even compared to clinical groups. The fact that the results of the study in the current thesis suggest that the MEPS is in fact sensitive in detecting subtle differences in different sub-groups of the penal population, suggests that the MEPS can be successful

employed with inmate samples. Indeed, the MEPS differentiated the problem-solving abilities of inmates better than an analogue measure (the PSQ).

- *A greater level of distress and poorer means-ends thinking was found in the group of victims of bullying compared to the bullies and the comparison group. The correlations between psychological distress and problem-solving were stronger with the victims of bullying.*

Numerous deficits in problem-solving skills as measured by the MEPS were found to correlate with higher levels of psychological distress.

Following the results of the study reported in Chapter 7, the next study aimed to expand the findings and examine if problem-solving difficulties were apparent in further groups of inmates that have warranted particular attention by the Scottish Prison Service, and also to determine if such difficulties were related to the levels of distress experienced. The study reported in Chapter 8 examined four groups of inmates - a) the victims of bullying from Chapter 7; b) a group removed from main circulation and placed on protection; c) individuals placed on Strict Suicidal Supervision (SSS); and d) a group who had adjusted reasonably to the prison regime. This study also aimed to examine if problem-solving deficits were related to the prisoners' verbal abilities as assessed by the NART.

- *A "hierarchy" of problem-solving difficulties and psychological distress was apparent among the inmates. The most marked difficulties were found with the SSS inmates, followed by the victims of bullying, the inmates placed on protection, and finally the comparison group.*

The most marked difficulties were apparent among individuals who engaged in "maladaptive" behaviour (i.e. actual or threatened self harm) in order to remove themselves from a source of stress within the prison. Such behaviour can be taken as evidence of a failure to deal with life in a prison regime, and perhaps highlights the appropriateness of these individuals for some form of supportive intervention - which perhaps could take a problem-solving format. Once again, hopelessness appeared to be an important clinical marker of distress and also correlated highly with deficits in problem-solving ability.

- *Deficits in problem-solving correlated with psychological distress and were not related to the prisoners' verbal abilities as assessed by the NART.*

Contrary to concerns raised by previous researchers that instruments such as the MEPS are dependent upon an individual's verbal abilities (Butler & Meichenbaum, 1981) which are noted to be impoverished in penal groups (Ivanoff et al, 1992), the study in the current thesis demonstrated that problem-solving difficulties are not an artefact of prisoners verbal abilities.

One further study with the young offenders attempted to examine the issue of whether state or trait problem-solving deficits are more inextricably linked to suicidality.

- *The relationship between problem-solving deficits, affective states, and suicidality is more complicated than previously suggested (Ivanoff, 1992; Schotte & Clum, 1982; 1987).*

The results of this particular study suggested that although problem-solving is not a state-phenomenon, it may be a state corollary of suicidality. The study suggested that psychological distress is both a trait and a state indicator of parasuicidal behaviour - in particular with regards to depression, which is more pronounced among inmates with a parasuicidal history.

12.3.1 Limitations Of The Study And Directions For Possible Future Research.

There are similar methodological considerations in both of these studies which could be addressed in future research. Firstly, all participants were selected from the same penal institution, and it would be worthwhile assessing if these profiles are apparent in other inmate groups. Also, there are difficulties with the identification of the particular samples used in the study (Beck, 1992) where the status of the bully/victim can be transient and there are more complicated taxonomies of bullies and victims should also be considered. Furthermore, the status of victim/suicidal prisoner and victim/protection prisoner can be transient. Once again, the cross-sectional design of these studies limits conclusions being drawn with regards to the direction of causality of the relationships between problem-solving and psychological distress variables.

12.3.2. The Practical Implications Of The Research.

Given the impoverished problem-solving abilities of the prisoners even when compared to the levels of ability evident in clinical groups, the results of the current studies suggest that problem-solving interventions for individuals who are experiencing difficulties in adjusting to prison life could be of value. The studies in the current thesis have identified vulnerable groups within the prison community and have detailed where their particular problem-solving abilities arise. Through such programmes, vulnerable prisoners could be trained to think through and deal with difficult interpersonal situations that they are likely to experience within the prison. To date, no such work has been done with incarcerated young offenders, although the efficacy of social problem-solving training has been demonstrated with adult prisoners (Bornstein et al, 1979; Platt et al, 1980). Given that previous writers have argued that prisons contain a disproportionate number of individuals with poor or limited coping skills who are particularly vulnerable to the effects of stress and elevated psychological distress (Backett, 1988), interventions which encourage a repertoire of coping skills may be beneficial.

12.4. The Study Examining The Supportive Relationships Of Incarcerated Young Offenders.

The final two studies in the current thesis examined the role of supportive relationships in the experience of psychological distress among the incarcerated young offenders. Chapter 10 aimed to examine the function and structure of the social support relationships across nine key relationships from both inside and outwith the prison.

- *The importance of prison relationships in the experience of anxiety, depression, and hopelessness was highlighted.*

By means of regression analyses, the study demonstrated the importance of prison relationships (particularly with members of staff) in relation to the levels of psychological distress experienced by the inmates. Distressed inmates were more likely to report discrepancies in the actual/ideal levels of both emotional and practical support.

- *Perceived deficits in support received from officers were the major predictors of depression, anxiety and hopelessness.*

These results make intuitive sense and validate the assertions of Zamble & Porporino (1988) which argue that prison officers play an integral role in helping prisoners adjust to the prison regime. When an inmate feels that they are lacking in such support, their distress may increase.

12.4.1 Limitations Of The Study And Directions For Possible Future Research.

There are methodological issues that warrant consideration in this study. Firstly, all inmates were selected from one institution and thus it cannot be determined whether or not the relationships reported with the staff are an artefact of that particular institution, or can be generalised throughout the system. It is also not possible to determine in a cross-sectional design whether the perceived deficits in social support are causes or antecedents of psychological distress. Future research may wish to use longitudinal designs, to examine social networks prior to, during, and post incarceration and to examine the differences in their functions. Such studies may also wish to examine the value of social support in different cohorts of the inmate population.

12.4.2. The Practical Implications Of The Research.

There are practical implications arising from the results of this study. Previous research has demonstrated that inmates who self-harm often display high levels of hopelessness and such inmates report that they have received less practical and emotional support from the officers than they regard personally as optimal. If inmates and staff can be encouraged to use their working relationship to guide and support the inmate in adjusting to the prison regime, it is possible that consequent levels of anxiety and hopelessness experienced by the prisoners may be reduced. This in turn may reduce the incidence of self-harm and requests to be placed on formal protection made by the inmates.

12.5. The Study Of Parental Bonding Relationships Of Young Offenders.

The final study in the current thesis examined a different set of supportive relationships among the young offenders - those with parents in the first 16 years of life. By means of the Parental Bonding Instrument (Parker et al, 1979) the response profiles of young offenders were compared with normative data, and the relationships between parenting style and the levels of depression, anxiety, and hopelessness experienced during incarceration were examined.

- *The levels of parental care and overprotection reported by the young offenders were lower than found in the normative data, with the exception of maternal care which was significantly higher.*
- *Parental overprotection accounted for a significant proportion of the variance in anxiety experienced while in prison.*

Such a finding suggests that having overcautious parents who regulate an individual's social behaviour and interactions would prevent the individual from developing the kinds of self-preservation skills that are necessary to cope with imprisonment.

12.5.1 Limitations Of The Study And Directions For Possible Future Research.

There are a number of methodological issues that need consideration in the current study. Firstly, the normative data stems from Australia, and thus it would be hard to determine the level that Scottish culture has to play on parenting profiles. Secondly, the study examined only males, and nothing can be extrapolated about the nature and role of parenting relationships among female offenders. Further to examine the role of parental bonding in relation to the experience of psychological distress among young female offenders would be of benefit.

