

**PARASUICIDE IN OLDER ADULTS:
RELATIONSHIP TO INTERPERSONAL PROBLEM SOLVING**

& RESEARCH PORTFOLIO

PART ONE

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CHAPTER 1. SMALL SCALE SERVICE EVALUATION PROJECT

**An investigation of clinical psychologists' involvement in and
attitudes towards research**

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Prepared in accordance with the guidelines for submission to

Clinical Psychology Forum (appendix 1.1)

**An investigation of clinical psychologists' involvement in and
attitudes towards research**

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Abstract

Previous surveys of clinical psychologists have found that they have little involvement in research and so are perhaps not functioning within the Scientist-Practitioner model that the profession advocates. However such surveys have used limited outcome variables (eg number of publications) to assess research involvement and have largely neglected to examine variables associated with research involvement. This study used a new questionnaire (the Research Involvement of Psychologists Scale) which comprises 22 items pertaining to involvement in research production, 4 items pertaining to use of research in clinical practice, and 10 items measuring attitudes towards research. The latter were reduced to 8 items following item analysis of the scale. Total scores were computed for each of these 3 sections of the questionnaire. Clinical psychologists working within the Glasgow Directorate were surveyed. A 72% response rate was achieved and, contrary to findings from other surveys, this sample reported current involvement in a wide range of research activities and can therefore be said to be functioning within the Scientist-Practitioner framework. Attitudes towards research were generally positive, and more positive attitudes were associated with greater current involvement in research. Clinical psychologists who held split clinical/academic posts, and those who had a PhD or were registered for a further degree reported significantly more involvement in and significantly more positive attitudes towards research than did their counterparts. Grade Bs reported significantly more involvement in research than did Grade As.

word count 232

Introduction

Clinical psychology is the application of findings of scientific study of behaviour and experience to health care (MAS report, 1989). Few clinical psychologists genuinely contribute to *both* scientific study and its application to health care but the cumulative efforts of clinical psychologists allows the profession to claim adherence to a Scientist-Practitioner model (Stricker and Trierweiler, 1995). However scientists often criticise practitioners as being insensitive to the value of scientific findings, while practitioners criticise scientists for asking irrelevant questions that offer little of value to the clinical setting. There is a need, therefore, for practising clinicians to conduct clinically relevant research in order to bridge the gap (Beutler et al, 1995).

The MAS Report (1989) highlighted that one of the ways in which clinical psychologists could move forward in the current competitive NHS climate is by making more of their research skills. Until 1991 the NHS did not have a systematic approach to research. However the introduction of Research and Development policies, which are aimed at achieving maximally effective practice at minimal cost, has highlighted the need for health care professionals who have received a high quality research training to pursue a mixture of research and clinical practice (Peckham, 1991). Clinical psychologists are the only NHS clinicians with systematic training and experience in conducting research (Skinner, 1996). They are well equipped to research disorders and treatments, and to research current NHS services with a view to developing them (Lyne de Ver, 1994). However, compared to psychiatrists, clinical psychologists have fewer publications (Agnew et al, 1995). Several surveys have found the modal number of publications of clinical psychologists to be zero although this number increases among the sub-groups of clinical psychologists who are Grade B or who have a PhD (Milne et al, 1990). Possible reasons for lack of research include lack of scientific motivation and

lack of support from employers (Orford, 1995). Previous studies of research conducted by clinical psychologists have measured research output by using number of publications as the sole outcome variable, however it is possible that clinical psychologists are conducting research but disseminating findings via other routes such as conferences. In addition, studies have not examined clinical psychologists' attitudes towards research that may be associated with their research involvement.

The aims of the present study are therefore fourfold. Firstly it will investigate the amount of research both produced and used by clinical psychologists practising within the Glasgow Directorate. Secondly it will examine the nature of these research activities. Thirdly it will measure attitudes towards research and their relationship with research activity. Lastly it will look at relationships between nature of qualifications, post held, research involvement and attitudes.

Methods

Participants

In April 1998 all 54 clinical psychologists practising within the Glasgow Directorate, which incorporates adult mental health and learning disabilities, were invited to participate.

Measures

The Research Involvement of Psychologists Scale (RIPS), appendix 1.2, was designed for the study. It comprises 3 sections. The first measures attitudes towards research. Respondents select the most applicable answer to each of 10 items (eg "even if I had the time I don't feel I have the skills to carry out research") from a 5 point Likert scale. The

second section assesses current involvement in 26 different research activities - 22 pertain to the production of research (eg data analysis) while 4 pertain to the use of research (eg using evidence-based treatments). Respondents indicate whether or not they are currently involved in each activity, and total scores are obtained for both research production and research use. The third section assesses career related information eg qualifications and Grade.

Procedure

Eligible clinical psychologists were identified via a staff database held by the clinical director. A questionnaire was mailed to each clinical psychologist who then returned the completed questionnaire in the envelope provided.

Results

Sample

39 of the 54 clinical psychologists returned completed questionnaires yielding a response rate of 72%. Of those who replied, 79% held clinical posts while the remaining 21% held split academic / clinical posts. 53% of the sample were Grade A and 47% Grade B. 24% had a PhD and a further 13% were currently registered for a further degree, either the top-up clinical psychology doctorate or a PhD.

Current involvement in research activities

For clinical psychologists holding split clinical/academic posts the median reported number of hours per week spent in research was 17 hours (range 4-20) except for one respondent who reported a total of 40 hours per week. This however was reported to

include hours in addition to the normal working week researching for a further degree. For those in clinical posts the median was 1 hour (range 0-7).

From a possible 22, the median number of current research production activities reported was 6 (range 0-20). From a possible 4, the median reported number of current activities related to research use was 2 (range 0-4). Research production was not significantly correlated with research use (r_s 0.302, $p=0.06$, 2 tailed). Figure 1 indicates the percentage of the sample that reported current involvement in each activity.

[Insert figure 1 here]

61% reported that they had published, with 36% of the sample reporting that they had at least 3 publications. A wide variety of refereed journals was cited, of which the British Journal of Clinical Psychology was most often listed.

Attitudes towards research

Responses to each of the 10 items measuring attitudes towards research were scored from 1-5, where 1 represents a more negative attitude and 5 a more positive attitude. In retrospect, item 10 “at the moment my involvement in research is ...far too much-far too little” does not fit such a continuum and so cannot be summed with the other items to obtain a total score. Moreover it showed poor discrimination because no respondent reported “too much” or “far too much” involvement in research. It was therefore removed from the scale.

Internal consistency of the remaining items was measured. Cronbach’s alpha was 0.53. As a value of at least 0.60 is required for a scale with less than 10 items

(Loewenthal, 1996) item-total correlations were examined. All items except item 8 “clinical psychologists should have regular agreed time in which to pursue research” (with which 80% of the sample agreed) correlated significantly with the total. Item 8 was removed from the scale resulting in a sufficient Cronbach’s alpha of 0.60.

In order to obtain a total attitudes score, the scores on the retained eight items were summed. Therefore the maximum possible total score (indicating the most positive attitude) was 40 and the minimum possible score (indicating the most negative attitude) was 8. The median score was 29 (range 22-40).

Descriptive statistics of the retained items were examined (appendix 1.3). 97% of the sample agreed that research findings are of relevance to clinical psychology practice and 87% agreed that they regularly think about topics that they would like to research. However 56% agreed that they rarely had time to do research, 21% agreed that pressure to spend time clinically prevented them from doing research and 8% reported feeling that research was discouraged in their department. 5% reported that they believed that they did not have the skills to do research, 5% reported that were not interested in conducting research, and 3% agreed that research is not the domain of clinical psychologists.

Attitudes compared with current involvement in research

Total attitude score correlated significantly with amount of research production reported (r_s 0.725, $p < 0.01$, 1 tailed) and with amount of research use reported (r_s 0.470, $p < 0.01$, 1 tailed).

Qualifications and post held compared with current research involvement

Number of years qualified correlated significantly with both current research production (r_s 0.409, $p < 0.05$, 2 tailed) and with current research use (r_s 0.364, $p < 0.05$, 2 tailed). Mann Whitney statistical tests were used to assess differences between different sub-groups of clinical psychologists. Clinical psychologists who either had a PhD or were currently registered for a further degree reported significantly greater research production and research use than their counterparts [Median research production activities (interquartile range): PhD/degree 17.00 (9.50-18.00); others 3.00 (1.00-6.00); $U=22$, $p < 0.01$. Median research use activities (interquartile range): PhD/degree 3.00 (1.50-4.00); others 2.00 (1.00-2.00); $U=73.5$, $p < 0.01$]. Those who held a split academic/clinical post reported significantly greater research production and research use than did those with a purely clinical post [Median research production activities (interquartile range): split post 18.00 (17.00-19.00); clinical post 5.00 (2.00-8.00); $U=9$, $p < 0.01$. Median research use activities (interquartile range): split post 4.00 (3.00-4.00); clinical post 2.00 (1.00-2.75); $U=33$, $p < 0.01$]. Grade Bs reported significantly greater research production and greater research use than did Grade As [Median research production activities (interquartile range): Grade B 10.50 (3.25-17.75); Grade A 5.50 (2.50-8.25); $U=103$, $p < 0.05$. Median research use activities (interquartile range): Grade B 3.00 (2.00-3.00); Grade A 1.00 (1.00-2.00); $U=101$, $p < 0.05$].

Qualifications and post held compared with attitudes

Number of years qualified was not significantly correlated with attitude score (r_s 0.242, $p=0.15$, 2 tailed). Again Mann Whitney tests were used to assess differences between different sub-groups of clinical psychologists. There was no significant difference between Grade As and Grade Bs in terms of attitude score [Median attitude score

(interquartile range): Grade A 28.50 (26.25-30.75); Grade B 29.50 (27.75-31.00); U=148.5, n.s.]. Clinical psychologists who either had a PhD or were currently registered for a further degree had a significantly more positive attitude than their counterparts [Median attitude score (interquartile range): PhD/degree 30.00 (28.75-32.00); others 28.00 (26.00-30.00); U=42, $p<0.01$]. Those who had a split academic/clinical post also had a significantly more positive attitude than did participants with a 100% clinical post [Median attitude score (interquartile range): split post 31.00 (28.50-32.00); clinical post 29.00 (26.75-30.00); U=18, $p<0.01$].

Discussion

72% of eligible clinical psychologists responded. It is possible that the remaining 28% did not respond because they were not interested in research. The 79% of the sample that held purely clinical posts reported a median of only 1 research hour per week and respondents generally reported that this was too little, with pressure to spend time clinically preventing them from conducting research. They felt that they should have regular agreed time in which to pursue research. If research is the way forward to aid clinical psychology's survival in the NHS then perhaps it should be ensured that research time is written into employment contracts and honoured. Such a strategy may improve research opportunities for the 8% who felt that research was discouraged in their department.

Despite the little time spent in research, respondents reported involvement in a wide variety of activities both as users and producers of research. This finding suggests that previous surveys (eg Agnew et al, 1995) have underestimated research productivity by focusing on number of publications as the sole outcome variable. As a comparison

to earlier surveys, 61% of the present sample indicated that they have had work published which is a higher figure than those previously obtained (Milne et al, 1990). In addition to informing other clinical psychologists of research findings via publications, 53% reported that they were currently presenting at local events.

Although research productivity was higher than expected, perhaps use of research in clinical practice was disappointing. 20% of the sample reported that they were not currently reading empirical articles or books and 30% reported that they were not currently using evidence based treatments. The RIPS only included 4 items pertaining to research use and it may be that there are other items that could be added to obtain a more detailed understanding of research use.

As a whole, attitudes towards research were positive. It is encouraging that the sample generally reported that they believed research to be valuable to clinical practice and that they felt they had the skills to conduct research.

Clinical psychologists who had been qualified for longer reported greater use and production of research. Possibly as they gain experience and consolidate their clinical skills, clinical psychologists are more aware of areas requiring research and are better able to negotiate research time. Grade B clinical psychologists, those with a PhD or registered for a further degree, and those who held split academic/clinical posts all reported greater current research involvement. These findings replicate previous surveys (Milne et al, 1990). A related finding was that positive attitudes were also more likely to be held by those with a PhD or registered for a further degree, and those who held split academic/clinical posts.

Conclusion

Clinical psychologists within the Glasgow Directorate appear to be using and producing research via a number of different activities. Results suggest that they are largely functioning within the Scientist-Practitioner model. However there is variation in the amount of research used and produced. As a whole, the sample seem to be more involved in research than samples that have previously been surveyed but this finding may be an artefact of the different outcome measures used.

Attitudes measured by the RIPS and career details were, as hypothesised, associated with current research involvement. These findings help explain the variation in research involvement. The sample included in the present study involved clinical psychologists working in adult mental health and learning disabilities. We therefore still do not know about clinical psychologists working with children. However the refined RIPS may be used to replicate this survey with other populations of clinical psychologists.

Acknowledgements

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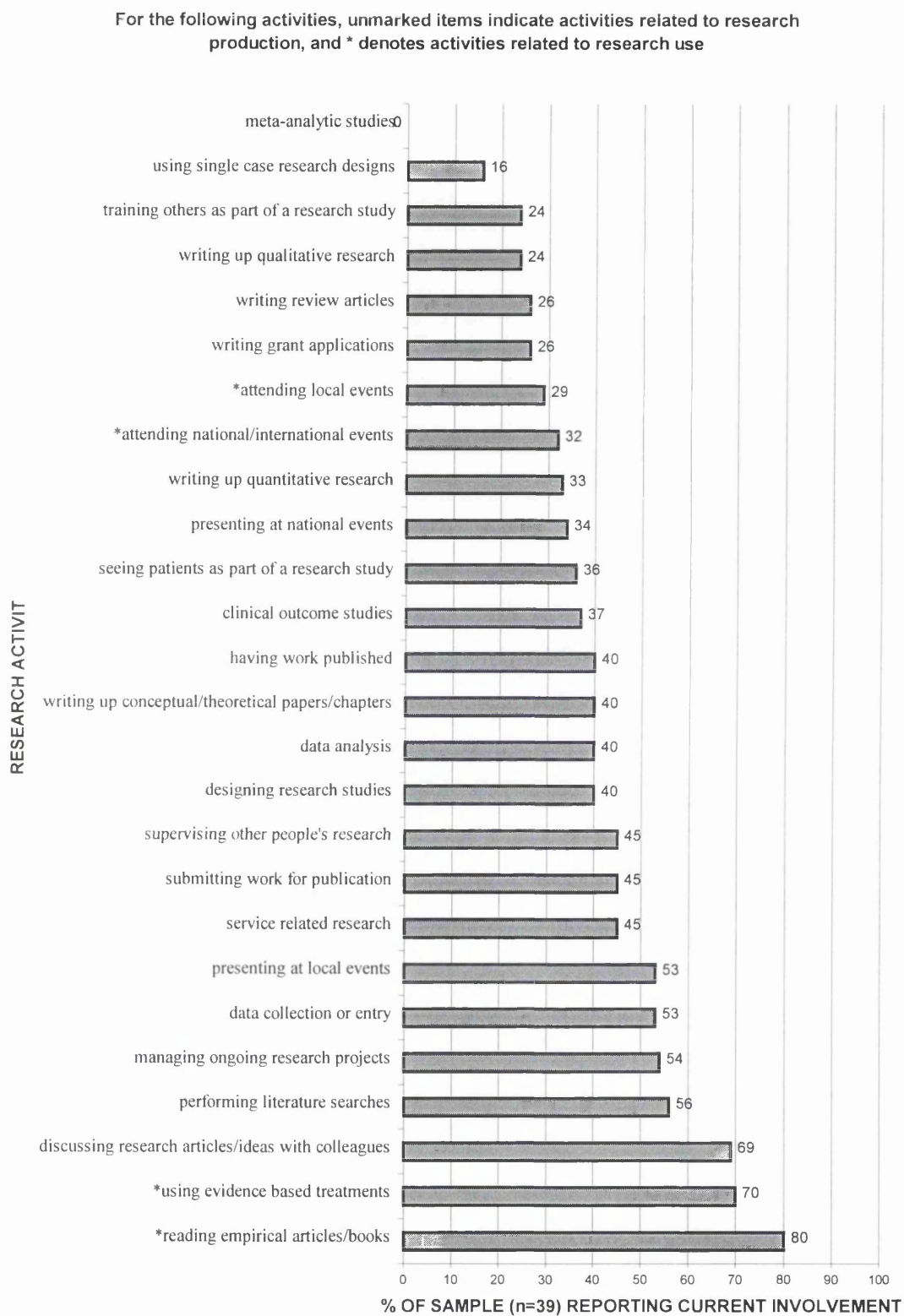
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Figure 1. Research activities of clinical psychologists in the Glasgow Directorate



CHAPTER 2. MAJOR RESEARCH PROJECT LITERATURE REVIEW

**Risk factors for parasuicide in older adults:
a focus on the potential role of interpersonal problem solving deficits**

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**Risk factors for parasuicide in older adults:
a focus on the potential role of interpersonal problem solving deficits**

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Abstract

Aim: To review the literature relating to risk factors for parasuicide in older adults, to highlight gaps in the current knowledge of associated psychological factors, and to focus on the potential role of interpersonal problem solving deficits.

Method: Relevant studies of suicidal behaviour in older adults as well as those describing interpersonal problem solving deficits in relation to parasuicide in younger adults were obtained through searches of PSYCLIT, MEDLINE, and BIDS databases.

Results: Studies investigating suicidal behaviour among older adults have tended to focus on demographic and clinical correlates to the neglect of psychological factors. Extrapolating from literature on younger adults, it is possible that parasuicide in older adults may be related to interpersonal problem solving deficits.

Conclusions: Interpersonal problem solving deficits that have been linked to parasuicide in younger adults warrant further investigation among older adults. Research into interpersonal problem solving performance in older adults requires revision of an existing measure, the Means End Problem Solving procedure (Platt & Spivack, 1975a).

163 words

Introduction

In the UK suicide rates are highest for the group of adults who are aged 65 years and older. To put this in perspective, older adults account for around 15% of the general population but for 25% of all suicides (Nowers, 1993) and this seems to be the predominant pattern across all countries and cultures (Williams, 1997). Increasingly the term “parasuicide” is used to describe all non-fatal, serious, deliberate self-harm and self-poisoning irrespective of suicide intent (Williams, 1997), and “suicidal behaviour” is an umbrella term encompassing both completed suicide and parasuicide. In contrast to completed suicide, rates for parasuicide are lowest among older adults – parasuicide in older adults accounts for only 4-5% of all parasuicides (Hawton & Fagg, 1990; Pierce, 1987). Parasuicide rates of 46/100,000 per year for older adults have been estimated (Pierce, 1987). Given the observed age differences in rates of suicidal behaviour, it has been repeatedly questioned whether suicidal behaviour is the same phenomenon in older adults as it is in younger adults. Although there has been a large body of research into suicidal behaviour in younger adults, older adults are a relatively neglected age group. Studies of this population focus largely on sociodemographic characteristics and psychiatric correlates while paying little heed to psychological variables, although psychological variables that have been associated with parasuicide in older adults include hopelessness and an absence of positive future-directed thinking (see Conaghan, 1999 for a review). In younger adults, suicide differs from parasuicide in terms of both the characteristics of the act and the characteristics of the patient (Williams, 1997) but similarities between suicide and parasuicide in older adults have repeatedly been reported (Nowers, 1993). Research with older adults, therefore, has largely been with the aim of learning more about completed suicide by studying

parasuicide, with the ultimate goal being reduction of the suicide rate by the year 2000 as specified by *The Health of the Nation* White Paper (Department of Health, 1992).

Parasuicide in older adults: a failed suicide attempt?

Retrospective review of hospital case-notes of parasuicide patients has indicated that, compared to younger adults, those aged 60 years and over were more likely to use highly lethal methods, more likely to have thought about parasuicide in the preceding months, and less likely to engage in behaviour designed to facilitate rescue once the parasuicide was initiated (Frierson, 1991). High levels of suicide intent have been found among older parasuicide patients (Draper, 1994; Merrill & Owens, 1990; Upadhyaya et al, 1989). For the majority (85.4%) the first act of deliberate self-harm is fatal (Duckworth & McBride, 1996) and for the survivors 4-28% will engage in further parasuicide in the next year (Hepple & Quinton, 1997; Zweig & Hinrichsen, 1993; Nowers, 1993; Pierce, 1987) with about 2-6% of survivors completing suicide. The latter figures are higher than those observed in younger adults (Nowers, 1993; Pierce, 1987). After the first year the risk of further suicidal behaviour in older parasuicide patients decreases (Nowers, 1993).

