

**THE CLINICAL PSYCHOLOGIST
AS SCIENTIST-PRACTITIONER**

by

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SYNOPSIS

The scientist-practitioner model in clinical psychology is critically examined and illustrated by reference to applied research using archival data as well as survey, single-case and group design methodology. A definition of the scientist-practitioner as one who consumes and utilises research findings, and who may also undertake research is espoused and defended. It is argued that the scientist-practitioner model is an appropriate one for clinical training since, in providing practitioners with a scientific mentality, it allows for psychology's unique contribution. The realisation of the scientist-practitioner ideal, however, is dependent on psychologists embracing a wide range of alternative research methods, on post-graduate employment settings that support and internalise the model, and on a recognition by researchers that they have a responsibility for disseminating their findings through effective communication channels.

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The realisation and completion through to publication of research in clinical settings is of necessity a team effort - firstly, because the clinician, unlike the full-time researcher, is a more part-time gatherer of data and, secondly, because the usefulness of applied clinical research is enhanced if it is "owned" by more than one member of a clinical team. Many people (particularly those acknowledged below) have helped in the development of this work.

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CONTENTS

| | Page No |
|---|---------|
| INTRODUCTION | 1 |
| Long, C.G. & Hollin, C.R. 'The scientist-practitioner in clinical psychology: a critique and defence of the model.' | 4 |
| SECTION ONE: THE CLINICAL PSYCHOLOGIST AS USER AND CONSUMER OF RESEARCH | 35 |
| Long, C.G. & Midgley, M. 'On the closeness of the concepts of the criminal and the mentally ill in the nineteenth century: yesterday's opinions reflected today.' | 39 |
| Long, C.G. 'Renal Care' | 57 |
| SECTION TWO: THE CLINICAL PSYCHOLOGIST AS RESEARCHER USING SURVEY METHODS | 71 |
| Long, C.G. & Smith, D.H. 'Parental pressure for tonsillectomy: attitudes and knowledge of parents accompanying their children to an ear, nose and throat clinic.' | 75 |
| Long, C.G., Smith, J., Midgley, M. & Cassidy, T. 'Over-exercising in anorexic and normal samples: Behaviour and attitudes.' | 81 |
| Cassidy, T. & Long, C.G. 'Problem-solving style, stress and psychological illness: development of a multifactorial measure.' | 89 |

| | |
|--|-----|
| Long, C.G., Blackwell, C.C. & Midgley, M. 'An evaluation of two systems of in-patient care in a general hospital psychiatric unit I: Staff and patient perceptions and attitudes.' | 116 |
| Long, C.G., Blackwell, C.C. & Midgley, M. 'An evaluation of two systems of in-patient care in a general hospital psychiatric unit II: Measures of staff and patient performance.' | 124 |
| Long, C.G., Williams, M. & Hollin, C.R. 'Staff perceptions of organisation change of treatment delivery on an addiction unit.' | 132 |
| SECTION THREE: THE CLINICAL PSYCHOLOGIST AS RESEARCHER USING SINGLE CASE METHODOLOGY: | 139 |
| Introduction and Historical Overview: | 140 |
| Long, C.G. & Hollin, C.R. 'Single case design: a critique of methodology and an analysis of current trends.' | 146 |
| Long, C. G. & Cordle, C.J. 'Psychological treatment of binge eating and self-induced vomiting.' | 164 |
| Long, C.G. & Smith, J. 'Treatment of compulsive over-exercising in anorexia nervosa: a case study.' | 172 |
| Long, C.G. & Hollin, C.R. 'Assessment and management of eating disordered patients who over-exercise: a four year follow-up of six single case studies.' | 186 |

| | |
|---|------------|
| Bloxham, G., Long, C.G., Alderman, N. & Hollin, C.R. 'The behavioural treatment of self-starvation and severe self-injury in a patient with borderline personality disorder.' | 206 |
| SECTION FOUR: THE CLINICAL PSYCHOLOGIST AS RESEARCHER USING GROUP DESIGNS | 215 |
| Long, C.G., Hinton, C. & Gillespie, N.K. ' Selective processing of food and body size words: application of the Stroop test with obese restrained eaters, anorexics and normals.' | 219 |
| Long, C.G. & Moore, J.R. 'Parental expectations for their epileptic children.' | 227 |
| Long, C.G. & Cohen, E.M. 'Low alcohol beers and wines: attitudes of problem drinkers to their use and their effect on craving.' | 242 |
| Long, C.G., Hollin, C.R. & Williams, M. 'Expectations and fantasies as outcome predictors after alcohol treatment: a useful distinction?' | 251 |
| Long, C.G., Midgley, M. & Hollin, C.R. 'Therapist prophecy revisited: Staff prediction of outcome following treatment of problem drinking.' | 280 |
| DISCUSSION AND CONCLUSIONS | 317 |
| REFERENCES | 324 |

INTRODUCTION

The scientist-practitioner model has driven professional training and much of the practise of clinical psychology since the Second World War. Despite this, it has been widely criticised as unrealistic, limiting and inappropriate to professional practise (eg, Pilgrim & Treacher, 1992). Reports that the aims of the model were not being realised (eg, Marrow-Bradley & Elliott, 1986) has been countered by recent researchers (eg, Barrom, et al, 1988; Milne, et al, 1990) who have adopted a broader based definition of the role and activities of the Scientist-Practitioner.

The scientific side of the professional practise of clinical psychology has come, over time, to describe three primary and inter-related activities for practitioners. In the first role the practitioner is a consumer of new research findings from research centres (usually new assessment or treatment techniques that he or she will put into practise). In the second role, the practitioner is an evaluator of his or her own intervention using empirical methods that will increase accountability. The third role describes the practitioner as researcher producing new data from his or her own setting, and reporting these data to the scientific community. It is with this broader definition of the Psychologist as Scientist-Practitioner (one who consumes, evaluates, applies to practise and disseminates research findings in addition to undertaking applied research) that this thesis is concerned.

A critique and defence of the Scientist-Practitioner model is offered and a varied role of the Clinical Psychologist as Scientist-Practitioner is examined in work with different client groups, including the mentally ill, physically ill and their carers, problem-drinkers and those with eating disorders. The following roles of the Clinical Psychologist as Scientist-Practitioner are illustrated:

1. Utiliser and consumer of research findings including the use of historical data, to provide a better understanding of current conceptualisations of his or her client group, in addition to integrating contemporary research findings to define and reform his or her role with specific client groups.
2. User of survey methods to cover data that has implications for improving health care both for clients and staff.
3. As researcher using single case methodology to evaluate the effects of his or her clinical interventions.
4. As researcher addressing questions of clinical relevance using group designs.

The following paper presents a critique and defence of the scientist-practitioner model.

Ref: Long, C.G. & Hollin, C.R. 'The scientist-practitioner in clinical psychology: a critique' (submitted for publication).

The Scientist Practitioner Model in Clinical Psychology:
A Critique

Clive G Long

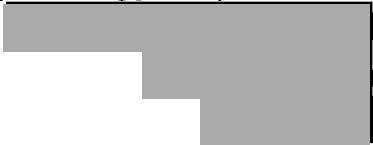

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Abstract

The Scientist-practitioner model of clinical practice is first contrasted with the alternative models of psychoanalysis, eclecticism, and the reflective practitioner. Consideration of the case against the scientist-practitioner model suggests that criticism is based on distortion and knowledge destruction, rather than reasoned debate. The case is restated that a scientist-practitioner stance should be an integral component for the progress of applied psychology. There is an urgent need to strengthen the interface between practice and research to increase practitioner effectiveness.

The Scientist Practitioner Model in Clinical Psychology:

A Critique

In the sense in which it is used here, the term "scientist-practitioner" refers to those clinicians who personally conduct research and/or draw on research to inform their practice. Such clinicians thus possess therapeutic competence as well as expertise in applied research, and may in addition carry out "clinical research" (Wilson, 1981) or "applicable research" (Watts, 1984). The undertaking of research is, of course fundamental to the goal of an empirically based approach to the profession of clinical psychology.

For four decades this research approach has been the dominant model of professional practice in clinical psychology. However, since it was first proposed by the American Psychological Association (APA) Committee on Training in Clinical Psychology (1947), the Scientist Practitioner model of professional training has been the source of much debate (Albee 1970; Barlow 1981; Frank 1984; Garfield 1986; Peterson 1976, 1985; Pilgrim & Treacher 1992; Prokasky 1986; Shakow 1978; Thelan & Ewing 1970). One focus of the debate is whether clinical psychologists actually do combine the roles of scientist and practitioner (Barlow, 1981; Bornstein & Wollersheim, 1978) and , indeed, whether there is any need to do so (Peterson, 1976; Shakow, 1978). The abandonment of the scientist-practitioner model in parts of the USA has led to the development of professional schools of psychology that emphasise the training of clinical psychologists for professional practice with less emphasis on research training. In contrast a number of British clinicians see the relatively new extended 3 year training course for clinical psychologists as an opportunity to "realise more effectively the scientist-practitioner philosophy by improving the levels and breadth of research training skills and practice" (Carr, 1990, p.18).

This aim of this article is to provide a critique of a scientist-practitioner model in clinical psychology. This will include the advantages and disadvantages of the model, consideration of alternative models, and an examination of the inter-relationship between research and treatment.

HISTORICAL DEVELOPMENT OF THE SCIENTIST-PRACTITIONER MODEL

As discussed by Raimy (1950), in the late 1940s the scientist-practitioner model of training in clinical psychology was given strong support by the American Psychological Association. Such public support represented an attempt to achieve two aims: to heal the rift between academic and applied psychologists; and through advocating training in research to help clinical psychologists establish a position independent of psychiatry in the mental health field.

The often cited scientist-practitioner split continued, however, to be a source of discontent, influenced by a climate in which some clinical procedures were judged as unproven (e.g., Bergin & Strupp 1972; Eysenck, 1965). Indeed, several other issues fuelled the debate: a view that naturalistic research was scientifically unacceptable; the position taken by some clinicians that scientifically rigorous group comparison research designs had difficulties in dealing with the complexities and idiosyncrasies of individuals; and an opinion that process research was incapable of evaluating the clinical effects of treatment.

Indeed, prominent clinicians such as Matarazzo flatly stated that applied research had no effect on his clinical practice: "Even after 15 years, few of my research findings effect my practice. Psychological science per se doesn't guide me one bit. I still read avidly, but this

is of little direct practical help. My clinical experience is the only thing that has helped me in my practice to date” (Bergin & Strupp, 1972, p 340). As this view prevailed among prominent clinicians who were well acquainted with research methodology, it is hardly surprising that clinicians without such training were unaffected by the promise or substance of scientific evaluation of behaviour change.

Cohen’s (1977, 1979) analysis of data from a series of surveys, showed that 40 per cent of mental health professionals thought that there was no relevant research to inform clinical practice, and the remainder believed that less than 20 per cent of research articles had any applicability to professional settings. Regardless of where research stands, on a continuum from poorly controlled single case studies to multi-centre randomised control trials, tensions between scientists and practitioners continue to exist. This tension led to frustrations, as seen in Wilson’s (1981) pleas to “put aside the invincible obstinacy of the fringe psychotherapists who eschew a scientific approach to the development and evaluation of treatment methods and those negativists who merely bemoan the complexity of our subject matter” (p.218).

The growth of behaviour therapy provided the setting conditions for an increase in the quantity of clinical research (Agras & Berkowitz, 1980). As this growth took place, so scientific quality grew as flexible and innovative methodologies and measures were introduced, ranging from group to single case experimental designs (e.g., Barlow & Hersen, 1984; Peck, 1985). In this climate, the scientist-practitioner model, most elaborately documented by Barlow, Hayes, and Nelson (1984), has maintained its impetus in recent years (e.g., Watts, 1984, 1992).

ALTERNATIVES TO THE SCIENTIST-PRACTITIONER MODEL

In view of the close relationship between behavioural psychology and the scientist-practitioner model (Bornstein & Wollersheim, 1974; Krasner, 1972), it is worth looking at three alternative practice models -- psychodynamic, eclectic, and the reflective practitioner - - in light of their relationship with a scientist-practitioner approach.

The Psychodynamic Model

It is difficult for the hermeneutic framework of psychoanalysis to be integrated within the framework of the scientist-practitioner model. One of Freud's dictums was that although therapy and research were closely allied in psychoanalysis, they required techniques that diverged in aim (Freud, 1955). While some conclude that this diversity is not insurmountable (e.g., Wallerstein & Sampson, 1971), others are not so optimistic (Sacks et al., 1975). Indeed, some clinicians advocate a move away from the role of scientist-researcher towards that of therapist, and see psychoanalytic psychotherapy as an appropriate model for practice (e.g., Crockatt, 1976; Mollon, 1989). Mollon (1989) views clinical practitioners' respect for research findings and their tendency to learn from literature rather than personally from a teacher as unsuited for a therapeutic role.

Eclecticism

Historically the scientist-practitioner emphasis has not laid emphasis on clinical psychologists focusing their attention on personal issues in therapy. However, there is currently a restatement of the view that the therapist is the primary factor in making therapy effective (e.g., Dryden & Spurling, 1989). This development of this view and the move

towards eclecticism has been well documented over the past decades (Garfield & Kurtz, 1976; Savage, 1966; Smail, 1982). Within psychiatry a systematic eclecticism has been advocated by, for example, Havens (1973) as a way of helping psychiatrists to make sense of competing models of therapy. Such a model sees the contending schools of psychiatry or psychotherapeutic thought as a reservoir of valuable theories, techniques and approaches to practice from which the practitioner chooses elements according to the special features of the case they are treating. In keeping with this view, some clinical psychology courses have moved away from a behavioural paradigm and the associated scientist-practitioner stance, towards eclecticism.

The Reflective Practitioner

The reflective practitioner model opens the possibility that theory may develop through a reflective process which emanates from practice activities (Hoshmand & Polkinghorne, 1992; Rein & White, 1981; Schon, 1983). While not widespread in British clinical psychology, this approach has clear parallels with qualitative research methods such as grounded theory (Strauss, 1987). Schon's (1983) alternative epistemology of practical and professional knowledge, derives from his belief that so-called "formal" knowledge has little direct application to complex problems of clinical practice. He conceptualises reflective practice as a process in which the experience, reflection and re-evaluation of the experience occur at the same time. This produces reflection in action.

A starting point for the arguments of Rein and White (1981) and Schon (1983) is that following the emergence of positivism as a dominant nineteenth century philosophy, the apparatus of the social science professions was built by borrowing from the physical sciences. Simply, science provided objective decontextualised knowledge, and practice

applied this knowledge to real world issues. The rhetoric of the human and social science professions incorporates the idea that this knowledge can be translated into skills. However, as Rein and White (1981) point out (in the context of social work), there are problems with the idea that "knowledge-into-skills" fully explains the practice of profession. The professions of Clinical Psychology and Social Work suffer from shifting and ambiguous goals and are unable to develop a base of systematic scientific professional knowledge. Large areas of practice present problematic situations which do not lend themselves easily to applied science and there is a disturbing tendency for research and practice to follow divergent paths.

Schon (1983) suggests that the development of an "action science" requires new ways of integrating reflective research and practice. To support this view he points to the findings suggesting that the creation of highly controlled experimental situations invalidates research findings when they are brought into a natural human context (Mischler, 1979), and that if a scientist attempts to "distance" him or herself from an experiment this undermines its validity (Argyris, 1968). In Schon's view the knowledge that determines current professional practice originates in the context of practice. However, since much of this knowledge is contained in practice, although much is unrealised and unarticulated, the function of research is the raising of latent knowledge to consciousness.

In this model research is a practitioner activity triggered by features of the practice situation, undertaken on the spot, and immediately linked to action. Schon (1983) identifies four types of "reflective" research that can be undertaken outside the immediate context of practice: these are frame analysis, repertoire building, methods and design of reflection, and the process of reflection in action. Schon (1983) describes the capacity to engage in

reflection in action as a double vision that does not require us to stop and think. It is the capacity to keep alive in the midst of action a multiplicity of views of the situation. Reflective research requires a partnership of practitioner/researchers and research/practitioners which may take a variety of forms as the practitioner is not dependent on the categories of established theory or technique but constructs a new theory of the unique case. Reflection in action can proceed in situations of uncertainty and uniqueness and is not bound by the dichotomies of what Schon (1983) calls technical reality. While not yet generally accepted as a professional stance, reflection in action is a complex activity that required a framework to allow it to be applied in a systematic way. Within the area of mental health nursing Wondrak (1993) argues the use of skills described as "internal supervision" (Casement, 1985) and the practitioner's use of Process Recording provides such a framework for the systematic supervision of practitioners

SCIENTIST-PRACTITIONER: AGAINST

Frank (1984) suggested that there was essentially two major criticisms of the scientist-practitioner model: i) there is no need for a research training to be a clinician; ii) the interests and talents necessary for research work and clinical work are incompatible and impossible to combine. Other critics, such as Pilgrim and Treacher (1992), clearly dislike the scientist-practitioner model because of its close alliance with behavioural theory and practice, neither of which are seen as desirable; its empirical stance; and its purported positivistic leanings.

In total, the scientist-practitioner model is seen as not only placing too little emphasis on the role of the therapist, viewed as crucial to therapeutic success, but as trapping clinical psychologists between the world of scientific investigations and the real world of the patient.

Pilgrim and Treacher are evidently in sympathy with Broad and Wade (1985) whose book Betrayers of the Trust: Fraud & Deceit in Science attacks the view of scientists as impartial seekers of truth. Admitting that Broad and Wade do not discuss psychological research in detail, with the exception of "Burt's fabrication of data in his papers" (p. 65), Pilgrim and Treacher nonetheless feel able to dismiss the scientist-practitioner model. (The allusion to Burt's fraudulence is made despite continued debate on the accuracy of such claims.) The basis for the position of commentators such as Pilgrim and Treacher rests on their assertions that clinical research is methodologically unsound, largely irrelevant, and the findings from a handful of studies that some researchers are unwilling or unable to share their data and can make mistakes. Thus claims that the scientist-practitioner model is successful (e.g., Strickland, 1983) are, in the view of critics such as Pilgrim and Treacher (1992), "a crucial part of the profession's [i.e., clinical psychology] rhetoric in establishing its superiority vis-à-vis other professions such as psychiatry, social work and nursing" (p. 82).

DISINFORMATION, DISTORTION AND DESTRUCTION

If a close look is taken at the criticisms of the scientist-practitioner model, it becomes clear that much of the case against the model is based on disinformation and distortion. Indeed, the arguments against bear a striking resemblance to what Andrews and Wormith (1989) termed "knowledge destruction": that is, the process of mounting spurious arguments against a model or set of data because its conclusions do not match with another preferred position. The following examples illustrate knowledge destruction at work.