12.5.2. The Practical Implications Of The Research.

The results of the study have a number of practical implications. Being "overprotected" has ramifications for how an individual copes with the experiences associated with incarceration. Given recent concerns over the incidence of bullying in prison (Wozniak et al, 1994; Power et al, 1997), being overprotected may prevent an individual from developing adequate coping strategies needed to deal with such experiences and could exacerbate the levels of psychological distress they experience in prison. Indeed, "overprotected" inmates may benefit from appropriate intervention programmes - perhaps problem-solving oriented - to help them develop the kinds of coping strategies needed to deal with incarceration. There are further practical implications in that by examining delinquents' perceptions of their own parents and parenting behaviour experienced to the age of sixteen, professionals working with inmates may use this information to form a basis for the understanding of the inmate's own concept of the parenting role. Such information

could then be used to raise their awareness of the responsibilities of parenthood and in educating them to become successful parents in their own families.

12.6. Summary Of General Points Of the Research.

There are a few key points that seem to arise consistently across the studies, regardless of the study population.

- *An orally-delivered, outcome measure of problem-solving [MEPS] is sensitive at identifying the problem-solving difficulties of a number of research groups deemed "deficient" in this ability.*

"Process" inventory measures of problem-solving (such as the PSQ) which assess an individual's attitudes towards the problem-solving process did not differentiate the problem-solving abilities of most groups (depressed patients, young offenders) as well as the "outcome" measure (MEPS) where researchers can assess the ways in which individuals apply their skills to particular situations. Although measures like the MEPS require some expertise in their administration, the end results are more specific in their detail in that they allow researchers to assess actual skill and understand an individual's personal problem-solving confidence. Such measures appear clinically valid and are potentially worthy of more extensive usage.

- *Problem-solving ability is not related to an individual's verbal abilities.*

Some reviewers have previously voiced concern that problem-solving measures are dependent upon an individual's verbal abilities, and this will affect test performance (Butler & Meichenbaum, 1981; Ivanoff et al, 1992). Such concerns were not borne out by the studies in the current thesis, which found no correlation between verbal ability as assessed by the NART and either analogue or outcome measures of problem-solving. This was apparent among both the clinically depressed patients and the young offenders.

- *Social Support variables play an integral role in models of psychological distress.*

The studies with the suicidal individuals and the young offenders demonstrated the significant role that social support variables have in the experience of psychological

distress. A large body of research has previously demonstrated that social support is an important variable in the experience of depression (e.g. Cornelis et al, 1989; Billings and Moos, 1984; Broadhead et al, 1983; Brown & Harris, 1978). The results of the current studies investigated this concept in detail and illustrated that social support is an important moderator of the relationship between life stress and the experience of psychological distress. The studies also provided evidence that social support may predict psychological distress directly. In the study of suicidal individuals, social support accounted for a larger proportion of psychological distress variables than problem-solving variables. Such findings suggest that transactional models of stress-distress relationships are more complicated and dynamic than previously formulated and future formulations would do well to include social support as a variable.

- *Social support and problem-solving variables are more inextricably linked to hopelessness than to other clinical and non-clinical mood states. This effect was apparent in all research groups.*

In each of the research studies with each of the groups, social support and problem-solving variables were more inextricably linked to hopelessness than to depression, anxiety, suicidal intent, or other general affective states. Hopelessness has previously been formulated as an important moderator of the stress-distress relationship. The current studies have demonstrated that problem-solving ability and social support in turn are directly related to hopelessness. These findings again demonstrate the complexity of transactional models of mental health regardless of the diagnosis. Future work may wish to examine these relationships further by means of model building techniques such as path analysis and longitudinal intervention based on treatment outcome analyses.

The present series of studies have hopefully produced a greater understanding in some of these areas investigated and also provided avenues for future research.

In accordance with Section A7.4 of the *Regulations for the Degree of Doctor of Philosophy at the University of Stirling*, a candidate must state the status of work published, in press, or submitted for publication that is included in the thesis.

In accordance with this regulation, this is the status of the current thesis with regards to publication at the time of submission:

In press:

Chapter 7:

published as Biggam, F.H. & Power, K.G. "Social Problem-Solving Skills and Psychological Distress Among Young Offenders: The Issue Of Bullying And Victimization" to *Cognitive Therapy and Research*.

Chapter 8:

published as Biggam, F.H. & Power, K.G. "A Comparison Of The Problem-Solving Abilities And Psychological Distress Of Suicidal, Bullied And Protected Prisoners" in *Criminal Justice and Behavior*.

Chapter 9:

submitted as Biggam, F.H. & Power, K.G. as "Suicidality and The State-Trait Debate On Problem-Solving Deficits: A Re-examination With Incarcerated Young Offenders" to *Archives of Suicide Research*.

Chapter 10:

published as Biggam, F.H. & Power, K.G. "Social Support And Psychological Distress In A Group Of Incarcerated Young Offenders." in *International Journal of Offender Therapy and Comparative Criminology*.

Chapter 11:

published as Biggam, F.H. & Power, K.G. "The Quality of Perceived Parenting In A Group Of Scottish Incarcerated Young Offenders And Its Relation To Psychological Distress Experienced During Incarceration. in *The Journal of Adolescence*.

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APPENDIX A:

PARTICIPANT INFORMATION AND CONSENT FORMS

- a) The depressed patients**
- b) The comparison group, depression study**
- c) The suicidal individuals**
- d) The young offenders**

STUDY INFORMATION SHEET

You have been asked to take part in a study being conducted by the **Department of Psychology at the University of Stirling**. This study is aiming to assess people's memories for emotional events in their lives, their skills in solving the kinds of problems that they may encounter in real life, and the way they evaluate some important relationships.

During the course of these study, you will be asked to take part in an interview with a research psychologist, complete some questionnaires, and undergo a short ability assessment. In all, this should not exceed an hour and a half, and you will be given the chance to take a break during this time.

All information that we receive as a result of this study will be treated in the **strictest confidence**, and you will not be identifiable from the data analysis or in any publications that result from this research. Therefore, there will be no feedback on the analysis of individual results, either to the participant nor to any health care professional.

If you do decide to participate in this study, you can withdraw at any time and for any reason. If you decide to withdraw, your questionnaires and interview will be destroyed and will not be included in the final analysis of the data from this study.

Participation or non-participation in this study will have no effect upon your current treatment.

We hope that you would be interested in taking part in our study.

Yours sincerely

**FIONA BIGGAM
RESEARCHER
DEPT OF PSYCHOLOGY
UNIVERSITY OF STIRLING**

**DR KEVIN POWER
SENIOR LECTURER &
CONSULTANT CLINICAL PSYCHOLOGIST
DEPT OF PSYCHOLOGY
UNIVERSITY OF STIRLING**

PARTICIPANT CONSENT FORM

The study you are being invited to take part in is being carried out by researchers from the Dept of Psychology at the University of Stirling. This study is investigating problem-solving skills for the kinds of problems people may encounter in real life in relation to their memory for emotion. We are also interested in how people feel about close relationships and to see if this relates to how they feel in themselves.

If you take part in this study, you will be asked to complete a package of questionnaires and to take part in an interview with a research psychologist. This will take approximately one hour of your time. All of your answers will be strictly confidential, and you will not be identifiable from these questionnaires or in any publications resulting from this research.

You do not have to take part in this study if you do not want to. If you decide not to take part, your treatment will not be affected in any way.

You can withdraw from the study at any time and for any reason. If you decide to withdraw, your questionnaires will be destroyed and will not be included in the final analysis of the data from this study.

In signing this form, I..... (NAME IN CAPS)
acknowledge that I have read the form and understand that the study will involve completing a package of questionnaires anonymously and returning these to the research psychologist and taking part in an interview with the same research psychologist.

SIGNED.....

DATE



IMAGING SERVICES NORTH

Boston Spa, Wetherby
West Yorkshire, LS23 7BQ
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PAGE AS ORIGINAL

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STUDY INFORMATION SHEET

You have been asked to take part in a study being conducted by the **Department of Psychology at the University of Stirling**. This study is aiming to assess people's memories for emotional events in their lives, their skills in solving the kinds of problems that they may encounter in real life, and the way they evaluate some important relationships and social support.

Previous work conducted in this department has examined these relationships in hospital patients and prisoners. In order to draw adequate conclusions, we now need to compare these groups with people drawn from the general population. It is to this end that you have been asked to take part in the study.

We hope that you will be interested in taking part in our study. We ask that you complete the package of questionnaires enclosed. In all, this will probably take an hour of your time.