Similarities between parasuicide and suicide in older adults in terms of clinical and demographic characteristics have been reported. In parasuicide patients, medical problems have been noted in 46%-66% of cases (Hepple & Quinton, 1997; Merrill & Owens, 1990) and these problems seem to cause particular distress if they result in curtailment of previous level of function, the need for multiple drug regimens, or pain (Frierson, 1991; Pierce, 1987). Solitary living, divorce and widowhood have also been

described among older parasuicide patients (Draper, 1994; Nowers, 1993; Merrill & Owens, 1990; Hawton & Fagg, 1990; Nieto et al, 1992). The prevalence of depression in the older parasuicide population has consistently been estimated to be between 73% and 93% (Nieto et al, 1992; Upadhyaya et al, 1989; Draper, 1994; Lyness et al, 1992; Merrill & Owens, 1990; Pierce, 1987). Similarly, examination of coroners' reports and hospital case-notes for older adults who have completed suicide, suggests that 49% were living alone at the time of death, 65% had ill health, and 61% had a clinically diagnosable depressive illness (Cattell & Jolley, 1995).

As a result of these findings, older parasuicide patients have been reported to resemble older suicide patients more closely than they do younger parasuicide patients (Nowers, 1993). Therefore some researchers think of parasuicide in older adults as a failed serious suicide attempt (Lindesay, 1991). It has also been suggested that there exists a view that suicidal behaviour in older adults represents a considered, rational solution to the relatively irreversible problems of physical illness, social isolation and depression. It is likely that this view has impeded both closer examination of research findings and the investigation of psychological factors contributing to suicide and parasuicide in older adults (Kerkhof et al, 1991; Kerkhof & deLeo, 1991; Lindesay, 1991).

Suicidal behaviour in older adults: rational solution or result of deficits in interpersonal problem solving?

Reviews of suicide in older adults have highlighted that many patients visit their GP in the months preceding the act and in over one third of cases there is clear evidence of a warning (Caine et al, 1996; Dennis & Lindsay, 1995; Cattell & Jolley, 1995; Lindsay, 1991). Older adults who commit parasuicide are more likely than their younger counterparts to give out clues to their intentions beforehand (Frierson, 1991). However these behaviours have not been investigated further and we therefore have no known accurate understanding of the motivation underlying them. It may be that in the event of social isolation the GP is an available person to turn to. It may be that the GP is viewed as someone who can help address problems, especially if the patient already experiences physical illness. It is possible that individuals consider suicidal behaviour as a potential strategy for overcoming their problems but visit their GP with the aim of seeking an alternative. The current cohort of older adults will have grown up during the times when suicidal behaviour was a criminal offence (pre-1961 in the UK) and may still consider suicide a taboo subject, thereby avoiding explicit communication of suicidal ideation to the GP. The result may therefore be that the individual leaves his GP having obtained no alternative strategy and therefore engages in suicidal behaviour. However this is merely speculation. Among older parasuicide patients, as already discussed, suicide intent is generally high but there is consistently a minority of patients with little or no intent, and this finding is often overlooked. It may be that there are two sub-groups of older parasuicide patients – those who tried and failed to commit suicide and the others who fit the pattern of the younger parasuicide patient who has no intent to commit suicide. Interestingly, Nowers (1993) found that 77% of his older parasuicide

sample expressed intent at admission but this had fallen to 41% by the time a psychiatric assessment was made (usually within 48 hours). These findings provide further challenge to the view of suicide always being a desired, rational solution and parasuicide as a failed attempt at that.

Although several studies have concluded that physical illness is strongly associated with parasuicide in older adults, in only a minority of patients with pre-existing physical illness does the illness contribute to the parasuicide (Pierce, 1987). Among the most robust findings is the observation of the high prevalence of both solitary living and depression in older parasuicide patients. However, due to the high rates of depression and social isolation among older adults generally, the role of these variables in explaining parasuicide is limited. A little discussed finding from epidemiological studies is that 27%-43% of older parasuicide patients describe friction with their spouse, children and friends as precipitating the parasuicide (Hepple & Quinton, 1997; Draper, 1994). Moreover it has been found that divorced people had highest rates of parasuicide among older adults suggesting that disturbed interpersonal relationships might therefore be a vulnerability factor (Hawton & Fagg, 1990). In short, many older adults cite social isolation or family conflict as precipitants to parasuicide. Given that interpersonal problems have been described as “those involving a difficult relationship or the absence of other people” (Linehan et al, 1986), it can be summarised that interpersonal problems may be associated with parasuicide in older adults. In contrast to the view that parasuicide is a failed attempt at a rational solution to irreversible problems, it is possible that difficulties in solving interpersonal problems may be related to parasuicide in older adults. This relationship has been investigated extensively in younger adults where interpersonal (sometimes called social) problem solving is defined as “the self-directed cognitive behavioural process by which a person

attempts to identify or discover effective or adaptive ways of coping with problematic situations encountered in everyday living” (D’Zurilla & Maydeu-Olivares, 1995).

Parasuicide and interpersonal problem solving in younger adults

Williams (1986, cited in Williams, 1997) gave patients who had taken an overdose a list of 13 possible reasons for taking the overdose and asked them to indicate up to three items that were applicable to their own circumstances. The most common reason, endorsed by 67% of the sample, was “the situation was so unbearable that I had to do something and I didn’t know what else to do”. Scott et al (1997) also found it to be a commonly endorsed reason especially among younger adults who later repeated the overdose. These findings suggest that those individuals were confronted with a difficult situation, could not identify alternative strategies that they could use and so reached for overdose as a way out of the situation. Parasuicide patients themselves report that they are poor or ineffective problem solvers (Rudd et al, 1994). It is important, therefore, to understand the types of problems that parasuicide patients have difficulty with. Earlier work (Bancroft et al, 1977) found that the most important event precipitating parasuicide in younger adults was interpersonal conflict and Linehan et al (1986) asked individuals admitted to an inpatient psychiatric unit “If you could solve one problem causing you the most unhappiness, what would that be?” Parasuicide patients reported interpersonal problems with significantly greater frequency than both suicide ideators and non-suicidal psychiatric patients.

Several studies have now investigated interpersonal problem solving in relation

to parasuicide in younger adults (table 1). Various criticisms apply to individual studies with the main complaints being: suicidal ideators included with parasuicide patients; lack of information of time that has elapsed since the parasuicide; lack of control groups; control groups that have been poorly matched with parasuicide patients; insufficient description of measures; different methodology used for experimental and control groups; and overgeneralisation of conclusions. However in spite of these criticisms findings of a relationship between parasuicide and interpersonal problem solving deficits are robust. Parasuicide patients have been consistently found to generate fewer relevant means of achieving given solutions to interpersonal problems, to have less active styles of problem solving compared to non-suicidal psychiatric patients, medical patients and non-patient controls, and to have less perceived control over problem solving options (Evans et al, 1992; Schotte & Clum, 1987; McLeavey et al, 1987; Linehan et al, 1987; Haines & Williams, 1997). Moreover, parasuicide patients who go on to repeat episodes adopt less effective and more passive problem solving strategies than those who have a single episode of deliberate self-harm (Scott et al, 1997). In younger adults with borderline personality disorder, inappropriate problem solving has been shown to predict subsequent parasuicide (Kehrer & Linehan, 1996). McLeavey et al (1987) suggest that repetition is likely because parasuicide becomes established as part of a limited repertoire of potential solutions.

[Insert table 1]

Clinical implications of understanding interpersonal problem solving deficits in relation to parasuicide

Based on the above findings, interventions involving training in interpersonal problem solving have been established. If parasuicide patients are taught problem solving skills, they report a reduction in hopelessness (Patsiokas & Clum, 1985), and an increased ability to cope with ongoing problems (McLeavey et al, 1994) following the intervention. The rate of subsequent parasuicide and completed suicide also reduces significantly (MacLeod et al, 1992; Salkovskis et al, 1990; Williams & Pollock, 1993). These findings are of great clinical significance because before problem solving deficits were addressed, attempts at prevention of parasuicide in younger adults were proving to be ineffective (Hirsch et al, 1982).

It is important to devise appropriate interventions for older parasuicide patients too because the costs of parasuicide in this population are high. Almost 50% of older patients are referred to psychiatric services following admission for parasuicide (Hepple & Quinton, 1997; Hawton & Fagg, 1990; Pierce, 1987), and some patients require longer term medical care due to complications of the parasuicide as a result of pre-existing physical frailty (Nieto et al, 1992). Furthermore there is an increased mortality from natural causes in the year following an episode of parasuicide. Finally, there is the minority of patients who go on to repeat parasuicide or commit suicide. If findings of deficits in interpersonal problem solving skills are replicated in older parasuicide patients, then similar interventions to those being used with younger adults could be implemented to address the deficits and reduce the costs of parasuicide in this population.

Issues to consider in the assessment of interpersonal problem solving in older parasuicide patients

Depression

As discussed already, in excess of 70% of older parasuicide patients have a diagnosable depressive illness, which is a larger proportion than that found in younger parasuicide patients (Merrill & Owens, 1990). It is important then that the potential impact of depression on interpersonal problem solving should be considered. This could be the subject of a literature review in its own right and the following section merely attempts to summarise the main findings.

Studies have mainly focused on younger adults, both non-clinical and clinical populations. Scores on depression inventories in non-clinical samples have been consistently found to be negatively correlated with scores on measures of interpersonal problem solving, which assess people's beliefs and expectations concerning life's problems and their own general problem solving ability (eg McCabe et al, 1999; Haaga et al, 1995). It is unclear whether these self-perceptions reflect an actual deficit in problem solving because studies assessing problem solving performance have had conflicting results (Doerfler et al, 1984; Zenmore & Dell, 1983; Gotlib & Asarnow, 1979). Compared to non-clinical controls, clinically depressed younger patients perceive themselves to be poorer at solving interpersonal problems (D'Zurilla et al, 1998a). They also consistently generate fewer relevant means and less effective means of achieving the desired solution on measures of problem solving performance (Goddard et al, 1996; Marx et al, 1992). It is impossible to say how depressed patients compare to parasuicide patients because, as table 1 indicates, parasuicide patients tend to be

compared with a heterogenous group of psychiatric patients and have never been compared with a group of depressed patients.

For older adults, studies on depression and problem solving are comparatively thin on the ground. Theoretically, it has been proposed that people develop interpersonal problem solving skills to cope with stressful life events and that deficits in interpersonal problem solving skills are important vulnerability factors for depression (Nezu, 1987). It has been hypothesised that this may be especially true for older adults because many of the changes that occur later in life (eg declining physical health, loss of loved ones) often constitute significant stressors in terms of major life events or continuous daily problems. To cope with them would require adaptive interpersonal problem solving skills (Fry, 1989).

In a non-clinical population of older adults, perception of negative problem solving ability has been associated with depressive symptoms (Kant et al, 1997). Amongst older adults meeting the diagnostic criteria for major depression, interpersonal problem solving therapy has been compared with reminiscence therapy and waiting list control (Arean et al, 1993). Post treatment, a significantly lower percentage of patients in the problem solving group compared with the other groups met the diagnostic criteria for major depression, supporting the hypothesis that deficits in interpersonal problem solving ability are associated with depressive symptomatology.

Age and interpersonal problem solving

The problem solving literature in older adults has tended to focus on a variety of types of problem solving including asking people to do practical household tasks, to provide solutions to everyday problems, to complete Raven's matrices, and to use classification and reasoning as required of the Twenty Questions Test. Interpersonal problem solving performance has been found to relate to the former two types of problem solving

(Blanchard-Fields, 1997; Heidrich & Denney, 1994) but it does not seem to relate to the latter two types (Heidrich & Denney, 1994). Few studies have addressed interpersonal problem solving specifically but in those that have, interpersonal problem solving has been found to increase from young adulthood (ages 17-20) to middle-age (ages 40-55) and then decrease in older age (ages 60-80). Older adults were more likely to report a tendency to appraise problems negatively, to be avoidant, and to doubt their own problem solving capabilities (D'Zurilla et al, 1998b). Actual performance on interpersonal problem solving tasks from the Means End Problem Solving procedure (MEPS, Platt & Spivack, 1975a) was not found to change with age (Heidrich & Denney, 1994). However the instructions to the task were changed from those recommended by the authors and a limited selection of the recommended outcome variables was considered. Another comparison of interpersonal problem solving performance among young, middle-aged, and older adults found that older adults had a greater tendency towards cognitive avoidance, denial of the situation or withdrawal from it, denial of personal responsibility, and they had an absence of self-initiated behaviours to alter a problem. These factors were reportedly related to older adults' lower perceived ability to solve the problems (Blanchard-Fields et al, 1997; Blanchard-Fields et al, 1995). Problem solving was measured via responses to vignettes representing problem situations. However, although 25 vignettes were devised following surveys of problem situations facing adults of all ages, the authors then selected 15 to be used in the study. Of those 15, few were directly relevant to older adults. The vignettes that did include older adults had them as merely characters in the story and not the main protagonist. The results therefore are hardly surprising. It is difficult therefore to know exactly the nature of the relationship of age to interpersonal problem solving but one thing that is clear is that appropriate, relevant measures must be used.

Selecting the most appropriate measure of interpersonal problem solving

The process of interpersonal problem solving has been considered to include several stages namely, orientating to the problem, identifying the problem, generating potential alternative solutions, evaluating alternatives and selecting one, implementing and verifying the chosen alternative (D’Zurilla & Goldfried, 1971). Measures of interpersonal problem solving can be grouped into 2 categories; process measures and outcome measures. Process measures tend to provide a list of statements with associated Likert type scales and ask individuals to rate their attitudes and perceived approaches to interpersonal problems. This facilitates understanding of the particular stages that may be difficult for the individuals concerned. However the disadvantage of process measures is that they do not measure actual problem solving performance. Outcome measures on the other hand do assess specific problem solving performance, but they do not allow for analysis of the various stages in the process. Studies of interpersonal problem solving and parasuicide in younger adults have used both types of measures but the majority has used outcome measures. For a first study into interpersonal problem solving and parasuicide in older adults, the author considers it best to use an outcome measure for three reasons. Firstly it would allow identification of actual deficits and if deficits were found, later research using process measures would clarify the actual stages that were problematic. Secondly, given the high prevalence of depression in older parasuicide patients it may be that, in line with the bias towards negative interpretation observed in depression, on process measures participants would rate themselves to be poorer problem solvers than they are in reality. Outcome measures get away from reliance on patient’s perceptions of their ability and focus on performance directly. Finally use of an outcome measure allows for replication of the methodology used by a substantial body of research conducted with younger parasuicide

patients. The most commonly used outcome measure in studies of parasuicide in younger adults (see table 1) is the Means End Problem Solving (MEPS) procedure (Platt & Spivack, 1975a).

The Means End Problem Solving (MEPS) procedure

The MEPS was devised as a measure of interpersonal problem solving ability when low correlations were consistently found between interpersonal problem solving skills and measures of general intelligence, suggesting that thinking about interpersonal events is not the same as thinking about impersonal events (Platt et al, 1971). The MEPS assesses “means end thinking” by providing the respondent with 10 items, each describing a different situation for which a protagonist is presented with a stated problem and a desired outcome. The respondent is instructed to provide the middle portion of the story explaining how the protagonist achieves the stated outcome. The MEPS can be scored both quantitatively in terms of number of solutions generated (Platt & Spivack, 1975a) and qualitatively which allows consideration of effectiveness of solutions, inappropriate solutions, and active versus passive strategies (Evans et al, 1992; Kehrer & Linehan, 1996). The MEPS was developed in a healthy adolescent group and has subsequently been validated with a number of different diagnostic groups of young adult psychiatric patients (Platt & Spivack, 1975a). Factor analysis of the MEPS indicates a single underlying factor, suggesting that it is unidimensional (Platt & Spivack, 1975b). This finding has resulted in many researchers (table 1) administering only a selection of the items without specifying selection criteria or which items were

administered, therefore cross-study comparison is difficult. The MEPS has some limitations in the way in which it is presented to respondents. In addition, it has not been validated for use with older adults, and has only been administered once to this population when the instructions to participants did not follow the recommended guidelines (Heidrich & Denney, 1994). In order for it to be used appropriately with older adults, three modifications are considered to be necessary:

1. In the original version, the MEPS is presented as a “test of imagination” and the participants are instructed to “make up a story” that connects the beginning of the scenario with the end. This version has been used in studies with younger parasuicide populations. However, it has been argued that in order to measure problem solving optimally, it is necessary to induce a clear problem solving set in the instruction (House & Scott, 1996; D’Zurilla & Nezu, 1982 cited in D’Zurilla & Maydeu-Olivares, 1995). Therefore instead of “making up a story” participants should be asked to “find the ideal strategy” for overcoming the problem situation. These instructions have already been tested and found to be appropriate (Marx et al 1992).
2. The situations used in the MEPS require that the respondent should be able to identify with the protagonist, that is an *other* person who is always described as being of the same sex as the respondent. There are therefore parallel male and female versions. Early studies indicated that there were generally no gender differences on the MEPS (Platt & Spivack, 1975a) and this finding has been replicated in a parasuicide population (Sidley et al, 1997). It has been argued (Camp et al, 1989 cited in D’Zurilla & Maydeu-Olivares, 1995) that instead of being asked

to identify with a protagonist, respondents should be instructed to place *themselves* in the situation. This would have greater ecological validity because it would increase the likelihood that the test problems will be perceived as personally relevant.

3. Three of the original MEPS items are questionable because they have antisocial problem solving goals. This is likely to reduce the personal relevance of this test for many individuals (D'Zurilla & Maydeu-Olivares, 1995). In addition, a further three original items appear to be less relevant for older adults (these items are related to dating, and work) while other issues (eg physical health problems and social isolation) which are of greater relevance to this age group are not included. It would be especially important to include relevant issues for a parasuicide population because Frierson (1991) reported that in older adults the top three precipitants for parasuicide were ill health, loneliness, and bereavement but in younger adults the top three precipitants were marital conflict, employment difficulties and financial problems. The differences suggest that interpersonal problems faced by the two groups are different and therefore the MEPS should incorporate situations that are likely to be relevant for older adults.

Once the MEPS has been revised for use with older adults, research into interpersonal problem solving in relation to parasuicide can be conducted with older adults in a similar manner to that already conducted with younger adults.

Conclusions and research implications

In conclusion, compared to parasuicide in younger adults there is a lack of understanding of parasuicide in older adults. This is especially true with respect to psychological risk factors. One reason offered for this imbalance is that there is a view that suicidal behaviour in older adults is a rational solution to irreversible problems and therefore understandable. However there are indications that, as for younger adults, parasuicide in older adults may be associated with a deficit in interpersonal problem solving. In order to investigate this possible relationship a relevant measure of interpersonal problem solving is required. If the Means End Problem Solving procedure were revised for use with older adults it would be an appropriate measure.

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Table 1. Studies of interpersonal problem solving in relation to parasuicide in younger adults.