The Roles of Scientist and Practitioner are Incompatible

Frank (1984) argues that personality differences between scientist/researchers and the professional/practitioners cause major problems for the scientist-practitioner model. The basis of this position is that the two groups cannot co-exist within the same profession because of invisible but powerful repelling forces between the two extremes. Phillips (1989), however, reminds us that all psychologists share a common frame of reference regardless of area of application. Although research has found differences in value systems aligned with the research/practitioner distinction, this separation is not as distinct or clear cut as often supposed.

There is No Need for Research Training for the Clinician

This viewpoint has been supported by a number of writers who argue that there is no need to combine the role of researcher and clinician (Frank, 1984; Meehl, 1971; Peterson, 1976; Pilgrim & Treacher, 1992). Thus the position is held that the task of the clinical psychologist is sufficiently complicated without including the role of researcher (Pilgrim & Treacher, 1992). Yet further, if a research role is given to all students, it might crush intellectual curiosity especially in those clinically minded trainees who are forced to conduct it (Barrom et al., 1988).

Ironically, however, there is no evidence to support these assertions. A clinical training that neglects research skills or fails to describe accurately an empirically-based practice framework results in an education that emphasises "mystery over mastery" (Gambrill, 1990, p. 343). Such a preference for mystery results in the neglect of research data concerning the effectiveness of different styles and types of intervention. Indeed, invoking mystery may

be a major reason for the “impostor syndrome”: the feeling expressed by some therapists that they are not really therapists (DeAngelis, 1987).

Research is Inapplicable, Inconspicuous and Poorly Supported

A number of clinicians hold negative attitudes towards research, which is portrayed as irrelevant to practice and ranking below more pressing service commitments (Pilgrim & Treacher, 1992). Indeed, for these reasons research therefore often meets organisational constraints and resistance (Salkovskis, 1984).

The poor UK tradition of conducting applicable research is not a reason for the abandonment of research. The last decade has, for example, seen a shift toward a greater emphasis on research that is directly relevant to clinical practice (Barlow, 1981). The distinction between applied and applicable research is important here when considering the scientist-practitioner model (Belbin, 1979). The essential characteristic of “applicable” research is a strong orientation towards a practical problem with the goal of making convincing recommendations for its solution. Applied research, in contrast, is oriented more towards the core area of psychology that is being applied or the methodology employed, than to the solution of the problem. As Watts (1984) notes, the tradition of applicable research is weak and the research undertaken by UK psychologists is applied but often not applicable. However, the twinning of research and practical objectives is central to what is sometimes called action research. There are many examples of research that have directly improved clinical services. Paul and Lentz (1977) demonstrated the advantages, in terms of efficiency and cost effectiveness, of social learning methods in the treatment of chronic institutionalised mental hospital patients. In Britain, Lavender’s (1985) work on long-term psychiatric wards provided reliable measures of the extent to which a ward met quality

standards of patient care and management, and lead to improvement of standards in the hospital.

Clinical Psychologists Rarely Produce or Utilise Research

Although many clinicians pay lip service to the importance of the scientist-practitioner model, adherence to the model may be an ideal rather than a reality (Prochaska & Norcross, 1983). Studies show that clinicians have a low involvement in research after graduating (Garfield & Kurtz, 1976) with low productivity (Kelly et al., 1978), and a modal frequency of research publications of zero (Barrom et al., 1988). Further, psychologists consume and use research to only a limited extent (Cohen, 1977; 1979). If this is true, why train practitioners in research skills?

However, at least three studies have questioned the validity of these findings in recent years, and have supported the viability of the scientist-practitioner model (Barrom et al., 1988; Bornstein & Wollesheim, 1978; Milne et al., 1990). Bornstein and Wollersheim (1974), who surveyed the scientist-practitioner activities of the APA's Division of Clinical Psychology, found that although both university and non university behaviourists were more active than non-behaviourists with regard to publications and formal papers, the latter more active producers of research than was generally assumed. They concluded that the goal of behavioural training in integrating scientific and applied aspects of clinical psychology was meeting at least partial realisation.

Both Barrom et al. (1988) in the USA and Milne et al. (1990) in Britain, have noted that apparent problems in research production, consumption and utilisation spring from too narrow a definition of research. They argue that research needs to be construed as a long

continuum from poorly controlled single case studies, to multi-centred randomised controlled trials. Barrom et al.'s (1988) random sample survey of the scholarly activities of Ph.D. and Psy.D. trained psychologists found, like other studies, that practising clinicians produced few publications but that they were active in research in other ways, and were consumers of research. In particular the majority of clinicians were either currently or had recently been involved in some form of scholarly production, were active consumers of scholarship, had a positive attitude toward scholarship, and thought that research should continue to be an important part of clinical training. Analysis also suggested that setting characteristics -- such as the number of paid work hours that could be devoted to research, and the percentage of colleagues doing research -- determined whether clinical psychologists actually involved themselves in scholarly activity. They concluded that given the low level of support for such activities in most clinical settings, the scientist-practitioner model was doing as well as could be expected. Likewise, Milne et al.'s (1990) survey of 73 psychologists, found a high reported level of producing (undertaking and publishing) , consuming (reading), and utilising (applying to practice) research.

SCIENTIST-PRACTITIONER: FOR

It is a matter of debate (empirical debate, we would argue) whether a dual training in clinical and research skills produces better or worse clinical psychologists. It is not difficult to mount an argument that such dual training lends a valuable quality to the profession of clinical psychology. The ability to consider intelligently both clinical and research issues is arguably mutually beneficial to the researcher and the clinician in the performance of their respective functions (Wollersheim, 1974).

Science as Value Free, Behavioural, and Positivistic

Adoption of the scientist-practitioner model means that progress and development in clinical psychology is guided by empirical research. However, to make this statement does not mean a blind acceptance of stereotypes of empirical research.

Research is not value free

The socially myopic scientist is perhaps one of the great myths about the research community. It is abundantly clear from diverse material such as biographies and interviews that many scientists struggle with the moral and ethical issues associated with their work. Indeed, Prigogine and Stengers' (1984) book Order out of Chaos, makes the point that all measurements, experiments, and observations are only truths within given situations. In their view, with which most contemporary researchers in the human sciences would surely agree, researchers always remain "at the mercy of triviality and poor judgement! (p. 42). It is precisely for that reason that professional bodies have codes of ethics to guide research. Similarly, many centres of applied research are concerned to have ethics committees to oversee their research programmes.

Empiricism equals positivism

At a rational level, there are problems simply in coming to an understanding of the term "positivism". In a critique of the approach, Halfpenny (1982) was able to identify no fewer than twelve positivisms. To equate empirical research with positivism is, it follows, rather meaningless without specifying what positivism is implicated. However, the real issue is not one of philosophical exactness, but a knee-jerk reaction by those bent on knowledge destruction. As Halfpenny notes, anti-positivists, "use the term loosely and indiscriminately to describe all sorts of disfavoured forms of inquiry" (p.11).

Research relies on statistics

It is true that some research does use statistics, but is not clear why this is such a bad thing. Further, many researchers use a range of approaches to understanding their data, including qualitative as well as quantitative methods. In recent years, for example, the usefulness of single case study designs and small n designs in bridging the scientist-practitioner gap has been highlighted (e.g., Long & Hollin, in press; Spellman & Ross, 1987).

Clinical researchers are behaviourists

The same argument applies here as for positivism: what type of behaviourism is implied? While it may be the case that much clinical research is carried out by those who espouse some form of behavioural stance, it is nonsense to imply that this is true for all clinical research.

It is evident that empirical research can embrace a range of types and forms of enquiry, have a basis in any number of philosophical approaches, and use a multitude of methods and styles of analysis. The interesting question is why the myths of knowledge destruction continue to be promulgated. There could be, of course, many answers to this question: our view is that to advocate an empirical stance is to challenge and threaten the autonomy and omnipotence of the therapist, a challenge that some clinicians clearly find uncomfortable.

Research as an Agent of Change

The benefit of research needs to be measured not only in terms of its potential advantage in answering important therapy questions, but because of its indirect positive effects on clinical practice and the treatment milieu. James et al. (1990) found that staff discussion of

research findings using the Ward Atmosphere Scale contributed to several changes in unit procedures and to reduction in the real-ideal discrepancies for the systems maintenance elements of the programme. There is growing evidence that research and treatment may enhance one another (Braff et al., 1979; Sacks et al., 1975), and that research can even be therapy (Rashkis, 1960; Leigh, 1975). Carroll et al.'s (1980) research supports the notion that "patients have a tendency to improve in a setting where structure has been imposed by a research design" (p. 379). While acknowledging the contribution of the Hawthorn effect (improvement resulting from the attention given to a high visibility project), they were able to detect a cause effect relationship that flowed directly from the implementation of research. Specifically it was found that the introduction of the research protocol led to a more accurate diagnosis, and more individualised and rigorously monitored treatment regimes: alongside which the methodology necessitated increased staff involvement so that the research programme served as an impetus to improve treatment. A similar conclusion can be drawn from a study by Ben-Arie et al. (1990) who found that their research cohort had fewer readmissions to a psychiatric hospital despite the presence of factors (e.g., significantly greater number and frequency of previous admissions in the research groups) that would be expected to be associated with a contrary result.

In the field of working with offenders the impact of the meta-analytic studies (e.g., Andrews et al., 1990; Lipsey, 1992; Losel & Kofler, 1989) has been dramatic. From a position of "nothing works" the issue has quickly become "what works", leading to a revival of a once moribund area of clinical endeavour (Hollin, 1993; Palmer, 1992). In the present context, one of the findings of note from the meta-analyses is that programmes with high treatment integrity have the greatest impact on recidivism (Hollin, in press). One of the key correlates

of high integrity is an active research programme evaluating the intervention, providing a perfect example of the interplay between research and effective practice.

DISCUSSION

This overview and critique advances the case for the scientist-practitioner model as the model of choice for the development of the profession of clinical psychology. Three alternative models have been examined. The psychodynamic approach advocated by Mollon (1989) is a partisan view that, should history have followed that course, would have hampered the development of clinical psychology. An adherence to any one psychoanalytic tradition as the model to provide the backbone for practitioner learning, not only ignores many other major approaches to psychotherapy, but may well be impractical. Although client centred, the central core of such training involves a very expensive and lengthy analytic training.

One of the problems with an eclectic approach is that it is based on an unexamined idea of effectiveness. Various school of thought represent different ways of framing a therapist's role. A psychoanalytic psychotherapist differs from, say, a cognitive therapist not only in terms of the techniques he or she employs, but in his or her way of conceiving what it means to be a therapist, his or her stance towards the patient, and what he or she defines as a successful therapeutic outcome. When speaking of selecting an approach best suited to a given patient he or she makes implicit reference to an idea of effectiveness which is constant for all patients. However, with the change of frame the idea of effectiveness also changes. As yet there is no evidence that different schools of practice can be dissolved into a superordinate science of psychotherapy. Norcross and Prochaska's (1988) survey of

self-nominated eclectic practitioners found considerable divergence and little convergence. Even Lazarus (1992) notes that "the integration movement has done little (if anything) to diminish the chaos that surrounds the hundreds of different schools of psychotherapeutic thought and that differences among various intergrationists may even surpass those of the most rigid school adherents" (p. 259).

The drift towards eclecticism has a negative, pessimistic air. It implies disillusionment with the conceptual basis of psychological knowledge, and teaches students to be highly critical of theories of which they can at best have only a superficial knowledge. Indeed, Pilgrim and Treacher (1992) suggest that British students on eclectic clinical training courses feel overcome by information overload. An eclectic approach that does not help the trainee practitioner move towards an integrated model of therapy, or "technical eclecticism" (Lazarus, 1992) can be hopelessly confusing for all concerned.

The third model (reflective-practitioner) has been critically evaluated by Wonderak (1993) who suggests that the proposals advocated by this approach require more elaboration. Further, it is clear that what is being described is a process of retrospectively thinking about action, (rather than the process of reflection in action) without any clear idea as to how the one can develop into the other. Schon (1983) acknowledges that the reflection in action practitioner violates the canon of the controlled experiment that requires objectivity and distance, by imposing his biases and interests on the situation under study. As Gambrell (1990) points out, specialised knowledge when used and combined with non specific helping skills increases the effectiveness of professionals who are familiar with this knowledge and who possess related skills. Clear thinking skills are not enough to make accurate clinical decisions, specialised knowledge is also needed (Chi & Glaser, 1985).

The reflective practitioner in making little use of quantitative data is representative of the practice of some clinicians or researchers who knowingly or not embrace the pseudo-scientific perspective (Bunge, 1984). Medawar (1984) argues that quasi-scientific psychologists “are getting away with a concept of truthfulness that belongs essentially to imaginative literature” (p. 58). He describes this approach as “poeticism” which “stands for the belief that imaginative insight and the mysteriously privileged sensibility can tell us all the answers that are truly worthy of being sought or being known” (p. 60). The problem with the gap between professional knowledge and the demands of real world professional practice, highlighted so well by Schon (1983) and Rein & White (1981), is potentially capable of resolution within the scientist-practitioner framework. Simon (1972) believes that all professional practice is centrally concerned with “design”, i.e., the process of “changing existing situations into preferred one” (p. 56). However, professional schools do not teach this core skill because such training would have to be grounded in the science of design, which is yet emergent. Simon’s (1972) proposal for such a science design attempts to fill this gap in such a way as to preserve a scientific model. The theory called psychological behaviourism specifically aims to construct theory bridges from the scientific to practice in a bi-directional development (Staats, 1993; Tyron, 1990). Such an approach would seem infinitely preferable to the rejection of scientific empiricism in favour of anecdotal empiricism (Thorngate & Plouffe, 1987).

Practitioners can bring to research the insight, judgement, and experience that comes from daily interaction with practical issues and problems. They are also likely to ask more difficult research and application questions (Schopler, 1987).

It is sometimes said that the scientist-practitioner model is not based on the reality of the settings in which clinicians must operate. Whilst this may be a limiting factor (Barrom et al., 1988), Abrahamson and Pearlman (1993) point out that not only can Boulder model organisations for clinical work be a reality for clinical psychologists, they are a necessity for psychology's continued development as a profession, with an identity relative to other mental health disciplines. Although official blessing for Peterson's new practitioner-scientist paradigm for training (for psychologists primarily wishing to practice) was given at the 1973 Vail conference (Korman 1976), some 8 years after the Vail conference a survey by Caddy (1981) revealed that few departments of psychology had introduced this auxiliary model. Further, a series of articles in American Psychologist reaffirmed the profession's commitment to the scientist-practitioner model for training clinical psychologists (Belar & Perry, 1992; O'Sullivan & Quevillon, 1992).

This stance is perhaps not surprising given the close relationships that many authorities believe could exist between research and clinical practice. Edwards (1987) notes that since problem solving is a central process for both researchers and practitioners, it follows that the roles of scientist and the practitioner are compatible. An effective dialogue at the graduate training level communicates to future professionals that research and its use is a "collaborative process requiring the sharing of insights, skills and resources" (Cohen et al., 1986, p.203). Indeed, it is through the continuation of research training in clinical programmes that psychologists are sophisticated consumers of psychological research rather than "crystal ball gazing" practitioners (Wollersheim, 1974). In a thought provoking presidential address to the British Psychological Society's Annual Conference Watts (1992) commented on the perennial danger of psychology "falling apart" and fragmenting into an academic discipline concerned with basic research that had little connection with a

profession with valuable applied skills. He cites the development of single-case experimental methodologies as one of the most important bridges between basic research and professional practice to have been constructed in the previous 30 years.

In describing the obstacles that the practitioner has in applying science to practice, Phillips (1989) points out that while it is important to strengthen the interface between science and practice, the practical application of science is not generally well understood. There is probably some force to the argument that researchers do not always consider an applied perspective. Rush (1994), for example, notes the need to make user-friendly to practitioners the vast amount of well established information on the treatment of depression. In a thought provoking article on the obstacles to disseminating applied psychological science, Beutler et al. (1993) report survey findings suggesting that while clinicians believe research findings are and have been important in modifying their practice, they receive "research" information not from research journals but from workshops, popular books and practice orientated journals. The implication of this is that scientists need to modulate their findings through vehicles of communication valued by practitioners. The importance of this is highlighted by Burnham's (1987) persuasive argument that the popularisation of science by journalists in fragmented bits and pieces is one of the major reasons for the widespread acceptance of superstitious beliefs. Indeed, a major problem in applying science to practice, is overcoming attitudes that tend to justify and reinforce isolation of the scientific community on the one hand, and the practitioner community on the other. The variety of ways of integrating the work of the scientist and the practitioner to the benefit of both (Beutler et al., 1993; Garnezy & Masten, 1986; Heppner & Anderson, 1985) are long overdue and much awaited in terms of their practical realisation.

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SECTION ONE:

THE CLINICAL PSYCHOLOGIST AS USER AND CONSUMER OF RESEARCH

A number of surveys designed to assess the extent to which Clinical Psychologists fulfil the role of the Scientist-Practitioner (eg, Head & Harmon, 1990; Morrow-Bradley & Elliott, 1986) have adopted a restricted operationalisation of “research” as the production of “publishable” articles. Wider operationalisations of the Scientist-Practitioner (eg, Barrom, et al, 1988; Milne, et al, 1990) have included:

- a) Reading research (“consumption”)
- b) Applying research to practice (“utilisation”)
- c) Undertaking and publishing research (“production”)

The first section of this thesis is concerned with the first two roles of the Scientist-Practitioner: that is as a consumer, and as an evaluator and applicator of research findings.

The Scientist-Practitioner as research consumer who uses this knowledge to influence his or her clinical decisions, must be aware that these decisions are influenced by past environments (such as the social-historical conditions within which practice theories and service delivery systems emerge), as well as current or future environments (Grambrill, 1990). Only by understanding how these environments influence clinical practice can the nature of clinical decisions be understood and changed in major ways (eg, Burnham, 1988). Current clinical training may not provide students with an understanding of historical and structural factors that influence the development of professional practice (Mills, 1959) and it is easy for clinicians involved in health care on a day-to-day basis to forget to step back to view the larger picture within which clinical practice takes place. Psychotherapy, for instance, has a value-laden base that makes knowledge of the history of psychiatric treatment of vital importance to clinicians. An historical understanding of the different ways in which deviance has been defined reveals the value-laden basis of personal and social

problems: an example of this is the way in which certain individuals and variations of behaviour have been described as sinful, then as criminal, then as indications of mental illness (Scheff, 1984; Szasz, 1970). In the field of problem drinking Levin (1990) has noted how historically alcoholism has been viewed in three competing but not exclusive ways - as immorality, as illness, and as social deviance. Critchlow (1986) highlights the fact that historical and non-scientific explanations of the effects of alcohol are found not just in the writings of the temperance movement, but also in modern legal and medical documents.