Your participation in this study is entirely **VOLUNTARY** and **ANONYMOUS**, and all information that we receive as a result of this study will be treated in the **STRICTEST CONFIDENCE**. You will not be identifiable from the data analysis or any publications that stem from this research.

In order for this research to be valid it is obviously important that a high response rate is achieved. We would therefore be exceedingly grateful if you would complete **ALL SECTIONS AND ALL QUESTIONS**.

Please seal your questionnaire in the provided stamped addressed envelope and return as soon as possible.

May we take this opportunity to thank you for your time and co-operation.

Yours in anticipation

FIONA BIGGAM
RESEARCHER
DEPT OF PSYCHOLOGY
UNIVERSITY OF STIRLING

DR KEVIN POWER
CONSULTANT CLINICAL PSYCHOLOGIST
& SENIOR LECTURER
DEPT OF PSYCHOLOGY
UNIVERSITY OF STIRLING

PARTICIPANT CONSENT FORM

The study you are being invited to take part in is being carried out by researchers from the **Dept of Psychology at the University of Stirling**. This study is investigating problem-solving skills for the kinds of problems people may encounter in real life, and how people feel about close relationships. We are trying to see if this relates to how they feel in themselves. This information may help in an individuals who have recently self-harmed.

If you take part in this study, you will be asked to complete a package of questionnaires and to take part in an interview with a research psychologist. This will take approximately one hour of your time. All of your answers will be **strictly confidential**, and you will not be identifiable from these questionnaires or in any publications resulting from this research.

You do not have to take part in this study if you do not want to. If you decide not to take part, your treatment will not be affected in any way.

You can withdraw from the study at any time and for any reason. If you decide to withdraw, your questionnaires will be destroyed and will not be included in the final analysis of the data from this study.

In signing this form, I..... (NAME IN CAPS) acknowledge that I have read the form and understand that the study will involve completing a package of questionnaires anonymously and returning these to the research psychologist and taking part in an interview with the same research psychologist.

SIGNED.....

DATE

STUDY INFORMATION SHEET

You have been asked to take part in a study being conducted by the **Department of Psychology at the University of Stirling**. This study is aiming to assess people's skills in solving the kinds of problems that they may encounter in real life, and the way they evaluate some important relationships. This information may help in an intervention programme that might help people adjust to prison life.

During the course of these study, you will be asked to take part in an interview with a research psychologist and complete some questionnaires. In all, this should not exceed an hour and a half, and you will be given the chance to take a break during this time.

All information that we receive as a result of this study will be treated in the strictest **confidence**, and you will not be identifiable from the data analysis or in any publications that result from this research. Therefore, **there will be no feedback on the analysis of individual results, either to the participant nor to any member of the prison staff.**

If you do decide to participate in this study, you can withdraw at any time and for any reason. If you decide to withdraw, your questionnaires and interview will be destroyed and will not be included in the final analysis of the data from this study.

Participation or non-participation this study will have no effect upon your current position in the prison.

We hope that you would be interested in taking part in our study.

Yours sincerely

**FIONA BIGGAM
RESEARCHER
DEPT OF PSYCHOLOGY
UNIVERSITY OF STIRLING**

**DR KEVIN POWER
SENIOR LECTURER &
CONSULTANT CLINICAL PSYCHOLOGIST
DEPT OF PSYCHOLOGY
UNIVERSITY OF STIRLING**

I have read the above information and consent to take part in the study.

signed.....

date.....

APPENDIX B:

DEMOGRAPHIC INFORMATION SHEETS

- a) The depressed patients/comparison group**
- b) The suicidal individuals**
- c) The young offenders**

PARTICIPANT DETAILS

INITIALS:.....

GENDER: *Male* *Female*

DOB/AGE:.....

CURRENT
OCCUPATION:.....

HIGHEST OCCUPATIONAL POST HELD:.....

YEARS OF FULL-TIME EDUCATION :.....

EDUCATIONAL HISTORY

Left school at 16 or under	yes	no
Gained 'O'/Standard Grades	yes	no
Gained Highers/ 'A' Levels	yes	no
Gained ONC(s)/OND(s)	yes	no
Gained HNC(s)/HND(s)	yes	no
Gained a Degree	yes	no
Gained other	yes	no

MARITAL STATUS: single married/co-habiting separated divorced widowed
(please circle)

LIVING WITH: family partner friends alone
(please circle)

CURRENT CLINICAL

DIAGNOSIS:.....

.....

.....

.....

CURRENT MEDICATION /

TREATMENT.....

.....

.....

.....

PREVIOUS CLINICAL

DIAGNOSIS:.....

.....

.....

.....

PREVIOUS

TREATMENT:.....

.....

.....

.....

If deceased, please specify when they died.....

SELF- HARM INFORMATION

CURRENT DATE:.....

DATE OF INCIDENT:.....

ADMISSION: Long-Stay Ward Short Stay Ward

MOST RECENT MEDICAL CONTACT:.....

METHOD:.....

DRUG OVERDOSE ONLY:

CLASS OF DRUG INGESTED	QUANTITY
Analgesic	<12
Minor Tranquillizer	13-20
Major Tranquillizer	21-30
Barbiturate	30+
Other hypnotic	
Antidepressant	
Other	
More than one drug	

HAVE THERE BEEN PREVIOUS ATTEMPTS?

(PLEASE DETAIL, INCLUDING DATE AND METHOD)

HAVE YOU SEEN A PSYCHIATRIST/ PSYCHOLOGIST IN THE PAST?

(PLEASE DETAIL).....

CURRENT CLINICAL DIAGNOSIS.....

.....
.....

CURRENT TREATMENT/ MEDICATION.....

.....
.....

PREVIOUS CLINICAL DIAGNOSES.....

.....
.....
.....

**PREVIOUS
TREATMENT:.....**

.....
.....
.....

THIS INFORMATION WILL NOT BE USED TO IDENTIFY INDIVIDUALS AND WILL BE SEEN ONLY BY THE RESEARCHERS.

prison history

LOCATION:.....

CURRENT OFFENCE(S).....
.....
.....

LENGTH OF CURRENT SENTENCE:.....(YEARS).....(MONTHS)

OR

Detained at Her Majesty's Pleasure/ Without Limit of Time.

ROUGHLY, HOW MUCH LONGER HAVE YOU TO SERVE?.....(Y/M)

NUMBER OF PREVIOUS SENTENCES.....

IF ALL SENTENCES WERE ADDED TOGETHER, HOW LONG IN TOTAL HAVE YOU SPENT IN PRISON?.....(YEARS).....(MONTHS)

personal history

AGE:.....

EMPLOYMENT STATUS PRIOR TO INCARCERATION:

employed unemployed at school/college

YEARS FULL-TIME EDUCATION:.....

EDUCATIONAL HISTORY:

Left school at 16 or under	yes	no
Gained 'O'/Standard Grades	yes	no
Gained Highers	yes	no
Gained ONC/OND	yes	no
Gained HNC/HND	yes	no
Gained Degree	yes	no

LIVING WITH: *Family* *Partner* *Friends* *Alone*

AREA FROM:.....

ARE YOUR PARENTS STILL ALIVE?.....

ARE YOUR PARENTS STILL TOGETHER?.....

medical history

DO EITHER OF YOUR PARENTS HAVE A HISTORY OF DRUG OR ALCOHOL ABUSE?.....

.....

.....

HAVE YOU EVER HAD PROBLEMS WITH DRUG OR ALCOHOL USE?.....

.....

.....

HAVE YOU EVER BEEN SEEN BY A PSYCHIATRIST OR A PSYCHOLOGIST?.....

.....

.....

HAVE YOU EVER TRIED TO HARM YOURSELF?
(record no of incidents/ method - within prison/outwith prison)

.....

.....

.....

APPENDIX C:

**THE HOSPITAL ANXIETY AND DEPRESSION SCALE
[HADS]**

(Zigmond & Snaith, 1983)

Hospital Anxiety and Depression Scale (HADS)



Name: _____ Date: _____

Clinicians are aware that emotions play an important part in most illnesses. If your clinician knows about these feelings he or she will be able to help you more.