STUDY	PARASUICIDE SAMPLE	CONTROL GROUP(S)	PROBLEM SOLVING MEASURE	MAIN FINDINGS	COMMENTS AND CRITICISMS
Evans et al, 1992 UK	<ul style="list-style-type: none"> n=12 15-36 hours after hospital admission following overdose 1 patient had diagnosis of depression – no other psychiatric problems age 18-60 years 	<p>n=12</p> <p>surgical inpatients with no history of parasuicide</p>	<p>Means End Problem Solving Procedure (MEPS) -5 items used</p> <ul style="list-style-type: none"> latency to 1st word of response relevant means irrelevant means no responses 3rd person strategy “make up story” instructions 	<p>Overdose patients generated fewer relevant means ($p<0.001$) and less effective means ($p<0.001$) than controls.</p>	<p>Only used overdose patients, therefore unclear whether findings would generalise to other parasuicide patients.</p> <p>MEPS scenarios not specified.</p> <p>Incomplete reporting of statistics - no standard deviations.</p>
McLeavey et al, 1987 Ireland	<ul style="list-style-type: none"> n=40 overdose only included excluded if needed inpatient treatment for depression age 15-45 years 	<p>(1) n=40 psychiatric patients, varied diagnoses with no parasuicide history</p> <p>(2) n=20 non-patient controls with no psychiatric or parasuicide history</p>	<p>MEPS (8 items)</p> <ul style="list-style-type: none"> relevant means 3rd person strategy “make up story” instructions <p>Self Rating Problem Solving Scale (SRPSS)</p>	<p>On MEPS parasuicide patients generated fewer relevant means than psychiatric group ($p<0.05$) and non-patient controls ($p<0.01$).</p> <p>On SRPSS parasuicide patients rated themselves as having a more negative problem solving approach than the psychiatric group ($p<0.05$) and the control group ($p<0.01$).</p>	<p>Time since parasuicide not specified.</p> <p>MEPS scenarios not specified and limited MEPS variables used</p> <p>Major depression excluded .</p> <p>Inconsistent methodology between groups and groups not well matched</p> <p>Overdose patients only were included.</p>
					Included adolescents

STUDY	PARASUICIDE SAMPLE	CONTROL GROUP(S)	PROBLEM SOLVING MEASURE	MAIN FINDINGS	COMMENTS AND CRITICISMS
Schotte & Clum, 1987 USA	<ul style="list-style-type: none"> • n=50 psychiatric inpatients • 30 days following admission • parasuicide +/-or suicide ideation • 85% schizophrenia, 10% major depression • age 20-48 years 	n=50 comparable to "suicidal" sample in terms of diagnosis / age with no current suicidality	<p>MEPS (5 items)</p> <ul style="list-style-type: none"> • relevant means • enumeration of means • irrelevant means • no means • obstacles • enumeration of obstacles • 3rd person strategy • "make up story" instructions <p>Modified MEPS – patients asked to identify problem leading to admission and then respond to a MEPS type scenario based on that problem</p>	<p>On both the MEPS and the modified MEPS suicidal patients generated fewer relevant means ($p < 0.01$ for both measures). No differences on other MEPS variables.</p>	<p>Parasuicide and suicide ideation grouped together.</p> <p>Included patients with psychotic illness.</p> <p>Considerable time lapse since parasuicide</p> <p>MEPS scenarios not specified</p> <p>Means and standard deviations not reported for MEPS variables.</p>

STUDY	PARASUICIDE SAMPLE	CONTROL GROUP(S)	PROBLEM SOLVING MEASURE	MAIN FINDINGS	COMMENTS AND CRITICISMS
Linehan et al, 1987 USA	<ul style="list-style-type: none"> n=39 various methods of parasuicide 48 hours after admission to psychiatric unit following parasuicide 40% major depression / dysthymia aged 14-64 years 	<p>(1) n=48 psychiatric inpatients with serious suicide ideation</p> <p>(2) n=36 psychiatric inpatients admitted for non-suicide-related complaints</p> <p>(3) medical inpatients</p> <p>Psychiatric controls had comparable diagnoses to parasuicide group</p>	<p>MEPS (3 items)</p> <p>Items chosen as being relevant to parasuicide group.</p> <ul style="list-style-type: none"> quotient active means quotient passive means 3rd person strategy instructed to "find way to achieve solution" 	<p>Parasuicide patients had lower quotient of active means ($p<0.002$) and higher quotient of passive means ($p<0.03$) than patients with suicide ideation</p> <p>Time since parasuicide not specified.</p> <p>Included patients with psychotic illness / substance abuse.</p> <p>Includes adolescents</p> <p>Shows differences between suicide ideation and parasuicide therefore questions other studies which include these patients as one group.</p>	<p>Only includes parasuicide patients requiring inpatient psychiatric treatment</p> <p>Time since parasuicide not specified.</p> <p>Included patients with psychotic illness / substance abuse.</p> <p>Includes adolescents</p> <p>Shows differences between suicide ideation and parasuicide therefore questions other studies which include these patients as one group.</p>
Sidley et al, 1997 UK	<ul style="list-style-type: none"> n=35 admitted to medical ward after overdose 1-18 days after overdose n=32 had diagnosable depression age 19-51 years 	None	<p>MEPS (5 items)</p> <ul style="list-style-type: none"> relevant means effectiveness 3rd person strategy "make up story" instructions 	<p>BDI depression score correlated negatively with effectiveness of means ($p<0.04$)</p> <p>Effectiveness correlated positively with specificity of autobiographical memory ($p<0.01$)</p>	<p>Doesn't specify MEPS items used.</p> <p>Only included overdose patients who required admission to medical wards.</p> <p>No control group.</p>

STUDY	PARASUICIDE SAMPLE	CONTROL GROUP(S)	PROBLEM SOLVING MEASURE	MAIN FINDINGS	COMMENTS AND CRITICISMS
Schotte et al, 1990 USA	<ul style="list-style-type: none"> n=36 psychiatric inpatients all reporting suicide ideation 39% admitted following parasuicide 34 patients depressed / dysthymic group randomly divided into 2 and one half assessed on days 1 and 8 after admission, other half assessed at day 8 only mean age 37.1 years 	see explanation under parasuicide sample	<p>MEPS (number of items unspecified)</p> <ul style="list-style-type: none"> relevant means irrelevant means no means no responses obstacles relevancy 3rd person strategy "make up story" instructions 	Scores on all MEPS variables improved over time ($p < 0.05$ for all variables)	<p>MEPS relevancy score was not calculated according to criteria suggested by MEPS authors (Platt and Spivaack, 1975a)</p> <p>Parasuicide and suicide ideation considered as same group</p> <p>Time since parasuicide not specified</p>
Orbach et al, 1990 Israel	<ul style="list-style-type: none"> n=13 psychiatric patients known to have made a suicide attempt most have diagnosis of depression age 18-45 years 	<p>(1) n=16 psychiatric patients with suicide ideation</p> <p>(2) n=31 non-suicidal psychiatric patients</p>	<p>Problem Solving Task devised for the study</p> <ul style="list-style-type: none"> participants give as many solutions as possible to 3 dilemmas involving work / romance 	<p>Parasuicide patients and suicide ideators had a more avoidant problem solving style than controls ($p < 0.01$)</p> <p>Parasuicide and control patients had a more active problem solving style than suicide ideators ($p < 0.01$)</p>	<p>Not clear exactly how many patients were depressed</p> <p>Time since parasuicide not specified</p> <p>Unclear how groups were derived</p> <p>Post hoc statistical tests not reported</p>

STUDY	PARASUICIDE SAMPLE	CONTROL GROUP(S)	PROBLEM SOLVING MEASURE	MAIN FINDINGS	COMMENTS AND CRITICISMS
Kehrer & Linehan, 1996 USA	<ul style="list-style-type: none"> 33 women with borderline personality disorder 1 parasuicide in past 8 weeks and at least another in the past 5 years assessed at time of acceptance into study and then at 4-monthly intervals for the next year 18-45 years 	N/A	<p>MEPS (3 items) deemed to be of most relevance to borderline personality disorder</p> <p>Additional 4 new MEPS type scenarios focusing on emotional state</p> <p>Selection of items (unspecified) administered at each time point</p> <ul style="list-style-type: none"> quotient active means quotient passive means inappropriate means positive self-regulation 3rd person strategy "make up story" instructions 	<p>Generation of inappropriate strategies related to subsequent parasuicide ($p < 0.0001$)</p>	<p>Considerable time between parasuicide and assessment</p> <p>Did not include relevant means or effectiveness therefore difficult to compare with other studies.</p> <p>DSM-IV axis I psychiatric disorder not reported.</p>

STUDY	PARASUICIDE SAMPLE	CONTROL GROUP(S)	PROBLEM SOLVING MEASURE	MAIN FINDINGS	COMMENTS AND CRITICISMS
Biggam & Power, 1998 UK	<ul style="list-style-type: none"> n=25 prison inmates who had “demonstrated parasuicide potential” after a period of custodial confinement and placed on suicide observation age 16-21 years 	3 other groups of inmates (1) 25 on protection (2) 25 victims of bullying (3) 25 inmates reasonably well adjusted to prison life	MEPS (4 items selected for relevance to the population concerned) <ul style="list-style-type: none"> relevant means irrelevant means obstacles active means passive means appraisal of effort 3rd person strategy problem solving instructions 	Inmates under suicide observation had a higher quotient of passive means than all other groups (p<0.0001) For the sample as a whole the amount of passive responses correlated positively with HADS depression score (p<0.05)	Unclear what “demonstrated parasuicide potential” means ie whether or not parasuicide had occurred Psychiatric disorder not specified. Unclear whether total active / passive means were used or whether quotient scores (Linehan et al, 1987) were calculated.
Ivanoff et al, 1992 USA	<ul style="list-style-type: none"> male prison inmates 47 diagnosis substance misuse, 13 major affective disorder, 15 psychosis mean age 31.14 years divided into 3 groups (1) parasuicide history, current suicide ideation n=14 (2) parasuicide history, no suicide ideation n=34 (3) no parasuicide history, no suicide ideation n=43 	see explanation under parasuicide sample	MEPS (6 items – specified) <ul style="list-style-type: none"> relevant means irrelevant means no means no responses enumeration of means 3rd person strategy “make up a story” instructions 	No differences between the groups on any MEPS outcome variable	Time since parasuicide unspecified. Suicidality defined as reporting of suicide ideation.

STUDY	PARASUICIDE SAMPLE	CONTROL GROUP(S)	PROBLEM SOLVING MEASURE	MAIN FINDINGS	COMMENTS AND CRITICISMS
Biggam & Power, 1999 UK	<ul style="list-style-type: none"> n=15 prison inmates parasuicide in past 72 hours and placed in prison surgery and parasuicide history no psychiatric diagnosis/history 26% illicit drug use in 14 days prior to interview age 16-21 years 	<p>(1) inmates with a parasuicide history but no parasuicide in past 72 hours (n=21)</p> <p>(2) inmates with no history of parasuicide (n=25)</p>	<p>MEPS (4 items – specified)</p> <ul style="list-style-type: none"> relevant means irrelevant means no means no response no. of active means no. of passive means 3rd person strategy problem solving instructions 	<p>The parasuicide group generated more irrelevant (p<0.05) and more passive (p<0.0001) means than those with a history of parasuicide who had no recent parasuicide. No difference between the latter group and the group with no parasuicide history.</p> <p>HADS depression scores were higher in the parasuicide group than the group with a parasuicide history and no recent parasuicide (p<0.01)</p>	<p>For control group (1) time since last parasuicide is not specified</p> <p>Results suggest that total active and passive means were used and not the quotients recommended by Linehan et al, 1997</p> <p>Suicidality was defined as parasuicide in the past 72 hours, therefore different from Ivanoff et al, 1992 definition.</p> <p>Young sample</p>
Rudd et al, 1994 USA	<ul style="list-style-type: none"> n=43 parasuicide by variety of methods included referred to outpatient programme focusing on suicidal behaviour 59% current depressive disorder age 18-37 years 	n=57 suicide ideators in the same programme with comparable levels of depression	<p>Problem Solving Inventory (PSI) which requires participants to rate their characteristic approaches to problem solving</p>	No significant differences between groups	Time since parasuicide not specified.

STUDY	PARASUICIDE SAMPLE	CONTROL GROUP(S)	PROBLEM SOLVING MEASURE	MAIN FINDINGS	COMMENTS AND CRITICISMS
Scott et al, 1997 UK	<ul style="list-style-type: none"> • n=52 • patients admitted to medical ward following 1st episode of parasuicide (self-poisoning) • mean age 30 years • patients followed up for 3 months and split into 2 groups <p>(1) n=25 engaged in further parasuicide – 22% had either major depression or adjustment disorder</p> <p>(2) n=18 with no further parasuicide matched on demographic variables to group (1) – 28% had major depression or adjustment disorder or anxiety</p>	N/A	<p>Problem Solving Scale which requires individuals to rate how various characteristics of approaches to problem solving apply to them.</p> <p>Administered at 3 months after 1st admission</p>	<p>Repeated parasuicide group had poorer problem solving skills (which indicates less effective and more passive problem solving) than patients with a single parasuicide episode ($p<0.001$)</p> <p>Repeated parasuicide group had higher BDI depression scores than patients with a single parasuicide episode ($p<0.01$)</p>	<p>It is possible that patients with a single episode of parasuicide would go on to further parasuicide - therefore longer follow up would be more informative.</p>

STUDY	PARASUICIDE SAMPLE	CONTROL GROUP(S)	PROBLEM SOLVING MEASURE	MAIN FINDINGS	COMMENTS AND CRITICISMS
Haines & Williams, 1997 Australia	<ul style="list-style-type: none"> • n=19 • male prisoners with a history of self-mutilation (cutting forearm) • mean age 21.9 years 	<ul style="list-style-type: none"> (1) n=13 male prisoners with no history of self-mutilation (2) n=18 university students 	Personal Problem Solving Inventory which requires individuals to rate themselves on various aspects of the problem solving process	Prisoners with a history of self-mutilation had less perceived personal control over problem solving than the other groups ($p < 0.05$)	<p>Time since self-mutilation not specified.</p> <p>Included self-mutilation only</p> <p>Assessment of psychiatric symptoms not reported.</p> <p>All male.</p> <p>Young sample.</p> <p>Post hoc statistical tests not well reported.</p>

CHAPTER 3. MAJOR RESEARCH PROJECT PROPOSAL

Parasuicide in older adults: relationship to interpersonal problem solving

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Parasuicide in older adults: relationship to interpersonal problem solving**Major Research Project Proposal****Applicant:** Susie Howat

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Title:

Parasuicide in older adults: relationship to interpersonal problem solving.

Summary:

The study aims to investigate interpersonal problem solving in older adults (i.e. aged 65 years and older) with a recent episode of parasuicide. Parasuicide is defined as any non-fatal, serious, deliberate self-harm irrespective of suicidal intent (Williams, 1997). Interpersonal problem solving performance will be measured using an existing questionnaire, the Means End Problem Solving (MEPS) procedure (Platt & Spivack, 1975) that has been revised for the present study in order to make it more suitable for older adults.

Previous studies of parasuicide in older adults agree that the prevalence of depression in older parasuicide patients is at least 70% (Dennis & Lindsay, 1995; Draper et al, 1994; Nowers, 1993; Lyness et al, 1992; Merrill & Owens, 1990; Upadhyaya et al, 1989; Pierce, 1987). Depression itself has been linked to impaired interpersonal problem solving performance (Goddard et al, 1996; Marx et al, 1992; Fry, 1989) and will be controlled for in the present study.

Three groups of patients will be included in the study: (1) older adults with an episode of parasuicide in the past 14 days will be recruited from medical and psychiatric wards across Glasgow; (2) older adults being treated for depression by Psychiatrists and Clinical Psychologists in Glasgow; (3) older adults who are not in contact with psychiatric services and who are attending community groups run by Glasgow Old People's Welfare Association. All groups will be matched for intelligence, social class and marital status as these variables have been shown to be associated with parasuicide

(Merrill & Owens, 1990; Williams & Pollock, 1993).

Introduction:

More so than their younger counterparts, older adults with a recent episode of parasuicide resemble their peers who commit suicide in terms of clinical and demographic factors. Specifically, living alone, presence of depressive symptoms, and physical ill health are associated with both parasuicide and suicide in older adults (Nowers, 1993; Merrill & Owens, 1990). In this age group the female to male ratio for parasuicide has been estimated variably, from 2:1 to 1:1 (Hepple & Quinton, 1997; Draper, 1994; Hawton & Fagg, 1990; Pierce, 1987). It has been argued that studies of parasuicide in older adults provide a valuable insight into suicidal behaviour because usually parasuicide is a failed suicide attempt (Lindesay, 1991). Following parasuicide, repetition rates range from 5.4% to 18% per year, and subsequent completed suicide rates range from 1.5% to 6% per year (Hepple & Quinton, 1997; Nowers, 1993; Pierce, 1987).

In the months prior to parasuicide, many older adults present to a healthcare professional, and in over one third of cases there is clear evidence of a warning of impending suicidal behaviour, however it often goes undetected (Dennis & Lindesay, 1995). In spite of this population both possibly seeking help and being identified as high risk in terms of future completed suicide, there has been little investigation of psychological factors associated with parasuicide in older adults.

Research with younger adults with a recent episode of parasuicide has suggested that they report interpersonal problems with significantly greater frequency than both suicide ideators and non-suicidal psychiatric patients (Linehan et al, 1986). Other

studies have indicated that parasuicide patients have poorer interpersonal problem-solving skills than both non-suicidal psychiatric patients and healthy controls (Evans et al, 1992; Schotte & Clum, 1987; McLeavey et al, 1987; Linehan et al, 1987; Haines & Williams, 1997). Parasuicide patients who go on to repeat the parasuicide are less skilled at problem solving than those who have a single episode of deliberate self-harm (Scott et al, 1997), and in younger adults with borderline personality disorder, inappropriate problem solving has been shown to predict subsequent parasuicide (Kehrer & Linehan, 1996). Further research has shown that if parasuicide patients are taught problem-solving skills, they report that they feel more able to cope with ongoing problems (McLeavey et al, 1994) and the rate of subsequent parasuicide and completed suicide reduces significantly (MacLeod et al, 1992; Salkovskis et al, 1990). If these findings of problem solving deficits can be replicated in older adults, it may be possible to teach these individuals interpersonal problem solving skills and ultimately reduce parasuicide and suicide rates. It cannot be assumed however that this is the case because interpersonal problem solving style changes with age. Older adults have a greater tendency towards cognitive avoidance, denial of the problem, and denial of personal responsibility, and they show an absence of self-initiated behaviours to alter the problem. These factors seem to be related to their perceived lack of ability to solve the problems (Blanchard-Fields et al, 1997; Blanchard-Fields et al, 1995).

Studies of younger adults with a recent episode of parasuicide have used various measures of problem solving but the most commonly used (Evans et al, 1992; Schotte & Clum, 1987; McLeavey et al, 1987; Linehan et al, 1987; Kehrer & Linehan, 1996) is the Means End Problem Solving (MEPS) procedure (Platt & Spivack, 1975). The MEPS is a measure of interpersonal problem solving performance which provides the respondent with 10 scenarios, each describing an interpersonal problem faced by a protagonist at the

beginning and a stated outcome at the end. The respondent is instructed to provide the middle portion of the story explaining the steps taken by the protagonist to achieve this outcome. The MEPS was developed in a healthy adolescent group and has subsequently been validated with a number of different diagnostic groups of young adult psychiatric patients (Platt & Spivack, 1975). The MEPS has, however, not been validated for use with older adults. For the purposes of the present study, the MEPS will be modified in three ways:

- (i) In the original version, the MEPS is presented as a “test of imagination” and the participants are instructed to “make up a story” that connects the beginning of the scenario with the end. It has been argued that in order to measure problem solving optimally, it is necessary to induce a clear problem solving set in the instruction (D’Zurilla & Nezu, 1982 cited in D’Zurilla & Maydeu-Olivares, 1995). Therefore instead of “making up a story” participants will be asked to “find the ideal strategy” for overcoming the problem situation. This replicates Marx et al’s (1992) instructions.
- (ii) The situations used in the MEPS require that the respondent should be able to identify with the protagonist, ie an *other* person of the same sex as themselves. There are therefore parallel male and female versions. Early studies indicated that there were generally no gender differences on the MEPS (Platt & Spivack, 1975) and this finding has been replicated in a parasuicide population (Sidley et al, 1997). It has been argued (Camp et al, 1989 cited in D’Zurilla & Maydeu-Olivares, 1995) that instead of identifying with a protagonist, the participants should be instructed to place *themselves* in the situation. This would have greater ecological

validity because it would increase the likelihood that the test problems will be perceived as personally relevant.

- (iii) Three of the original MEPS items are questionable because they have antisocial problem solving goals (revenge, stealing, and murder). This is likely to reduce the personal relevance of this test for many individuals (D'Zurilla & Maydeu-Olivares, 1995). In addition, a further three original items appear to be less relevant for older adults (these items are related to dating, and work) while other issues such as physical health problems and social isolation which are of great relevance to this population are not included. In order to make the items more relevant to the population of interest, 3 of the 10 original items will be replaced and a further 3 original items will be modified slightly. Pilot-testing will determine the acceptability of the new items.

Originally the MEPS was scored quantitatively in terms of the number of relevant, discrete steps towards achieving the stated outcome that were generated (scored as number of relevant means). Recent studies have adopted additional qualitative scoring procedures such as effectiveness of means, appropriate versus inappropriate means, and active versus passive means (Evans et al, 1992; Kehrer & Linehan, 1996) which have added to the discriminatory power of the MEPS. This study will also incorporate such criteria.

Aims and hypotheses:

The present study aims to add to the little understanding we have of psychological factors associated with parasuicide in older adults. It will adopt a paradigm previously employed with younger adults with a recent episode of parasuicide, and will test the MEPS which has been revised to increase its sensitivity to older adults. The study aims to answer the research question: Do older adults with a recent episode of parasuicide show evidence of deficits in interpersonal problem solving? Specific hypotheses are:

- (1) Compared to depressed patients and community controls, older adults with a recent episode of parasuicide will generate fewer relevant means of achieving the stated outcome to interpersonal problems.
- (2) Compared to depressed patients and community controls, older adults with a recent episode of parasuicide will generate less effective means of achieving the stated outcome to interpersonal problems.