Studies of clinical decision-making suggest that decisions are often based on beliefs about the moral character of clients rather than on objective accounts based on empirically grounded theories of behaviour (Gambrill, 1990). An historical awareness can help increase the "critical thinking" of clinicians, while a lack of familiarity with the intellectual history of a field leaves clinicians prey to repeating rather than building on past debates. The following historical research was undertaken to establish changes in conceptualisation and treatment policy and the extent to which past explanations of the behaviour of different client groups (the mentally ill and the criminal) continue to exert an influence on modern practice and thinking. Scheff's (1984) re-assessment of the current status of labelling studies in the second edition of his work "Being Mentally Ill" argues that both historical and psychological investigations were needed to compliment the sociological understandings and societal reaction to deviance. The first study in this thesis examines the extent to which public and professional attitudes and ideology have combined in the past to emphasise the similarities between different forms of deviant behaviour and produce a stereotype that is like neither of the populations from which its elements are drawn, but whose composite image has influenced the treatment and disposition of those who fall beneath its conceptual umbrella (Long & Midgley, 1992). The extent to which notions of the criminal and mentally

ill individuals merged in the 19th century, and the impact of this on subsequent treatment and modern thinking is discussed.

The full reference is Long, C.G. & Midgley, M. (1992) "On the closeness of the concepts of the criminal and the mentally ill in the 19th century: yesterday's opinions reflected today" Journal of Forensic Psychiatry, 3, 63-78.

On the closeness of the concepts of the criminal and the mentally ill in the nineteenth century: yesterday's opinions reflected today

CLIVE LONG and MARIE MIDGLEY

ABSTRACT Nineteenth-century explanations linking criminals and the mentally ill are examined. The closeness of the association between these two groups in the public and professional mind is highlighted along with its effect on their treatment. The influence of these notions on modern thought is noted and explained by reference to cultural inertia theory.

INTRODUCTION

Attempts to elucidate the nature of criminals and the mentally ill have ranged historically from supernatural and religious explanations to more recent issues touching on heredity and the environment. In many instances, similar explanations have embraced the two diverse groups, with the mentally abnormal or mentally handicapped offender (Saunders, 1985) serving as a widely publicized caricature of both in the nineteenth century. Indeed Szasz (1970) states that institutional psychiatrists at this time combined the notions of mental illness and criminality and resisted efforts to separate them. This article explores the interactions between the theoretical concepts held by the professionals responsible for the mentally ill, the criminally insane and criminals, and the way this affected the treatment that they received; modern parallels are drawn where appropriate. The article also focuses on public attitudes towards these groups and

the way in which Victorian concepts have persisted in the public mind long into the twentieth century, a phenomenon which has been explained by analogy through the hypothetical model of 'cultural inertia' theory (Downey, 1967).

ENVIRONMENTAL CAUSES OF CRIME AND MENTAL ILLNESS AND PUBLIC REACTION

During the nineteenth century the theoretical models of moral treatment, somaticism and social Darwinism were popularized and influenced both succeeding models and public opinion. As ideas changed so did the treatment given. In the early part of the nineteenth century there was a preoccupation with the adverse effects of the physical and social environment in producing crime and mental illness. Browne (1837) believed that an increase in insanity was due to the development of 'mechanical civilization' and that these 'occupations, amusements, follies and above all the vices of the present race are infinitely more favourable for the development of the disease than any previous period'. The beliefs of Browne and Pinel have been echoed in various forms down to the present day – thus it is regarded as axiomatic in many quarters that modern western civilization has produced a high rate of neurosis and that tensions now exist which were unknown in a simpler and more leisured age (Jones, 1955).

Similarly social factors were seen as operating in the causation of crime. Criminal statistics, first introduced in 1805, provided ammunition for the critics of the poor (Pearl, 1968). Colquhoun's (1806) 'Treatise on Indigence' saw crime not as the sum of individual transgressions but as a mass phenomenon produced by a certain stratum of society. It was not a matter of bringing to justice and punishing a number of persons who had committed offences but of finding a means of counteracting the peculiar mentality and mode of conduct of certain groups of society whose members tended to support themselves 'by pursuits either criminal, illegal or immoral' (Radzinowicz, 1956).

The Royal Commission on Constabulary Force destroyed the belief in a crude association between poverty and crime. After publication of its seminal report in 1839 few people saw the main cause of crime as being due to a simple mechanistic model of hungry men driven to steal for lack of other means of getting their bread (Tobias, 1972). Nor were the Victorians foolish enough to ascribe criminal conduct entirely to 'evil natures'. Although opinion often tended to seek the causes for crime in general (e.g. 'tippling . . . fills the land with drunkenness, crime, pauperism, insanity and a host of other festering evils' (Hoyle, 1876), or 'that fertile parent of every vice, idleness' (Chesterton, 1856)) the writers of the mid-nineteenth century could see many complex ways in which poverty of life and surroundings could result in someone, especially a youngster, entering the ranks of criminals.

Focus on environmental issues in the causation of both mental illness and

criminality meant that the two could be viewed as linked together, two sides of a common problem, but it also implied that the root of the problem was outside the individual and could presumably be rectified. Thus the early part of the nineteenth century was characterized by relatively optimistic attitudes towards the mentally ill. The liberalization of professional attitudes towards the mentally ill arose as a result of the moral treatment movement. Almost every issue in contemporary clinical psychology was discussed at length by its leaders between 1790 and 1860. The moral treatment system imposed a medical model on the care of the insane, the concept that mental disorder was a disease requiring the attention of a qualified physician, not a metaphysical visitation to be exorcized by means of religion, magic, or quack remedies. By the 1850s the use of restraint in hospitals had been severely restricted by the work of Conolly and others. In the Pinelian tradition of humanistic psychiatry Conolly advocated a therapeutic system that involved attitudes of respect, kindness, patience, understanding and truthfulness on the part of the staff towards inmates, with an almost total abolition of restraint (Deutsch, 1937).

During this period the asylum superintendents made efforts to ameliorate public attitudes towards the insane which led them to write a series of articles describing painstakingly both their patients and the details of institutional life. They presented the mentally ill sympathetically, even admiringly, and occasionally with the cloying sentimentality so typical of the nineteenth century, both in the explicit content of their writings and through a common imagery in which the insane were compared to children and poets.

However, much publicity concerning mental illness was still adverse. In 1823 *Sketches in Bedlam* was published by a 'constant observer' (Hunter and McAlpine, 1963) and consisted in its latter half of case histories of 113 male and 28 female inmates including those of Margaret Nicholson and James Hadfield both confined as criminal lunatics for attempts on the life of George III. In this work most descriptions of the patients were stereotyped and coarse as, for instance, 'this heterogeneous compound of cunning, pride, wit, impotence, boasting, lies, filth and frenzy'. The cases were selective and served to arouse all the old moral prejudices against the insane while re-erecting the barriers of fear and apathy that the reformers had slowly broken down. One example of this effect is the furore that followed Gardner Hill's lecture on the 'total abolition of personal restraint in the treatment of the insane' to a lay and medical audience at the Mechanics Institute at Lincoln, in June 1838.

Public attention [wrote Gardner Hill] was soon roused, as well it might be, to the subject . . . indeed for many years I was stigmatised as one bereft of reason myself . . . and a practical breaker of the sixth commandment by exposing the lives of the attendants to the fury of the patients. (Jones, 1955: 153)

Thus while those working with the mentally ill at this time tried to advocate a

more liberal attitude, much public opinion as expressed in the press was negative. The moral treatment approach had been oversold to the public and as a result whatever success it had become overshadowed by disappointment in its failure to perform miracles. By the 1870s the myth of the curability of the mentally ill and, by association, much of moral treatment was thoroughly discredited (Caplan, 1969).

THE ASSOCIATION OF INSANITY AND VIOLENCE

Prisons had been full since the turn of the nineteenth century (Fox, 1952). To solve this problem asylum superintendents in the mid-nineteenth century became obliged to accept patients sent by the courts and commissioners of the poor rather than being allowed to select their own patients as they had done previously. Hospital wards became chronically overcrowded and the mentally ill patient population mingled with alcoholics, criminals, paupers and other undesirable patients. This mixing of groups blurred the conceptual differences between them and probably contributed to the change in public and professional attitudes.

The fact that the public institutions could no longer select their own patients also resulted in an increase in the number of violent, maniacal patients as well as the criminally insane, namely patients who had been acquitted of crimes of violence on grounds of insanity and prisoners in penal institutions who became mentally disturbed while serving their sentence. This in turn probably contributed to the public view that all insane people were violent. Specific instances, such as the publicity surrounding the McNaughton case in 1843, served to reinforce this view. When McNaughton was acquitted of the murder of the Prime Minister's secretary Drummond the relative impunity with which he appeared to escape the consequences of his crime created alarm in the public mind and apprehension about the danger to which the ordinary citizen was exposed from the acts of madmen. The newspapers of the time threw all their influence against McNaughton: 'of all the 20,000,000 persons that composed the population of the British Empire', wrote the editor of the *Sunday Times* in the issue of 12 March 1843, 'who, beside the judge and jury who tried McNaughton and the witnesses who swore to what they considered the proofs of his insanity, considered him insane . . . can Sir Robert Peel feel his life worth a week's purchase after this acquittal?'

The question of the violence of the insane was again raised at the 1856 annual meeting of the American Association of Medical Superintendents. Gray presented a paper on 'Homicide in Insanity' in which he noted that 'a disposition to violence is a common characteristic of mental disease' and 'is

exhibited in every conceivable manner, from harsh words to suicide, in the most cruel and brutal murders, and it is found in every form of insanity' (Gray, 1857).

One does not have to look far afield for a modern parallel to this belief: 'They can give the place any flash title that takes their fancy', wrote Fairey (1973), 'but they can't deny that top security Rampton Hospital in Nottinghamshire harbours more human monsters than a dozen "X" certificate movies put together.' His fear that some ex-Rampton patients (now at another mental hospital) would be allowed to go on shopping expeditions was a product of the belief that 'every now and again the restored patient promptly rapes, murders or poisons some innocent victim and has to be put away again'.

In the nineteenth-century many vehicles strengthened the link already forged between crime and mental illness. Organs like the *Prison Journal of Boston* listed facilities for the insane next to those of the criminals – a practice which did nothing for the latter and actively damaged reputations of the former (Caplan, 1969). William Guy, medical superintendent of Millbank prison in London from 1856 to 1859, produced statistical evidence of the close association between the criminal and mentally ill populations. His 1862 census of over 7,000 inmates of the convict prisons concluded that the insane, the weak-minded and the epileptic were particularly disposed to crimes of violence, arson and sexual offences (Saunders, 1985). He also suggested that the lunatic asylum should substitute for the prison, the hospital and the workhouse in the management of the large population of criminal imbeciles who roamed the country.

THE QUARANTINING OF CRIME AND MENTAL ILLNESS

By the 1870s a majority of professionals no longer adhered to the belief that mental disease, irrespective of the patient's background, was a largely curable malady. This virtual reversal of attitudes towards the insane was one of the most profound though gradual changes in mid-nineteenth-century psychiatry. Psychiatrists began to revert to an explicit somaticism reinforced by the direction taken by scientific and medical theory. The focus of social Darwinism was the enervation of the race. The insane were seen as an alien influence, now classed once more with other species of degenerates, such as criminals and the retarded. All groups were to be treated in the same way by isolation and sterilization. This ideology dehumanized the insane as it did other classes of dependants and a number of racial minorities and it served to reinforce the old prejudices of fear and shame.

This change in attitudes was reflected in psychiatric features and writings where a return to the earlier stereotypes of lunatics as indecent, inhuman and menacing can also be seen. Scull (1979) points out that the concept of insanity was stretched in the mid-nineteenth century to encompass all those (the decrepit, the

socially inept and incompetent, and the superfluous) living on the margins of acceptability. Rehabilitation of deviants and treatment of the insane were superseded by the policy of 'quarantine' for the mentally ill and the mentally handicapped (Saunders, 1985) and for offenders (Ignatieff, 1978). The need for quarantine was justified by, among others, Isaac Ray who believed that mental illness was contagious, a notion he had derived from instances of mass hysteria (Ray, 1863). It was felt that the safety of the sane, and particularly of children, demanded the exclusion of lunatics from families in order to prevent a spreading of the disturbance.

It is therefore not surprising in this climate that the mentally ill were frequently treated as criminals. From 1842 to 1850, the first eight years of Pentonville's 'model' existence, there were apparently 'upwards of ten times more lunatics than should be according to the normal rate'. An official report by Bradley, the prison's medical officer for the year 1853, admitted that among the first 60,000 prisoners there were 320 cases of insanity, 310 cases of delusions and 40 suicides (Mayhew and Binney, 1862).

In another study linking crime and mental illness, William Guy carried out a statistical survey comparing the degree of insanity among convicts with that among paupers and the population at large. He concluded that the convict population was 34 times more liable to insanity than the general population (Guy, 1869). For some authorities the reason for the high instance of insanity in prisons was clear. Griesinger (1845), for example, pointed out that 'very commonly the individuals (in houses of correction) are already strongly predisposed, and frequently the disease is even more than half developed before he is put into prison, in as much as during his previous life the criminal has been exposed to all the causes of insanity'. Yet, given an adequate screening process, it is more likely that these insanity figures can partly be explained as a result of the effects of stimulus deprivation on 'inadequate' personalities – the result of the 18 months' solitary confinement prisoners endured before Jebb's reforms (Carlebach, 1965). Thus the results of the prison system came to justify its existence.

CHANGES IN THE TREATMENT OF THE CRIMINAL AND THE MENTALLY ILL

The mixing of criminals with the mentally ill and the rise of somaticism and social Darwinism during the mid-nineteenth century created a more pessimistic view of both of these groups (Burn, 1964) and this in turn led to a change in treatment. There was not, however, a clear dividing line between the era of moral treatment and that of custodial care and the rate of change in psychiatric and penal practice was uneven during the mid- and late nineteenth century.

In 1863 a committee of the House of Lords met to consider the increase in

crime which was attributed by the public to the release of a 'flood of criminals' into the country under the new penal servitude system. They called for a minimum penal servitude sentence of five years and a tightening up of discipline. The 'marks' system of Maconochie was introduced and an arrangement made for greater speed and certainty in the infliction of flogging for serious offences. Effect was given to these proposals in 1864 with the undoubted support of public opinion. It was subsequently believed that the threat and use of the 'cat' alone had put down robbery with violence and the severe sentences of flogging later administered by Mr Justice Day in 1887 were also believed to have broken up the notorious organization known as the 'High Rip Gang' (Burn, 1964).

The establishment of the custodial hospital and the changing views on punishment were also related to the development of a psychiatric and penal sub-culture which resulted in the erection of barriers between the 'professionals' and other groups. Professionalization, when combined with intellectual isolation, deprived psychiatry of some of the insights of other disciplines and approaches which might have been useful in dealing with the philosophical and scientific problems growing out of mental illness (Jones, 1960). Moreover, since the hospital's existence could not be justified by the number of patients it cured, its *raison d'être* had to be rationalized in custodial terms. Much of the support the mental hospital received was predicated on the assumption that, like prison, it provided a protection against groups that menaced the safety of society. A Colonel Frazer, for example, alluding to the Habitual Criminals' Bill, suggested that no Victorian criminal should be released until it had been proved that he was no longer dangerous and that 'every convict . . . should be marked in prison by a simple combination of alphabetical letters' making for ease of identification (Greenwood, 1869). Thus the concepts of the mentally ill, mentally handicapped and criminals had merged in the minds of carers and public and the treatment they received was very similar.

PROFESSIONAL IDEOLOGY CONCERNING CRIME AND MENTAL ILLNESS

A mixture of beliefs and hopes contributed to the professional ideology concerning crime and mental illness between 1870 and 1890 (Platt, 1969). The imagery of pathology, infection, immunization and treatment was borrowed from the medical profession; that of the intractability of the species from the tenets of social Darwinism; ideas concerning the biological and environmental origins of crime can be attributed to the anti-urban sentiments associated with the Protestant rural ethic.

The 'disease' model

The early penal reformers' self-image as doctors rather than guards found

expression in what Carlebach (1970) has called the 'hospital' model of delinquency; Mary Carpenter spoke of 'morally diseased children' (Benjamin, 1852), while Sydney Turner saw the reformatory as a 'hospital to cure real diseases' (Carlebach, 1970). In 1846 Matthew Davenport Hill prepared, at the Law Amendment Society's request, a *Report upon the Principles of Punishment* in which he 'urged . . . the acceptance of the idea that crime must be regarded as disease, and penal treatment as moral surgery' (Davenport Hill and Davenport Hill, 1878). Those that would be reformed 'would be so large, that the remainder might, without any shock to public opinion, be detained indefinitely, on a similar principle to that on which lunatics are kept under restraint. In the case of lunatics, that restraint is only withdrawn when the patient is relieved of his malady: and just as detention confers benefit upon the lunatic then upon society, so it would be in regard to the criminal' (Davenport Hill and Davenport Hill, 1878).

The 'animal' model

Lombroso's theoretical and experimental studies concerning constitutional criminality were known to academics in the early 1890s and although they were not translated into English until 1911, their popularity was based on the fact that they confirmed popular assumptions about the character and existence of a criminal class. In the latter half of the century Lombroso began to compare the criminal with the insane and to make an attempt to resolve the 'problem of the nature of the criminal': he argued that the criminal was 'an atavistic being who reproduces in his person the ferocious instincts of primitive humanity and the inferior animals' (Goring, 1913). The use of animal imagery was a favourite way of characterizing a criminal in the latter half of the nineteenth century. Greenwood described him as a 'wily cunning wolf man' who in order to maintain an acceptable distance between himself and the officers of the law depended 'not so much on visual evidence as on some subtle scent as the foxes possess in discovering the approach of their natural enemy' (Greenwood, 1869). Clarke's account of a visit to a penal settlement in 1870 contains a description of those who were, or had been, mad. 'The criminal lunatics were but two descriptions; they cowered and crawled like whipped foxhounds to the feet of their keepers, or they raged, howling blasphemies and hideous implications upon their jailers.' One, a prisoner of 13 years, described as a 'jibbering madman' with 'malignant eyes', exhaled 'a peculiar wild beast smell that belongs to some forms of furious madness' (Clarke, 1897).