This questionnaire is designed to help your clinician to know how you feel. Read each item below and **underline the reply** which comes closest to how you have been feeling in the past week. Ignore the numbers printed at the edge of the questionnaire.

Don't take too long over your replies, your immediate reaction to each item will probably be more accurate than a long, thought-out response.

FOLD HERE

		A	D
I feel tense or 'wound up'	I feel as if I am slowed down		
Most of the time	Nearly all the time		3
A lot of the time	Very often		2
From time to time, occasionally	Sometimes		1
Not at all	Not at all		0
I still enjoy the things I used to enjoy	I get a sort of frightened feeling like 'butterflies' in the stomach		
Definitely as much	Not at all		0
Not quite so much	Occasionally		1
Only a little	Quite often		2
Hardly at all	Very often		3
I get a sort of frightened feeling as if something awful is about to happen	I have lost interest in my appearance		
Very definitely and quite badly	Definitely		3
Yes, but not too badly	I don't take as much care as I should		2
A little, but it doesn't worry me	I may not take quite as much care		1
Not at all	I take just as much care as ever		0
I can laugh and see the funny side of things	I feel restless as if I have to be on the move		
As much as I always could	Very much indeed		3
Not quite so much now	Quite a lot		2
Definitely not so much now	Not very much		1
Not at all	Not at all		0
Worrying thoughts go through my mind	I look forward with enjoyment to things		
A great deal of the time	As much as I ever did		0
A lot of the time	Rather less than I used to		1
Not too often	Definitely less than I used to		2
Very little	Hardly at all		3
I feel cheerful	I get sudden feelings of panic		
Never	Very often indeed		3
Not often	Quite often		2
Sometimes	Not very often		1
Most of the time	Not at all		0
I can sit at ease and feel relaxed	I can enjoy a good book or radio or television programme		
Definitely	Often		0
Usually	Sometimes		1
Not often	Not often		2
Not at all	Very seldom		3

Now check that you have answered all the questions

A D
TOTAL

This form is printed in green. Any other colour is an unauthorized photocopy.

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APPENDIX D:

**BECK HOPELESSNESS SCALE [BHS]
(Beck, Weissman, Lester, & Trexler, 1974)**

**PLEASE READ THE FOLLOWING STATEMENTS AND
CIRCLE THE ANSWER CHOICE THAT APPLIES MOST
TO HOW YOU ARE FEELING RIGHT NOW.**

- | | | | |
|----|--|------|-------|
| 1 | I look forward to the future with hope and enthusiasm. | TRUE | FALSE |
| 2 | I might as well give up because I can't make things better for myself. | TRUE | FALSE |
| 3 | When things are going badly, I am helped by knowing they can't stay that way forever. | TRUE | FALSE |
| 4 | I can't imagine what my life would be like in 10 years. | TRUE | FALSE |
| 5 | I have enough time to accomplish the things I most want to do. | TRUE | FALSE |
| 6 | In the future, I expect to succeed in what concerns me the most. | TRUE | FALSE |
| 7 | My future seems dark to me. | TRUE | FALSE |
| 8 | I expect to get more of the good things in life than the average person. | TRUE | FALSE |
| 9 | I just don't get the breaks, and there is no reason to believe I will in the future. | TRUE | FALSE |
| 10 | My past experiences have prepared me for my future. | TRUE | FALSE |
| 11 | All I can see ahead of me is unpleasantness rather than pleasantness. | TRUE | FALSE |
| 12 | I don't expect to get what I really want. | TRUE | FALSE |
| 13 | When I look ahead to the future, I expect I will be happier than I am now. | TRUE | FALSE |
| 14 | Things just don't work out the way I want them to. | TRUE | FALSE |
| 15 | I have great faith in the future. | TRUE | FALSE |
| 16 | I never get what I want so it's foolish to want anything. | TRUE | FALSE |
| 17 | It is very unlikely that I will get any real satisfaction in the future. | TRUE | FALSE |
| 18 | The future seems vague and uncertain to me. | TRUE | FALSE |
| 19 | I can look forward to more good times than bad times. | TRUE | FALSE |
| 20 | There's no use in really trying to get something I want because I probably won't get it. | TRUE | FALSE |

APPENDIX E:

PROFILE OF MOOD STATES [POMS]

(McNair, Lorr, & Droppleman, 1992).

APPENDIX F:

**SUICIDAL INTENT SCALE [SIS]
(Beck, Herman, & Schulyer, 1974).**

INTENT SCALE

1. Isolation

- 0 Somebody present
- 1 Somebody nearby or in contact (as by phone)
- 2 No one nearby or in contact

2. Timing

- () Does not apply
- 0 Timed so that intervention is probable
- 1 " " " " " not likely
- 2 " " " " " highly unlikely

3. Precautions against discovery and/or intervention

- 0 No precautions
- 1 Passive precautions, such as avoiding others but doing nothing to prevent their intervention (alone in room with unlocked door)
- 2 Active precautions (locked door)

4. Acting to gain help during/after attempt

- () Does not apply
- 0 Notified potential helper regarding attempt
- 1 Contacted but did not specifically notify potential helper regarding the attempt
- 2 Did not contact or notify potential helper

5. Final Act in Anticipation of Death

- 0 None
- 1 Patient thought about making or made some arrangements in anticipation of death
- 2 Definite plans made (changes in will, giving gifts, taking out insurance)

6. Degree of planning for suicide attempt

- 0 No preparation
- 1 Minimal or moderate preparation
- 2 Extensive preparation

7. Suicide note

- 0 Absence of note
- 1 Note written but torn up or note thought about
- 2 Presence of note

8. Overt communication of intent before act

- 0 None
- 1 Equivocal communication
- 2 Unequivocal communication

9. Purpose of intent

- 0 Mainly to manipulate or change environment
- 1 Components of 0 and 2
- 2 Mainly to remove self from environment

10. Expectations regarding fatality of act (patients statement of lethality)

- 0 Thought that what they had done would not kill them
- 1 Unsure whether what they had done would kill them
- 2 Believed that what they had done would kill them.

11. Conceptions of Method's lethality

- 0 Patient did less to himself than he thought would be lethal, or patient didn't think about it
- 1 Patient wasn't sure or thought that what he did might be lethal
- 2 Act exceeded or equalled what patient thought was lethal

12. Seriousness of attempt

- 0 Patient did not consider act to be a serious attempt to end his life
- 1 Patient was uncertain whether act was a serious attempt to end his life
- 2 Patient considered act to be a serious attempt to end his life

13. Ambivalence towards living (stated intent)

- 0 Patient did not want to die
- 1 Patient did not care (unsure) whether he lived or died
- 2 Patient wanted to die

14. Conception of reversibility

- 0 Patient thought that death would be unlikely if he received medical attention
- 1 Patient was uncertain whether death could be averted by medical attention
- 2 Patient was certain of death even if he received medical attention

15. Degree of premeditation

- 0 None-impulsive
- 1 Suicide contemplated for 3 hours or less prior to attempt
- 2 Suicide contemplated for more than 3 hours prior to attempt

16. Reaction to attempt

- 0 Glad they had recovered
- 1 Patient uncertain whether they are glad or sorry
- 2 Patient sorry they had recovered

17. Predictable outcome in terms of lethality of patient's act and circumstances known to them

- 0 Survival certain
- 1 Death unlikely
- 2 Death likely or certain

18. Would death have occurred without Medical treatment?

- 0 No
- 1 Uncertain
- 2 Yes

APPENDIX G:

**PERCEIVED STRESS SCALE [PSS]
(Cohen, Kamarck, & Mermelstein, 1983).**

The questions in this scale ask you about your feelings and thoughts during the past month. In each case, you will be asked to indicate how often you felt or thought a certain way. Although some of the questions are similar, there are differences between them and you should treat each one as a separate question. The best approach is to answer each question fairly quickly. That is, don't try to count up the number of times you felt a particular way, but just indicate the choice that seems to be a reasonable estimate.