Plan of investigation:***Participants-****Experimental group*

A consecutive series of older adults (ie aged 65 and over) with an episode of parasuicide in the past 14 days who are receiving care in medical receiving wards and psychiatric wards across Glasgow will be assessed for inclusion. Both males and females will be included. Patients will be assessed initially by a member of the Elderly Psychiatric Liaison Service and will be excluded if, in the Psychiatrist's opinion, they have a

diagnosis of dementia or other organic illness, psychosis, or alcohol or drug dependence, or if they are unable to give informed consent.

Control groups

(1) Older adults who are being treated by a Psychiatrist or Clinical Psychologist for depression. Individuals will not be recruited if they have had an episode of parasuicide within the past 3 months.

(2) Older adults attending community groups across Glasgow who are not in contact with psychiatric services. Individuals will not be recruited if they have had an episode of parasuicide within the past 3 months. Potential participants will be excluded if they obtain a score of 5 or more on the Geriatric Depression Scale – short form (Yesavage, 1988).

Any potential participant who scores 23 or less on the Mini-Mental State Exam (Dick et al, 1994) will be excluded. This will ensure that interpretation of any observed differences between groups will not be confounded by possible cognitive impairment. All participants will give their written, informed consent to participate.

It is proposed to recruit 54 participants, that is 18 per group. This would provide 80% power to detect at the 5% level for 2 tailed testing a statistically significant difference between groups on the main outcome measure (number of relevant means generated) using one-way ANOVA or Kruskal-Wallis statistical tests. Calculation of the sample size was based on the most relevant data from previous research. Evans et al (1992) estimated the mean number of relevant means to be 6.8 and 14.8 for younger adults with a recent episode of parasuicide and non-psychiatric controls respectively. As no standard deviations were available, they have been conservatively estimated by

the proposer as 5.0 and 8.0 for the respective groups.

Design-

The study will be cross-sectional in design and will involve a single interview with each participant. Interview data will be compared across groups.

Procedure-

The revised MEPS will be administered to four individuals from the community groups in the first instance to assess whether the modifications are acceptable. Thereafter, any suggested changes will be made and the study will commence.

For the parasuicide patients, the proposer will telephone the wards concerned on a regular basis (daily for medical receiving wards and twice weekly for psychiatric wards). The Psychiatrist or nursing staff will identify eligible patients and ask their permission for the proposer to visit them. The proposer will then approach the patient, provide him or her with an information sheet (appendix 3.1), and ask for written consent (appendix 3.2).

In-patients being treated for depression will be recruited via the above procedure. For out-patients being treated for depression, the Psychiatrist or Clinical Psychologist involved will provide the patients with an information sheet (appendix 3.1), consent form (appendix 3.3), and a stamped envelope addressed to the proposer in which they should return the consent form if they are willing to participate.

The community control group will be approached directly by the proposer who will visit the community group base, explain the study, provide an information sheet (appendix 3.4), and ask for volunteers who will then be required to provide written consent (appendix 3.5).

All potential participants will be given whatever time they need to decide whether or not to take part. Each participant will be interviewed on one occasion (lasting around one hour) by the proposer. The interview will take place in the hospital, health centre, community group base, or participant's home depending on the available options and the participant's preference. The content of the interview is not in itself likely to be in any way distressing. However the length of the interview may be taxing on the older adults. They will be offered regular breaks throughout the interview. If anyone wishes to continue on another day, this will be respected. It is possible that the interview may highlight that a participant in the community control group, that is someone who is not currently attending psychiatric services, should display pathological levels of distress. If such a situation arises, the participant will be encouraged to seek an appointment with his or her GP.

Measures-

During the interview the following measures will be administered in the order in which they are specified below:

Means End Problem Solving procedure - MEPS (Platt & Spivack, 1975), modified for use with older adults (appendix 4.3). This will be administered verbally to participants who will also have a written copy of the instructions and the scenarios in front of them. Participants will speak their answer into a tape recorder which will later be transcribed verbatim by the proposer. Responses will be scored independently (by Dr Kate Davidson) who will be blind to the group that the participant belongs to.

Geriatric Depression Scale – short form (Yesavage, 1988 – appendix 4.5). This test will be used to ensure similar levels of depression between the parasuicide and depressed groups, and to exclude any potential participant from the community control group who

appears to be depressed.

Mini Mental State Exam (Dick et al, 1984 – appendix 4.6). This test provides an estimate of cognitive deficits that may possibly compromise problem solving. Anyone scoring 23 or less out of 30 will be excluded because scores in this range have been consistently found among patients with dementia or delirium (Lezak, 1995).

Schonell Graded Word Reading Test (Schonell & Schonell, 1950 – appendix 4.7). This test will be used as an indicator of intelligence to ensure that groups do not differ on this variable which may potentially influence problem solving.

All measures will be presented in large type size so that visual problems will not compromise performance.

Demographic details will also be recorded. Information of interest will be:

- (i) Age
- (ii) Sex
- (iii) Previous occupation. For females who did not work, their husbands' occupation will be recorded (social class will be derived from occupation)
- (iv) Marital status
- (v) Living arrangements
- (vi) Estimated number of social contacts in an average week
- (vii) Psychiatric history
- (viii) Parasuicide history
- (ix) Physical health problems
- (x) For the parasuicide group only, method of parasuicide and level of suicidal intent will be recorded.

Only the proposer and supervisor will have access to the data. No names or identifiers will be kept on the database. A record of patients' names will be held separately from the main database in a locked filing cabinet.

Data Analysis-

One way ANOVA or Kruskal-Wallis will be applied depending on the distribution of the data.

Practical Applications:

Previous research has indicated that, prior to parasuicide, older adults are likely to visit a health care professional therefore suggesting that they may be seeking help. *The Health of the Nation* White Paper (Department of Health, 1992) recognises parasuicide and suicide as serious problems, for example it identifies an important target as reduction of the overall suicide rate by 15% by the year 2000. In order to reduce parasuicide in older adults, the problem must be better understood. Findings from the present study will inform understanding of psychological factors associated with parasuicide in older adults.

If, as hypothesised, there are deficits in interpersonal problem solving associated with parasuicide in older adults, then recommendations will be made that future clinical practice should explicitly include problem solving training as part of the intervention. Problem solving training with younger adults following a parasuicide episode has been shown to reduce the number of subsequent parasuicide episodes (MacLeod et al, 1992; Salkovskis et al, 1990).

Ethical Approval and Timescales:

Ethical approval was sought and obtained from the following four ethics committees (appendix 3.6):

- (1) Greater Glasgow Primary Care NHS Trust - September, 1999.
- (2) West Glasgow Hospitals (part of the North Glasgow University Hospitals NHS Trust) – April , 2000.
- (3) South Glasgow University Hospitals NHS Trust – May, 2000.
- (4) Stobhill NHS Trust (part of the North Glasgow University Hospitals NHS Trust) – June, 2000.

Data collection for the control group and patients who came under the auspices of Greater Glasgow Primary Care NHS Trust began in October 1999. Thereafter patients from the other hospitals were recruited as soon as approval was obtained from the relevant ethics committee. Data collection was complete by the end of June 2000.

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CHAPTER 4. MAJOR RESEARCH PAPER

Parasuicide in older adults: relationship to interpersonal problem-solving

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ABSTRACT

Objectives: To test the hypothesis that interpersonal problem solving performance in older adults with a recent episode of parasuicide is poorer than that of depressed patients and community controls.

Design: A cross-sectional design was used to assess differences between older parasuicide patients, depressed patients, and community controls in interpersonal problem solving performance.

Method: An existing outcome measure of interpersonal problem solving, the Means End Problem Solving (MEPS) procedure, was modified in order to make it more suitable for older adults. It was then administered to 18 older adults who had engaged in parasuicide in the previous 14 days, 18 older adults who were being treated for clinical depression, and 22 older adults attending community groups. Comparisons between the groups in terms of performance on the MEPS were made.

Results: There were no observed differences between parasuicide and depressed patients on any of the MEPS outcome variables although these two groups obtained significantly lower relevancy and effectiveness scores than the community control group. When Geriatric Depression Scale scores were controlled for, the parasuicide group still had significantly lower relevancy scores than the control group.

Conclusions: Parasuicide in older adults is related to a deficit in interpersonal problem solving performance that cannot be completely explained in terms of depression. Further investigation of interpersonal problem solving in relation to parasuicide and depression in older adults is required, perhaps using process measures of interpersonal problem solving to clarify the nature of the difficulties. Finally, the modified MEPS is acceptable to older adults and can be easily administered.

INTRODUCTION

Suicide rates are higher in adults aged 65 years and over than they are in any other age group (Nowers, 1993) with 85% of older adults dying following their first attempt at deliberate self-harm (Duckworth & McBride, 1996). Parasuicide is defined as any non-fatal, serious deliberate self-harm with or without suicide intent (Williams, 1997) and parasuicide rates are lower in older adults (46/100,000 per year) than they are in younger people (Hawton & Fagg, 1990; Pierce, 1987). Reported female to male ratios for parasuicide in older adults range from 1:1 to 2:1 (Hepple & Quinton, 1997; Draper, 1994; Hawton & Fagg, 1990; Pierce, 1987). Levels of suicide intent are high for the majority although a minority report little or no intent (Draper, 1994; Merrill & Owens, 1990; Upadhyaya et al, 1989). The costs of parasuicide in older adults are high and include: increased risk of repeated parasuicide (Hepple & Quinton, 1997; Zweig & Hinrichsen, 1993); increased risk of future suicide (Nowers, 1993); referral to psychiatric services (Hawton & Fagg, 1990; Hepple & Quinton, 1997; Pierce, 1987); need for longer term medical care and increased mortality from natural causes in the subsequent year (Nieto et al, 1992). In spite of such high costs and the evidence that these patients engage in help-seeking behaviour prior to the parasuicide (Caine et al, 1996; Dennis & Lindsay, 1995; Cattell & Jolley, 1995; Lindsay, 1991; Frierson, 1991), research with older adults has largely been limited to the study of demographic variables and psychiatric symptoms. Psychological factors have received less attention, although psychological variables that have been associated with parasuicide in older adults include hopelessness and a lack of positive future-directed thinking (see Conaghan, 1999 for a review).

It is now well recognised that over half of older parasuicide patients and people who commit suicide are socially isolated (Draper, 1994; Merrill & Owens, 1990;

Nowers, 1993). Fifty percent suffer from serious physical health problems (Hepple & Quinton, 1997; Frierson, 1991; Merrill & Owens, 1990), and over 70% are depressed (Upadhyaya et al, 1992; Lyness et al, 1992; Nieto et al, 1992). However the high prevalence of these variables among the over 65 age group means that their role in explaining suicidal behaviour is limited. Many older parasuicide patients have reported that interpersonal problems such as friction with spouse, family and friends preceded the parasuicide (Hepple & Quinton, 1997; Draper, 1994) suggesting that disturbed interpersonal relationships may be a vulnerability factor (Hawton & Fagg, 1990). However this has not been investigated further in this population.

Related research with younger parasuicide patients suggests that it is not the presence of problems per se that results in suicidal behaviour, but rather it is deficits in interpersonal problem solving skills that are related to parasuicide. Compared to psychiatric controls and non-clinical populations, younger parasuicide patients rate themselves to be poor problem solvers and they consistently generate fewer relevant means and less effective means of achieving given solutions to interpersonal problems (see Howat, 2000 for a review). Patients who go on to repeat parasuicide generate less effective and more passive means than those who harm themselves once (Scott et al, 1997). In younger parasuicide patients with borderline personality disorder generation of inappropriate means of achieving the solution has been shown to predict subsequent parasuicide (Kehrer & Linehan, 1996). Training in problem solving skills results in patients reporting reduced hopelessness and feeling more able to cope with ongoing problems. The subsequent parasuicide and suicide rates are significantly reduced (Williams & Pollock, 1993; MacLeod et al, 1992; Salkovskis et al, 1990).

Studies investigating interpersonal problem solving in younger adults have used two types of measures. Process measures assess patients' ratings of their attitudes and

their perceived approaches to different stages in the problem solving process, and outcome measures assess problem solving performance. Given that this is the first study of its kind in older adults it was decided to use an outcome measure in order to assess for the presence of any deficits in problem solving skills. Due to the high prevalence of depression in this population it is possible that, because of negative thinking characteristic of depression, people would report themselves to be poorer problem solvers than they are in reality if a process measure was used. However, it is also true that depression is likely to impact on problem solving performance (Goddard et al, 1996; Marx et al, 1992; Fry, 1989) and so it must be controlled for. The most consistently used outcome measure of interpersonal problem solving in younger parasuicide patients is the Means End Problem Solving (MEPS) procedure (Platt & Spivack, 1975). This is a measure of “means end thinking” which provides the respondent with 10 scenarios faced by a protagonist, each describing an interpersonal problem at the beginning and a stated outcome at the end. The respondent is instructed to provide the middle portion of the story, explaining the steps (or means) taken by the protagonist to achieve this outcome. However the MEPS has never been validated for use with older adults and it has several limitations. Firstly, respondents are instructed to “make up a story” which may potentially introduce a lack of realism and cause an atypical problem solving set to be adopted (House & Scott, 1996; D’Zurilla & Maydeu Olivares, 1995). Secondly, respondents are instructed to identify with a protagonist which possibly reduces the personal relevance and therefore the ecological validity of the measure (D’Zurilla & Maydeu Olivares, 1995). Thirdly, three scenarios have antisocial problem solving goals, again perhaps reducing the personal relevance. Finally a further three scenarios refer to dating and work which are likely to be of no or

little relevance to older adults while other issues such as physical health problems and social isolation which are of greater relevance to this group are not included.

This study aims to assess interpersonal problem solving in older adults with a recent episode of parasuicide. It is hypothesised that, compared to depressed patients and community controls, parasuicide patients will generate fewer relevant means and less effective means of achieving the stated outcome of interpersonal problems. In order to test this hypothesis the study will use a modified version of the MEPS which has been revised to take into account the limitations described above.

METHOD

Pilot study

The Means End Problem Solving (MEPS) procedure (appendix 4.2) was modified to take account of the limitations that have already been discussed (appendix 4.3). Instead of asking participants to “make up a story” the instructions indicate that participants should “find the ideal strategy” for overcoming the problem situation, thereby replicating Marx et al’s (1992) instructions. Rather than providing problem scenarios faced by a protagonist, participants were asked to place themselves in the situation (eg “John noticed that his friends seemed to be avoiding him” became “You noticed that your friends seemed to be avoiding you”). In order to ensure the problem scenarios did not contain antisocial goals and were relevant for older adults, items 1, 3, 4 and 8 were unchanged, item 2 was modified (girlfriend was replaced by daughter), item 9 was modified (the outcome was changed from revenge to gaining an apology), and item 10 was modified (problems at work were replaced with problems with a neighbour). Items 5 (murder), 6 (dating), and 7 (stealing) were completely omitted and

replaced by new items pertaining to social isolation, unexpected bills, and physical health problems respectively.

The modified MEPS, along with the other measures intended for use in the main study, was administered to four members of a local community group for older adults in order to assess whether the revisions were acceptable. These individuals suggested that no further changes needed to be made and so their data were included along with that from the community control group participating in the main study.

Main study

Participants

A consecutive series of patients receiving treatment in medical and psychiatric wards in Glasgow following parasuicide was assessed for inclusion in the study. Patients had to be aged 65 years or over and the parasuicide had to be in the past 14 days. Potential participants were interviewed initially by a member of the Elderly Psychiatric Liaison service and were excluded if, in the Psychiatrist's opinion, they had a diagnosis within the organic, alcohol or drug dependence, or psychotic groups, or if they were unable to give consent to participate. Thirty-four patients were assessed for inclusion in the study. Sixteen of those patients were excluded: 1 had dementia; 2 were alcohol dependent; 2 were psychotic; 3 were too physically unwell to participate; 5 refused to participate (4 because they did not want to refer to the parasuicide and 1 because she was embarrassed by her mild deafness); and 3 agreed to participate but withdrew soon into the study because they found it too difficult to concentrate. Eighteen parasuicide patients were therefore included in the study.

For the depressed and control groups, individuals with an episode of parasuicide in the past three months were not recruited. A depressed control group

consisted of consecutive referrals from Psychiatrists and Clinical Psychologists working within Glasgow's Elderly Mental Health Services. Twenty-one patients were assessed for inclusion but 3 patients refused to participate because they considered themselves to be too unwell. The eighteen patients who did participate comprised 7 in-patients and 11 out-patients. A community control group of 22 individuals (including the four from the pilot study) was recruited from older adults who attended community groups across Glasgow. These people were not in contact with mental health services and volunteered their participation upon hearing of the study. Potential participants in this group were excluded if they scored 5 or more on the Geriatric Depression Scale – short form (Yesavage, 1988).

In addition, any potential participants were excluded if they obtained a score of 23 or less on the Mini Mental State Examination (Dick et al, 1984) which is indicative of cognitive impairment. This ensured that interpretation of any observed between group differences on the MEPS would not be confounded by possible cognitive impairment. All participants gave their written, informed consent to take part in the study.

A power calculation was conducted using previously reported mean scores for parasuicide and non-psychiatric controls on the MEPS (Evans et al, 1992). It was estimated that to achieve 80% power to detect a statistically significant result at the 5% level of significance for two tailed testing, the smallest sample size required would be 18 participants in each of the three groups.

Design

The study was cross-sectional in design. It involved a single interview with each participant, with interview data compared across groups.

Procedure

At assessment the following clinical and demographic data were recorded (appendix 4.4): age; sex; marital status; living arrangements; previous occupation which was later converted to social class (Office of Population Censuses and Surveys - HMSO, 1995); number of social contacts; information regarding physical health problems; psychiatric history; and history of parasuicide. The parasuicide group was asked about precipitants to the parasuicide and level of suicide intent (rated strong/moderate/none). Each participant was asked to complete the following measures which were administered by the author in the order stated below. The administration of the measures took approximately 45 minutes including debriefing.

Measures

Means End Problem Solving (MEPS) procedure (Platt & Spivack, 1975) modified for use with older adults for the purposes of the present study as described above.¹ The MEPS was administered in verbal format to every participant. All participants also had the instructions and items in large lettering placed in front of them. Participants spoke their responses aloud into a tape recorder and the tape was later transcribed. Responses were scored according to:

- (i) relevancy (Platt & Spivack, 1975) i.e. number of relevant means compared to other story directed responses (calculated by dividing number of relevant means by number of relevant means plus number of irrelevant means plus number of no means).
- (ii) quotient of appropriate means (Kehrer & Linehan, 1996) i.e. adaptive means (calculated by dividing number of appropriate relevant means by number of

¹ For detailed analysis of the modified MEPS see appendix 4.8. This data will form the basis of a later paper.

- appropriate relevant means plus number of inappropriate relevant means plus number of irrelevant means).
- (iii) quotient of inappropriate relevant means (Kehrer & Linehan, 1996) i.e. maladaptive means such as violence or suicidal behaviour (calculated by dividing number of inappropriate relevant means by number of appropriate relevant means plus number of inappropriate relevant means plus number of irrelevant means).
 - (iv) quotient of active means (Linehan et al, 1987) i.e. means where the participant describes initiating the behaviour (calculated by dividing number of active relevant means by number of active relevant means plus number of passive relevant means plus number of irrelevant means).
 - (v) quotient of passive means (Linehan et al, 1987) i.e. means where the participant describes relying on the actions of others (calculated by dividing number of passive relevant means by number of active relevant means plus number of passive relevant means plus number of irrelevant means).
 - (vi) effectiveness of relevant means. Each item for which relevant means were generated was scored 0 (not effective), 1 (effective), or 2 (very effective) as suggested by Evans et al (1992). The scores were summed, multiplied by ten (the total number of items) and then divided by the number of items for which the respondent provided relevant means. This scoring method allows for fair comparison among individuals who provided relevant means for different numbers of items.
 - (vii) obstacles that were mentioned as having to be surmounted in order to attain the desired outcome (calculated by summing the number of obstacles

mentioned, multiplying by ten and then dividing by the number of items for which the respondent provided relevant means).

- (viii) time spent responding. The time, in seconds, from the start of the first word of each response to the end of each response was recorded.

Relevancy and effectiveness are the main outcome variables that have been used in previous studies so any analyses, other than those addressing between group differences, will focus on these variables only.

The author scored all the questionnaire measures and a second, independent rater scored the number of relevant means per item on the modified MEPS for a randomly selected sample of 3 participants per group. The independent rater was blind with regard to the group membership of these participants. Inter-rater reliability was high ($r_s = 0.919$, 1 tailed) indicating that rating of relevant means was reliable. Where there was discrepancy, the raters reached an agreement on which score to use. Thereafter all questionnaires were scored by the author with random checks made blindly by the second rater.

Geriatric Depression Scale (GDS) short form (Yesavage, 1988, appendix 4.5). The GDS was originally designed as a screening instrument for depression specifically in older adults (Yesavage et al, 1983). The short form has also been validated (Herrmann et al, 1995) and comprises 15 items with a yes/no response format. A score of 5 or more indicates probable depression.