The 'wild beast myth' (Platt and Diamond, 1965) is a recurring metaphor in the history of the criminal law and it contributed to the development of our attitudes towards mental illness. Once again the insane were regarded as possessing neither the sensibility nor the mental attributes of human beings. In the crowded locked wards, exposed to long years of idleness and regimentation, many patients

succumbed to a progressive dementia which we now recognize as being attributable as much to the conditions they were living in as to their illness. Institutionalization was responsible for many of the phenomena thought to be a product of the psychiatric difficulties which led patients to be originally admitted. Goshen (1967) notes that certain types of injury to patients' ears (haematoma of the ear), thought to be evidence of their alleged cerebral pathology, were in fact the result of blows to the head by cruel attendants. As has been pointed out, the results of the DuCane administration and the theories of Lombroso and others on criminal types were identical. Prison produced the criminal type, scientific theory identified him and the public recognized him (Chapman, 1968).

The 'immaturity' concept of crime and mental illness

The wild beast or animal myth had its 'natural contrary' (Platt and Diamond, 1965) in the immaturity concept of crime and mental illness. The mentally ill have sometimes been exempt from punishment and been treated as non-persons by the law. This may be partly explained as a result of the doctrine of moral blameworthiness that assumes the criminal to be endowed with free will and the ability to discriminate rationally between right and wrong. Children and the insane are alike in that they are considered morally blameless in the eyes of the law. The infancy concept of mental illness finally emerged from the reform movement as an antidote to cruder and less humanitarian approaches and was adopted by reformers as a slogan and propaganda tool. In contrast with the negative connotations of the animal role, the child role allowed mental patients at least partial legitimacy and interaction with other members of the community. It was also a much less threatening concept and was thus more likely to provoke positive attitudes from the public.

In the sphere of criminality something of the reverse took place. One speaker at the 1869 Conference of Managers of Reformatory and Industrial Institutions stated that his boys seemed 'more like little men than children' (Proudman, 1869). Matthew Davenport Hill's (1854) 'practical suggestions' for the Victorian reformatory population of 'little stunted men' were that they be turned into little children again before they could be subject to the right kind of influence (Carlebach, 1970). In the theoretical heyday of social Darwinism, Ellis (1890) asserted that the criminal class was a case of arrested development: 'The criminal is an individual who . . . remained a child his life long – a child of larger growth with a greater capacity for evil. This is part of the atavism of criminals.' And even when the emphasis was again shifted from socio-economic and hereditary factors to the internal psychological make-up of the individual offender, it was decided that the criminal 'acts as a child would react, if only he could' (Alexander and Staub, 1956).

Biological explanations then and today

In contrast to earlier environmental explanations of criminality and mental illness there was a shift towards more biologically based explanations. For example, Despine's *Psychologie naturelle* of 1868 set out to prove that the 'instinctive criminal is, on the psychological side, a mental monstrosity' (Ellis, 1890) and that criminals' abnormality was not the kind that could be remedied by intellectual education. Ellis (1890) found that criminals 'of neurotic temperament, as well as some lunatics, possess the power, rare amongst normal persons, of moving the ear'. They also exhibited a greater proportion of deviations of head size and a larger frontal crest – a characteristic they shared with 'lower races and orang-utans'.

According to one board of public charities, crime, like disease, was revealed in 'the face, the voice, person and the carriage so that a skilled diagnostician can identify criminal tendencies' (Commissioners of Public Charities of the State of Illinois, 1873). They went on: 'the impress of criminal dispositions and pursuits is stamped upon every feature and movement of the body – the dress, the walk, the skin, the eye, the shape of the hands and feet, the size and contour of the skull, the voice, the hair; all reveal it – not with certainty but with sufficient clearness to awaken suspicion and afford a clue. The improvement or deterioration of a criminal is as palpable as that of a lunatic.'

A contemporary example of this belief was displayed by Julie Quenslor (1990), a courtroom cartoonist for television news programmes. She claimed that the majority of petty criminals 'seem to have very small, very low-set ears' while in those accused of violent crimes you can 'see the white of the eye underneath the iris as though the eye is floating upwards'. This she felt accounted for the 'wild staring eyes' associated with violent crime. Experimental studies of the relationship between physical appearance and criminality (Bull and Green, 1980; Goldstein *et al.*, 1984) confirm that people have 'pictures in their heads' that represent their personal prototypic criminal face. Not only is there a consensus view of the face of the criminal which differentiates offenders from upstanding citizens but it is clear that the public can identify the facial characteristics of various subtypes of criminal. This raises the more serious possibility that the degree to which a particular individual's face invites facial stereotyping may influence the outcome of any legal process in which he or she becomes involved.

Pursuing a similar theme concerning the mentally ill a hundred years earlier, William Krauss (1898) read a paper to the Buffalo Medical Club of New York on 'the stigmata of degeneration'. He held that all forms of insanity produced deformities in the cranium, face and body which may be used in diagnosis. Establishing insanity by such physical criteria, so reminiscent of the old science of physiognomy, apparently became familiar to the public. In *Billy Budd*, for example, Melville proved that Claggart the villain was a psychopath by noting that he had violet eyes and a receding chin. The doctrines of nineteenth-century

impersonal scientism led one of the leading American psychiatrists of the 1880s to state, in all seriousness, that the insane do not suffer unhappiness and that depressed patients go through the motions of acting sad in a machine-like fashion without feeling genuine sadness (Bockhoven, 1956). Barzun (1958), who analysed modes of thought inherited from that era, showed how strongly they still influenced contemporary thinking. The author of a Home Office publication of 1952 detailed the differences between approved school boys classified at Aycliffe with other (normal) boys thus:

Perhaps the first indication of a difference appears when one studies the posture and movements of the lads. . . . the round shoulders and earth-bound gait of our boys are characteristic . . . the general impression remains a jerky, uncoordinated movement and, when relaxed, of shuffling and poor posture. . . . Speaking voices are hoarse and indistinct. Speech itself is explosive while singing is dreadful . . . they seem to be as easily excited (e.g. by a western film) to a disproportionate extent. They tend to laugh immoderately at slapstick and the laughter is raucous, not far removed from a jeer. (Gittins, 1952)

While this idea that criminals are an identifiable physical type is enshrined in twentieth-century psychiatric literature linking mesomorphic body build and crime (Rees, 1973), Feldman (1977) elegantly argues that this is an apparent (rather than real) association produced by stereotyping.

The neurological explanations for these physical differences embraced both the criminal and the mentally ill. For example, Maudsley saw crime as a 'sort of outlet into which . . . unsound tendencies are discharged: they would go mad if they were not criminals'. He not only visualized some as hovering between crime and insanity but also felt some alternated between crime and madness, especially those suffering from epileptic madness (Scott, 1956). The author of *The Jukes* commented on the 'close relationship between nervous disorders and crime' in England where the 'ratio of insane criminals is 34 times as great as the ratio of lunatics to the whole population of England' (Dugdale, 1877). Albert Wilson, a student of T. R. Huxley, whose lifelong devotion to a study of crime culminated in the *Child of Circumstance* (1929), believed the sinner to be 'deficient in brain cells' and compared the brains of many criminals unfavourably with that of an intelligent orang-utan from the zoological gardens of the metropolis. 'The organs of reproduction', he wrote, 'play a great part in character, crime and insanity.' 'The feeble-minded criminal . . . is in fact a degenerate, being insane from birth.' He published a photograph of such individuals with the caption: 'A group of the most revolting perverts and weak-minded degenerates kept in the colony. No cure, the only proper treatment is painless extinction. We must stop this type breeding by sterilisation' (Wilson, 1929).

In 1990 the link between brain weight, law-abidingness and mental health has been championed by Rushton (1990). 'Negroids' are inferior to both

'Caucasoids' and especially 'Mongoloids' in terms of their smaller and lighter brains, their 'low' mental health and their greater tendency to break the criminal law. He points out, for example, that 49 per cent of homicides in the USA are committed by Negroids and that this number is greatly exceeded in Negroid countries such as Kenya and Nigeria.

Hootton's unconvincing work *The American Criminal* saw criminals as an end-product of an environment operating upon inferior biological organisms and exploited the concept to emphasize the social uselessness of criminals and the mentally ill: 'Criminals are organically inferior . . . it follows that the elimination of crime can be effected by the extirpation of the physically, mentally, and morally unfit, or by their complete segregation in a socially accepted environment' (Hootton, 1939). More recently the assumption that the teddy boy was an identifiable psychological and even biological type was captured in the reporting of a claim by two American doctors that they had a 'cure' for juvenile crime: 'They say it soothes Teddy Boys and makes them co-operative for treatment' (Rock and Cohen, 1970).

Thus throughout the nineteenth century it can be seen that there were changes in theoretical views of mental illness and criminality and these influenced both the treatment that these two groups received and the attitudes of the public as expressed in literature and legislation. These changes in ideas were not, however, entirely sequential or categorical. It was rather that theoretical trends were adopted, took a prominent place and then faded again. Further, while professional opinion influenced that of the public, public reactions to events also affected professionals' views and behaviour.

CULTURAL INERTIA THEORY AS EXPLANATION

Studies of public opinion concerning crime and mental illness have shown that these two forms of deviance are assumed to be dysfunctional to society since both are identified in terms of the way in which they pose threats to the equilibrium of the social system (Cumming and Cumming, 1957). The functional approach holds that public explanations and opinions concerning deviance are affected by cultural history and may thus pertain to a social system that no longer exists. An analysis of 500 British press cuttings collected in the first six months of 1949 found that the contributions 'were of interest in that they seemed to recapitulate the progress of criminology. It was as though the evolutionary stream had left static pools and still reflected rays from the past. At the most primitive level were those who regarded the delinquent as possessed . . . some contributors, as did Lombroso, regarded the delinquent as a specific degenerate type. Correlations were regularly seen to be causes and the monastic phase was represented by one quarter of contributors' (Scott, 1950). Blumenthal, writing in 1949, maintained that the 'bias against the psychotic sick today is not

essentially less than 100 or 200 years ago and it is maintained by laws dating from 1800 to 1890. Even if such laws were dated 1930 they are still borne by the spirit of passing centuries. The shame of insanity is carefully preserved even when, as in the Mental Treatment Act 1930, the name "asylum" is changed to read "mental hospital" or the word "lunatic" into "person of unsound mind" (Blumenthal, 1949). In respect of criminal insanity he points out that it is logically untenable to designate as criminally insane a person who has been found insane and therefore irresponsible. 'The connection of the perception of criminality with the conception of insanity entails a deformation of psychic sickness because it creates an association which brings a moral idea into medical-psychiatric thought', he writes, which recalls the defamation of the syphilitic in nineteenth-century England. Downey (1967) has posited a 'cultural inertia theory' which assumes that once an explanation becomes dominant in a society it tends to persist regardless of its functional consequences – this is another way of looking at Ogburn's (1957) 'cultural lag' theory of social change. It is therefore not surprising that Victorian notions of criminality and mental illness still continue to re-echo in popular thought today.

CONCLUSIONS

This brief selective historical survey attempts to illustrate how closely the concepts of the criminal and the mentally ill were linked in our society in the nineteenth century and how variants of earlier explanations concerning the two groups continue to surface in the public and professional mind.

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It might be argued, given the paucity of accounts of the history of clinical psychology, that historical research is seldom utilised by clinical psychologists despite the fact that a number of major historical trends continue to influence the issues of contemporary clinical psychology.

Research consumption is a necessary but not sufficient condition of utilisation. An extension of this approach and a hallmark of the work of the Scientist-Practitioner, is the synthesising of current research findings to inform and guide clinical practice. This includes looking for alternative explanations of phenomena, updating knowledge and selecting assessment and the intervention methods based on what has been found to be most effective through systematic investigation, rather than on appeal to authority or on what “feels right”. Cohen (1979) found that practitioners consume less research than academics, their preferred sources of information being discussion with colleagues and reading theories or practical books. Beutler, et al (1993) confirmed this finding. Scientists have been unsuccessful in their efforts to convince clinicians of the value of reading scientific research (Striker, 1992). Indeed, it may be that by urging clinicians to accept a science that both sought to answer unnecessary questions and then supplied unacceptable answers, academic researchers have taught clinicians that research trivialises clinical practice (Falvey, 1989).

While it is true that the social science professional journals contain many research reports that are irrelevant or even distort the events under investigation (eg, Armstrong, 1980; Lipton & Hersheft, 1985) this does not mean that an empirical approach is not useful. Clinical psychologists perhaps need to be sceptical of trivialising applications of the scientific method to the creation of practice knowledge. Accurate understanding of the hallmarks of the scientific approach is needed to distinguish between helpful and trivialising

or bogus uses of this approach (Gardner, 1981). "Bogus uses" refers to the use of scientific ideology to reaffirm and maintain current service definitions of problems and service delivery systems that may hinder rather than achieve a higher quality of life for clients. Milne (1994) in describing how behavioural psychotherapists can make their practice more akin to theory, notes that theoretical analyses and reviews of relevant research should play a part in guiding the analysis and data interpretation of clinical findings.

The following book chapter "Renal care" (Long, 1995) illustrates how utilisation of research findings has led to the definition of a different role for the clinical/health psychologist. In this instance the topic is a specialist terminal care area of medicine where there is currently little clinical psychology input and where the routine transference of a clinical approach effective in the mental health sector with similar clinical problems (eg, depression) would undoubtedly be unhelpful and ineffective. The chapter looks at the evidence of the occurrence of particular psychiatric conditions in end stage renal disease (ESRD) and the stresses of being a renal patient before identifying obstacles to psychological care, and evaluating studies of psychological treatment. On the basis of these findings a model for clinical practice is suggested. The full reference is:

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Renal care

Clive G. Long

Introduction

The technological advances in the treatment of end-stage renal disease (ESRD) have both increased the life expectations of patients and highlighted the psychological aspects of adaptation to a changed existence. In 1960 the longest reported maintenance of life with intermittent haemodialysis was 181 days (Maher, Schreiner and Waters, 1960), but such treatment today imposes psychosocial stressors upon patients and their families for a period that may exceed a decade. This chapter is concerned with the nature and effects of these stressors and their treatment and care by psychological means. The text is concerned with all forms of renal treatment other than transplantation (i.e. intermittent and continuous ambulatory peritoneal dialysis (CAPD) and unit, minimal-care and home dialysis), unless specifically mentioned.

The numerous studies of psychological functioning have provided a patchwork of divergent findings. All have been beset with the difficulty of separating the relative contributions of organic factors, situation-appropriate and maladaptive responses. Also, characteristics associated with dialysis populations limit the validity of many established psychological tests (Yanagida and Streltzer, 1979). However, estimates of the incidence of psychiatric disturbance that are severe enough to warrant psychological intervention generally exceed those found in the general population,

and may exceed those found in patients with other chronic diseases (Simmons, Klein and Simmons, 1977). In a review of studies, excluding case reports and earlier studies, Armstrong (1978) found that the median incidence of emotional maladjustment was 40%. Petrie's (1989) more recent survey found that 43% of CAPD and dialysis patients fell within the probable psychiatric case range. This indicates a rate of psychiatric symptomatology between three and five times that of the general population. Although surveys of home dialysis patients suggest a prevalence of psychiatric illness equivalent to those attending a GP surgery (Farmer, Snowden and Parsons, 1979), it seems likely these represent a psychological elite who are able to deal more effectively with problems than unit-based patients (Schreiber and Huber, 1985).

Psychological correlates of ESRD

The most frequently cited psychological reactions to haemodialysis are phobic and anxiety responses, depression, suicidal reactions, passive non-compliance with medical demands, depressive equivalents such as anorexia and sleep disturbance, sexual dysfunction and psychosocial problems (Salmon, 1980). A 2-year British prospective study (House, 1989) found that a diagnosis of mood disorder was most common among renal patients referred for psychological help, although major mental illness was rare.

Anxiety

It is likely that the majority of dialysis patients experience episodes of anxiety and depression at some stage in their treatment (Salmon, 1980). For some, a pre-existing high level of anxiety is exacerbated by the stress of dialysis: some develop phobias about components of the haemodialysis procedure, such as needling, and yet others exhibit concurrent symptoms such as tension headaches. Generalized anxiety disorders predominate (Levy, 1985), with anxiety more commonly manifested during treatment and during the earlier phase of training and home dialysis. In the Exeter study (Nichols and Springford, 1984), 37.5% of the dialysands were rated as experiencing episodes of at least moderate anxiety in their first year of treatment, with some 6% at mild phobic levels. This accords with the finding by De Nour (1981), who found 30 of her 100 subjects to suffer episodes of moderate to severe anxiety.

Depression, suicidal reactions and non-compliance

Depression is considered to be the most common psychiatric complication of dialysis treatment, although its incidence may be overestimated due to the misidentification of 'depressive' symptoms of uraemic origin (Devins *et al.*, 1986) and differences in the definitions and criteria used for depression across studies (Streltzer, 1983; Levenson and Glocheski, 1991). However, reliable studies show this to reach clinical proportions in as many as 45–53% of all ESRD patients (Czaczkes and De Nour, 1978; Levy, 1981; Smith, Hong and Robson, 1985). The majority of such patients display reactive disorders (Salmon, 1980) that require psychotherapeutic support (Streltzer, 1983). This may be most apparent in the first year of treatment, when 50% of the Exeter dialysands showed moderate depression (Nichols and Springford, 1984),

and in dialysands experiencing an unsuccessful transplant (Christensen *et al.*, 1989). Increased depression has also been found to predict earlier death from the complications of ESRD (Burton *et al.*, 1986).

There is a high incidence of suicide among patients, and many readily available avenues for suicidal behaviour (Levy, 1985). Abram, Moore and Westvelt (1971) claimed the suicide rate to be more than 100 times that of the general population, a figure that rises to 400 times the normal rate when it includes deaths that occur through overt non-compliance with the medical regimens. The proportion of patients whose withdrawal from dialysis represents suicide is unknown, but may have been underestimated (Levenson and Glocheski, 1991). Roberts and Kjellstrand (1988) found that 1.5% of 1766 patients preferred death to the stress of dialysis, and that these patients were more likely to be on home dialysis.

Most patients are torn between the fear of jeopardizing their own lives and the need to reduce the number of restrictions that successful management of a chronic illness imposes. The strict control of diet and fluid is difficult to tolerate. Fluid compliance is a widespread problem for more than one-third of ESRD patients (Cummings *et al.*, 1981; Streltzer and Hassell, 1988). Patients report being persistently preoccupied with thirst (Britton, Will and Davison, 1982; Rosenbaum and Ben-Ari Smira, 1986) and rank fluid compliance as the most stressful of 30 physiological and psychological stressors (Baldree, Murphy and Powers, 1981). Dietary abuse is a problem for up to 58% of adult dialysis patients (Brown and Fitzpatrick, 1988), and non-adherence to the treatment regimen is a significant problem in the management of children on dialysis (Hudson *et al.*, 1987).