For each question, choose from the following:

- 0 = never**
- 1 = almost never**
- 2 = sometimes**
- 3 = fairly often**
- 4 = very often**

1. In the last month, how often have you felt upset because of something that happened unexpectedly? 0 1 2 3 4
2. In the last month, how often have you felt that you were unable to control the important things in your life? 0 1 2 3 4
3. In the last month, how often have you felt nervous and stressed? 0 1 2 3 4
4. In the last month, how often have you felt confident about your ability to handle your personal problems? 0 1 2 3 4
5. In the last month, how often have you felt that things were going your way? 0 1 2 3 4
6. In the last month, how often have you found that you could not cope with all the things you had to do? 0 1 2 3 4
7. In the last month, how often have you been able to control irritations in your life? 0 1 2 3 4
8. In the last month, how often have you felt on top of things? 0 1 2 3 4
9. In the last month, how often have you been angered because of things that happened that were outwith your control? 0 1 2 3 4
10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them? 0 1 2 3 4

APPENDIX H:

**MEANS-END PROBLEM SOLVING PROCEDURE [MEPS]
(Platt & Spivack, 1975).**

**In the female version of this test, First Names
are substituted for female equivalents**

(THIS SECTION WILL BE CONDUCTED AS A TAPE-RECORDED INTERVIEW)

IN THIS SECTION, WE ARE GOING TO PRESENT YOU WITH DIFFERENT SCENARIOS. WE WOULD LIKE YOU TO DETAIL WHAT YOU BELIEVE WOULD BE THE IDEAL STRATEGY FOR OVERCOMING EACH OF THE PROBLEM SITUATIONS AND ALSO TO DETAIL TO US IF YOU HAVE ENCOUNTERED ANY OF THESE SITUATIONS IN YOUR OWN LIFE, AND HOW YOU DEALT WITH THEM:

Paul loved his girlfriend very much, but they had many arguments. One day she left him. Paul wanted things to be better. The story ends with everything fine between him and his girlfriend. You begin the story with his girlfriend leaving him after an argument.

a) How effective do you think this strategy would be in solving the problem ?

Extremely effective Effective On balance effective On balance ineffective Ineffective Extremely ineffective

b) How much effort would be needed to implement this strategy in real life ?

Considerable effort A lot of effort On balance some effort On balance little effort Very little effort No effort

c) What do you think could go wrong in carrying out this strategy - can you see any obstacles ? (PLEASE DETAIL)

d) How much time do you think it would take in order to solve the situation ? (PLEASE DETAIL)

e) Please tell us of as many other alternative strategies that you can think of for dealing with the situation.

Jim had just moved in that day and didn't know anyone. Jim wanted to have friends in the neighbourhood. The story ends with Jim having many good friends and feeling at home in the neighbourhood. You begin the story with Jim in his home immediately after arriving in the neighbourhood.

a) How effective do you think this strategy would be in solving the problem ?

Extremely effective Effective On balance effective On balance ineffective Ineffective Extremely ineffective

b) How much effort would be needed to implement this strategy in real life ?

Considerable effort A lot of effort On balance some effort On balance little effort Very little effort No effort

c) What do you think could go wrong in carrying out this strategy - can you see any obstacles ? (PLEASE DETAIL)

d) How much time do you think it would take in order to solve the situation ? (PLEASE DETAIL)

e) Please tell us of as many other alternative strategies that you can think of for dealing with the situation.

David noticed that his friends seemed to be avoiding him. David wanted to have friends and be liked. The story ends when David's friends like him again. You begin where he first notices his friends avoiding him.

a) How effective do you think this strategy would be in solving the problem ?

Extremely effective Effective On balance effective On balance ineffective Ineffective Extremely ineffective

b) How much effort would be needed to implement this strategy in real life ?

Considerable effort A lot of effort On balance some effort On balance little effort Very little effort No effort

c) What do you think could go wrong in carrying out this strategy - can you see any obstacles ? (PLEASE DETAIL)

d) How much time do you think it would take in order to solve the situation ? (PLEASE DETAIL)

e) Please tell us of as many other alternative strategies that you can think of for dealing with the situation.

John is having trouble getting along with his supervisor on his job. John is very unhappy about this. The story ends with John's supervisor liking him. You begin the story where Johnn isn't getting along with his supervisor.

a) How effective do you think this strategy would be in solving the problem ?

Extremely effective Effective On balance effective On balance ineffective Ineffective Extremely ineffective

b) How much effort would be needed to implement this strategy in real life ?

Considerable effort A lot of effort On balance some effort On balance little effort Very little effort No effort

c) What do you think could go wrong in carrying out this strategy - can you see any obstacles ? (PLEASE DETAIL)

d) How much time do you think it would take in order to solve the situation ? (PLEASE DETAIL)

e) Please tell us of as many other alternative strategies that you can think of for dealing with the situation.

APPENDIX I:

**PROBLEM-SOLVING QUESTIONNAIRE [PSQ]
(Konig, Otto, Holling, & Liepman, 1980).**

On the following pages you will find a series of statements about how people perceive every-day problem situations and how they react.

You can circle the answer choice on the scale that most applies to you.

Naturally, with these short-cut questions, not all particularities can be considered. Possibly some of them don't apply precisely to you. Nevertheless, please mark an answer - the one that applies to you the most.

	NEVER APPLIES	RARELY APPLIES	SOME- TIMES APPLIES	OFTEN APPLIES	USUALLY APPLIES
1. I have a good feeling for problems	1	2	3	4	5
2. I expect others to solve my difficulties	1	2	3	4	5
3. Strange ideas occur to me as to how I can overcome difficulties	1	2	3	4	5
4. I postpone decisions for as long as possible	1	2	3	4	5
5. I believe that time solves most problems	1	2	3	4	5
6. Having solved a part of the problem, a lot becomes clearer to me	1	2	3	4	5
7. I believe that I have a natural ability to overcome problems.	1	2	3	4	5
8. Confronted with problems, I can't immediately think of any solution	1	2	3	4	5
9. Instead of a solution, I have two new problems.	1	2	3	4	5
10. I think a lot of nonsense	1	2	3	4	5
11. I am glad if somebody makes the decision for me	1	2	3	4	5
12. I believe that problems solve themselves with time.	1	2	3	4	5
13. When I have difficulties, I think about how I can change them.	1	2	3	4	5
14. When I have made up my mind, I feel like taking back the decision.	1	2	3	4	5
15. I see problems where there aren't any.	1	2	3	4	5
16. It is important for me to consider the consequences of a decision in advance	1	2	3	4	5
17. I am astonished by what kind of problems people are confronted with.	1	2	3	4	5
18. I rely on the experiences of others.	1	2	3	4	5

	NEVER APPLIES	RARELY APPLIES	SOME- TIMES APPLIES	OFTEN APPLIES	USUALLY APPLIES
19. The best ideas occur to me if I let my thoughts take their own course.	1	2	3	4	5
20. I have more problems than other people.	1	2	3	4	5
21. The more alternatives I have, the harder it is for me to make a decision	1	2	3	4	5
22. When I consider a problem in detail, I find clues for the solution.	1	2	3	4	5
23. My problems come out of the blue.	1	2	3	4	5
24. When I combine different ideas, I find new solutions to the problems.	1	2	3	4	5
25. Among many silly ideas I also have quite good ones.	1	2	3	4	5
26. Problems discourage me.	1	2	3	4	5
27. When I have difficulties, I wonder how they have arisen.	1	2	3	4	5
28. I tell myself that whoever sees problems everywhere is ill.	1	2	3	4	5
29. I avoid problems.	1	2	3	4	5
30. I rely on proven solutions.	1	2	3	4	5
31. The more I concentrate on a problem the less I understand it.	1	2	3	4	5
32. It is important for me to have the determination to overcome a problem.	1	2	3	4	5
33. I am quite good at solving problems that require quick action.	1	2	3	4	5
34. Confronted with problems, I also find unusual solutions.	1	2	3	4	5
35. When working on problems I get confused.	1	2	3	4	5
36. To me it is important to be persistent in pursuing my goals.	1	2	3	4	5
37. I think one should let a lot of problems go past untouched.	1	2	3	4	5

APPENDIX J:

**SOCIAL PROBLEM-SOLVING INVENTORY (REVISED)[SPSI-R]
(D'Zurilla, Nezu, & Maydeu-Olivares, 1995)**

Below are some ways that you might think, feel, and act when faced with problems in everyday living. We are **not** talking about everyday hassles and pressures that you handle successfully every day. In this questionnaire, a **problem** is something important in your life that bothers you a lot but you don't immediately know how to make it better or stop it from bothering you so much. The problem could be something about yourself (such as your thoughts, feelings, behaviour, appearance or health), your relationships with other people (such as your family, friends or boss), or your environment and the things that you own (such as your house, car, property or money). Please read each statement carefully and circle one of the numbers below which show how much the statement is true of you. See yourself as you **usually** think, feel, and act when you are faced with important problems in your life **these days**.