Mini Mental State Exam (MMSE), Dick et al, 1984, appendix 4.6). The MMSE was designed to provide a brief screening assessment of cognitive performance in a US psychogeriatric population (Folstein, Folstein & McHugh, 1975). It has subsequently

been revised for use with a UK sample (Dick et al, 1984). It is recommended that a cut-off score of 23 or less out of 30 should be considered to be indicative of cognitive impairment (Tombaugh & McIntyre, 1992) because patients with dementia or delirium consistently score within this range (Lezak, 1995).

Schonell Graded Word Reading Test (Schonell & Schonell, 1950, appendix 4.7). This test was used in order to provide a crude measure of intelligence. It has been argued that scoring on the MEPS is not related to intelligence however, due to limited work in this area with older adults, it was decided to be cautious and ensure comparable levels of intelligence across the groups. The raw score on the Schonell was converted to a WAIS IQ score based on a formula that has been validated in a sample of older adults (Ruddle & Bradshaw, 1982).

RESULTS

All data were analysed using the statistical package SPSS for windows, version 9.0 for the PC. Kolmogorov-Smirnov and Levene's tests were applied to the data to assess normality of distribution and equality of variances respectively.

Characteristics of the parasuicide sample (n=18)

The parasuicide group was interviewed at a median of 3 days (range 1-14) following the parasuicide. 10 patients (56%) were male. Half the sample (n=9) reported strong suicide intent and 4 participants said that they had no suicide intent. The most common method of parasuicide was overdose (n=12). Three people cut their wrists and a further 3 people used more violent methods (drowning, carbon monoxide

poisoning, jumping). The main reasons given for the parasuicide could be categorised as: overwhelmed by physical problems (n=5); bereavement following death of spouse (n=5); interpersonal conflict (n=5); and depression / hopelessness (n=3). Fifteen patients (83%) had a diagnosis of depression. No-one had received any other psychiatric diagnosis. Nine patients (50%) reported at least one previous parasuicide episode. 12 patients (67%) were referred to psychiatric inpatient services following medical treatment for the parasuicide and a further three patients (17%) were referred to psychiatric outpatient services.

Demographic and clinical variables for parasuicide, depressed, and control groups

Demographic and clinical details for all groups are provided in table 1. The parasuicide group was significantly younger than the control group. The control group had fewer individuals in a marital relationship than the parasuicide and depressed groups but had significantly more social contacts than the other groups. This latter finding is likely to be explained by the methodology used because control subjects were recruited from community groups and therefore counted the other group members among their social contacts. More individuals in the parasuicide group than in the other groups had at least one previous parasuicide episode. Fewer individuals in the control group than in the other groups had previous contact with psychiatric services. The groups were comparable in terms of male:female ratio, living arrangements, social class, number of serious physical health problems, and pain. There were no between group differences on the Mini Mental State Exam or estimated WAIS IQ. The control group had significantly lower GDS scores than the parasuicide and depressed groups and there was no difference between the latter two groups on this measure.

[Insert table 1 here]

Means End Problem Solving procedure – between group differences

Where MEPS outcome variables were normally distributed with equal variances, between group differences were measured by one-way ANOVA and post hoc analysis with Tukey's Honestly Significant Difference (HSD) Test. Where outcome variables were not normally distributed and equality of variances could not be assumed, Kruskal-Wallis tests were used instead. Statistical values are reported in table 2.

The control group had a significantly higher relevancy score, and generated significantly more effective relevant means than both the parasuicide and depressed groups. The latter two groups did not differ on these variables. The control group also had significantly higher quotients of active and appropriate relevant means than the parasuicide group but did not differ from the depressed group. The parasuicide group did not differ from the depressed group on these variables. There were no significant between group effects for quotient of passive means, quotient of inappropriate means, and number of obstacles mentioned. The control group spent significantly longer on their responses than the other groups and the depressed and parasuicide groups did not differ significantly. For the sample as a whole, time spent on each item was significantly correlated both with relevancy ($r=0.290$, $p=0.027$) and with effectiveness ($r=0.284$, $p=0.031$).

[Insert table 2 here]

Effects of GDS scores on MEPS variables

The findings reported above indicate that there are no significant differences on any of the MEPS outcome variables between parasuicide and depressed patients. Using data from the sample as a whole ($n=58$), there was a significant negative correlation

between GDS score and relevancy ($r=-0.457$, $p<0.001$). An ANCOVA was conducted to control for the confounding effect of GDS scores on both relevancy scores and effectiveness scores. When GDS score was controlled for there was still a main between group effect for relevancy scores [$F(2,54)=4.875$, $p=0.011$]. Post hoc analysis with the Bonferroni t test indicated that the control group had significantly higher relevancy scores than the parasuicide group ($p=0.012$). There were no differences between the depressed and control groups or between the depressed and parasuicide groups. There were no longer between group differences on effectiveness scores once GDS scores were controlled for [$F(2,54)=0.280$, n.s.].

Effects of characteristics of the parasuicide on MEPS variables

For the parasuicide group alone, one-way ANOVA indicated that there was an overall effect of level of suicide intent on relevancy [mean relevancy score (sd): strong intent 0.541 (0.136), moderate intent 0.748 (0.150), no intent 0.824 (0.077); $F(2,15)=8.050$, $p=0.004$]. Tukey's HSD showed that those reporting strong suicide intent had significantly lower relevancy scores than both those reporting moderate ($p=0.031$) and those reporting no suicide intent ($p=0.007$). There were no significant differences between patients who reported moderate suicide intent and those who reported no suicide intent. There was no overall effect of level of suicide intent on effectiveness [mean effectiveness score (sd): strong intent 13.524 (3.060), moderate intent 15.924 (2.451), no intent 14.464 (1.732); $F(2,15)=1.288$, n.s.]. Number of days since parasuicide was not significantly correlated with relevancy score ($r_s=0.040$) or with effectiveness score ($r_s=-0.226$).

DISCUSSION

In the present study parasuicide patients were poorer at generating relevant and effective means of reaching given outcomes to interpersonal problems than community controls, but were no different to the depressed patients. However when the effect of GDS score was controlled for the parasuicide group still had a lower relevancy score than community controls. This finding suggests that over and above deficits related to the effects of depression, parasuicide patients have a deficit in the identification of relevant, specific steps that would be instrumental in reaching the desired outcomes of interpersonal problems, thereby supporting the hypothesis stated at the outset. In contrast, when the effect of GDS score was controlled for, the parasuicide group no longer had lower effectiveness scores than the community controls suggesting that it is depression that hampers the identification of effective steps to reaching the desired solution.

Parasuicide patients had lower quotients of active and appropriate means than the control group but did not differ from the control group in terms of quotients of passive and inappropriate means. This suggests that the critical difficulty for the parasuicide group may be a deficit in identifying and/or implementing appropriate, active steps rather than an excessive tendency to rely on other people or to resort to inappropriate means.

This study has shown that, as with their younger counterparts, older parasuicide patients seem to have specific deficits in interpersonal problem solving skills. The results indicate that depression seems to play an important role in problem solving deficits, thereby highlighting the importance of controlling for depression in studies of this nature. Studies with younger adults have tended to use generic groups of psychiatric patients as controls. No study has used a control group consisting entirely

of depressed patients, or even controlled for the effect of self-reported depressive symptoms on MEPS outcome variables. It may be that depression is less prevalent as a primary psychiatric diagnosis in younger parasuicide patients than in older parasuicide patients (Merrill & Owens, 1990). However research with younger adults has often targeted patients who were admitted to a psychiatric ward following parasuicide and, in a group of psychiatric patients with mixed primary diagnoses, it is possible that some patients may have a co-morbid depressive illness.

Overall, number of days since parasuicide was not associated with MEPS scores suggesting that the 14-day window was an appropriate timeframe to use (although the median number of days since parasuicide was 3). In this sample higher level of suicide intent was associated with lower relevancy scores even although it is recognised that reported levels of suicide intent decrease within 48 hours of parasuicide (Nowers, 1993). Time spent on responses to problem solving scenarios correlated with relevancy scores and effectiveness scores, and the control group spent significantly longer on their responses than did the other two groups. It is impossible to say whether the parasuicide and depressed groups performed more poorly simply because they gave up too quickly, or if their responses were necessarily short because they were unable to elaborate further due to poor problem solving skills. Whatever the reason they do seem to have difficulties that need to be addressed.

This parasuicide group seems to be akin to those samples described in previous literature in terms of sociodemographic characteristics (especially social isolation and physical health problems) but there were no between group differences on any of these characteristics and so their role in explaining parasuicide is limited. An important consideration is that 16 out of the 34 parasuicide patients who were assessed either did not meet the inclusion criteria, were too physically unwell to participate, or refused to

do so. This highlights the difficulties in recruiting able and willing older parasuicide patients and raises the question of whether the present findings can be generalised to the wider population of older parasuicide patients.

Individuals from all three groups who did participate tended to engage well and, once started, there were no difficulties. They generally reported that the MEPS was an acceptable instrument and that the modifications, including 2nd person instructions and revised problem solving scenarios, were acceptable. Several people volunteered that they found the exercise enjoyable and no-one said that it was an aversive experience.

Limitations of the study

The 16 parasuicide patients who were not included were not followed up in any way by the author due to practical difficulties. It would have been helpful to have had further information regarding sociodemographic status and the characteristics of the parasuicide in order to assess any similarities to or differences from the study group.

It is acknowledged that soon after the parasuicide, individuals may possibly be experiencing adverse cognitive effects related to the method used and that these cognitive effects may potentially impact on interpersonal problem solving performance. However it is impossible to assess individuals immediately prior to the parasuicide. The effect of method of parasuicide on problem solving performance could not be statistically evaluated because there was only one person per category of method in several instances.

Problem solving performance was measured by a modified version of the MEPS and, although the modifications seemed to be acceptable to the individuals in the study, further validation of the measure is required and will be the subject of a later

paper. The MEPS measures performance on “means end thinking” tasks, i.e. it assesses the identification of relevant, specific steps that are instrumental in achieving a stated outcome. This is only one of the skills required for successful problem solving, and so it would be premature at this stage to say that older adults with a recent episode of parasuicide and older adults who are depressed are generally deficient in interpersonal problem solving skills. The results of this study only suggest that older parasuicide patients perform poorly on tasks assessing means end thinking. As yet it cannot be concluded if they have deficits in other skills (such as identifying a problem, defining the problem, identifying alternative strategies for overcoming the problem, and choosing and evaluating one strategy) that are part of the problem solving process (D’Zurilla & Goldfried, 1971).

Clinical Implications

The results indicate that older parasuicide patients have difficulty in generating steps needed to reach a given interpersonal goal, thereby replicating findings from studies with younger adults. Given that older parasuicide patients seem to have particular difficulty in generating appropriate and active means, a deficit model of interpersonal problem solving difficulties is indicated. It is possible that, as has been shown with younger adults, problem solving skills which may be protective in terms of future parasuicide can be taught. Problem solving training has already been found to be acceptable to depressed older adults and effective in increasing problem solving skills and reducing the severity of depression (Arean et al, 1993). Of the parasuicide group included in the present study 83% were referred on to psychiatric services and no-one was referred directly to clinical psychology services. The patients were not followed up so it is possible that some may attend a Clinical Psychologist at a later date. The

results of this study provide preliminary evidence that there may be a role for clinical psychology involvement to address the observed deficits in means end thinking by teaching interpersonal problem solving skills.

Recommendations for future research

Future research is required to replicate and supplement the results found in the present study by perhaps using a process measure of problem solving to further clarify the nature of the difficulties experienced by older individuals with a recent episode of parasuicide. Given the close link between depression and performance on the MEPS it is recommended that depression be controlled for. Later research could measure the relationship of problem solving to other psychological variables, such as hopelessness and lack of positive future-directed thinking, that have been associated with parasuicide in older adults in order to build a psychological model of parasuicide in this age group.

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Table 1. Demographic and clinical variables by group

VARIABLE	GROUP			DIFFERENCES	
	PARASUICIDE (n=18)	DEPRESSED (n=18)	CONTROL (n=22)	STATISTIC	SIGNIFICANCE
Mean age (sd)	71.67 years (6.54)	75.00 years (4.27)	77.27 years (6.56)	F(2,55)=4.416	p=0.017 ^a
Male: Female ratio	10:8	7:11	7:15	$\chi^2 = 2.37$	n.s.
Living arrangements					
- alone	11	11	13	$\chi^2 = 2.483^{\alpha}$	n.s.
- with spouse	5	5	3		
- with children	0	0	4		
- with spouse and children	1	1	0		
- nursing home	1	1	2		
Marital status					
- married	6	7	4	$\chi^2 = 9.931^{\beta}$	p=0.002
- widowed	6	10	15		
- separated / divorced	4	1	1		
- single	2	0	2		
Social class					
- 1	1	0	0	$\chi^2 = 9.490^{\gamma}$	n.s.
- 2	2	3	2		
- 3	6	11	15		
- 4	5	3	3		
- 5	4	1	2		
Mean number of social contacts per week (sd)	9.28 (6.89)	9.17 (7.16)	19.50 (10.35)	F(2,55)=10.10	p<0.001 ^b

^apost hoc analysis with Tukey's Honestly Significant Difference Test (HSD) revealed parasuicide group was significantly younger than the control group (p=0.012)

^bpost hoc analysis with Tukey's HSD revealed control group had significantly more social contacts than both the parasuicide group (p=0.001) and the depressed group (p=0.001)

^cfor the purposes of the χ^2 test, living arrangements were collapsed into two categories – (living alone) and (living with spouse/children/spouse+children/nursing home)

^dfor the purposes of the χ^2 test, marital status was collapsed into two categories – (married) and (widowed/separated/divorced/single)

^efor the purposes of the χ^2 test, social class was collapsed into three categories – (1 and 2) and (3) and (4 and 5)

Table 1. Demographic and clinical variables by group....continued

VARIABLE	GROUP			DIFFERENCES	
	PARASUICIDE (n=18)	DEPRESSED (n=18)	CONTROL (n=22)	STATISTIC	SIGNIFICANCE
Mean number of serious physical health problems (sd)	1.17 (1.20)	1.17 (1.10)	1.59 (1.33)	F(2,55)=0.821	n.s.
Pain due to physical health problems					
- yes	9	9	13	$\chi^2 = 0.454$	n.s.
- no	9	9	9		
Number of previous parasuicide episodes					
- 0	9	15	19		
- 1	6	3	3	$\chi^2 = 13.517^{\delta}$	p<0.001
- 2	1	0	0		
- 5	1	0	0		
- several (patient unsure of number, but >5)	1	0	0		
Previous contact with psychiatric services					
- none	8	8	19		
- depression	9	8	2	$\chi^2 = 10.010^{\epsilon}$	p=0.008
- panic attacks	1	1	0		
- patient unsure of diagnosis	0	1	1		
Mean GDS score (sd)	8.94 (3.64)	9.67 (2.77)	2.31 (1.36)	F(2,55)=46.894	P<0.001 ^c
Mean MMSE score (sd)	26.94 (1.95)	27.44 (1.42)	26.86 (1.88)	F(2,55)=0.592	n.s.
Mean WAIS IQ score as predicted from score on Schonell GWRT (sd)	106.89 (6.64)	105.39 (9.56)	104.77 (8.33)	F(2,55)=0.335	n.s.

^apost hoc analysis with Tukey's HSD revealed control group had significantly lower GDS score than both the parasuicide group (p<0.001) and depressed group (p<0.001)

^bfor the purposes of the χ^2 test, number of previous parasuicide episodes was collapsed into two categories – 0 and (1/2/5/several)

^cfor the purposes of the χ^2 test, previous contact with psychiatric services was collapsed into two categories – (none) and (depression/panic attacks/unsure of diagnosis)

Table 2. MEPS outcome variables by group

VARIABLE	GROUP			DIFFERENCES	
	PARASUICIDE (n=18)	DEPRESSED (n=18)	CONTROL (n=22)	STATISTIC	SIGNIFICANCE
	Mean (sd)	Mean (sd)	Mean (sd)		
Relevancy score	0.66 (0.18)	0.75 (0.21)	0.92 (0.08)	F(2,55) = 13.289	p<0.001 ^a
Effectiveness of relevant means	14.40 (2.73)	14.75 (2.84)	17.05 (2.28)	F(2,55) = 6.273	p=0.004 ^b
Quotient of active means	0.67 (0.19)	0.78 (0.13)	0.80 (0.12)	F(2,55) = 4.155	p=0.021 ^c
Quotient of passive means	0.16 (0.13)	0.08 (0.07)	0.15 (0.10)	F(2,55) = 2.768	n.s.
Quotient of appropriate means	0.82 (0.13)	0.86 (0.14)	0.93 (0.07)	F(2,55) = 4.962	p=0.010 ^d
Quotient of inappropriate means	0.005 (0.02)	0.007 (0.03)	0.016 (0.02)	Kruskal-Wallis $\chi^2=4.631$	n.s.
Obstacles to be surmounted	1.78 (2.83)	2.18 (2.82)	1.35 (1.85)	Kruskal-Wallis $\chi^2=0.738$	n.s.
Total time (in seconds) spent on responses	310.00 (138.49)	322.61 (208.76)	607.86 (371.00)	F(2,55)=7.298	p=0.002 ^e

^apost hoc analysis with Tukey's HSD reveals that the control group had a significantly higher relevancy score than both the parasuicide group (p<0.001) and the depressed group (p=0.004)

^bpost hoc analysis with Tukey's HSD reveals that the control group generated significantly more effective relevant means than both the parasuicide group (p=0.006) and the depressed group (p=0.020)

^cpost hoc analysis with Tukey's HSD reveals that the control group had a significantly higher quotient of active relevant means than the parasuicide group (p=0.023)

^dpost hoc analysis with Tukey's HSD reveals that the control group had a significantly higher quotient of appropriate relevant means than the parasuicide group (p=0.009)

^epost hoc analysis with Tukey's HSD reveals that the control group spent significantly longer on their responses than both the parasuicide group (p=0.004) and the depressed group (p=0.007).

CHAPTER 5. CLINICAL CASE RESEARCH STUDY ABSTRACT

**Experimental manipulation of auditory hallucinations
in a patient with
chronic major depressive disorder
with mood-congruent psychotic features**

Susie Howat

*Department of Psychological Medicine,
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**Experimental manipulation of auditory hallucinations
in a patient with
chronic major depressive disorder
with mood-congruent psychotic features**

Abstract

Based on theoretical understanding of hallucinations and obsessional thoughts, an audio-tape technique was devised and used in the experimental manipulation of voices in a 33 year old female with a six year history of chronic major depressive disorder with mood-congruent psychotic features. Her voices had been largely resistant to medication.

As part of a focusing technique approach to intervention, the patient recorded herself speaking the content of her voices on to a loop audiotape. Using an ABABA experimental design it was evident that during periods of exposure to the tape the loudness and intensity of her voices and the associated distress were reduced compared to control periods. This suggests that focusing on the content of the voices is more beneficial than distraction for reducing the severity and the impact of the voices.

132 words

Keywords: auditory hallucinations, depression, focusing, exposure

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APPENDIX 1. Small Scale Service Evaluation Project

Clinical Psychology Forum

Clinical Psychology Forum is produced by the Division of Clinical Psychology of The British Psychological Society. It is edited by Steve Baldwin, Lorraine Bell, Jonathan Calder, Lesley Cohen, Simon Gelsthorpe, Laura Golding, Helen Jones, Craig Newnes, Mark Rapley and Arlene Vetere, and circulated to all members of the Division monthly. It is designed to serve as a discussion forum for any issues of relevance to clinical psychologists. The editorial collective welcomes brief articles, reports of events, correspondence, book reviews and announcements.

Notes for contributors

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Language: contributors are asked to use language which is psychologically descriptive rather than medical and to avoid using devaluing terminology; i.e. avoid clustering terminology like "the elderly" or medical jargon like "person with schizophrenia". If you find yourself using quotation marks around words of dubious meaning, please use a different word.

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THE RESEARCH INVOLVEMENT OF PSYCHOLOGISTS SCALE

This survey looks at clinical psychologists' involvement in a variety of research activities, their attitudes towards research and the nature of their working day. It is being distributed to all psychologists within Greater Glasgow Community and Mental Health Services NHS Trust and is entirely anonymous. Your time in completing it is highly valued.