Factors that appear to predict non-compliance include a low tolerance of frustration, reinforcement for maintaining the sick role (De Nour and Czaczkes, 1972), family

problems (Cummings *et al.*, 1982) and cognitive variables such as locus of control, self-evaluations of past compliance and self-efficacy to resist fluid intake (Schneider *et al.*, 1991). These responses are understandable: the chronic patient finds that what was 'normal' once is 'normal' no longer. He or she may no longer be healthy, independent, active, physically attractive to others, capable of long work hours and sexually potent. Indeed, sexual difficulties are frequently rated as being among the most common psychological complications for both male and female patients (Milne, Golden and Fibus, 1978; Degen, Strain and Zumoff, 1983).

Sexual problems

The types of sexual dysfunction encountered by ESRD patients are decrease or loss of libido in men and women; partial or total impotence (erectile dysfunction) in 28–88% of males, in which organic factors play a major causal role; and difficulty in ejaculating in males and insufficient or absent lubrication in females, with either less frequent orgasm or loss of the orgasmic response. Although the specific aetiology of these problems remains to be firmly established, organic factors (e.g. hormonal changes, low plasma levels of zinc), treatment (e.g. antihypertensive drugs) and psychosocial factors may contribute to their development following the initiation of dialysis. Many individual patients feel they are no longer sexually attractive people. There are often major changes in appearance which may be perceived as a loss in gender identity by both sexes, such as scarring of skin following vascular access surgery, the unsightly swelling of the fistula arm, changes in skin colour associated with uraemia and the siting of the catheter for peritoneal dialysis. The relationship between depressed mood and loss of sexual interest or overt sexual difficulties is well recognized (Degen, Strain and Zumoff, 1983). However, anxiety, feelings of low self-esteem due to loss

of employment and, finally, a preoccupation with illness may also affect the individual's capacity to function sexually. Dependence on machine and/or partner and the shift in the balance of the relationship between partners may also have strong repercussions on the sexual relationship. The role of the male partner, for example, may shift from breadwinner and partner to that of another child to be cared for (Salmon, 1980).

Social consequences

The psychosocial consequences of chronic renal failure include family and marital problems, financial burdens and severe role disruption in work and social spheres. The practical demands of renal failure can strain even the most stable of families. Most patients exercise a disproportionate amount of control in the family, with an attendant restriction of family activities to patient-centred concerns (Maurin and Schenkel, 1976). High levels of anxiety, depression and psychosomatic problems have recently been found in one-quarter to one-third of the parents of children with renal failure (Fielding *et al.*, 1985).

Although some couples are drawn closer together with the start of the dialysis, many patients become increasingly isolated within the family. This can result in a situation where their dependency is resented, but the feelings are not voiced (Salmon, 1980). Psychological difficulties for couples have been consistently reported, with feelings of depression, frustration, hostility, anxiety and pervasive insecurity being most frequently noted (Chowanec and Binik, 1982). The burden of home dialysis, for example, may fall most heavily on the spouse and they may consider themselves to be under greater stress than the dialysands themselves (Speidel *et al.*, 1979). Nichols and Springford (1984) found that the number of partners experiencing moderate anxiety increased with time on dialysis. The stress of coping with the

changes in dialysands' health and personality was represented in the 61% of partners, who felt depressed at how their partner had changed during the first year of dialysis: 54% were 'exhausted' with the effort of coping.

The partner's individual adjustment appears to be strongly influenced by the patient's reactions to illness. In a study by Rideout, Rodin and Littlefield (1990), it was found that social support from the ill partner was the most significant predictor of spouse level of depression. In Czackes and De Nour's (1978) formulation the stress effect of dialysis depends on the match between the partner's dependency needs and their respective roles in the illness situation: whether their role within the marital dyad is dependent or dominant, whether this role has been assumed by choice or forced upon them, and whether they are the afflicted or the non-afflicted party.

Stress of being a renal patient

There are numerous causes of stress on the patient whose life is maintained by dialysis. The major sources of stress are:

- Consciousness of the life threat in kidney failure. The mortality rate in renal patients is high, there are many possibly physical complications and patients treated in group settings may witness other patients dying.
- Impaired bodily and cognitive functioning. Kidney failure is a urological, nephrological and endocrinological disease, and people on dialysis vary greatly in their sense of well-being. Fluctuating uraemia causes a severe reduction in physical energy, and constant feelings of illness include nausea, dizziness, fatigue, restlessness, sleep difficulties, itching, inability to concentrate and deterioration of bones and nerves. Those on haemodialysis treatment may also have a consistently less efficient level of cognitive functioning (Wolcott, Nissenson and Lausberk, 1988).
- Secondary consequences of kidney failure and dialysis. Loss of employment, financial stringencies and restrictions on travel and leisure may reduce the individual's coping resources and give rise to stress. In a study of 102 patients, De Nour (1982) found a severe decrease of interest in social life and an even greater decrease in actual participation in leisure activities: 50% reported having no social life at all and only 38% reported maintaining an interest in family leisure activities. Another investigation of 195 patients (Ferrans and Powers, 1985) found that only 23% were responding well to dialysis and judged able to work by their physicians. The dialysis patient becomes a 'marginal' person who has lost full integration into society.
- The exigencies of the dialysis regimen, i.e. adherence to salt-free diets, fluid restrictions and attendance at time-consuming treatments.
- Dialysis treatment. In the early stages of dialysis patients contribute little to their own management and exist in a state of helpless dependency that involves the loss of adult status and power (Nichols, 1983). Later, the 'dialysis double bind' (Alexander, 1976) – being required to be compliant and dependent on the medical processes while actively pursuing a normal lifestyle – becomes apparent to the patient. Further, although the provision of information by unit staff is a most important aid to adaptation, it is apparent that many patients lack information, having erroneous or conflicting ideas and feeling confused (Nichols, 1983). This factual confusion may reinforce patients' beliefs that they cannot control the situation, increase their dependency on staff and interfere with successful conversion to home dialysis (Lowery and Aitchison, 1980).
- Interpersonal confusion. Nichols (1983) cites interpersonal confusion resulting from high staff turnover and inconsistencies in self-care tuition as causing stress. Also

stressful is the fact that the setting in which extreme pressures have to be dealt with requires separation from known security-giving places, people and roles, leading to separation anxiety (Strain, 1981).

Clearly, the effects of these stressors are mediated by a number of factors, including mode of treatment, premorbid adjustment, length of time on dialysis and the patient's characteristic styles of stress management or psychological defence. Although a number of studies have compared psychosocial quality of life with type of dialysis treatment versus transplant (Levenson and Glocheski, 1991), the results are confounded by bias in treatment assignments (Smith, Hong and Michelman, 1983). Recent studies that have attempted to correct for this statistically (Tucker *et al.*, 1991; Julius, Hawthorne and Carpenter-Altin, 1989) have found few significant differences in quality of life between haemodialysis, CAPD and transplant patients. Further, there are no clear differences across treatment modalities in terms of the incidence of psychological disturbance among patients (Morris and Jones, 1989). Adaptability to previous life changes is significantly related to positive dialysis adjustment (Malmquist *et al.*, 1972) and adjustment improves for most patients as time progresses (Blodgett, 1981). Denial (those defensive behaviours that lead to a failure to incorporate emotionally significant external information into consciousness) has often been cited as an effective coping mechanism for mediating the impact of dialysis-related stress, especially at critical milestones in a renal career (Devins *et al.*, 1986). However, the denial hypothesis has typically been proposed *post hoc*, and as yet no standardized objectively validated instrument has been developed to measure defence mechanisms such as this (Weisman, 1972).

Whatever coping mechanisms are used, it is apparent that continuing personal, familial and vocational responsibilities is often done at a

price to the individual. De Nour and Czaczkes (1972) concluded that personality restriction (shallowness of affect, concrete thinking, little flexibility in response to stress) was a consequence of living with dialysis, for the majority of patients. Shanan, De Nour and Garty (1976) found that the coping style of dialysis patients was marked by a high degree of passive behaviour and little inclination to deal actively with a problem situation.

Such findings suggest that dialysis patients generally exhibit an external locus of control, which could be a product of the illness. It is negatively correlated with dietary compliance, vocational rehabilitation and acceptance of disability (Poll and De Nour, 1980). The myriad of stressors impinging on the dialysis patient make predictions about adjustment a complex business. However, the research to date makes it possible to identify in broad terms 'high-risk' patients. Acute presentation of ESRD is associated with a greater incidence of emotional problems than in those who have attended predialysis clinics and thus made better psychological and practical preparations for treatment (Auer, 1982). The absence of a confiding relationship (House, 1989) is associated with psychological referral, whereas the presence of a coping partner is associated with an improved outcome in terms of how long patients survive on home dialysis (Farmer, Snowden and Parsons, 1979). Nichols and Springford (1984) found that those who had the highest number of problems and were most emotionally disturbed were the younger patients who had been on dialysis 1 year or less, with low fluid allowance and who were living well away from the kidney unit. Older age (over 51 years), male sex and vocational inactivity have also been found to be associated with poorer dialysis adaptation (Wolcott, Nissenson and Lansberk, 1988). Further, it is likely that patients with previous or current psychiatric illness and prominent anxiety reactions to treatment will be at risk of

dropping out of home treatment (Lowry and Aitchison, 1980).

Obstacles to psychological care

Despite the incidence of psychosocial problems there are many impediments to the delivery of psychological care, including the resistance of staff and patients (Kalman, 1983) and the treatment setting itself (Bader, 1982). In contrast to traditional psychotherapy, where the client has usually accepted that he or she has a (psychological) problem, many dialysis patients bristle at the suggestion that they should receive psychological help. Typically, patients do not interpret their behaviour as indicative of psychological disability. With some justification, they think of themselves as being understandably upset, anxious and disturbed, and baulk at the psychiatric label. The practical and psychological adaptations that dialysis necessitates leave many with a feeling of resentment and displacement towards the psychologist, or hostility towards the nephrologist or dialysis nurse. Many are afraid to express even minimally negative feelings towards someone on whom they feel dependent, and whose affections they are frightened of alienating. The patient may resist open discussion with the psychologist, if they are seen as acting in a liaison capacity to help nursing and medical staff understand individual reactions more clearly. 'Agreeing' with the staff diagnosis of psychological difficulties may lead to questions about their stability/suitability for desired alternative treatments (transplantation, CAPD). Finally, there is a general atmosphere of no 'permission' for patients to be overtly anxious, depressed and to express strong feelings (Nichols, 1983).

Studies of psychological treatment

Studies of psychological guidance and intervention have begun to appear more frequently in the literature. They can be differentiated

according to their emphasis on individual or group work, and according to whether they are problem or insight oriented. However, there are few controlled-outcome studies and most represent either the opinions of authors or are confined to case studies.

There is broad agreement that individual psychodynamic psychotherapy has only a limited place among renal patients. Although Levy (1985) reports success with 'several' clients, these were 'carefully screened and well motivated'. In most cases this work is limited by the sense renal patients have of being 'overdoctored' and their propensity for denying psychological problems (Reichsman and Levy, 1972). De Nour's (1970) attempts to resolve the psychological conflicts of the dialysis experience and improve adjustment by individual psychotherapy was largely ineffective. This was mainly because of difficulties in establishing a relationship with patients.

There is a similar paucity of evidence that emotional insight through group work is helpful to patients. Wilson *et al.* (1974) found no difference after 1 year between patients who had received time-limited group therapy and those who had not. Campbell and Sinha (1980) selected 11 chronic haemodialysis patients for group therapy based on high depression scored on the MMPI, anger and hostility towards treatment staff and the absence of psychosis. The fortnightly sessions were conducted while patients dialysed, with the aim of changing their perceptions. Sessions were intended to help patients to view their illness as a challenge rather than an enemy. Although nine patients had a 'good' or a 'fair' outcome as measured by therapist ratings in 10 areas of functioning (e.g. diet and fluid control), they failed to develop group trust and cohesiveness.

Overall reviews, however, suggest that traditional insight-oriented interpretive psychotherapy groups for dialysis patients are 'unsuccessful', since patients fail to 'identify' with their illness and since insight may be 'too

threatening' (Buchanan, 1981). Accordingly, group patient education and self-help groups that depend on patient observations, education and cognitive learning are advocated.

The usefulness of behavioural and cognitive therapies to deal with dialysis-related problems in a direct practical way has been reported in the literature (Nichols, 1983; Agashura *et al.*, 1981). To date, these interventions have addressed the following problems:

- Anxiety reactions related to dialysis treatment and the responsibilities entailed. Interventions have highlighted the usefulness of progressive and deep muscle relaxation (Salmon, 1980; Alarcon *et al.*, 1982) and biofeedback (Budzynski, 1979) to control panic attacks, generalized anxiety and tension headache in dialysis populations. Katz (1974) has described the brief and successful treatment of a haemodialysis phobia using the combined techniques of systematic desensitization, fading of stimulus control and social reinforcement. Another case study (Cooley *et al.*, 1985) has shown that it is possible to lessen the frequency of vomiting behaviours accompanying dialysis treatment by attacking the accompanying anxiety and contingencies (e.g. staff attention) that surround and maintain it. These methods inhibited the habitual snorting/gagging that preceded vomiting by relaxation training, aversive conditioning, contingency management, goal setting and systematic desensitization.
- Non-compliance with dietary and fluid restrictions. A number of investigators have described the use of token economy procedures to reduce intersession weight gain for both adults (Barnes, 1976; Hart, 1979) and children (Magrab and Papadopoulou, 1977; Wysocki *et al.*, 1990). Behavioural contracting has also been used, but whereas Keene, Prue and Collins (1981) reported long-term maintenance of treatment effects, Cummings *et al.* (1981) reported a lack of effect. Contingency management strategies however, in contrast to patient education, have been recommended as a potentially cost-effective treatment for non-compliance by Mosley *et al.* (1993). Hypnotherapy has been used to help patients overcome excessive thirst (Frater, Dani and Gallo, 1986). Although the treated group showed a significant improvement in terms of fluid restrictions after 2 months, compared with controls, no follow-up data are presented. Most recently the work of Schneider *et al.* (1991) has highlighted the importance of increasing the motivations and attributions of success, since cognitive rather than emotional variables are related to non-compliance.
- Sexual dysfunction. Although there is a paucity of literature on the psychological treatment of sexual dysfunction in dialysis patients, applications of modifications of Masters and Johnson's (1970) techniques have been advocated by many, and would seem to have an important role among selected patients (Watts, 1983; Levy, 1985). This method of treatment enables patients to re-enter sexual functioning, if not by engaging in sexual intercourse, then by other orgasmic pleasures and/or by enjoying non-orgasmic sexual intimacy. Problems in reporting on this area include the low rate of requests for help, the avoidance of the subject by renal unit staff and the absence of controlled trials of therapy (Milne, Golden and Fibus, 1978).
- Depression. Patients with mainly reactive disorders may benefit from supportive counselling (Salmon, 1980) and the use of cognitive-behavioural treatment using Beck's approach (Beck *et al.*, 1979). This has recently been described by Marcus (1983) and Shaw and Harris (1985).
- Compliance with treatment procedures. Brantley *et al.*'s (1990) study of treatment conditions found that a behavioural pro-

gramme using visual cues and a monetary incentive was the most effective in enhancing compliance with vascular access cleansing procedures in 56 patients.

Finally, a multifaceted ecological and behavioural approach to outpatient dialysis has been reported by Tucker *et al.* (1982). Part of the rationale for this was the finding that targeting specific problems (e.g. sexual dysfunction) requires general improvement in the quality of life of these patients. Tucker *et al.*'s programme was directed at haemodialysis patients, their families and friends and renal unit staff. In addition to the individual counselling of patients, five group sessions addressed marital happiness, sexual satisfaction, anxiety-related problems (e.g. fear of needling), personal happiness (dealing effectively with depression) and self-improvement (to improve social skills, self-concept and weight control). Adjunctive and indirective treatment strategies included training nurses in behaviour management techniques, a workshop for families and friends of dialysis patients to demonstrate self-control techniques, and peer facilitation training in which nurses and well-adjusted patients were taught empathic listening skills and psychological support strategies. Although data were collected on only eight patients, the indices used (pre- and post-measures of patients' and nurses' self-esteem and level of hope, behaviour changes and programme evaluations by patients and staff) suggest that the programme resulted in positive psychosocial consequences for patients and nurses.

Psychological care in renal units

The very scarce treatment literature (most of which is American or Israeli) highlights both the complexity of therapeutic tissues involved and the slow development of psychological care in renal units. This is particularly true in the UK, where few units are served by clinical psychologists and where differing practices

makes comparative research between units difficult. Nichols, whose work in Exeter is the exception to this rule, suggests that the role of the clinical psychologist must be aimed at the individual psychological needs and difficulties of dialysands and their partners, and particular organizational approaches to training and communication of staff (Nichols and Springford, 1984; see also Nichols, this volume).

Prophylaxis is the first order of psychological management, since 70% of patients who experience major depression do so as a reaction to the diagnosis of ESRD (Hong *et al.*, 1987) and because problems with fluid compliance begin early in the course of treatment and stabilize over time (Streltzer and Hassell, 1988). Therefore, psychological intervention must begin at the predialysis clinic stage. The time between diagnosis and dialysis treatment should be used for a comprehensive psychosocial assessment, which gives frequent opportunities for patient support and education and which may be of help in tailoring the specific modality of the renal treatment to the personality type of the patient. In the author's work in Coventry, patients at the renal unit were routinely introduced to the clinical psychologist as early as possible before dialysis was begun. The aim of this consultation was to demystify the psychologist's role and to prime the patient regarding common emotional feelings that may be experienced. In this respect it is important to acknowledge that establishing some understanding of the 'normality' of certain responses, such as sexual dysfunction, may be as useful as techniques to correct them. Another function is to create a 'permission-giving atmosphere' in which patients feel they can discuss these problems, since many are ashamed of their feelings of anxiety and depression (Nichols and Springford, 1984). Many may benefit from information-based interventions. Katz (1974), in an early paper, noted that much of the fear provided by the dialysis situation could be prevented by thorough predialysis preparation to

remove misconceptions. The provision of carefully worded and 'readable' (Flesch, 1948) education material and an introduction to well-adjusted dialysands as models is useful. In this report the timing of information is as important as the content: a patient's anxiety level may, for example, significantly impede his ability to absorb information if he is given a guided tour of a haemodialysis unit on the day he has been told that he is to begin dialysis. Further, although the dialysis period is a convenient and popular time for patient education, it may be unsuitable because of decreased cognitive functioning at this time (Smith and Winslow, 1990).