0 = Not at all true of me
1 = Slightly true of me
2 = Moderately true of me
3 = Very true of me
4 = Extremely true of me

1. I spend too much time worrying about my problems instead of trying to solve them.
0 1 2 3 4
2. I feel threatened and afraid when I have an important problem to solve.
0 1 2 3 4
3. When making decisions, I **do not** evaluate all my options carefully enough.
0 1 2 3 4
4. When I have a decision to make, I fail to consider the effects that each option is likely to have on the well-being of other people.
0 1 2 3 4
5. When I am trying to solve a problem, I often think of different solutions and try to combine some of them to make a better solution.
0 1 2 3 4
6. I feel nervous and unsure of myself when I have an important decision to make.
0 1 2 3 4
7. When my first efforts to solve a problem fail, I know that if I persist and do not give up too easily, I will be able to eventually find a good solution.
0 1 2 3 4
8. When I am attempting to solve a problem, I act on the first idea that occurs to me.
0 1 2 3 4
9. Whenever I have a problem, I believe that it can be solved.
0 1 2 3 4
10. I wait to see if a problem will resolve itself first, before trying to solve it myself.
0 1 2 3 4
11. When I have a problem to solve, one of the things I do is to look at the situation and try to identify what obstacles are keeping me from getting what I want.
0 1 2 3 4
12. When my first efforts to solve a problem fail, I get very frustrated.
0 1 2 3 4

0 = Not at all true of me
1 = Slightly true of me
2 = Moderately true of me
3 = Very true of me
4 = Extremely true of me

13. When I am faced with a difficult problem, I doubt that I will be able to solve it on my own - no matter how hard I try.

0 1 2 3 4

14. When a problem occurs in my life, I put off trying to solve it for as long as possible.

0 1 2 3 4

15. After carrying out a solution to a problem, I do **not** take time to evaluate all of the results carefully.

0 1 2 3 4

16. I go out of my way to try to avoid having to deal with the problems in my life.

0 1 2 3 4

17. Difficult problems make me very upset.

0 1 2 3 4

18. When I have a decision to make, I try to predict the good and the bad consequences of each option.

0 1 2 3 4

19. When problems occur in my life, I like to deal with them as soon as possible.

0 1 2 3 4

20. When I am attempting to solve a problem, I try to be creative and think of new or original solutions.

0 1 2 3 4

21. When I am trying to solve a problem, I go with the first good idea that comes to mind.

0 1 2 3 4

22. When I try to think of different possible solutions to a problem, I **cannot** come up with many ideas.

0 1 2 3 4

23. I prefer to avoid thinking about the problems in my life instead of trying to solve them.

0 1 2 3 4

24. When making decisions, I consider both the immediate consequences and the long-term consequences of each option.

0 1 2 3 4

25. After carrying out my solution to a problem, I analyse what went right and what went wrong.

0 1 2 3 4

26. After carrying out my solution to a problem, I examine my feelings and evaluate how much they have changed for the better.

0 1 2 3 4

- 0 = Not at all true of me**
1 = Slightly true of me
2 = Moderately true of me
3 = Very true of me
4 = Extremely true of me

27. Before carrying out my solution to a problem, I practice the solution in order to increase my chances of success.

0 1 2 3 4

28. When I am faced with a difficult problem, I believe I will be able to solve it on my own if I try hard enough.

0 1 2 3 4

29. When I have a problem to solve, one of the first things I do is get as many facts about the problem as possible.

0 1 2 3 4

30. I put off solving problems until it is too late to do anything about them.

0 1 2 3 4

31. I spend more time avoiding my problems than solving them.

0 1 2 3 4

32. When I am trying to solve a problem, I get so upset that I cannot think clearly.

0 1 2 3 4

33. When I am trying to solve a problem, I set a specific goal so that I know exactly what I want to accomplish.

0 1 2 3 4

34. When I have a decision to make, I do **not** take the time to consider the pros and cons of each option.

0 1 2 3 4

35. When the outcome of my solution to a problem is not satisfactory, I try to find out what went wrong and then I try again.

0 1 2 3 4

36. I hate having to solve the problems that occur in my life.

0 1 2 3 4

37. After carrying out a solution to a problem, I try to evaluate as carefully as possible how much the situation has changed for the better.

0 1 2 3 4

38. When I have a problem, I try to see it as a challenge, or opportunity to benefit in some positive way from having the problem.

0 1 2 3 4

39. When I am trying to solve a problem, I think of as many options as possible until I cannot come up with any more ideas.

0 1 2 3 4

40. When I have a decision to make, I weigh the consequences of each option and compare them against each other.

0 1 2 3 4

0 = Not at all true of me
1 = Slightly true of me
2 = Moderately true of me
3 = Very true of me
4 = Extremely true of me

41. I become depressed and immobilized when I have an important problem to solve.
0 1 2 3 4
42. When I am faced with a difficult problem, I go to someone else for help in solving it.
0 1 2 3 4
43. When I have a decision to make, I consider the effects that each option is likely to have on my personal feelings.
0 1 2 3 4
44. When I have a problem to solve, I examine what factors or circumstances in my environment might be contributing to the problem.
0 1 2 3 4
45. When making decisions, I go with my "gut-feeling" without thinking too much about the consequences of each option.
0 1 2 3 4
46. When making decisions, I use a systematic method for judging and comparing alternatives.
0 1 2 3 4
47. When I am trying to solve a problem, I keep in mind what my goal is at all times.
0 1 2 3 4
48. When I am attempting to solve a problem, I approach it from as many different angles as possible.
0 1 2 3 4
49. When I am having trouble understanding a problem, I try to get more specific and concrete information about the problem to try to make it clearer for myself.
0 1 2 3 4
50. When my first efforts to solve a problem fail, I get discouraged and depressed.
0 1 2 3 4
51. When a solution that I have carried out does not solve my problem satisfactorily, I do not take the time to examine carefully why it did not work.
0 1 2 3 4
52. I am too impulsive when it comes to making decisions.
0 1 2 3 4

APPENDIX K:

**THE AUTOBIOGRAPHICAL MEMORY RECALL TASK
[ABM]**

(From Williams & Broadbent, 1986).

We are interested in your memory for events that have happened in your life. For each of the words below, we would like you to think of an event that happened to you which the word reminds you of and write something down about it. The event could have happened recently (yesterday, last week) or a long time ago. It might be an important event or a trivial one.

Just one more thing: the memory you recall should be of a specific event. So, if I said the word 'good' - it would not be OK to say "I always enjoy a good party", because that does not mention a specific event. But it would be OK to write "I had a good time at Maggie's party because I met a lot of old pals" (because that is a specific event).

COULD YOU TELL US OF A TIME YOU HAVE FELT:

HAPPY

SORRY

SAFE

ANGRY

INTERESTED

CLUMSY

SUCCESSFUL

EMOTIONALLY HURT

SURPRISED

LONELY

APPENDIX L:

**NATIONAL ADULT READING TEST [NART]
(Nelson & Willison, 1991).**

National Adult Reading Test (NART)

SECOND EDITION

Word Card

Hazel E. Nelson

CHORD

ACHE

DEPOT

AISLE

BOUQUET

PSALM

CAPON

DENY

NAUSEA

DEBT

COURTEOUS

RAREFY

EQUIVOCAL

NAIVE

CATACOMB

GAOLED

THYME

HEIR

RADIX

ASSIGNATE

HIATUS

SUBTLE

PROCREATE

GIST

GOUGE

SUPERFLUOUS

SIMILE

BANAL

QUADRUPED

CELLIST

FACADE

ZEALOT

DRACHM

AEON

PLACEBO

ABSTEMIOUS

DETENTE

IDYLL

PUERPERAL

AVER

GAUCHE

TOPIARY

LEVIATHAN

BEATIFY

PRELATE

SIDEREAL

DEMESNE

SYNCOPE

LABILE

CAMPANILE

APPENDIX M:

**INTERPERSONAL SUPPORT EVALUATION LIST
[ISEL]**

(Cohen, Mermelstein, Kamarck, & Hoberman, 1985).