Section A: Attitudes Towards Research

For each of the following statements please circle the response which you feel is most applicable

1. I regularly think about areas of psychological theory / practice that I would like to research.

Strongly Agree **Agree** **Neither Agree nor Disagree** **Disagree** **Strongly Disagree**

2. I rarely get time to put my research ideas into practice.

Strongly Agree **Agree** **Neither Agree nor Disagree** **Disagree** **Strongly Disagree**

3. In terms of being informed by research evidence, my clinical practice is

Strongly Informed **Somewhat Informed** **Neither Informed nor Uninformed** **Somewhat Uninformed** **Strongly Uninformed**

4. Even if I had the time I don't feel I have the skills to carry out research.

Strongly Agree **Agree** **Neither Agree nor Disagree** **Disagree** **Strongly Disagree**

5. Pressure to spend time in clinical contact prevents me from doing research

Strongly Agree **Agree** **Neither Agree nor Disagree** **Disagree** **Strongly Disagree**

6. Research findings are of relevance to clinical psychology practice

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
-----------------------	--------------	-----------------------------------	-----------------	--------------------------

7. Research is not the domain of clinical psychologists.

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
-----------------------	--------------	-----------------------------------	-----------------	--------------------------

8. In my post, I feel that research is

Strongly Encouraged	Somewhat Encouraged	Neither Encouraged nor Discouraged	Somewhat Discouraged	Strongly Discouraged
----------------------------	----------------------------	---	-----------------------------	-----------------------------

9. Clinical psychologists should have regular "agreed" time in which to pursue research.

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
-----------------------	--------------	-----------------------------------	-----------------	--------------------------

10. I am not interested in doing research.

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
-----------------------	--------------	-----------------------------------	-----------------	--------------------------

11. At the moment, my involvement in research is

Far too much	Slightly too much	About right	Slightly too little	Far too little
---------------------	--------------------------	--------------------	----------------------------	-----------------------

Section B: Research Activities

For the following items please tick the most appropriate box to indicate when you were most recently **involved in each research activity** since qualifying as a clinical psychologist

	Currently involved	Involved in the last 12 months	Involved in the last 5 years	Involved since qualifying	Have never done this since qualifying
1. Clinical Outcome Studies					
2. Service Related Research					
2. Writing grant applications					
3. Performing literature searches					
4. Designing research studies, including questionnaire / survey design					
5. Data collection and / or data entry					
6. Data analysis					
7. Writing up statistical results					
8. Writing up qualitative research					
9. Managing ongoing research projects					
Please indicate how many -----					
10. Writing empirical papers.					
11. Writing conceptual / theoretical papers					
12. Submitting work for publication					
13. Having work published					

	Currently involved	Involved in the last 12 months	Involved in the last 5 years	Involved since qualifying	Have never done this since qualifying
14. Presenting at local events (dept meetings, research forums, interest groups)					
15. Presenting at national / international conferences, meetings etc.					
16. Attending (but not presenting at) local events					
17. Attending national / international events					
18. Reading empirical articles / books					
19. Discussing research articles / ideas with colleagues					
20. Using single case designs with empirical measures					
21. Using evidence based treatments					
22. Seeing patients as part of a research study					
23. Training others as part of a research study					
24. Supervising other people's research (Assistants, Trainees, Other Disciplines)					
25. Meta-analytical studies					
26. Writing Review Articles					

	Currently involved	Involved in the last 12 months	Involved in the last 5 years	Involved since qualifying	Have never done this since qualifying
27. Other research activities (please specify)					
a.)					
b.)					
c.)					
d.)					

28. Please list the last 3 journals (eg British Journal of Clinical Psychology, Clinical Psychology Forum) to which you have submitted

(i)

(ii)

(iii)

29. Please list the last 3 journals (eg British Journal of Clinical Psychology, Clinical Psychology Forum) in which you have published

(i)

(ii)

(iii)

30. Please indicate which, if any, research activities would you like to spend **more** time on

31. Please indicate which, if any, research activities would you like to spend **less** time on

Section C: About Your Career

In compiling the following questions care has been taken to ensure that individual psychologists can not be identified from their responses.

1. Please indicate the number of years you have been qualified

2. What type of post do you hold ?

100 % Clinical Split Clinical / Academic

3. Are you currently in receipt of any research grants / other funding ?

YES **NO**

4. What Grade are you ? **A Grade** **B Grade**

5. Please indicate the type of qualification(s) you hold:

D. Clin. Psy **Ph.D.** **Masters**

6. Are you currently registered for a further degree ?

NO **YES** **Please specify** _____

7. On average I spend _____ hours per week involved in management duties.

8. On average I spend _____ hours per week in clinical supervision of other staff.

9. On average I offer _____ hours of clinical contact per week.

10. On average I spend _____ hours per week involved in research.

11. I would describe my favoured theoretical orientation as:

**Cognitive -
Behavioural**

Cognitive

Behavioural

**Psycho-
dynamic**

Eclectic

Other

12. If you have opinions about research that you have not been able to express through our questions, please use this space to inform us.

Appendix 1.3

Responses to the items in the RIPS attitude scale that were retained to ensure sufficient internal consistency of the scale :descriptive statistics

Item	No. of cases	mean score	sd	median score	range
1. I regularly think about areas of psychological theory / practice that I would like to research	39	4.23	0.81	4.00	3.00
2. I rarely get time to put my research ideas into practice	39	2.44	1.29	2.00	4.00
3. Even if I had the time I don't feel I have the skills to carry out research	39	4.05	0.76	4.00	3.00
4. Pressure to spend time in clinical contact prevents me doing research	39	2.33	1.11	2.00	4.00
5. Research findings are of relevance to clinical psychology practice	39	4.67	0.62	5.00	3.00
6. Research is not the domain of clinical psychologists	39	4.59	0.75	5.00	4.00
7. In my post I feel that research is.. (strongly encouraged--strongly discouraged)	39	3.69	0.95	4.00	3.00
9. I am not interested in doing research	39	4.33	0.93	5.00	4.00

Reliability co-efficient, Cronbach's alpha = 0.60

APPENDIX 2. Major Research Project Literature Review

NOTES FOR CONTRIBUTORS

1. The *British Journal of Clinical Psychology* publishes original contributions to scientific knowledge in clinical psychology. This includes descriptive comparisons, as well as studies of the assessment, aetiology and treatment of people with a wide range of psychological problems in all age groups and settings. The level of analysis of studies ranges from biological influences on individual behaviour, e.g. neuro-psychology, age associated CNS changes and pharmacological (in the later case an explicit psychological analysis is also required), through studies of psychological interventions and treatments on individuals, dyads, families and groups, to investigations of the relationships between explicit social and psychological levels of analysis. The general focus of studies in an abnormal behaviour such as that described and classified by current diagnostic systems (ICD-10, DSM-IV) but it is not bound by the exclusive use of such diagnostic systems. The Journal is catholic with respect to the range of theories and methods used to answer substantive scientific problems. Studies of samples with no current psychological disorder will only be considered if they have a direct bearing on clinical theory or practice.
 2. The following types of paper are invited:
 - (a) Papers reporting original empirical investigations.
 - (b) Theoretical papers, provided that these are sufficiently related to empirical data
 - (c) Review articles which need not be exhaustive, but which should give an interpretation of the state of the research in a given field and, where appropriate, identify its clinical implications.
 - (d) Brief Reports and Comments (see paragraph 6).

Case studies are normally published only as Brief Reports. Papers are evaluated in terms of their theoretical importance, contributions to knowledge, relevance to the concerns of practising clinical psychologists, and readability. Papers generally appear in order of acceptance, except for the priority given to Brief Reports and Comments.
 3. The circulation of the Journal is worldwide, and papers are reviewed by colleagues in many countries. There is no restriction to British authors, and papers are invited from authors throughout the world.
 4. The editors will reject papers which evidence discriminatory, unethical or unprofessional practices.
 5. Papers should be prepared in accordance with The British Psychological Society's *Style Guide*, available at £3.50 per copy from The British Psychological Society, St Andrews House, 48 Princess Road East, Leicester LE1 7DR, England. Contributions should be kept as concise as clarity permits, and illustrations kept as few as possible. Papers should not normally exceed 5000 words. A structured abstract of up to 250 words should be provided (see Volume 35(2), pp. 323 (1996), for details). The title should indicate exactly but as briefly as possible the subject of the article, bearing in mind its use in abstracting and indexing systems.
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 - (a) title longer than 70 characters,
 - (b) author names longer than 70 characters,
 - (c) each address after the first address,
 - (d) each text heading (these should normally be avoided).

A character is a letter or space. A punctuation mark counts as two characters (character plus space) and a space must be allowed on each side of a mathematical operator.
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- (e) Bibliographical references in the text should quote the author's name and the date of the publication thus; Hunt (1993). They should be listed alphabetically by author at the end of the article according to the following format:

Moore, R. G., & Blackburn, I.-M. (1993). Sociotrophy, autonomy and personal memories in depression. *British Journal of Clinical Psychology*, 32, 460-462.

Steptoe, A., & Wardle, J. (1992). Cognitive predictors of health behaviour in contrasting regions of Europe. In C. R. Brewin, A. Steptoe, & J. Wardle (Eds.), *European perspectives in clinical and health psychology* (pp. 101-118). Leicester: The British Psychological Society.

Particular care should be taken to ensure that references are accurate and complete. Give all journal titles in full.
 - (f) SI units must be used for all measurements, rounded off to practical values if appropriate, with the Imperial equivalent in parentheses (see *BPS Style Guide*).
 - (g) Authors are requested to avoid the use of sexist language.
 - (h) Supplementary data too extensive for publication may be deposited with the British Library Document Supply Centre. Such material includes numerical data, computer programs, fuller details of case studies and experimental techniques. The materials should be submitted to the Editor together with the article, for simultaneous refereeing.

APPENDIX 3. Major Research Project Proposal

Information sheet for parasuicide and depressed patients

**GREATER GLASGOW COMMUNITY AND MENTAL HEALTH
SERVICES NHS TRUST¹**

**DELIBERATE SELF-HARM IN OLDER ADULTS: RELATIONSHIP
TO INTERPERSONAL PROBLEM SOLVING**

PARTICIPANT INFORMATION SHEET

I am a psychologist in clinical training, working for the Psychology Directorate in Greater Glasgow. As part of my training, I am currently conducting a study of the approaches that older adults take to solving social and relationship problems.

I am inviting people who are over the age of 65 years to take part in this study. If you agree to participate, I would like to visit you once, for about 45 minutes. I will ask you to complete various tasks, and to answer some questions about how you have been feeling recently. All the information that you give will be kept confidential.

You will be offered regular breaks throughout the interview and if you would prefer to continue on another day then that can be arranged.

Please go on to the next page.

¹ This information sheet applies to all parasuicide and depressed patients recruited via Greater Glasgow Primary care NHS Trust. Patients recruited from other sources received essentially the same information sheet but with the title of the appropriate NHS Trust replacing the title of this information sheet.

The answers that you give will help us to understand the link between feelings and problem solving in older adults. If we understand more about this then in future we will be able to improve the treatment that we give to people.

You are free to refuse to take part or to withdraw from the study at any time without having to give a reason. This will not affect your treatment in any way.

Thank you for your time.

Susie Howat

Psychologist in clinical training

Consent form for parasuicide patients and depressed in-patients

**GREATER GLASGOW COMMUNITY AND MENTAL HEALTH
SERVICES NHS TRUST¹**

**DELIBERATE SELF-HARM IN OLDER ADULTS: RELATIONSHIP
TO INTERPERSONAL PROBLEM SOLVING**

PARTICIPANT CONSENT FORM

I am looking at the approaches that older adults take to solving social and relationship problems. You will be asked to complete various tasks, and to answer some questions about how you have been feeling recently. All the information that you give will be kept confidential.

You are free to refuse to take part or to withdraw from the study at any time without having to give a reason. This will not affect your treatment in any way.

Please go on to the next page.

¹ This information sheet applies to all parasuicide and depressed patients recruited via Greater Glasgow Primary care NHS Trust. Patients recruited from other sources received essentially the same information sheet but with the title of the appropriate NHS Trust replacing the title of this information sheet.

If you do agree to participate, please read and complete the following:

I have read and understood the information sheet and have been given a copy for myself. I have had a chance to discuss the research and ask questions about it.

I understand that I am free to change my mind and withdraw from the study at any time without having to give a reason, and that this will not affect my treatment.

I agree to participate in this research project.

Print name _____

Signed _____ Date _____

Consent form for depressed out-patients

**GREATER GLASGOW COMMUNITY AND MENTAL HEALTH
SERVICES NHS TRUST**

**DELIBERATE SELF-HARM IN OLDER ADULTS: RELATIONSHIP
TO INTERPERSONAL PROBLEM SOLVING**

PARTICIPANT CONSENT FORM

I am looking at the approaches that older adults take to solving social and relationship problems. You will be asked to complete various tasks, and to answer some questions about how you have been feeling recently. All the information that you give will be kept confidential.

You are free to refuse to take part or to withdraw from the study at any time without having to give a reason. This will not affect your treatment in any way.

If you do agree to participate, please read and complete the following:

I have read and understood the information sheet and have been given a copy for myself. I have had a chance to discuss the research and ask questions about it.

Please go on to the next page.

I understand that I am free to change my mind and withdraw from the study at any time without having to give a reason, and that this will not affect my treatment.

I agree to participate in this research project.

Print name _____

Address _____

Telephone number _____

Signed _____ Date _____

Please post this form in the envelope provided. You DO NOT need to put a stamp on the envelope.

Information sheet for community controls

**GREATER GLASGOW COMMUNITY AND MENTAL HEALTH
SERVICES NHS TRUST**

**DELIBERATE SELF-HARM IN OLDER ADULTS: RELATIONSHIP
TO INTERPERSONAL PROBLEM SOLVING**

PARTICIPANT INFORMATION SHEET

I am a psychologist in clinical training, working for the Psychology Directorate in Greater Glasgow. As part of my training, I am currently conducting a study of the approaches that older adults take to solving social and relationship problems.

I am inviting people who are over the age of 65 years to take part in this study. If you agree to participate, I would like to visit you once, for about 45 minutes. I will ask you to complete various tasks, and to answer some questions about how you have been feeling recently. All the information that you give will be kept confidential.

You will be offered regular breaks throughout the interview and if you would prefer to continue on another day then that can be arranged.

Please go on to the next page.

The answers that you give will be compared to those given by older adults receiving help from doctors and psychologists. We will use the information to improve the treatment that psychologists give to older adults in the future.

You are free to refuse to take part or to withdraw from the study at any time without having to give a reason.

Thank you for your time.

Susie Howat

Psychologist in clinical training

Consent form for community controls

**GREATER GLASGOW COMMUNITY AND MENTAL HEALTH
SERVICES NHS TRUST**

**DELIBERATE SELF-HARM IN OLDER ADULTS: RELATIONSHIP
TO INTERPERSONAL PROBLEM SOLVING**

PARTICIPANT CONSENT FORM

I am looking at the approaches that older adults take to solving social and relationship problems. You will be asked to complete various tasks, and to answer some questions about how you have been feeling recently. All the information that you give will be kept confidential.

You are free to refuse to take part or to withdraw from the study at any time without having to give a reason.

If you do agree to participate, please read and complete the following:

I have read and understood the information sheet and have been given a copy for myself. I have had a chance to discuss the research and ask questions about it.

Please go on to the next page.

I understand that I am free to change my mind and withdraw from the study at any time without having to give a reason.

I agree to participate in this research project.

Print name _____

Signed _____ Date _____

GREATER GLASGOW PRIMARY CARE NHS TRUST

AMC/mk

**Trust Headquarters
Gartnavel Royal Hospital
1055 Great Western Road
GLASGOW
G12 0XH**

**Tel: 0141-211 3824
Fax: 0141-211 3971**

28th September 1999

Ms S Howat
Academic Centre
Gartnavel Royal Hospital
1055 Great Western Road
GLASGOW
G12 0XH

Dear Ms Howat


Re: Parasuicide in older adults: Relationship to interpersonal problem – solving

Many thanks indeed for sending the required amendments to this submission. After further consideration, I am pleased to be able to tell you that the Committee now has no objections from an ethical point of view to this project proceeding and ethical approval is formally granted.

I would also like to take this opportunity to remind you that you should notify the Committee if there are any changes or untoward developments connected with the study – the Committee would then require to further reconsider your application for approval. The Committee would be grateful if a brief final report on your project could be forwarded when the project reaches its conclusion. The Committee would also be grateful to receive regular updates on the study – failure to do so can result in ethical approval being withdrawn.

May I wish you every success with your study.

Yours sincerely



A W McMAHON
Administrator – Research Ethics Committee

WEST ETHICS COMMITTEE

Western Infirmary
Dumbarton Road
Glasgow G11 6NT

Our Ref: AHT

Your Ref:

Please reply to: Mrs A H Torrie
SECRETARY - WEST ETHICS COMMITTEE

Direct Line: 211 6238

Fax: 211 1920

12 April, 2000

Ms Susie Howat
Trainee Clinical Psychologist
Dept of Psychological Medicine
Gartnavel Royal Hospital
Glasgow

Dear Ms. Howat,

00/27(1) Ms S Howat - Parasuicide in older adults: relationship to interpersonal problem solving.

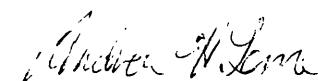
The Committee at the meeting held on 4 April, 2000 approved the amended submission enclosed within your letter dated 16 March 2000. This study now has full and unqualified Ethics Committee approval.

Please note that the approval contained in this letter is valid for all sites which form part of the North Glasgow Trust. If however, this research is to be carried out at sites within the North Glasgow Trust other than the one covered by this letter, then a covering letter signed by the person responsible for the research on that site, should be sent listing names, titles and addresses of all collaborating researchers. A copy of this approval letter should be passed to them.

It should be noted that although Ethics Committee approval has been granted, Trust Management approval is still required. This should be obtained through the Research and Development Office at Gartnavel General Hospital (tel: 211 0115).

Kind regards.

Yours sincerely,



Andrea H Torrie
SECRETARY - WEST ETHICS COMMITTEE





**South Glasgow
University Hospitals
NHS Trust**

DMG/AKM

8th May, 2000.

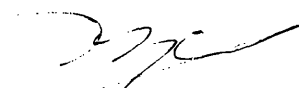
**Miss Susie Howat,
Psychologist in Clinical Training,
Department of Psychological Medicine,
Gartnavel Royal Hospital,
1055, Great Western Road,
Glasgow, G12 0XH**

Dear Miss Howat,

**PARASUICIDE IN OLDER ADULTS : RELATIONSHIP TO INTERPERSONAL
PROBLEM SOLVING.**

The Ethics Committee met on Wednesday, 3rd. May, 2000, at which time they discussed the changes to the heading of your study. The Committee are fully satisfied with these changes and wish you continued success with your study.

Yours sincerely,


**D. McGowan,
Administrative Secretary,
Ethics Committee.**

Copy to:-

Dr. R. Northcote.



Stobhill NHS Trust
Balornock Road, Glasgow G21 3UW
Telephone: 0141-201 3000

Fax No. 0141 201 3891

RESEARCH ETHICS COMMITTEE
Direct Line to secretary: 0141 201 3378

PLEASE QUOTE STOBHILL PROTOCOL NO. ON ALL FUTURE CORRESPONDENCE

GB/BG

6 June, 2000.

Miss Susie Howat
Trainee Clinical Psychologist
Dept. of Psychological Medicine
Gartnavel Royal Hospital
1055 Great Western Road
GLASGOW, G12 OXH.

Dear Ms. Howat,

**PARASUICIDE IN OLDER ADULTS: RELATIONSHIP TO INTERPERSONAL
PROBLEM SOLVING**

Thank you for your letter of 05.06.00 and the details of your proposed study. I can confirm that this protocol has satisfied all the necessary ethical considerations and can proceed in all hospitals within the North Glasgow University NHS Trust including Stobhill,. The details of the protocol will be reviewed at the next meeting of the Stobhill Research Ethics Committee on 12.06.00 for formal approval. You may however seek access to patients in Ward 14A of the hospital here without any further delay.

Yours sincerely,

GAVIN BOYD BSC. (Hons) MD (Hons) FRCP (Edin.& Glas.)
Chairman, Research Ethics Committee

APPENDIX 4. Major Research Project Paper

NOTES FOR CONTRIBUTORS

1. The *British Journal of Clinical Psychology* publishes original contributions to scientific knowledge in clinical psychology. This includes descriptive comparisons, as well as studies of the assessment, aetiology and treatment of people with a wide range of psychological problems in all age groups and settings. The level of analysis of studies ranges from biological influences on individual behaviour, e.g. neuropsychology, age associated CNS changes and pharmacological (in the later case an explicit psychological analysis is also required), through studies of psychological interventions and treatments on individuals, dyads, families and groups, to investigations of the relationships between explicit social and psychological levels of analysis. The general focus of studies in an abnormal behaviour such as that described and classified by current diagnostic systems (ICD-10, DSM-IV) but it is not bound by the exclusive use of such diagnostic systems. The Journal is catholic with respect to the range of theories and methods used to answer substantive scientific problems. Studies of samples with no current psychological disorder will only be considered if they have a direct bearing on clinical theory or practice.