Although experience and evidence would suggest a limited role for long-term psychotherapy with those on dialysis, a specific problem-oriented therapy service for dialysands and their partners is often required. Typical problems that may be dealt with in this way include anxiety reactions to needling and the responsibility of dialysis, sexual and relationship difficulties arising from renal failure, grief and depressive reactions and self-control difficulties in relation to fluid and dietary restrictions. On occasions, advice is needed on more effective methods of learning. Working with staff to reduce the burden of training, by the use of videotape-assisted learning modules, as in the Coventry unit, is another aspect of the liaison psychologist's role. The provision of such a psychological service must be knowledgeable and sensitive to the following:

- The likely critical stages in a dialysand and his or her partner's chronic illness career, namely, diagnosis and pretreatment, the initial entry into treatment, phases in training such as self-needling and learning emergency treatment procedures, the transition from unit to home dialysis or from one treatment mode to another (e.g. haemodialysis to CAPD), and the failure of a transplanted kidney or CAPD.
- Psychological help is often hindered by the

instability of the complex medical condition of renal failure.

- Psychological input may be brief, but it may often be required intermittently throughout the illness. Over time, the major focus of help may shift from an emphasis on the individual to an emphasis on the family. Nichols and Springford (1984) found that, although home dialysis might increase feelings of personal control, isolation from the unit was associated with rising levels of anxiety in partners, who were reluctant to call for help. Further, since an inevitable decline in the dialysand's health may lead to a withdrawal from home dialysis, partners may need help to cope with feelings of guilt or failure that can accompany a readmission for short- or long-term treatment.
- Rehabilitation is not equivalent to a return to predialysis levels of functioning (Richardson, 1986). In the multidisciplinary renal team the psychologist is responsible for identifying the psychological, emotional and environmental strengths that will enhance the attainment of goals established with the context of the patient's post-ESRD capabilities. An important part of this process is helping the patient and their family to fit dialysis into their daily routine as much as possible, rather than organizing their lives around treatment.

It is clear, however, that not every patient issue that is not primarily medical requires expert psychological help, and that monitoring for emotional distress is a team rather than an individual responsibility. The need for greater emphasis on this point is highlighted by the finding that staff overestimated the adjustment of their patients against objective criteria (De Nour, 1981), and by studies showing that the 'ward atmosphere' of renal units is characterized by low scores on relationship dimensions (Herron, 1985). This may well account for the finding that half of patients with major

depression concurrent with their renal disease remain untreated (Hong *et al.*, 1987). Consequently, training to sensitize staff to psychological aspects of renal failure and in basic counselling techniques is an important aspect of the psychologist's role. It should be recognized, however, that the amount of counselling nursing staff can engage in is limited as much by the practical demands of their work as by their willingness to employ these techniques. In addition, in an area in which burnout is common, and in which there is a relationship between staff stress and years of work (De Nour, 1984), staff needs must be considered. The value of staff rotation and regular staff support group meetings to deal with intra-professional conflicts and problems with patients is attested in many dialysis centres (Banthien, 1982).

Conclusions

It might be thought that, in a health care system that purports to profess holistic care, and in a medical specialty where the incidence of emotional disturbance and staff stress is so patently high, psychological input in renal units in the UK would be routine. It is not, and this sorry state of affairs is made even more surprising when such a service may pay for itself in terms of a decrease in unit dialysis and other treatments and reduced pressure on unit facilities (Nichols, 1981). Such care might best be provided if renal patients were viewed as normal people confronted with often overwhelming stress, whose need for psychological support begins at the point of diagnosis. In this way a preventive rather than a reactive service can be provided which is informed by an understanding of coping strategies used by the chronically ill and which is sensitive to the needs of a highly trained and committed staff group. Ultimately, a comprehensive psychobiosocial service must aim to transform the renal patient's natural environment into a sup-

port system, and evolve it into a community with resources conducive to optimal overall adjustment.

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SECTION TWO:

**THE CLINICAL PSYCHOLOGIST
AS RESEARCHER USING
SURVEY METHODS**

The Scientist-Practitioner has at his or her disposal a wide variety of research strategies. However, real world constraints rarely place him or her in the position to perform the “crucial experiment” (Copi, 1963) and “quasi-experimental” designs (Cook & Campbell 1976) are much more frequently employed. Oppenheim (1966) points out that surveys are often classified as the “poor man’s experiment” and are of two types:

- a) Descriptive enumerative surveys that are essentially fact finding and actuarial, although often used to make predictions; and
- b) Analytic surveys that are set up specifically to explore the relationship between particular variables with a view to making predictions.

The following collection of papers is concerned with the use of survey methods in clinical and health care settings using quasi-experimental designs. Survey research is not a single research design (Schuman & Kalton, 1985). Rather it is an area of research that utilises several basic procedures to obtain information from people in their natural environments. Papers by Long & Smith (1985) and Long et al (1993) are concerned with the use of descriptive survey methods to provide normative data and the beginnings of answers to clinical questions. A third paper (Cassidy & Long, in press) illustrates the use of survey methods in the development of a psychometric measure of relevance in the clinical setting. A further three papers (Long et al 1990, 1992, 1994) are concerned with using survey methods to examine within treatment factors in health care facilities, the social climate of the settings in which psychologists work, and the effect of change on clinical practice. They include the consumer’s perspective for health care and are concerned with service evaluation (Sturmey, 1991).

It can be argued that one of the major roles for scientific clinical enquiry is to provide the beginnings of answers to questions that address the validity of long held conceptions/myths that may bear on current clinical practice. This involves the need to question constantly the current validity of "knowledge" that is taken for granted, despite fashions in explanations and changing rates of target behaviours of successive decades (Peel, 1987). The "blame the parents" movement in psychiatry, so popular in the 1960's and now considerably modified, is an example of this fashion (Werry, 1979), and the history of science or medicine offers countless examples of times where the majority view or traditional wisdom was incorrect (eg, Broad & Wade, 1982; Gardner, 1957).

The following survey of Ear, Nose & Throat Clinical referrals was conducted whilst the author was working in a General Hospital setting. The work was a product of the belief by ENT surgeon colleagues that much specialist clinical time was being wasted by parents who inappropriately pressured the General Practitioners to refer their children for surgical intervention. The effect of parental misconceptions and attitudes was examined in an area where parents of repeatedly sick children are under considerable pressure to cope with the behaviour problems they manifest, a fact suggested by the higher rate of parental psychiatric disorder and use of psychotropic medication (Rutter, et al, 1970; Bain & Sales, 1981). There is historical evidence of a number of misconceptions and mythologies surrounding repeated childhood respiratory infections that have led to the surgical correction of these symptoms and other (deviant) behaviours by the operation of tonsillectomy (Lipton, 1962). The nature of parent's attitudes and modern prevalence of mythologies surrounding the treatment of enlarged tonsils and adenoids was examined in order to determine whether there was inappropriate parental pressure to perform an

operation for reasons other than physical need (eg, a child's behaviour problems or parental hypochondriasis). This work was published as follows:

Long, C.G. & Smith, D.H. (1985) Parental pressure for tonsillectomy: attitudes and knowledge of parents accompanying their children to an ear, nose & throat clinic Psychological Medicine 15, 689-693.

PRELIMINARY COMMUNICATION

Parental pressure for tonsillectomy: attitudes and knowledge
of parents accompanying their children to an ear, nose
and throat clinic

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SYNOPSIS The parents of 120 children referred for possible tonsillectomy to an ear, nose and throat (ENT) surgeon were studied. There was no evidence that a desire for the operation fulfilled 'psychological needs' for parents or was a means of coping with a 'deviant' child. Parents favouring tonsillectomy were less well informed, and the educational role of the general practitioner in reducing the small number of those who inappropriately pressurize medical services is highlighted.

INTRODUCTION

Following the appearance in 1868 of Meyer's classic paper on 'Adenoid vegetation' the operation of tonsillectomy has become institutionalized (Meyer, 1870). A historical survey makes clear that surgical attacks on the tonsils have been validated for centuries for a variety of shifting reasons, and a bewildering variety of disease entities ranging from psychosis to Herpes have been said to have 'benefited' from it (Lipton, 1962). From Bakwin's (1958) survey we learn that the procedure was most often performed for enlarged tonsils and adenoids, frequent respiratory infections and parental demand. Currently, the medical profession employs more stringent criteria for the operation, but the conclusion of an Ad Hoc Committee on Tonsillectomy and Adenoidectomy (1979) was that 'neither health professionals nor the public have sufficient information concerning the nature of the problem' and 'preconceived ideas rather than scientific data frequently determine the method of treatment'.

Children referred to ENT departments are presented to the general practitioner more often than other children (Bain & Sales, 1981) and intransigent parental pressure is a frequently cited reason for performing the operation of tonsillectomy (Fry, 1957; Bakwin, 1958; Furman, 1959). Bolande (1969) contends that the

physician's willingness to comply with parental demand has served to institutionalize an operation widely performed on a non-scientific basis. According to him, it is a surgical *rite de passage* and he supports this view with evidence that circumcised boys are seven times more likely to have undergone tonsillectomy than uncircumcised boys, suggesting that parents presenting their children for one surgical ritual are likely to request others.

It has also been hypothesized that parents pressurize clinicians for tonsillectomy for their children to satisfy their own 'cryptic emotional needs' (Bolande, 1969). These emotions include feelings of guilt over the child's ill health and concern lest they be accused of parental neglect. Another factor is the angry frustration of parents confronted with a constantly sick, irritable or difficult child. While this frustration is often understandable, parental pressure for tonsillectomy can be elicited by almost any puzzling behaviour, such as a refusal to eat or bedwetting. According to Lipton (1962), the decision to request surgery springs from a dread or reluctance to remain passive in the face of persistent adversity.

Psychoanalytical writers (Lipton, 1962; Fries, 1946) view the operation as a ritualistic, culturally sanctioned release for parental hostility. In one case study (Jessner *et al.* 1952) tonsillectomy was considered helpful, since it allowed a mother to act out her hatred of her child and so improve their relationship. Menninger (1934) maintains that some adults

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seek surgery due to a sadomasochistic relationship with the surgeon. Lipton (1962) further suggests that such wishes can be displaced on to the child, so that parents may demand operations to satisfy their own neuroses.

A more parsimonious explanation of such parental behaviour is that they are hypochondriacal and project these concerns on to their offspring. Some support for this hypothesis is provided by the study of Bain & Sales (1981), who found that the mothers of children referred to an ENT department consulted their GPs more frequently and were more likely to receive prescriptions of psychotropic drugs than the controls.

Another explanation for parental pressure for the operation is that they harbour misconceptions about it. Downey (1967) has posited a 'cultural inertia theory' which assumes that, once an explanation becomes dominant in a society, it tends to persist, regardless of its functional consequences. If this theory is applied to tonsillectomy it would imply that the legacy of misinformation from the past has conditioned parental attitudes. Most recently, Cowan (1982) stated that 'many parents have been led to believe from casual conversation with friends and relatives that the removal of tonsils and adenoids will cure all manner of illness'. The expectations of some mothers in the 1950s that tonsillectomy would resolve most childhood problems (Jessner *et al.* 1952) were not fantasies: the expected benefits of the procedure were medically documented. An authority such as Rolleston (1939), for example, baldly stated that 'enlarged tonsils and adenoids are the cause of considerable retardation in education'. Furman (1959) believed that the parental demand for tonsillectomy for their children was based on two misconceptions: that tonsils only exist to be removed surgically; and that all respiratory illnesses and sore throats are synonymous with tonsillitis.

Despite much anecdotal evidence and speculation, there has not been a controlled study of the knowledge, attitudes and expectations of parents whose children are referred for possible tonsillectomy. This study was undertaken: (i) to assess the strength of parental pressure for tonsillectomy; (ii) to investigate some of the reasons suggested for this, namely: that the operation fulfils some psychological need in themselves;

that they see their child as deviant; or that their expectations are based on outdated medical opinions.

METHOD

One hundred and twenty children who were consecutive referrals to an ENT surgeon for possible tonsillectomy were studied. Nine were dropped from the sample when language difficulties made satisfactory communication with the accompanying parent impossible. The mean age of the remaining 111 children (51 boys, 60 girls) was 8 years (s.d. = 3.5, mode = 6, range = 3–16) and the sample was representative of the City's population in terms of social class distribution.

Parent(s) accompanying children were interviewed immediately before their consultation by one or other of the authors who administered a structured interview schedule, the Child Behaviour Rating Scale (Rutter *et al.* 1970), and the Whitley Index of Hypochondriasis (Pilowsky, 1967). Parents were assured that their answers to questions were confidential and would not affect their consultation and subsequent treatment in any way.

The interview schedule, comprising both multiple choice and open-ended questions, gathered information about the family's medical history, the child's educational and social adjustment, the attitude of the parents and their GP to tonsillectomy for their child, and parental knowledge of the nature and function of the tonsils. Inter-rater reliability was high for all questions.

Since this study was concerned with the attitudes of parents actually presenting their children to an ENT surgeon, it was decided to compare those positively in favour of this operation (the In Favour – IF group) with those who were not (those undecided and Not In Favour – NIF group). Results were analysed using the χ^2 , Mann-Whitney *U* and *t*-tests of significance.

RESULTS

(i) Are the parents demanding tonsillectomy?

Of the parents, 68% were in favour of their children undergoing tonsillectomy while 32% were undecided or against the operation. There

were no differences between the IF and NIF groups in terms of the age of the children, social class, or the number of siblings. Over half the IF group (38% of the total sample) were of the opinion that their GP also favoured the procedure, while a smaller number (26% of the total sample) thought that their GP was undecided. Only 4% of all those surveyed were in favour of their children having the operation when their GP was against it.

The number of GP visits could be taken as a mark of the severity of the child's ill-health or could reflect parental emotional disturbance. In either case, it could be seen as an index of pressure on the doctor. The IF group had made significantly more GP visits in the preceding 12 months than the NIF group (an average of 9.38 v. 6.03 visits per child; $\chi^2 = 31.5$, $df = 1$, $P < 0.001$).

(ii) Does tonsillectomy satisfy parental 'needs'?

Since it has been suggested that parental pressure for tonsillectomy results from their own psychological needs, the Whitley Index of Hypochondriasis was administered. However, not only were the mean scores of both groups within the normal range (IF, $\bar{X} = 2.63$; NIF, $\bar{X} = 3$), but there was no significant difference between the two.

The hypothesized parental demand for poly-surgery was examined by comparing the incidence of surgical procedures other than tonsillectomy per capita of the nuclear families, but no significant difference was found between the two groups. Similarly, there was no difference between the groups in the incidence of tonsillectomy per capita of the nuclear families. However, if the data for the brothers and sisters of the presenting children are analysed separately more of the IF siblings had undergone a tonsillectomy (IF 29 v. NIF 3; $\chi^2 = 7.6$, $df = 1$, $P < 0.01$). Excluding tonsillectomies, there were only 21 examples of elective surgery (13 vasectomies, 8 circumcisions) in the whole sample, and only 1 of the presenting children had been circumcised.

Since the nature of psychoanalytical theory has defied scientific investigation, no attempt was made to examine some of the more speculative interpretations of parents' behaviour quoted above. Parents were simply asked whether the

state of their child's health had made them feel guilty and whether it was a source of frustration for them. Only a minority of parents admitted to feelings of guilt (IF 15% v. NIF 8%; $\chi^2 = 0.02$, $df = 1$, NS). A larger proportion of the IF parents reported experiencing frustration because of their child's health (55% v. 31%), although the difference was not significant.

(iii) Is the child seen as 'deviant'?

For those children aged between 6 and 13 years ($N = 57$), the parent was asked to complete the Child Behaviour Rating Scale (Rutter *et al.* 1970). This instrument correlates well with other measures of childhood psychiatric disturbance. Both groups contained more than the anticipated number of 'deviant' children (IF 23%, NIF 12%) when compared with the Isle of Wight general population norms of 6.8% (Rutter *et al.* 1970). However, while the difference between the two groups was in the predicted direction, this did not reach statistical significance ($t = 0.3817$, $df = 69$, NS).

Parents were also asked to rate the way they saw their child's progress in education and socialization on a 3-point scale (below average, average, above average). No differences were found between the groups on either count: both groups obtained the same mean score for education and a similarly non-significant result was obtained for socialization.

(iv) Do parents have misconceptions about tonsillectomy?

In order to ascertain whether favouring tonsillectomy was related to misconceptions or outmoded medical opinion, parents were questioned concerning the site and function of the tonsils and the sources from which they obtained their knowledge.

Parents were asked to mark the site of the tonsils on a sectional diagram of the head and respiratory tract, and their responses were grouped according to whether they located them in the ora-pharynx, the naso-pharynx, the neck (down to the suprasternal notch) or the thorax. Thirty-five per cent of the IF group correctly located the tonsils, compared with 43% of the NIF group.

Most parents thought that the tonsils were in some way involved in the prevention of systemic infection, but the NIF group were significantly

better informed in this respect (IF 54% v. NIF 74%; $\chi^2 = 8.47$, $df = 1$, $P < 0.01$). This group were more likely to quote a doctor as their source of knowledge (29% v. 18%), but this difference did not reach an acceptable level of significance. There was no difference between the two groups in terms of those who gave a 'don't know' response (IF 30% v. NIF 14%; $\chi^2 = 0.98$, $df = 1$, NS), and those who thought that the tonsils served 'no purpose' (IF 10% v. NIF 6%; $\chi^2 = 0.89$, $df = 1$, NS). Only 6% of the entire sample listed other reasons for the existence of tonsils.

The majority of parents gave 'hearsay' as their source of knowledge (22% IF and 65% NIF). An interesting, but not statistically significant, trend emerges, however, if the IF parents who give 'hearsay' as their source of knowledge are divided according to their GP's opinion: if the GP is perceived as being opposed to the operation, 80% of the IF parents quote 'hearsay' as their source of knowledge; if the GP is 'undecided', this drops to 75%; and, if he is seen as favouring tonsillectomy, only 69% have acquired their knowledge from 'hearsay' ($\chi^2 = 0.154$, $df = 2$, NS). Although this study is reliant on the parents' subjective estimation of their GP's opinion, and may not always accurately reflect it, one interpretation of this trend is that the GP has a valuable educative role in this matter.

DISCUSSION

The sample in this study was restricted to referrals to one consultant ENT surgeon and therefore does not take into account the possibility of selective referral by GPs. Further, it does not control for those parents whose children have what they see as tonsil-related problems and who have not been referred to an ENT clinic. However, it is the surgeon who must decide whether or not to operate and it is he who sometimes claims that parental pressure influences his decision. The study is expressly concerned with the attitudes of those parents who meet with such a surgeon and thus have the opportunity to influence him. Nevertheless, the conclusions are tentative and cannot be extrapolated more generally without reservation.