*This scale is made up of a list of statements, each which might have been or might not have been true about you, **during the past few months**. For each statement, please circle:*

T - if the statement is probably true about you

F - if you don't think the statement is true about you.

Please read each item quickly but carefully before responding. Remember, this is not a test and there are no right or wrong answers:

- | | | |
|---|---|---|
| 1. There is at least one person I know whose advice I really trust. | T | F |
| 2. There is really no one I can trust to give me good financial advice. | T | F |
| 3. There is really no one who can give me objective feedback about how I am handling my problems. | T | F |
| 4. There is someone who I do feel comfortable going to for advice about personal problems. | T | F |
| 5. There is someone I can turn to for advice about handling problems concerning household responsibilities. | T | F |
| 6. There are very few people I could trust to help solve my problems. | T | F |
| 7. There is someone I could turn to for advice about changing my job or finding a new one. | T | F |
| 8. I feel that there is no one with whom I can share my most private worries and fears. | T | F |
| 9. If a family crisis arose, few of my friends would be able to give me good advice about handling it. | T | F |
| 10. When I need suggestions for how to deal with a personal problem, I know there is someone I can turn to. | T | F |
| 11. If I decide on a Friday afternoon that I would like to go to a film that evening, I could find someone to go with me. | T | F |
| 12. There are several different people with whom I enjoy spending time with. | T | F |
| 13. No one I know would throw a party for me. | T | F |
| 14. When I feel lonely, there are several people I could call and talk to. | T | F |
| 15. I don't often get invited to do things with others. | T | F |
| 16. If I wanted to have lunch with someone, I could easily find someone to join me. | T | F |
| 17. I feel that I am on the fringe of my circle of friends. | T | F |
| 18. I regularly meet or talk with members of my family and friends. | T | F |
| 19. If I wanted to go out for the day, it would be difficult to find someone to go with me. | T | F |
| 20. Most people I know don't enjoy the same things I do. | T | F |

- | | | |
|--|---|---|
| 20. Most people I know don't enjoy the same things I do. | T | F |
| 21. If I was sick and needed someone to drive me to the doctor, I would have trouble finding someone. | T | F |
| 22. If I needed some help in moving to a new home, I would have a hard time finding someone to help. | T | F |
| 23. If for some reason, I was remanded on bail (and about to be sent to prison) there is someone who would put the money up for me. | T | F |
| 24. If I was sick, there would be almost no one I could find to help me with my daily chores. | T | F |
| 25. If I had to go out of town for a few weeks, someone I know would look after my house. | T | F |
| 26. If I got stranded far out of town, there is someone I could call to come and get me. | T | F |
| 27. If I had to mail an important letter at the post office by 5.00 and couldn't make it, there is someone who could do it for me. | T | F |
| 28. There is no one I could call on if I needed to borrow a car for a few hours. | T | F |
| 29. If I needed a quick emergency loan of £100, there is someone I could get it from. | T | F |
| 30. If I needed a lift to the airport very early in the morning, it would be difficult finding someone to go with me. | T | F |
| 31. In general, people don't have much confidence in me. | T | F |
| 32. I have someone who takes pride in my accomplishments. | T | F |
| 33. Most of my friends are more successful at making changes in their lives than I am. | T | F |
| 34. Most people I know think highly of me. | T | F |
| 35. Most of my friends are more interesting than I am. | T | F |
| 36. I am more satisfied with my life than most people are with theirs. | T | F |
| 37. I have had a hard time keeping pace with my friends. | T | F |
| 38. I think that my friends feel that I am not very good at helping them solve their problems. | T | F |
| 39. I am closer to my friends than most other people. | T | F |
| 40. I am able to do things as well as most other people. | T | F |

APPENDIX N:

**SIGNIFICANT OTHERS SCALE [SOS]
(Power, Champion, & Aris, 1988).**

APPENDIX O:

**PARENTAL BONDING INSTRUMENT
(Parker, Tupling, & Brown, 1979).**

RELATIONSHIP WITH MOTHER

For each statement please place a tick in the bracket that best describes how you remember your **MOTHER** in the first 16 years of your life

	Very Like	Moderately Like	Somewhat Unlike	Very Unlike
1 Spoke to me with a warm and friendly voice	[]	[]	[]	[]
2 Did not help me as much as I needed	[]	[]	[]	[]
3 Let me do those things I like doing	[]	[]	[]	[]
4 Seemed emotionally cold to me	[]	[]	[]	[]
5 Appeared to understand my problems and worries	[]	[]	[]	[]
6 Was affectionate to me	[]	[]	[]	[]
7 Liked me to make my own decisions	[]	[]	[]	[]
8 Did not want me to grow up	[]	[]	[]	[]
9 Tried to control everything I did	[]	[]	[]	[]
10 Invaded my privacy	[]	[]	[]	[]
11 Enjoyed talking things over with me	[]	[]	[]	[]
12 Frequently smiled at me	[]	[]	[]	[]
13 Tended to baby me	[]	[]	[]	[]

RELATIONSHIP WITH MOTHER (cntd)

	Very Like	Moderately Like	Somewhat Unlike	Very Unlike
14 Did not seem to understand what I needed or wanted	[]	[]	[]	[]
15 Let me decide things for myself	[]	[]	[]	[]
16 Made me feel that I wasn't wanted	[]	[]	[]	[]
17 Could make me feel better when I was upset	[]	[]	[]	[]
18 Did not talk with me very much	[]	[]	[]	[]
19 Tried to make me dependent on her	[]	[]	[]	[]
20 Felt that I could not look after myself unless she was around	[]	[]	[]	[]
21 Gave me as much freedom as I wanted	[]	[]	[]	[]
22 Let me go out as often as I wanted	[]	[]	[]	[]
23 Was overprotective of me	[]	[]	[]	[]
24 Did not praise me	[]	[]	[]	[]
25 Let me dress in any way that I pleased	[]	[]	[]	[]

RELATIONSHIP WITH FATHER

For each statement please place a tick in the bracket that best describes how you remember your **FATHER** in the first 16 years of your life

	Very Like	Moderately Like	Somewhat Unlike	Very Unlike
1 Spoke to me with a warm and friendly voice	[]	[]	[]	[]
2 Did not help me as much as I needed	[]	[]	[]	[]
3 Let me do those things I like doing	[]	[]	[]	[]
4 Seemed emotionally cold to me	[]	[]	[]	[]
5 Appeared to understand my problems and worries	[]	[]	[]	[]
6 Was affectionate to me	[]	[]	[]	[]
7 Liked me to make my own decisions	[]	[]	[]	[]
8 Did not want me to grow up	[]	[]	[]	[]
9 Tried to control everything I did	[]	[]	[]	[]
10 Invaded my privacy	[]	[]	[]	[]
11 Enjoyed talking things over with me	[]	[]	[]	[]
12 Frequently smiled at me	[]	[]	[]	[]
13 Tended to baby me	[]	[]	[]	[]

RELATIONSHIP WITH FATHER (cntd)

	Very Like	Moderately Like	Somewhat Unlike	Very Unlike
14 Did not seem to understand what I needed or wanted	[]	[]	[]	[]
15 Let me decide things for myself	[]	[]	[]	[]
16 Made me feel that I wasn't wanted	[]	[]	[]	[]
17 Could make me feel better when I was upset	[]	[]	[]	[]
18 Did not talk with me very much	[]	[]	[]	[]
19 Tried to make me dependent on him	[]	[]	[]	[]
20 Felt that I could not look after myself unless he was around	[]	[]	[]	[]
21 Gave me as much freedom as I wanted	[]	[]	[]	[]
22 Let me go out as often as I wanted	[]	[]	[]	[]
23 Was overprotective of me	[]	[]	[]	[]
24 Did not praise me	[]	[]	[]	[]
25 Let me dress in any way that I pleased	[]	[]	[]	[]

APPENDIX P:

**THE PROBLEM SOLVING INVENTORY [PSI]
(Heppner & Peterson, 1982).**

This is not a test. There are no right and wrong answers. Rather, it is an inventory designed to find out how people normally react to problems and events in their daily lives. We are talking about personal problems that come up from time to time, such as feeling depressed, getting along with friends, choosing a job, getting divorced.