2. The following types of paper are invited:

- (a) Papers reporting original empirical investigations.
- (b) Theoretical papers, provided that these are sufficiently related to empirical data
- (c) Review articles which need not be exhaustive, but which should give an interpretation of the state of the research in a given field and, where appropriate, identify its clinical implications.
- (d) Brief Reports and Comments (see paragraph 6).

Case studies are normally published only as Brief Reports. Papers are evaluated in terms of their theoretical importance, contributions to knowledge, relevance to the concerns of practising clinical psychologists, and readability. Papers generally appear in order of acceptance, except for the priority given to Brief Reports and Comments.

3. The circulation of the Journal is worldwide, and papers are reviewed by colleagues in many countries. There is no restriction to British authors, and papers are invited from authors throughout the world.

4. The editors will reject papers which evidence discriminatory, unethical or unprofessional practices.

5. Papers should be prepared in accordance with The British Psychological Society's *Style Guide*, available at £3.50 per copy from The British Psychological Society, St Andrews House, 48 Princess Road East, Leicester LE1 7DR, England. Contributions should be kept as concise as clarity permits, and illustrations kept as few as possible. Papers should not normally exceed 5000 words. A structured abstract of up to 250 words should be provided (see Volume 35(2), pp. 323 (1996), for details). The title should indicate exactly but as briefly as possible the subject of the article, bearing in mind its use in abstracting and indexing systems.

- (a) Contributions should be typed in double spacing with wide margins and only on one side of each sheet. Sheets should be numbered. The top copy and at least three good duplicates should be submitted and a copy should be retained by the author.
- (b) This journal operates a policy of blind peer review. Papers will normally be scrutinized and commented on by at least two independent expert referees as well as by the editor or by an associate editor. The referees will not be made aware of the identity of the author. All information about authorship including personal acknowledgements and institutional affiliations should be confined to a removable front page and the text should be free of such clues as identifiable self-citations ("In our earlier work...") The paper's title should be repeated on the first page of the text.
- (c) Tables should be typed in double spacing on separate sheets. Each should have a self-explanatory title and should be comprehensible without reference to the text. They should be referred to in the text by arabic numerals. Data given should be checked for accuracy and must agree with mentions in the text.
- (d) Figures, i.e. diagrams, graphs or other illustrations, should be on separate sheets numbered sequentially 'Fig. 1', etc., and each identified on the back with the title of the paper. They should be

carefully drawn, larger than their intended size, suitable for photographic reproduction and clear when reduced in size. Special care is needed with symbols: correction at proof stage may not be possible. Lettering must not be put on the original drawing but upon a copy to guide the printer. Captions should be listed on a separate sheet.

- (e) Bibliographical references in the text should quote the author's name and the date of the publication thus; Hunt (1993). They should be listed alphabetically by author at the end of the article according to the following format:
Moore, R. G., & Blackburn, I.-M. (1993). Sociotrophy, autonomy and personal memories in depression. *British Journal of Clinical Psychology*, 32, 460-462.
Steptoe, A., & Wardle, J. (1992). Cognitive predictors of health behaviour in contrasting regions of Europe. In C. R. Brewin, A. Steptoe, & J. Wardle (Eds.), *European perspectives in clinical and health psychology* (pp. 101-118). Leicester: The British Psychological Society.
Particular care should be taken to ensure that references are accurate and complete. Give all journal titles in full.
- (f) SI units must be used for all measurements, rounded off to practical values if appropriate, with the Imperial equivalent in parentheses (see *BPS Style Guide*).
- (g) Authors are requested to avoid the use of sexist language.
- (h) Supplementary data too extensive for publication may be deposited with the British Library Document Supply Centre. Such material includes numerical data, computer programs, fuller details of case studies and experimental techniques. The materials should be submitted to the Editor together with the article, for simultaneous refereeing.

6. Brief Reports and Comments are limited to two printed pages. These are subject to an accelerated review process to afford rapid publication of research studies, and theoretical, critical or review comments whose essential contribution can be made within a small space. They also include research studies whose importance or breadth of interest is insufficient to warrant publication as full articles, and case reports making a distinctive contribution to theory or method. Authors are encouraged to append an extended report to assist in the evaluation of the submission and to be made available to interested readers on request to the author. To ensure that the two-page limit is not exceeded, set typewriter margins to 66 characters maximum per line and limit the text, including references and a 100 word abstract, to 150 lines. Figures and tables should be avoided. Title, author and name and address for reprints and data of receipt are not included in the allowance. However deduct three lines from the text each and every time any of the following occur:

- (a) title longer than 70 characters,
- (b) author names longer than 70 characters,
- (c) each address after the first address,
- (d) each text heading (these should normally be avoided).

A character is a letter or space. A punctuation mark counts as two characters (character plus space) and a space must be allowed on each side of a mathematical operator.

7. Proofs are sent to authors for correction of print, but not for introduction of new or different material. They should be returned to the Journals Manager as soon as possible. Fifty complimentary copies of each paper are supplied to the senior author on request: further copies may be ordered on a form supplied with the proofs.

8. Authors should consult the Journal editor concerning prior publication in any form or in any language of all or part of their article.

9. Authors are responsible for getting written permission to publish lengthy quotations, illustrations, etc., of which they do not own copyright.

10. To protect authors and journals against unauthorized reproduction of articles. The British Psychological Society requires copyright to be assigned to itself as publisher, on the express condition that authors may use their own material at any time without permission. On acceptance of a paper submitted to The Journal, authors will be requested to sign an appropriate assignment of copyright form.

MEANS END PROBLEM SOLVING (MEPS) PROCEDURE
Platt & Spivack (1975)¹

In this procedure we are interested in your imagination. You are to make up some stories. For each story you will be given the beginning of the story and how the story ends. Your job is to make up a story that connects the beginning that is given to you with the ending given you. In other words, you will make up the middle of the story.

Make up at least one paragraph for each story.

1. Mr A was listening to the people speak at a meeting about how to make things better in his neighbourhood. He wanted to say something important and have a chance to be a leader too. The story ends with him being elected leader and presenting a speech. You begin the story at the meeting where he wanted to have a chance to be a leader.
2. H loved his girlfriend very much, but they had many arguments. One day she left him. H 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.
3. Mr P came home after shopping and found that he had lost his watch. He was very upset about it. The story ends with Mr P finding his watch and feeling good about it. You begin the story where Mr P found that he had lost his watch.
4. Mr C had just moved in that day and didn't know anyone. Mr C wanted to have friends in the neighbourhood. The story ends with Mr C having many good friends and feeling at home in the neighbourhood. You begin the story with Mr C in his room immediately after arriving in the neighbourhood.
5. During the Nazi occupation a man's wife and children were viciously tortured and killed by an SS trooper, and the man swore revenge. The story begins one day after the war, when the man enters a restaurant and sees the ex-SS trooper. The story ends with the man killing the SS trooper. You begin when he sees the SS trooper.

¹ This is the male form. The female form is identical except for the sex of the protagonist.

6. One day Al saw a beautiful girl he had never seen before while eating in a restaurant. He was immediately attracted to her. The story ends when they get married. You begin when Al first notices the girl in the restaurant.
7. Bob needed money badly. The story begins one day when he notices a valuable diamond in a shop window. Bob decides to steal it. The story ends when he succeeds in stealing the diamond. You begin when he sees the diamond.
8. John noticed that his friends seemed to be avoiding him. John wanted to have friends and be liked. The story ends when John's friends like him again. You begin where he first notices his friends avoiding him.
9. One day George was standing around with some other people when one of them said something very nasty to George. George got very mad. George got so mad he decided to get even with the other person. The story ends with George happy because he got even. You begin the story when George decided to get even.
10. Joe is having trouble getting along with the foreman on his job. Joe is very unhappy about this. The story ends with Joe's foreman liking him. You begin the story where Joe isn't getting along with his foreman.

**MEANS END PROBLEM SOLVING PROCEDURE
ADAPTED FOR USE WITH OLDER ADULTS FOR THE PRESENT STUDY**

In this procedure I am interested in your approach to solving problems. You are to make up some stories. For each story you will be given the beginning of the story and how the story ends.

Your job is to provide the ideal strategy for overcoming the problem situation stated at the beginning of the story. The strategy should connect the beginning of the story that is given to you with the end that is given to you. In other words, you will make up the middle of the story.

Make up at least one paragraph for each story. Say it out loud and I'll write down what you say. The tape recorder is in case I don't manage to copy everything.

For each story, make sure you tell me when you are finished.

1. You were listening to the people speak at a meeting about how to make things better in your neighbourhood. You wanted to say something important and have a chance to be a leader too. The story ends with you being elected leader and presenting a speech. You begin the story at the meeting where you wanted to have a chance to be a leader.
2. You love your daughter very much, but you have many arguments. One day she said that she would never speak to you again. You wanted things to be better. The story ends with everything fine between you and your daughter. You begin the story with your daughter saying that she would never speak to you again.
3. You came home after shopping and found that you had lost your watch. You were very upset about it. The story ends with you finding your watch and feeling good about it. You begin the story where you found that you had lost your watch.
4. You had just moved in that day and didn't know anyone. You wanted to have friends in the neighbourhood. The story ends with you having many good friends and feeling at home in the neighbourhood. You begin the story with you in your room immediately after arriving in the neighbourhood.

5. You had recently retired. You felt bored and lonely during the day. You wanted to join a social club. The story ends with you as a member of a local social club where you enjoy spending your days. You begin the story when you decided to join a social club.
6. You had large unexpected bills to pay. You realised that you did not have the money to pay them. The story ends when you pay the bills. You begin the story when you realised that you did not have the money to pay the bills.
7. You were very worried about increasing physical health problems that your doctor did not seem to be taking seriously. During an appointment with your doctor, you felt angry that your concerns were being dismissed. The story ends with your doctor sending you for physical investigations. You begin the story when you feel angry during your appointment.
8. You noticed that your friends seemed to be avoiding you. You wanted to have friends and be liked. The story ends when your friends like you again. You begin where you first notice your friends avoiding you.
9. One day you were standing around with some other people when one of them said something very nasty to you. You were very upset and decided to confront the other person. The story ends with you happy because the other person apologises. You begin the story when you decided to confront the other person.
10. You are having trouble getting along with your neighbour. You are very unhappy about this. The story ends with your neighbour liking you. You begin the story where you aren't getting along with your neighbour.

DEMOGRAPHIC DETAILS – PARASUICIDE GROUP

ID _____

Name _____ Sex _____

DoB _____ Age _____

Marital status _____

Living arrangements _____

Number of social contacts in the average week _____

(I'm interested in the number of social contacts that people have in the average week. Roughly speaking, how many people that are friends or strong acquaintances do you think you have contact with in the average week?

If the person has difficulty, estimate for the week before the parasuicide and ask if this was typical)

Current occupation _____

Previous occupation _____

Husband's occupation (only if no previous occupation) _____

Do you have any physical health problems? Specify: _____

Do they cause physical pain? _____

Are you taking medication? _____ No. of times per day _____

Method of current parasuicide _____

How many days ago was current parasuicide? _____

Why did you decide to harm yourself? _____

Intent (none / moderate / strong) _____

No. of previous parasuicide episodes _____

Methods of previous episodes _____

How long ago were the previous episodes? _____

Current psychiatric diagnosis _____

Name of psychiatrist (if applicable) _____

Previous psychiatric history _____

Date of interview _____

Location _____

DEMOGRAPHIC DETAILS – DEPRESSED AND CONTROL GROUPS

ID _____

Name _____

Sex _____

DoB _____

Age _____

Marital status _____

Living arrangements _____

Number of social contacts in the average week _____

(I'm interested in the number of social contacts that people have in the average week. Roughly speaking, how many people that are friends or strong acquaintances do you think you have contact with in the average week?

If the person has difficulty, estimate for the previous week and ask if this was typical)

Current occupation _____

Previous occupation _____

Husband's occupation (only if no previous occupation) _____

Do you have any physical health problems? Specify: _____

Do they cause physical pain? _____

Are you taking medication? _____ No. of times per day _____

This may seem like an odd question to ask, but sometimes when people are distressed they may feel like harming themselves. I wonder, have you ever felt like that in your lifetime?

No. of previous parasuicide episodes _____

Methods of previous episodes _____

How long ago were the previous episodes? _____

Current psychiatric diagnosis _____

Name of psychiatrist (if applicable) _____

Previous psychiatric history _____

Date of interview _____

Location _____

ID _____

GDS – 15 ITEM SHORT FORM
(Yesavage, 1988)

Circle the best answer for how you felt over the past week

1. Are you basically satisfied with your life?..... YES / NO
2. Have you dropped many of your interests and activities?..... YES / NO
3. Do you feel that your life is empty?..... YES / NO
4. Do you often get bored?..... YES / NO
5. Are you in good spirits most of the time?..... YES / NO
6. Are you afraid that something bad is going to happen to you?..... YES / NO
7. Do you feel happy most of the time?..... YES / NO
8. Do you often feel helpless?..... YES / NO
9. Do you prefer to stay at home,
rather than going out and doing new things?..... YES / NO
10. Do you feel that you have more problems with
your memory than most?..... YES / NO
11. Do you think it is wonderful to be alive now?..... YES / NO
12. Do you feel pretty worthless the way you are now?..... YES / NO
13. Do you feel full of energy?..... YES / NO
14. Do you feel that your situation is hopeless?..... YES / NO
15. Do you think that most people are better off than you are?..... .YES / NO

THE MINI-MENTAL STATE EXAMINATION

(Dick et al, 1984)

ID: _____

Date: _____

ORIENTATION

Score one point for correct answers to each of the following questions:

What is the time? _____ date? _____ day? _____ month? _____ year? _____ 5 points ()

What is the name of this ward/number of this house? _____ the hospital/street? _____
the town? _____ the district? _____ the country? _____ 5 points ()

REGISTRATION

Name three objects. Score up to 3 points if at the first attempt, the patient repeats, in order, the 3 objects you have randomly named. Score 2 or 1 if this is the number of objects he repeats correctly. Endeavour by further attempts and prompting to have all 3 repeated, so as to test recall later.

3 points ()

ATTENTION AND CALCULATION

Ask the patient to subtract 7 from 100 and then 7 from the result repeat this 5 times, scoring 1 for each time a correct subtraction is performed.

5 points ()

RECALL

Ask for the 3 objects repeated in the registration test, scoring 1 for each correctly recalled.

3 points ()

LANGUAGE

Score 1 point for 2 objects (a pencil and a watch) correctly named.

2 points ()

Score 1 point if the following sentence is correctly repeated:

“No ifs, ands or buts”

1 point ()

Score 3 if a 3-stage command is correctly executed, score 1 point for each stage; for example “with the index finger of your right hand touch the tip of your nose and then your left ear” or “take this piece of paper in your right hand, fold it in half, and place it on the floor”.

3 points ()

On a blank piece of paper, write: “close your eyes” and ask the patient to obey what is written.

Score 1 point if he closes his eyes.

1 point ()

Ask the patient to write a sentence. Score 1 point if the sentence is sensible and has a verb and a subject.

1 point ()

Construct a pair of intersecting pentagons, each side one inch long. Score one point if this is correctly copied.

1 point ()

TOTAL SCORE (maximum = 30) _____

Schonell Graded Word Reading Test (SGWRT)
(Schonell & Schonell, 1950)

INSTRUCTIONS FOR ADMINISTERING THIS TEST

ADMINISTRATION GUIDELINES

The test should be given in a friendly atmosphere in which the participant is thoroughly at ease.

Participants can start at any group of ten words. If any word is failed, however, the preceding group of ten words is given until all ten are read correctly. Credit is then given for all words preceding this point. Testing is discontinued when ten consecutive words are failed.

The temptation to help the participant should be resisted. He should not, for example, be asked to repeat a word he has almost but not quite pronounced correctly nor should he be given any clues as to how to attack a particular word.

Credit should not be given unless the word is clearly correct eg. 'flower' for 'flowers' is incorrect as is 'postage' when the last syllable is pronounced as the word 'age'.

INSTRUCTIONS

"I want you to read slowly down this list of words starting here." Indicate TREE. "After each word please wait until I say 'next' before reading the next word. I must warn you that there may be words that you won't recognise, so just have a guess at these, OK? Go ahead."

If the participant fails to wait, this instruction should be repeated as often as necessary. The participant should be encouraged to attempt every word and instructed to guess where necessary. All responses should be reinforced, for example, "That's fine, good" is encouraging without being strictly dishonest. The participant may change a response if he wishes to do so but if more than one version is given the participant must decide which is his final choice. No time limit is imposed.

tree

little

milk

egg

book

school

sit

frog

playing

bun

flower

road

clock

train

light

picture

think

summer

people

something

dream

downstairs

biscuit

shepherd

thirsty

crowd

sandwich

beginning

postage

island

saucer

angel

ceiling

appeared

gnome

canary

attractive

imagine

nephew

gradually

smoulder

applaud

disposal

nourished

diseased

university

orchestra

knowledge

audience

situated

physics

campaign

choir

intercede

fascinate

forfeit

siege

recent

plausible

prophecy

colonel

soloist

systematic

slovenly

classification

genuine

institution

pivot

conscience

heroic

pneumonia

preliminary

antique

susceptible

enigma

oblivion

scintillate

satirical

sabre

beguile

terrestrial

belligerent

adamant

sepulchre

statistics

miscellaneous

procrastinate

tyrannical

evangelical

grotesque

ineradicable

judicature

preferential

homonym

fictitious

rescind

metamorphosis

somnambulist

bibliography

idiosyncrasy

Relevancy scores [Ratio of: relevant means / all story directed responses, ie, relevant means + irrelevant means + no means]

STORY	COMMUNITY CONTROLS (n=22)		DEPRESSED GROUP (n=18 unless otherwise specified)		PARASUICIDE GROUP (n=18 unless otherwise specified)	
	Mean	sd	Mean	sd	Mean	sd
1	0.772	0.429	0.294 (n=17)	0.470	0.222	0.428
2	0.955	0.213	0.667	0.485	0.778	0.428
3	0.955	0.213	1.000	0.000	0.889	0.323
4	0.864	0.351	0.944	0.236	0.944	0.236
5	0.955	0.213	0.556	0.511	0.444	0.511
6	0.909	0.294	0.647 (n=17)	0.493	0.444	0.511
7	0.727	0.456	0.529 (n=17)	0.515	0.250 (n=16)	0.447
8	0.955	0.213	0.824 (n=17)	0.393	0.722	0.461
9	0.864	0.351	0.867 (n=15)	0.352	0.647 (n=17)	0.493
10	0.773	0.429	0.647 (n=17)	0.493	0.611	0.502
All stories	0.918	0.081	0.747	0.211	0.661	0.176

Note that for the depressed and parasuicide groups, n is less than the sample size for some items - this is because if a person scored a "no response" for the item then the relevancy ratio cannot be calculated.