It was found that children whose parents were in favour of tonsillectomy had visited their GP

more frequently in the preceding 12 months. It could be argued that these parents favoured surgery for their children because of the degree of ill-health which had necessitated so many visits. However, since only 4% of the group who favoured surgery did so against their GP's advice, the idea that specialist referrals result from intransigent parents is difficult to support.

There was no evidence for tonsillectomy being a *rite de passage* and, although there was a higher incidence of previous tonsillectomies among the other children of parents favouring such surgery, there was no evidence of polysurgical addiction. Despite previous research that has shown a link between emotional illness in mothers, the prescribing of psychotropic drugs to mothers and the management of common childhood disorders (Davis, 1977; Howie & Bigg, 1980; Bain & Sales, 1981), this study did not find parents to be 'hypochondriacal'. Although more parents in the IF group admitted frustration over their child's condition and rated his behaviour as more deviant when compared with the NIF group, these differences were not statistically significant. Consequently, while this is patent of other explanations, a plausible reason for parental pressure is ignorance concerning the nature and function of the tonsils. Although parents did not see tonsillectomy as a 'cultural cure for everything' (Lipton, 1962), significantly fewer of the parents in favour of the operation knew where the tonsils were or were aware of their function. Such parents were also more likely to have relied on 'hearsay' as their source of information.

It is significant that parents who disagreed with their GP's opinion regarding the desirability of tonsillectomy for their child were less likely to quote him as their source of information. These parents more often described their GP as proffering factual information (e.g. 'they don't take them out so often nowadays') without explanation. This highlights the particularly important role of the GP as an educationalist in reducing the small number of parents who are inappropriately pressuring medical services.

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Survey methods were used in a second study undertaken on an Eating Disorders Unit. This study examined the nature of excessive exercising in patients with anorexia nervosa, with a view to these findings informing clinical management. Clinical experience indicated that over-exercising was a difficult problem to address in eating disorders, and that it was a behaviour that may place the patient at risk of relapse if untreated (Long & Smith, 1990). Knowledge of the nature of exercise behaviour and in particular the motivation underlying over-exercising are crucial to the design of effective interventions. In this context, reliance on the self-report of individuals with an ego-syntonic disorder is problematic (Morgan, et al, 1992), although objective estimates of exercise behaviour may be impractical and often of limited advantage (Dishman, 1987). Surveys of this type can only point to correlational relationships and they do not tell us anything about causality. However, self-report data provides a tentative representation of reality that may, given specific clinical conditions such as anorexia nervosa (where problem behaviours are not easily observed) have the virtue of providing corroborating evidence for clinical observation. This study was published as follows:

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Over-exercising in anorexic and normal samples: Behaviour and attitudes

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Abstract

Exercise, attitudes, motivation and behaviour were compared in groups of female anorexic patients and groups of males and females without eating disorders. The anorexic group were significantly more hyperactive, exercised more frequently and engaged in a wider variety of exercise behaviours. They were also more likely to exercise in secret and were more compulsive about exercising. They displayed a 'negative addiction' to exercise, and gave control of their negative mood states as their major reason for undertaking it. The theoretical and clinical implications of these results are discussed.

That individuals who exercise excessively form an overlapping group with anorexic individuals (Eisler & Le Grange, 1990) is supported by evidence of the higher than expected level of eating disorders among athletes (Johnson & Schlundt, 1990), and by the very high incidence of hyperactivity in anorexic populations. Estimates of the prevalence of excessive exercise/hyperactivity in anorexic samples range from 37% (Crisp et al., 1980) to 75% (Kron et al., 1978). Despite this, there has been little attention paid to the nature of the physical activity engaged in by anorexics, and few studies have directly compared normal and clinical samples with respect to their motivation for exercise and their exercise behaviour and attitudes.

In samples of normals (Canada Fitness Survey, 1983) and athletes (Touyz et al., 1987) the perceived motivation for exercise is the improvement of health, the development of fitness, and the control of body weight. Although "exercise anorexics"

(Touyz et al., 1987) give as their initial motive for exercise the pursuit of fitness, it has been assumed that exercise is motivated by a desire to maintain low weight once the illness is established (Beumont et al., 1984). The first aim of this study therefore is to examine the exercise behaviour, attitudes and motivation to exercise in anorexic and normal samples, using questionnaire data. Although the measurement of exercise behaviour poses problems, it is uncertain whether objective estimates offer a clinically meaningful advantage over self-reported data (Dishman, 1987).

There is now much evidence that a state of exercise dependence exists (Veale, 1987), that it describes a commitment to exercise that far exceeds any reasonable effort to achieve physical fitness, and that it may induce psychological harm (Hughes, 1984). Touyz et al., (1987) found their "exercise anorexics" to be engaged in strenuous activity for more than two hours per day, to show

“debiting” behaviour (calories ingested being paid for with energy expended), and to experience “withdrawal” symptoms of irritability, depression and guilt when an activity was curtailed. Morgan (1979) concludes that the combination of daily exercise, the experience of withdrawal symptoms when exercise is stopped, and the continuance of exercise when it is socially, vocationally and medically contra-indicated, amounts to a “negative” addiction. However, as Eisler & Le Grange (1990) point out, the existence of a compulsive or excessive pattern of exercising does not necessarily imply that it can be viewed only in terms of an illness model. Glasser (1976) views persistent exercise as a positive addiction which is beneficial to the individual, and Daniels & Fernhall (1984) have shown that vigorous and relatively solitary endurance exercise can induce relaxation and improve mood state. Currently the extent to which anorexics display a negative addiction (Morgan, 1979), or a positive addiction (Glasser, 1976) to exercise has yet to be clarified. How they compare in this respect with normals is also unknown.

The second aim of the survey, therefore, is to assess whether there are differences between anorexic and normal samples in terms of their positive or negative addiction to exercise.

Method

Procedure

Twenty-one consecutive in-patient females (all single) who fulfilled DSM-III R criteria for a diagnosis of anorexia nervosa completed questionnaire data on their pre-admission exercise behaviour and attitudes in the first two weeks of their stay on an eating disorders unit. The mean age of the subjects was 25 years (SD 9.7). Their mean scores of 46.3 (SD 12.2) on the Eating Attitudes Test

(EAT: Garner & Garfinkel, 1979) and 1.91 (SD 0.69) on the General Severity Index of the Brief Symptom Inventory (BSI: Derogatis & Spencer, 1982) indicated a clinically significant level of psychological distress.

Forty-five single female and 25 single male undergraduate students were matched approximately for age by randomly selecting equal proportions of participants in 5 year age bands (eg, 20-25 years). Students were chosen as representatives of a sub-section of the population for whom exercise has become the social norm (Canada Fitness Survey, 1983). Males were included on the assumption that some differences might be sex rather than illness specific. There were six refusals to participate, and two females (identified as formerly anorexic) were excluded. This left a control group of 42 females (mean age 24.6 years; SD 8.5) and 20 males (mean age 24.9; SD 8.56).

Design

Exercise was defined as activity engaged in where the primary motive was for exercise rather than that undertaken as part of work or activities of daily living.

All subjects completed two questionnaires to assess their exercise behaviour and attitudes.

1. A 27-item exercise questionnaire drawing on items from previous standardised scales by Blumenthal et al. (1984), Reiff et al. (1967) and Slade (1973), the questionnaire is in three sections:-
 - a. Exercise behaviour (14 questions) covering frequency and duration of exercise, solitary/secret exercise, the association between eating and exercise and hyperactivity (a 5 question subscale).
 - b. Exercise cognitions (12 questions) covering motives for exercise, perceived adequacy and importance of exercise, feelings after exercise or failure to exercise.

Four questions dealt with ‘compulsion to exercise’, and a diagnosis of ‘negative addiction’ (Morgan, 1979) to exercise was made if subjects stated they exercised daily, that they experienced either guilt, anxiety or depression on days they did not exercise, and if they continued to exercise if they were sick or injured.

- c. Finally, subjects were asked if they were suffering, or had formerly suffered, from anorexia nervosa or other eating disorders.
- 2. A modified version of Commitment to Running Questionnaire (Carmack & Martens, 1979), with the word “exercise” substituted to make it more widely applicable, was used as a measure of Glasser’s (1976) “positive addiction” to exercise.
- 3. In addition, anorexic subjects completed a battery of symptomatology questionnaires, including the Eating Disorders Inventory (EDI: Garner et al., 1983), the Culture Free Self Esteem Inventory (SEI: Battle, 1981), and the BSI (Derogatis & Spencer, 1982).

Results

1. Exercise behaviour

In comparison with control subjects anorexics participated in significantly more different exercise activities per week, were more likely to exercise daily and in a secret or solitary manner, and were more hyperactive (See Tables 1 and 2). Among daily exercisers the majority (60%) of the non-clinical sample exercise for 15-20 minutes per day in contrast to 63% of anorexics who exercise in excess of 30 minutes. Only the anorexic daily exercisers did more than one hour’s activity per day (29%). Walking was the most popular daily exercise for anorexic females, followed by aerobics and gymnasium routines. Normal subjects were more likely to cycle or swim. The greater tendency for solitary or secret exercising in the anorexic sample correlated significantly with low general self-esteem as measured by the SEI ($r = 0.56$; $p < 0.01$), and with the BSI subscales of Depression ($r = 0.605$; $p < 0.01$), Anxiety ($r = 0.612$; $p < 0.01$), and Phobic Anxiety ($r = 0.515$; $p < 0.01$).

Table 1: Self reported exercise behaviour and cognitions in anorexic and comparison group mean scores and percentages

| | Comparison Group | | | | | |
|----------------------------------|------------------|--------|------------|--------|------------|--------|
| | Anorexics | | Females | | Males | |
| | Mean | (SD) | Mean | (SD) | Mean | (SD) |
| Hyperactivity (Max score = 5) | 3.52 | (1.6) | 1.49 | (1.27) | 2.16 | (1.34) |
| Compulsivity (Max score = 8) | 5.48 | (1.91) | 3.74 | (1.04) | 4.40 | (1.01) |
| Commitment to Exercise | 42.84 | (7.00) | 39.80 | (7.79) | 44.95 | (7.22) |
| | Percentage | | Percentage | | Percentage | |
| Negative addiction | 81 | | 21 | | 5 | |
| Daily exercise | 81 | | 31 | | 15 | |
| Solitary or secret exercising | 22 | | 5 | | 0 | |

Table 2: Self reported exercise behaviour and cognitions in anorexic and normal subjects. Statistical analyses of group scores (values of t)

| | Anorexics v. Females | Anorexics v. Males | Females v. Males |
|---|-------------------------|-----------------------|---------------------|
| BEHAVIOUR | | | |
| Hyperactivity | -5.47*** | -2.91** | -1.87ns |
| No. of different activities per week | -3.64*** | -2.93* | 1.24ns |
| Daily exercise | -4.18*** | -5.48*** | 1.34ns |
| Secret/solitary exercise | -2.53** | -3.45*** | 2.18* |
| COGNITIONS | | | |
| Commitment | -1.15 | 0.94ns | -2.47* |
| Negative addiction | -5.75*** | -5.19*** | 0.63ns |
| Compulsivity | -4.55*** | -2.19* | -2.25* |

*** = $p < 0.001$ ** = $p < 0.01$ * = $p < 0.05$ ns = not significant

2. Exercise cognitions

While there were no differences between anorexics and normals in their commitment to exercise (ie, positive addiction scores), significantly more anorexics showed a negative addiction to exercise (see Tables 1 and 2). All anorexics who exercised daily were “negatively addicted” in contrast to only 9 out of the 13 female daily exercisers, and only 1 of the 3 male daily exercisers. Anorexics were more compulsive about their exercise and spend more time thinking about it than do either normal females or males (see Tables 1 and 2). The correlation between frequency of exercise and the experiencing of (a) negative emotions if exercise is not possible ($r = 0.368$; $p < 0.001$) and (b) Compulsivity ($r = 0.341$; $p < 0.001$) supports this. Within the normal sample, sex differences in exercise cognitions were apparent, with males having higher scores on the Commitment to Exercise and the Compulsivity scales of the questionnaire.

A Kruskal-Wallis one way ANOVA by ranks was performed on seven reasons/mo-

tives for exercise given by the groups (see Table 3 where the lower the mean rank the more important the reason for exercise). Anorexic females were significantly more likely to use exercise to cope with negative emotional states than were normals, and more likely than males to use exercise for weight control. Normal females and anorexics placed a similar emphasis on weight control, while males were significantly more likely to exercise for reasons of competition than were both female groups.

Discussion

Results of this study show that there are differences in exercise behaviour between anorexic females and normals, and between men and women. These may indicate the differential effect of recent cultural pressures to exercise on the sexes and also the way these pressures can determine different presenting features of anorexia nervosa in different historical periods (Russell, 1984).

Table 3: Ranked reasons for exercise in anorexic and normal subjects

| Reasons | Anorexics | Mean Rank | | Value of H |
|-------------------------------|-----------|-----------|-------|------------|
| | | Females | Males | |
| Coping with negative emotions | 29.1 | 46.5 | 45.8 | 8.1* |
| Weight control | 34.7 | 39.5 | 53.3 | 6.8* |
| Achievement | 40.7 | 45.3 | 33.8 | 3.2ns |
| Body shape | 41.0 | 39.8 | 47.7 | 1.6ns |
| Socialising | 45.2 | 39.4 | 37.5 | 1.3ns |
| Competition | 48.5 | 45.1 | 22.7 | 14.8*** |
| Fitness | 52.1 | 40.6 | 34.4 | 6.3* |

*** = $p<0.001$ * = $p<0.05$ ns = not significant

That anorexics see themselves as being significantly more hyperactive than others, is consistent with previous reports (Kron et al., 1978). They also engage in a good deal more purposeful and organised sporting behaviour than do normals, although this is compulsively performed in the way, perhaps, that athletes are said to maintain adherence to rigorous training schedules (Kirschenbaum, 1987). The finding that solitary and, in particular, secret exercising distinguished the anorexic sample and correlated with self-reports of symptomatology undoubtedly reflects the social withdrawal that is characteristic as the anorexic illness progresses, and as the amount of exercise undertaken increases (Farrar, 1992). All anorexic daily exercisers reported that they continued to exercise if they were sick or injured and experienced withdrawal symptoms (anxiety, guilt or depression), if their exercise was prevented. This finding, when considered with the anorexics' major motive for exercise and its compulsive nature, strongly suggest that exercise behaviour is maintained for the control of negative affect (Blumenthal et al., 1984), for the fear of not exercising (Thaxton, 1982), and perhaps for the need to avoid withdrawal effects (Salmon et al., 1988). Since starva-

tion increases the experience of negative mood states (Keys et al., 1950), it may be that anorexics need an excessive amount of exercise to produce a positive mood change, and this behaviour is a true negative addiction with little positive benefit. This questions the wisdom of routinely prescribing exercise for the alleviation of mood states in the psychologically distressed (eg Simons et al., 1985), and supports the use of cognitive treatment approaches that aim to teach over-exercising patients alternative ways of coping with negative emotional states (Long & Smith, 1990). In view of the finding that anorexics' initial motive for exercise is the pursuit of fitness (Touyz et al., 1987), current results suggest that anorexics' motive for exercise may change over time and with weight loss. This accords with Dishman's (1987) stage analysis whereby exercise may be reinforced by different factors as initial involvement progresses and exercise becomes habitual. Dependence on social reinforcement during early adjustment to an exercise programme may give way to later intrinsic reinforcements (eg symptom abatement) that can induce dependence. Future research with larger samples may show that excessive exercise represents a

more frequent route into the anorexic illness for males. Further, since a function of binge eating is the control of dysphoric mood states (Fairburn, 1985), it may show that those negatively addicted to exercise are over-represented among restricting anorexics.

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A third paper uses survey methodology to help devise a multifunctional scale to measure problem-solving style. The research was driven by the authors' attempts to assess coping skills or problem-solving style among in and day patients in view of its relationship to affective disorder, its implications for therapeutic intervention and its possible significance in terms of relapse prevention.

The application of Problem-solving techniques to problems in living has developed relatively recently. It includes Interpersonal Cognitive Problem-Solving (eg, Spivack et al, 1976), the problem-solving methods included in self-management therapy (Kaufer & Gaelick-Buys, 1991) and problem-solving therapy (PST; D'Zurilla, 1986). Outcome studies have shown PST to improve competencies and improve drinking behaviours among alcohol abusers (Cheney, et al 1978) and depressed subjects respond better to PST than to problem focused discussion (Nezu, 1986). As yet, however, there is no data on which clients are most likely to benefit from PST (Nezu, et al 1989) and accordingly a measure that might discriminate between individuals in terms of problem-solving style might help in the assignment of clients to appropriate therapy.

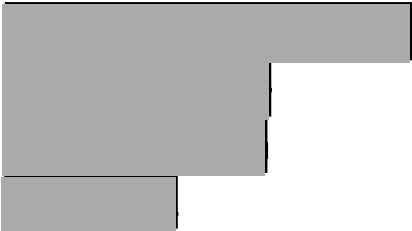
The research which was undertaken using clinical and community samples supported the idea that problem-solving style which is best viewed as a multidimensional construct, is related to different patterns of clinical symptoms/mood states, and is an important variable in the mediation of psychological health and illness.

The final reference is as follows:

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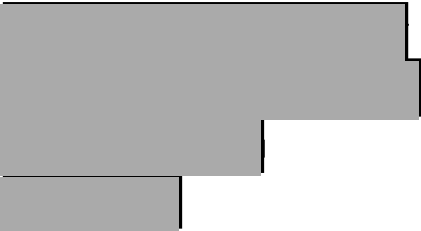
**PROBLEM-SOLVING STYLE, STRESS
AND PSYCHOLOGICAL ILLNESS:
DEVELOPMENT OF A MULTIFACTORIAL
MEASURE**

T. CASSIDY



and

C. G. LONG



**British Journal of Clinical Psychology
(in press)**

Title.

Problem-solving style, stress and psychological illness: Development of a multifactorial measure.

Abstract.

Problem-solving style has emerged in the literature as an important variable in the development and maintenance of affective disorders. Furthermore the literature would suggest that it is related to other variables such as attributional style, achievement motivation and control in the mediation of the stress process. Research has been hampered and somewhat clouded by lack of clarity regarding the nature of the construct. It would appear to be a multidimensional construct, yet a suitable multifactorial measure is not available. The current paper reports on two studies (n=408 and n=611 respectively) which produced a 24 item 6 factor measure. The factors were labelled *helplessness*, *problem-solving control*, *creative problem-solving style*, *problem-solving confidence*, *avoidance style*, and *approach style*. The studies produced evidence that the utility of problem-solving style as an explanatory variable is enhanced when it is treated as a multidimensional construct. The factors appear to be differentially predictive of different affective states and clinical disorders. The data also supports the 24 item measure as a useful, reliable and valid measure of problem-solving style.