Please respond to the items as honestly as you can so as to most accurately portray how you handle problems.

Don't respond to the statements as you think you should in order to solve problems - rather respond to the statements as honestly as you can, and in such a way so that you most accurately reflect how you actually behave when you solve problems. Ask yourself: Do I ever behave like this?

Directions: Below is a list of 35 statements. Read each statement, and then circle the number of the statement with which you agree most with.

1. When a solution to a problem was unsuccessful, I do not examine why it didn't work.

Strongly Agree	Moderately Agree	Slightly Agree	Slightly Disagree	Moderately Disagree	Strongly Disagree
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2. When I am confronted with a complex problem, I do not bother to develop a strategy to collect information so I can define exactly what the problem is.

Strongly Agree	Moderately Agree	Slightly Agree	Slightly Disagree	Moderately Disagree	Strongly Disagree
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3. When my first efforts to solve a problem fail, I become uneasy about my ability to handle the situation.

Strongly Agree	Moderately Agree	Slightly Agree	Slightly Disagree	Moderately Disagree	Strongly Disagree
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4. After I have solved a problem, I do not analyse what went right and went wrong.

Strongly Agree	Moderately Agree	Slightly Agree	Slightly Disagree	Moderately Disagree	Strongly Disagree
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5. I am usually able to think up creative and effective alternatives to solve a problem.

Strongly Agree	Moderately Agree	Slightly Agree	Slightly Disagree	Moderately Disagree	Strongly Disagree
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6. After I have tried to solve a problem with a certain course of action, I take time and compare the actual outcome to what I thought should have happened.

Strongly Agree	Moderately Agree	Slightly Agree	Slightly Disagree	Moderately Disagree	Strongly Disagree
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7. When I have a problem, I think up as many possible way to handle it as I can until can't come up with any more ideas.

Strongly Agree	Moderately Agree	Slightly Agree	Slightly Disagree	Moderately Disagree	Strongly Disagree
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8. When confronted with a problem, I consistently examine my feelings to find out what is going on in a problem situation.

Strongly Agree	Moderately Agree	Slightly Agree	Slightly Disagree	Moderately Disagree	Strongly Disagree
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9. When I am confused with a problem, I do not try to define vague ideas or feelings into concrete and specific terms.

Strongly Agree	Moderately Agree	Slightly Agree	Slightly Disagree	Moderately Disagree	Strongly Disagree
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10. I have the ability to solve most problems even though no solution is immediately apparent.

Strongly Agree	Moderately Agree	Slightly Agree	Slightly Disagree	Moderately Disagree	Strongly Disagree
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11. Many problems are far too complex for me to solve.

Strongly Agree	Moderately Agree	Slightly Agree	Slightly Disagree	Moderately Disagree	Strongly Disagree
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12. I make decisions and am happy with them later.

Strongly Agree	Moderately Agree	Slightly Agree	Slightly Disagree	Moderately Disagree	Strongly Disagree
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13. When confronted with a problem, I tend to do the first thing that I can think of to solve it.

Strongly Agree	Moderately Agree	Slightly Agree	Slightly Disagree	Moderately Disagree	Strongly Disagree
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14. Sometimes I do not stop and take time to deal with my problems, but just kind of muddle ahead.

Strongly Agree	Moderately Agree	Slightly Agree	Slightly Disagree	Moderately Disagree	Strongly Disagree
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15. When deciding on an idea or a possible solution to a problem, I do not take time to consider the chances of each alternative being successful.

Strongly Agree	Moderately Agree	Slightly Agree	Slightly Disagree	Moderately Disagree	Strongly Disagree
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16. When confronted with a problem, I stop and talk about it before deciding on the next step.

Strongly Agree	Moderately Agree	Slightly Agree	Slightly Disagree	Moderately Disagree	Strongly Disagree
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17. I generally go with the first idea that comes into my mind.

Strongly Agree	Moderately Agree	Slightly Agree	Slightly Disagree	Moderately Disagree	Strongly Disagree
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18. When making a decision, I weigh the consequences of each alternative and compare them against each other.

Strongly Agree	Moderately Agree	Slightly Agree	Slightly Disagree	Moderately Disagree	Strongly Disagree
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19. When I make plans to solve a problem, I am almost certain that I can make them work.

Strongly Agree	Moderately Agree	Slightly Agree	Slightly Disagree	Moderately Disagree	Strongly Disagree
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20. I try to predict the overall result of carrying out a particular solution.

Strongly Agree	Moderately Agree	Slightly Agree	Slightly Disagree	Moderately Disagree	Strongly Disagree
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21. When I try to think up possible solutions to a problem, I do not come up with very many alternatives.

Strongly Agree	Moderately Agree	Slightly Agree	Slightly Disagree	Moderately Disagree	Strongly Disagree
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22. In trying to solve a problem, one strategy I often use is to think of past problems that have been familiar.

Strongly Agree	Moderately Agree	Slightly Agree	Slightly Disagree	Moderately Disagree	Strongly Disagree
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23. Given enough time and effort, I believe I can solve most problems that confront me.

Strongly Agree	Moderately Agree	Slightly Agree	Slightly Disagree	Moderately Disagree	Strongly Disagree
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24. When faced with a novel situation, I have confidence that I can handle problems that may arise.

Strongly Agree	Moderately Agree	Slightly Agree	Slightly Disagree	Moderately Disagree	Strongly Disagree
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25. Even though I work on a problem, sometimes I feel like I am groping or wandering, and am not getting down to the real issue.

Strongly Agree	Moderately Agree	Slightly Agree	Slightly Disagree	Moderately Disagree	Strongly Disagree
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26. I make snap judgements and later regret them.

Strongly Agree	Moderately Agree	Slightly Agree	Slightly Disagree	Moderately Disagree	Strongly Disagree
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27. I trust my ability to solve new and difficult problems.

Strongly Agree	Moderately Agree	Slightly Agree	Slightly Disagree	Moderately Disagree	Strongly Disagree
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28. I have a systematic method for comparing alternatives and making decisions.

Strongly Agree	Moderately Agree	Slightly Agree	Slightly Disagree	Moderately Disagree	Strongly Disagree
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29. When I try to think of ways of handling a problem, I do not try to combine different ideas together.

Strongly Agree	Moderately Agree	Slightly Agree	Slightly Disagree	Moderately Disagree	Strongly Disagree
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30. When I am confronted with a problem, I do not usually examine what sort of external things in my environment may be contributing to my problem.

Strongly Agree	Moderately Agree	Slightly Agree	Slightly Disagree	Moderately Disagree	Strongly Disagree
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31. When I am confronted with a problem, one of the first things I do is survey the situation and consider all the relevant pieces of information.

Strongly Agree	Moderately Agree	Slightly Agree	Slightly Disagree	Moderately Disagree	Strongly Disagree
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32. Sometimes I get so charged up emotionally that I am unable to consider many ways of dealing with my problem.

Strongly Agree	Moderately Agree	Slightly Agree	Slightly Disagree	Moderately Disagree	Strongly Disagree
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33. After making a decision, the outcome I expected usually matches the action outcome.

Strongly Agree	Moderately Agree	Slightly Agree	Slightly Disagree	Moderately Disagree	Strongly Disagree
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34. When confronted with a problem, I am unsure of whether I can handle the situation.

Strongly Agree	Moderately Agree	Slightly Agree	Slightly Disagree	Moderately Disagree	Strongly Disagree
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35. When I become aware of a problem, one of the first things I do, is to try to find out exactly what the problem is.

Strongly Agree	Moderately Agree	Slightly Agree	Slightly Disagree	Moderately Disagree	Strongly Disagree
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