Number of relevant means

STORY	COMMUNITY CONTROLS (n=22)		DEPRESSED GROUP (n=18)		PARASUICIDE GROUP (n=18)	
	Mean	sd	Mean	sd	Mean	sd
1	1.546	1.057	0.444	0.784	0.222	0.428
2	1.591	0.666	0.889	0.758	1.056	0.725
3	2.182	1.097	1.833	0.985	1.667	1.085
4	1.591	1.054	1.167	0.515	1.222	0.548
5	2.091	0.972	0.833	0.924	0.833	1.339
6	1.682	0.995	1.111	1.183	0.556	0.705
7	0.909	0.750	0.667	0.840	0.222	0.428
8	1.682	0.839	0.889	0.583	0.889	0.676
9	1.182	0.665	0.944	0.725	0.722	0.669
10	1.182	0.853	0.889	0.900	0.889	1.023
All stories	15.636	3.346	9.667	4.802	8.278	3.140

Effectiveness score

STORY	COMMUNITY CONTROLS (n=22)		DEPRESSED GROUP (n=18)		PARASUICIDE GROUP (n=18)	
	Mean	sd	Mean	sd	Mean	sd
1	1.364	0.848	0.389	0.698	0.278	0.575
2	1.727	0.551	1.000	0.840	1.167	0.786
3	1.455	0.596	1.500	0.515	1.389	0.698
4	1.455	0.739	1.167	0.515	1.222	0.548
5	1.818	0.501	0.944	0.938	0.722	0.895
6	1.591	0.666	0.944	0.938	0.611	0.778
7	1.409	0.908	0.944	0.998	0.444	0.856
8	1.636	0.581	1.167	0.786	1.111	0.832
9	1.227	0.813	1.056	0.873	0.833	0.786
10	1.318	0.839	0.944	0.873	0.833	0.786
Effectiveness of relevant means*	17.053	2.276	14.753	2.838	14.400	2.727

*Effectiveness of relevant means = (total effectiveness score x 10) / no. of items where participant responded with relevant means

Latency [time (in seconds) from end of presentation of item to first word of response]

STORY	COMMUNITY CONTROLS (n=22)		DEPRESSED GROUP (n=18)		PARASUICIDE GROUP (n=18)	
	Mean	sd	Mean	sd	Mean	sd
1	9.773	7.776	6.611	6.156	5.056	6.282
2	6.682	6.312	4.667	4.000	3.611	2.615
3	5.682	5.643	3.556	3.091	3.278	2.986
4	6.227	4.140	4.833	4.077	5.167	4.854
5	6.909	9.350	4.333	3.181	4.333	6.240
6	4.000	2.828	6.556	7.846	4.167	2.640
7	6.046	5.843	6.222	7.628	4.333	3.199
8	6.636	5.770	6.056	6.539	7.278	10.289
9	10.273	19.577	8.000	11.601	7.722	10.087
10	7.591	7.998	4.778	4.209	6.167	5.533
All stories (ie sum of latencies)	69.818	50.984	55.611	36.646	51.111	33.214

Relationship of average latency (ie total divided by 10) to relevancy (using combined scores from all 10 stories)

COMMUNITY CONTROLS (n=22)	DEPRESSED GROUP (n=18)	PARASUICIDE GROUP (n=18)	TOTAL SAMPLE (n=58)
Pearson correlation	p value (2 tailed)	Pearson correlation	Pearson correlation
-0.096	0.670	0.222	0.189
		p value (2 tailed)	p value (2 tailed)
		0.377	0.155
		Pearson correlation	Pearson correlation
		0.148	0.189
		p value (2 tailed)	p value (2 tailed)
		0.558	0.155

Relationship of average latency (ie total divided by 10) to effectiveness (using combined scores from all 10 stories)

COMMUNITY CONTROLS (n=22)	DEPRESSED GROUP (n=18)	PARASUICIDE GROUP (n=18)	TOTAL SAMPLE (n=58)
Pearson correlation	p value (2 tailed)	Pearson correlation	Pearson correlation
0.289	0.193	0.197	0.184
		p value (2 tailed)	p value (2 tailed)
		0.434	0.167
		Pearson correlation	Pearson correlation
		-0.247	0.184
		p value (2 tailed)	p value (2 tailed)
		0.324	0.167

Time spent on responses [time (in seconds) from beginning of response to end of response]

STORY	COMMUNITY CONTROLS (n=22)		DEPRESSED GROUP (n=18)		PARASUICIDE GROUP (n=18)	
	Mean	sd	Mean	sd	Mean	sd
1	56.727	32.298	37.333	27.474	33.667	19.373
2	54.318	40.199	30.000	19.855	33.722	19.649
3	42.864	23.208	30.167	30.014	26.333	18.314
4	62.182	42.980	30.833	19.731	33.889	37.639
5	97.546	70.578	40.444	24.353	37.611	18.709
6	42.500	30.862	26.556	20.697	30.722	26.359
7	77.909	77.527	37.222	34.205	35.222	26.519
8	62.091	62.338	24.389	22.773	32.722	21.318
9	47.636	29.917	25.833	21.942	19.778	8.994
10	64.091	53.353	39.833	39.024	26.333	12.696
All stories	607.864	370.999	322.611	208.665	310.000	138.493

Relationship of average time (ie total divided by 10) spent on responses to relevancy (using combined scores from all 10 stories)

COMMUNITY CONTROLS (n=22)		DEPRESSED GROUP (n=18)		PARASUICIDE GROUP (n=18)		TOTAL SAMPLE (n=58)	
Pearson correlation	p value (2 tailed)	Pearson correlation	p value (2 tailed)	Pearson correlation	p value (2 tailed)	Pearson correlation	p value (2 tailed)
-0.262	0.239	0.342	0.165	0.011	0.966	0.290*	0.027

Relationship of average time (ie total divided by 10) spent on responses to effectiveness (using combined scores from all 10 stories)

COMMUNITY CONTROLS (n=22)		DEPRESSED GROUP (n=18)		PARASUICIDE GROUP (n=18)		TOTAL SAMPLE (n=58)	
Pearson correlation	p value (2 tailed)	Pearson correlation	p value (2 tailed)	Pearson correlation	p value (2 tailed)	Pearson correlation	p value (2 tailed)
0.068	0.762	0.368	0.133	-0.169	0.502	0.284*	0.031

* indicates correlation is significant at the 0.05 level (2 tailed)

Matrix of correlations (Spearman's rho) of relevancy scores [Ratio of: relevant means / all story directed responses, ie, relevant means + irrelevant means + no means]

Community control group (n=22)											
STORY	1	2	3	4	5	6	7	8	9	10	All stories
1	1.000	.402	-0.118	-0.215	-0.118	0.206	0.155	-0.118	0.417	-0.294	0.412
2		1.000	-0.048	-0.087	-0.048	0.690**	0.356	-0.048	-0.087	-0.118	0.370
3			1.000	0.549**	-0.048	-0.069	-0.134	-0.048	-0.087	-0.118	0.229
4				1.000	-0.087	-0.126	0.054	-0.087	0.228	0.101	0.342
5					1.000	-0.069	-0.134	1.000**	-0.087	0.402	0.335
6						1.000	0.161	-0.069	-0.126	-0.171	0.256
7							1.000	-0.134	-0.243	0.399	0.536*
8								1.000	-0.087	0.402	0.335
9									1.000	-0.215	0.257
10										1.000	0.429*
All stories											1.000

* indicates correlation is significant at the 0.05 level (2 tailed)
 ** indicates correlation is significant at the 0.01 level (2 tailed)

Matrix of correlations (Spearman's rho) of relevancy scores [Ratio of: relevant means / all story directed responses, ie, relevant means + irrelevant means + no means]

Depressed group (n=18, unless otherwise specified)

STORY	1	2	3	4	5	6	7	8	9	10	All stories
1	1.000	-0.064 (n=17)	.	0.161 (n=17)	0.350 (n=17)	0.244 (n=16)	0.091 (n=17)	-0.040 (n=17)	0.277 (n=15)	0.207 (n=17)	0.529* (n=17)
2		1.000	.	0.343	-0.158	0.227 (n=17)	0.537* (n=17)	-0.019 (n=17)	0.480 (n=15)	0.227 (n=17)	0.502*
3			1.000
4				1.000	-0.217	0.339 (n=17)	0.265 (n=17)	-0.116 (n=17)	0.681** (n=15)	0.339 (n=17)	0.352
5					1.000	0.633** (n=17)	-0.417 (n=17)	0.182 (n=17)	0.026 (n=15)	0.290 (n=17)	0.573*
6						1.000	-0.258 (n=16)	-0.041 (n=16)	0.480 (n=15)	0.467 (n=17)	0.669** (n=17)
7							1.000	0.182 (n=17)	0.419 (n=15)	-0.203 (n=17)	0.060 (n=17)
8								1.000	0.294 (n=15)	0.304 (n=17)	0.237 (n=17)
9									1.000	0.480 (n=15)	0.592* (n=15)
10										1.000	0.617** (n=17)
All stories											1.000

* indicates correlation is significant at the 0.05 level (2 tailed)

** indicates correlation is significant at the 0.01 level (2 tailed)

Note that for item 3, every participant in the depressed group had a relevancy score of 1, therefore the scores could not be ranked in order for a Spearman correlation to be conducted.

Matrix of correlations (Spearman's rho) of relevancy scores [Ratio of: relevant means / all story directed responses, ie, relevant means + irrelevant means + no means]

Parasuicide group (n=18, unless otherwise specified)

STORY	1	2	3	4	5	6	7	8	9	10	All stories
1	1.000	-0.357	0.189	0.130	-0.209	0.329	0.333 (n=16)	0.331	0.410 (n=17)	0.152	0.438
2		1.000	-0.189	-0.130	-0.060	0.209	0.333 (n=16)	-0.331	-0.019 (n=17)	0.122	0.284
3			1.000	-0.086	-0.040	-0.040	0.175 (n=16)	0.175	0.112 (n=17)	0.081	0.136
4				1.000	0.217	0.217	-0.447 (n=16)	-0.150	0.339 (n=17)	-0.193	-0.047
5					1.000	-0.125	0.073 (n=16)	0.055	-0.132 (n=17)	-0.204	-0.011
6						1.000	0.364 (n=16)	0.555*	0.696* (n=17)	0.025	0.766**
7							1.000	0.333 (n=16)	0.107 (n=15)	0.149 (n=16)	0.643** (n=16)
8								1.000	0.334 (n=17)	0.269	0.634**
9									1.000	-0.030 (n=17)	0.667** (n=17)
10										1.000	0.363
All stories											1.000

* indicates correlation is significant at the 0.05 level (2 tailed)

** indicates correlation is significant at the 0.01 level (2 tailed)

Note that items 3 and 7 could not be correlated because once missing values for item 7 were excluded, every participant in the parasuicide group had a relevancy score of 1 for item 3.

Matrix of correlations (Spearman's rho) of number of relevant means

Community control group (n=22)

STORY	1	2	3	4	5	6	7	8	9	10	All stories
1	1.000	0.010	0.032	0.200	0.328	0.213	0.269	0.091	0.087	0.072	0.624**
2		1.000	0.021	-0.025	-0.464*	0.039	0.181	-0.012	-0.154	0.184	0.010
3			1.000	-0.11	0.105	0.168	0.046	0.033	-0.026	0.458*	0.581*
4				1.000	-0.079	0.108	0.004	-0.301	-0.133	0.033	0.257
5					1.000	-0.009	-0.022	-0.130	-0.088	-0.043	0.285
6						1.000	-0.027	-0.113	0.454	0.306	0.686**
7							1.000	0.215	-0.041	0.447*	0.503*
8								1.000	0.384	0.572*	0.320
9									1.000	-0.073	0.194
10										1.000	0.544**
All stories											1.000

* indicates correlation is significant at the 0.05 level (2 tailed)

** indicates correlation is significant at the 0.01 level (2 tailed)

Matrix of correlations (Spearman's rho) of number of relevant means

Depressed group (n=18)

STORY	1	2	3	4	5	6	7	8	9	10	All stories
1	1.000	0.000	0.482*	0.628**	0.495*	0.405	0.283	0.110	0.435	0.287	0.644**
2		1.000	0.002	0.504*	-0.270	0.411	0.346	0.085	0.309	0.102	0.396
3			1.000	0.574*	0.526*	0.342	0.173	0.114	0.422	0.033	0.686**
4				1.000	0.200	0.411	0.364	0.059	0.496*	0.204	0.681**
5					1.000	0.485*	-0.262	0.155	0.223	0.213	0.461
6						1.000	-0.027	-0.113	0.454	0.306	0.686**
7							1.000	0.353	0.558*	-0.220	0.282
8								1.000	0.400	0.267	0.306
9									1.000	0.288	0.784**
10										1.00	0.515*
All stories											1.00

* indicates correlation is significant at the 0.05 level (2 tailed)

** indicates correlation is significant at the 0.01 level (2 tailed)

Matrix of correlations (Spearman's rho) of number of relevant means

Parasuicide group (n=18)

STORY	1	2	3	4	5	6	7	8	9	10	All stories
1	1.000	-0.224	0.275	0.016	-0.243	0.347	0.357	0.301	0.285	0.474*	0.454
2		1.000	0.214	-0.322	-0.120	0.131	0.336	-0.013	0.036	-0.120	0.171
3			1.000	0.043	-0.394	0.040	0.275	0.296	0.334	0.518*	0.648**
4				1.000	-0.223	0.263	-0.187	-0.195	0.462	0.309	0.122
5					1.000	-0.119	0.086	0.116	-0.315	-0.331	-0.039
6						1.000	0.347	0.522*	0.744**	0.161	0.547*
7							1.000	0.675**	0.057	0.293	0.610**
8								1.000	0.211	0.290	0.579*
9									1.000	0.222	0.571*
10										1.000	0.530*
All stories											1.000

* indicates correlation is significant at the 0.05 level (2 tailed)

** indicates correlation is significant at the 0.01 level (2 tailed)

Relationship of experience of the problem scenario depicted in the item (rated yes/no) to relevancy

EXPERIENCE OF ITEM...	COMMUNITY CONTROL GROUP (n=22)		DEPRESSED GROUP (n=18 unless otherwise specified)		PARASUICIDE GROUP (n=18 unless otherwise specified)		TOTAL SAMPLE (n=58 unless otherwise specified)	
	Mann Whitney U	p value (2 tailed)	Mann Whitney U	p value (2 tailed)	Mann Whitney U	p value (2 tailed)	Mann Whitney U	p value (2 tailed)
1	15.000	0.432	3.000 (n=16)	0.006**	19.500	0.622	128.000(n=56)	0.083
2	45.000	0.540	34.000	0.514	40.500	1.000	392.000	0.806
3	52.000	0.229	36.000	1.000	30.000	0.303	375.000	0.125
4	39.000	0.645	36.000	0.371	36.000	0.317	381.000	0.381
5	19.000	0.752	21.500 (n=17)	0.102	13.500	0.006**	161.500(n=57)	0.000**
6	37.500	0.432	8.000 (n=16)	0.257	30.500	0.819	240.000(n=56)	0.554
7	42.500	0.361	31.500 (n=17)	0.862	24.000 (n=16)	1.000	294.500(n=55)	0.548
8	54.000	0.273	28.500 (n=17)	0.338	33.000	0.718	352.000(n=57)	0.315
9	39.000	0.265	15.000 (n=15)	0.463	28.000 (n=17)	0.799	257.000(n=54)	0.515
10	46.000	0.528	31.000 (n=17)	0.638	32.000	0.954	332.500(n=57)	0.549

* indicates significance at the 0.05 level (2 tailed)

** indicates significance at the 0.01 level (2 tailed)

There is no significant difference in relevancy score between those who had experience of the problem depicted in the item and those who had not, except for items 3 (finding a lost watch) and 5 (joining a social club).

Relationship of experience of the problem scenario depicted in the item (rated yes/no) to effectiveness

EXPERIENCE OF ITEM...	COMMUNITY CONTROL GROUP (n=22)		DEPRESSED GROUP (n=18)		PARASUICIDE GROUP (n=18)		TOTAL SAMPLE (n=58)	
	Mann Whitney U	p value (2 tailed)	Mann Whitney U	p value (2 tailed)	Mann Whitney U	p value (2 tailed)	Mann Whitney U	p value (2 tailed)
1	11.000	0.244	3.500	0.006**	138.000	0.139	138.000	0.139
2	42.000	0.545	40.000	1.000	339.500	0.272	339.500	0.272
3	50.000	0.521	9.000	0.004**	270.000	0.012*	270.000	0.012*
4	34.000	0.449	18.000	0.013*	309.000	0.079	309.000	0.079
5	12.500	0.151	26.000	0.299	166.000	0.000**	166.000	0.000**
6	25.000	0.094	5.000	0.108	202.000	0.153	202.000	0.153
7	39.500	0.261	33.000	0.752	309.500	0.449	309.500	0.449
8	60.000	1.000	31.000	0.468	351.500	0.375	351.500	0.375
9	35.000	0.302	15.500	0.378	283.000	0.630	283.000	0.630
10	48.000	0.725	25.000	0.194	313.500	0.316	313.500	0.316

* indicates significance at the 0.05 level (2 tailed)

** indicates significance at the 0.01 level (2 tailed)

There is no significant difference in effectiveness scores between those who had experience of the problem depicted in the item and those who had not, except for items 3 (finding a lost watch) and 5 (joining a social club).

Relationship of variables to overall relevancy score

Independent samples t-test for relationship of gender to overall relevancy score

COMMUNITY CONTROLS (n=22)		DEPRESSED GROUP (n=18)		PARASUICIDE GROUP (n=18)		TOTAL SAMPLE (n=58)	
t	p value (2 tailed)	t	p value (2 tailed)	t	p value (2 tailed)	t	p value (2 tailed)
-0.182 (df=20)	0.858	1.223 (df=16)	0.239	0.294 (df=16)	0.772	0.038 (df=56)	0.970

Pearson correlation of WAIS IQ score (as predicted from Schonell Graded Word Reading Test) and overall relevancy score

COMMUNITY CONTROLS (n=22)		DEPRESSED GROUP (n=18)		PARASUICIDE GROUP (n=18)		TOTAL SAMPLE (n=58)	
Pearson correlation	p value (2 tailed)	Pearson correlation	p value (2 tailed)	Pearson correlation	p value (2 tailed)	Pearson correlation	p value (2 tailed)
-0.339	0.122	0.433	0.073	-0.225	0.368	0.004	0.975

Pearson correlation of Mini Mental State Exam score and overall relevancy score

COMMUNITY CONTROLS (n=22)		DEPRESSED GROUP (n=18)		PARASUICIDE GROUP (n=18)		TOTAL SAMPLE (n=58)	
Pearson correlation	p value (2 tailed)	Pearson correlation	p value (2 tailed)	Pearson correlation	p value (2 tailed)	Pearson correlation	p value (2 tailed)
-0.070	0.756	0.665**	0.003	0.132	0.601	0.174	0.192

Pearson correlation of Geriatric Depression Scale score and overall relevancy score

COMMUNITY CONTROLS (n=22)		DEPRESSED GROUP (n=18)		PARASUICIDE GROUP (n=18)		TOTAL SAMPLE (n=58)	
Pearson correlation	p value (2 tailed)	Pearson correlation	p value (2 tailed)	Pearson correlation	p value (2 tailed)	Pearson correlation	p value (2 tailed)
0.253	0.257	-0.072	0.778	-0.162	0.521	-0.457**	0.000

* indicates significance at the 0.05 level (2 tailed)

** indicates significance at the 0.01 level (2 tailed)

Relationship of variables to effectiveness of relevant means

Independent samples t-test for relationship of gender to effectiveness of relevant means

COMMUNITY CONTROLS (n=22)		DEPRESSED GROUP (n=18)		PARASUICIDE GROUP (n=18)		TOTAL SAMPLE (n=58)	
t	p value (2 tailed)	t	p value (2 tailed)	t	p value (2 tailed)	t	p value (2 tailed)
-0.611 (df=20)	0.548	0.299 (df=16)	0.769	0.736 (df=16)	0.472	-0.255 (df=56)	0.800

Pearson correlation of WAIS IQ score (as predicted from Schonell Graded Word Reading Test) and effectiveness of relevant means

COMMUNITY CONTROLS (n=22)		DEPRESSED GROUP (n=18)		PARASUICIDE GROUP (n=18)		TOTAL SAMPLE (n=58)	
Pearson correlation	p value (2 tailed)	Pearson correlation	p value (2 tailed)	Pearson correlation	p value (2 tailed)	Pearson correlation	p value (2 tailed)
-0.069	0.759	0.466	0.051	0.120	0.635	0.132	0.325

Pearson correlation of Mini Mental State Exam score and effectiveness of relevant means

COMMUNITY CONTROLS (n=22)		DEPRESSED GROUP (n=18)		PARASUICIDE GROUP (n=18)		TOTAL SAMPLE (n=58)	
Pearson correlation	p value (2 tailed)	Pearson correlation	p value (2 tailed)	Pearson correlation	p value (2 tailed)	Pearson correlation	p value (2 tailed)
-0.195	0.384	0.289	0.244	0.390	0.110	0.098	0.463

Pearson correlation of Geriatric Depression Scale score and effectiveness of relevant means

COMMUNITY CONTROLS (n=22)		DEPRESSED GROUP (n=18)		PARASUICIDE GROUP (n=18)		TOTAL SAMPLE (n=58)	
Pearson correlation	p value (2 tailed)	Pearson correlation	p value (2 tailed)	Pearson correlation	p value (2 tailed)	Pearson correlation	p value (2 tailed)
-0.175	0.436	-0.555*	0.017	-0.259	0.299	-0.520**	0.000

* indicates significance at the 0.05 level (2 tailed)

** indicates significance at the 0.01 level (2 tailed)

Principal components analysis (with varimax rotation) of the modified MEPS.
 The table indicates loadings on each of four components using data from the whole sample (n=58) for number of relevant means per item.

ITEM	COMPONENT			
	1 (assertiveness)	2 (conflict)	3 (social isolation)	4 (passivity)
1	0.771			
2	0.419			-0.504
3	0.506			
4		-0.442	0.439	0.474
5	0.406		-0.760	
6	0.678	-0.437		
7	0.625			
8	0.611	0.497		
9	0.633			
10	0.416	0.644		