Introduction.

Both knowledge and application in the area of psychological health and illness has been greatly advanced throughout the past 15 years by the growth of research on the mediating role of cognitive appraisal and cognitive styles. The best known programme of research has been that which grew out of the work of Seligman on learned helplessness (Seligman & Maier, 1967; Seligman, 1975), and became the Attributional Style Theory (Abramson, Seligman & Teasdale, 1978). The theory has received wide attention and application and was again revised in 1988 by Alloy et al, as the Hopelessness Theory of depression. The theory was originally devised and applied to understanding and treating depression, but has more recently expanded into explanation of the stress process (Brewin, 1988).

Another aspect of cognitive appraisal proposed in the literature has been that of problem-solving style (Heppner & Petersen, 1982; Nezu, 1987; Nezu, Nezu & Perri, 1989). Nezu (1989) defines problem-solving style as *“the cognitive-behavioural process by which individuals identify or discover effective strategies for coping with problematic situations encountered in daily living”* (p. 121).

Nezu (1987) suggests a 5 stage process which if engaged in effectively would render the individual resistant to external stressors and less vulnerable to depression. These stages are:

- a) problem orientation - the recognition that a problem exists;
- b) problem definition and formulation - assessing the extent of the problem and setting realistic goals;
- c) generation of alternative solutions;
- d) decision-making - choosing the solution to be implemented; and
- e) solution implementation and verification - carrying through the chosen solution, monitoring and evaluating its success, and self reinforcing for success.

The problem-solving style model was developed with a focus on depression as with Attributional Style theory. However it is very clear that it too applies more broadly to the stress process. In a literature search 86 different studies were identified covering the period 1985-1991 on the topic of problem-solving, stress and affective disorders. The earlier work tended to focus on problem-solving skills using a predominantly behavioural framework. However although the more recent work has moved to an emphasis on identifying the cognitive processes which

underlie the skills, ie. problem-solving styles, there still tends to be some confusion in the literature between the concepts of problem-solving skill and problem-solving style.

A large number of studies support the utility of problem-solving interventions in a range of areas. For example Denham & Almeida (1987) in a meta analysis of the theory and practice of problem-solving skills interventions with children report a robust relationship between interventions and behavioural adjustment. Tisdale & Lawrence (1986) in a review of the literature conclude that the approach has been successful with maladjusted children, emotionally disturbed adolescents and adult psychiatric patients and suggest that problem-solving skills are predictive of successful life adjustment generally.

The evidence supplied by Nezu et al, (1989), in their comprehensive review, suggests that problem-solving style is not a unitary concept. Other work by Heppner & Petersen (1982) and Heppner et al (1987) also identifies the multidimensional nature of the construct. Heppner & Petersen (1982) developed a Personal Problem-solving Inventory which measures 3 factors, problem-solving confidence, approach-avoidance style, and personal control.

Nezu (1987) also identifies the work of Billings & Moos (1981; 1982; 1984; 1985) as an important contribution. They tend to talk of coping responses but one can see from their Coping Responses scale (Billings & Moos, 1981), that they are in fact measuring problem-solving styles.

It would appear from the research evidence that problem-solving style and a range of other variables such as attributional style, achievement motivation, locus of control and emotional reactivity are causally implicated in the stress process. Some research exists which has acknowledged an interaction between some of these variables. For example Dixon et al (1991) linked problem-solving style with hopelessness and perceived stress levels in the prediction of suicide ideation in college students. Attributional style and achievement motivation have been shown to be related in the work of Weiner (1985; 1986). Problem-solving self-appraisal and attributional style was shown to be correlated in a study by Heppner et al (1985). These studies suggest an inter-relationship between variables yet in the main each construct supports a separate literature. In order to fully understand their role a comprehensive, integrative analysis treating the variables as complementary rather than competing explanations is necessary.

In regard to problem-solving style a problem exists in that while a multifactorial scale is needed before this construct can be adequately researched, no such scale is available. In deed the

current authors were presented with such a problem in their research programme on psychological vulnerability to stress. The current paper reports on the development of such a scale.

The aim of the current research was to take the dimensions currently identified in the literature mainly reflecting the work of Heppner & Petersen (1982; 1985; 1987) and Nezu (1987; 1989), and to devise a scale to assess those dimensions. The end product would be a measure of problem-solving style which could be used in more extensive research to clarify the role of cognitive styles in the stress process.

Method

The development of the questionnaire involved two studies. In study 1 a pool of items was administered to a sample of participants and the results factor analysed in order to identify the underlying factor structure. Study 2 involved further clarification of the factors.

Study 1

Participants: 408 individuals (155 males and 253 females) drawn from the general population participated. The age range was 17-65 and participants were drawn from a wide range of backgrounds.

Materials: 84 items were selected from a pool as follows:

- a) from the Heppner & Petersen (1982) Personal Problem-solving Inventory - 32 items;
- b) from the Billings & Moos (1981) Coping Responses Questionnaire - 15 items;
- c) new items constructed to tap the ideas suggested by Nezu (1987) and Nezu et al, (1989) - 37 items.

These items were presented on a questionnaire using a forced choice (True / False) format. The questionnaire also contained items requesting biographical information on age, sex, occupation, marital status and parental status.

In addition 4 sub-scales (*depression, anxiety, hostility and positive affect*) , from the Multiple affect Adjective Checklist-revised (MAACL-r) (Zuckermann, 1983), were included.

Procedure: Questionnaires were administered to a sample of 600 individuals. In essence these were an opportunity sample accessed at two places of work. They included a cross section of staff at a local hospital and a sample of staff and students at a local University.

Questionnaires were supplied with a self addressed and prepaid envelope. The 408 returns were coded and entered on to computer for analysis using SPSSx.

Results and Discussion:

Items were factor analysed using principal component analysis and oblique rotation into simple structure. The number of factors rotated initially were based on a cut off eigenvalue of 1.0, which indicated 16 possible factors. Of the 16 factors, 8 were identifiable. The principal component analysis was repeated at this stage and 8 factors were rotated. The items that defined each factor and their factor loadings are shown in the first column of Table 1.(*insert Table 1 here*)

It was decided that 6 factors could be accepted on the basis of their reliability coefficients and mean inter-item correlations as shown in Table 2. While alpha coefficients are not as high as one might hope for, they are all above the 0.50 which Nunnally (1967) argues is more than sufficient for research purposes. Furthermore the mean inter-item correlations indicate that the items are homogeneous sets and can be argued to be reliable measures. Furthermore the factors do have intuitive validity as discussed below. (*insert Table 2 here*)

The 3 factors suggested by Heppner & Petersen (1982) were replicated, ie. *problem-solving confidence, problem-solving control, and approach / avoidance style*. However the latter came out as two separate factors, *avoidance style, and approach style*.

There is an intuitively sound distinction between these two since absence of approach does not imply presence of avoidance.

Factor 1 was rather unclear and was labelled *general problem orientation*, having a range of items loading on it which did not seem to have any common theme. It was decided that a further study would be required to clarify this factor. The other 5 factors were much more easy to identify.

Problem -solving control reflects an internal / external control dimension in problem situations. *Avoidance style* reflects a tendency to brush problems under the carpet rather than deal with them. *Creative style* reflects planning and consideration of alternative solutions in terms of the stage 3 of the problem-solving process as suggested by Nezu (1987). *Problem-solving confidence* indicates a belief in one’s own ability to solve problems. *Approach style* reflects a positive attitude to problems and a tendency to tackle them head on.

Pearson correlation coefficients were calculated between the factors and the 4 scales from the MAACL-r and these are shown in Table 3. Correlations are corrected for attenuation using the

formula provided by Nunnally (1978), based on an assumed alpha coefficient of 0.8 for each of the MAACL-r scales.*(insert Table 3 here)*

What is most interesting about the pattern of correlations is that different factors are related to different mood states. This supports the need to treat problem-solving style as a multifactorial construct in order to understand its role in different psychological outcomes.

This exploratory study identified 6 factors. However the ambiguous nature of Factor 1 indicated a need for further clarification. It was also clear from item analysis that some items were not discriminating. It was therefore felt appropriate to modify some items and to add some new items to those identified in study 1 for use in a second study.

Study 2

Method.

Participants: In this study 611 participants (299 male and 312 females) were assessed. Their ages ranged from 17 to 57. They came from a wide range of occupational backgrounds, including 48 individuals who were attending the acute unit of a psychiatric hospital for a range of affective disorders and 54 individuals attending self-help groups for a range of addictive disorders.

Materials: The questionnaire used comprised items requesting biographical information on sex, age, marital status and occupation, and the following scales:

1. A 36 item Problem-solving scale produced from study 1.
2. The Beck Hopelessness Scale (Beck, 1975).
3. The Attributional Style Questionnaire (Seligman & Petersen, 1982)
4. The Cassidy-Lynn Achievement Motivation Questionnaire (Cassidy & Lynn, 1989)
5. A Social Anxiety Scale devised for this research and shown in Appendix 1.
6. The Locus of Control of Behaviour Scale (Craig, Franklin & Andrews, 1984).
7. A Social Support Scale also shown in Appendix 1.
8. Items devised to measure attitudes to fitness, exercise, and leisure activities.

Procedure: The questionnaires were administered with an attached self addressed, prepaid envelope, to a random sample of 1000 individuals accessed through two work organisations, a University college, and a local community sample. The Clinical sample were administered the questionnaire by a psychology assistant after they had consented to participate in the study. Questionnaires were given to members of self-help groups who agreed to participate by their group leaders. Of the 1000 in the original sample 509 completed questionnaires were returned. The questionnaires were scored and data entered on a computer for analysis using the SPSSx system.

Results and Discussion:

Principal component analysis using oblique rotation into simple structure produced 8 factors with eigenvalues above 1.0. Of these only 6 were retained based on their reliability coefficients. These 6 factors with their labels, identifying items and factor loadings are shown in column 2 of Table 1. The study replicated the factors from the previous study. This time however Factor 1 was clearly identifiable as *Helplessness*, reflecting a general helplessness in problem situations. The 6 factors are *helplessness, problem-solving control, creative style, problem-solving confidence, avoidance style, and approach style*.

Reliability coefficients using Cronbach’s Alpha, and mean inter-item correlations are shown in Table 2. As with study 1, the alpha coefficients are not as high as one might like, although they are all above the 0.5 considered sufficient for research (Nunnally, 1967). Furthermore the mean inter-item correlations again indicate that they are homogeneous sets and can be accepted as reliable measures.

Discriminant function analysis between the Clinical group (n=48), and the non-clinical group (n=509) produced the standardized canonical coefficients shown in column 1 of Table 4. *(insert Table 4 here)* This data indicates that while 4 of the problem-solving style factors are discriminators, a total score on the problem-solving scale does not discriminate between the groups. While there is a large difference between the groups in regard to the numbers of participants, the results can be taken as indicative of the utility of a multidimensional treatment of problem-solving style.

One of the questions that can be raised is whether in fact the groups are comparable in terms of other factors such as age and sex. In this study we had data on age, sex and marital status for all participants. As can be seen from Table 5 the age, sex and marital status distribution does not differ greatly across the groups, and there would appear to be sufficient subjects in each category in each group to make a comparison possible. *(insert Table 5, here)*

However there are some significant correlations between these variables and the problem-solving style factors as can be seen from Table 8. While this is not unexpected in that the evidence in the literature suggests that sex, age and marital status are related to psychological disorder, it is important to to tests whether the problem-solving factors are influential when

these factors are controlled for. A multivariate analysis of covariance was carried out to test this, with the problem-solving style factors as dependent variables and age, sex and marital status as the covariates. The data from this is shown in Table 6.*(insert Table 6 here)*

This data shows that the problem-solving factors have a significant effect even when age, sex and marital status are controlled for.

In essence what the analysis suggests is that the clinical group regarding problem situations, felt more helpless, had a less creative style, lacked confidence, and were less likely to use an approach style. They were also less assertive, made more external, stable and global attributions, and perceived themselves as having less social support than the non-clinical group.

Discriminant function analysis was also performed to compare the self-help groups with controls and the resultant standardized coefficients are shown in column 2 of Table 4. Again while 2 of the problem-solving factors came out, total scores on problem-solving were not useful in discriminating between the groups.

Multivariate analysis of covariance shows that the problem-solving factors have a significant effect even when age, sex and marital status are controlled for (Table 6).

In regard to problem situations the participants from self-help groups felt more helpless and used less creative styles to solve problems. They also made more external, stable and global attributions, had a more external locus of control, felt more pessimistic (as measured by the Beck Hopelessness scale), and had a more negative attitude to exercise.

Multiple regression analysis was used with total scores on the Beck Hopelessness scale as the dependent variable and the 6 factors of problem-solving style as the predictors. As shown in Figure 1, helplessness, problem-solving control, problem-solving confidence, and avoidance style, were significant predictors of hopelessness. *(insert Figure 1 here)*

The foregoing would appear to support the argument that problem-solving style is an important variable in the mediation of life stress and psychological health and illness generally. It would also appear that problem-solving style is most useful as a multidimensional construct. In measuring problem-solving style the scale produced in this research would appear to have some validity.

The next stage in the analysis was to produce some standardization data in terms of means and standard deviations for the factors and these are shown in Table 7. (*insert Table 7 here*)

This data shows that both the clinical sample and the self-help group felt more helpless, indicated a more external control in problem situations, were less creative and had less confidence in their ability to solve problems than the control group. Furthermore the controls were less likely to avoid and more likely to approach problems.

Pearson correlation coefficients were calculated between the problem-solving factors and the other variables measured in Study 2, and these are shown in Table 8. The Pearson correlation analysis demonstrates the interconnectedness of the problem-solving dimensions as one would expect. What is also apparent is the relationship between problem-solving style and a range of other variables which have been indicated as implicated in the stress process. While recognising that this interaction needs further clarification, what is indicated is that variables such as attributional style, achievement motivation, locus of control and problem-solving style are not independent in explaining psychological health and illness, and their interactive effect must ultimately be considered.

Conclusions.

The results from the two studies reported here provide evidence that problem-solving style is an important variable in the explanation of psychological illness and in understanding the stress process. There is clear evidence that the utility of the construct is enhanced when it is considered as multidimensional. It is also argued that the questionnaire produced in these studies, although undoubtedly requiring further validation, is a useful measure and shows both construct validity and reliability. The analysis also points to the need for an integrative model of the stress process which can be used to clarify the interaction between various hypothesised cognitive styles and appraisal processes which have been empirically supported in the literature.

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Appendix 1

Social Anxiety / Assertiveness Scale

When faced with the following situations, please indicate how you feel by circling the number underneath the appropriate response

| | I feel fine | I feel slightly uneasy | I feel very anxious |
|--|----------------|---------------------------|------------------------|
| 1. Chatting to someone you know well on their own..... | 0 | 1 | 2 |
| 2. Making a telephone call in front of several people..... | 0 | 1 | 2 |
| 3. Making a short speech at a gathering/wedding etc..... | 0 | 1 | 2 |
| 4. Taking a defective article back to a shop..... | 0 | 1 | 2 |
| 5. Giving your opinion in a group of friends..... | 0 | 1 | 2 |
| 6. Giving your opinion in a group of strangers..... | 0 | 1 | 2 |
| 7. Looking at somebody straight in the eyes..... | 0 | 1 | 2 |
| 8. Giving a compliment to somebody..... | 0 | 1 | 2 |
| 9. Hugging a friend..... | 0 | 1 | 2 |
| 10. Entering a room of strangers..... | 0 | 1 | 2 |
| 11. Asking directions from a stranger..... | 0 | 1 | 2 |

Reliability: Cronbach's coefficient alpha = .88 Mean inter-item correlation=.60

Social Support Scale

Please circle Yes or No for the following statements as appropriate, or ? if you are uncertain.

| | | | | |
|-----|---|-----|---|----|
| 1. | Do you have someone you can rely on to make you feel relaxed when you are under pressure?..... | Yes | ? | No |
| 2. | Do you have someone who accepts you totally, including both your good and bad points?..... | Yes | ? | No |
| 3. | Is there someone you can rely on to help sort out unpleasant disagreements if they occur?..... | Yes | ? | No |
| 4. | Do you have someone to turn to in an emergency?..... | Yes | ? | No |
| 5. | Do you ever feel alone and isolated?..... | Yes | ? | No |
| 6. | Do you have someone you can count on to distract you from your worries in times of stress?..... | Yes | ? | No |
| 7. | Is there someone who will care about you regardless of what is happening to you?..... | Yes | ? | No |
| 8. | Do you have someone who can give you practical support when you have a problem?..... | Yes | ? | No |
| 9. | Is there someone who can make you feel good about yourself?..... | Yes | ? | No |
| 10. | Is there someone who turns to you when they have emotional problems?..... | Yes | ? | No |
| 11. | Is there anyone who asks you for advice about everyday practical problems?..... | Yes | ? | No |
| 12. | Do you enjoy your own company?..... | Yes | ? | No |

Reliability: Cronbach's coefficient alpha=.62 Mean inter-item correlation=..24

Table 1: Items and Factor Loadings from Study 1 and Study 2.

| <u>Factor 1</u> | <u>Helplessness(labelled Problem Orientation in Study 1)</u> | <u>Study1</u> | <u>Study 2</u> |
|---|--|---------------|----------------|
| I just do things aimlessly, not considering how they might affect the situation | | .63 | .84 |
| I feel helpless, unable to think about any solution to my problem | | .59 | .83 |
| I think only of myself when faced with problems | | .61 | .80 |
| My life just falls to pieces at problem times, and I feel hopeless | | n/a | .73 |
| I try to ignore and forget the whole thing | | .36 | .64 |
| I have fantasies or wishes about possible outcomes | | .45 | .58 |
| Many problems in life are too complex for me to solve | | n/a | .39 |
| I am very aware how my actions may affect others and try to make sure that no one else gets hurt | | .68 | n/a |
| I shut problems out of my mind at the time and I suppose you could say I never actually deal with them at all | | .63 | n/a |
| I try to see the positive side of the situation | | .72 | n/a |
| Even though I work on a problem I sometimes feel I am beating about the bush and not getting anywhere | | .70 | n/a |
| <u>Factor 2</u> | <u>Problem solving control</u> | | |
| I blame myself for my problems | | .67 | .75 |
| I tend to think I bring problems on myself | | .67 | .76 |
| I am disappointed with my ability to cope | | .55 | .68 |
| I can generally take control of problem situations | | .54 | .48 |
| Even though I work on a problem I sometimes feel I am beating about the bush and not getting anywhere | | n/a | .40 |
| <u>Factor 3</u> | <u>Creative style</u> | | |
| I consider several alternatives for handling my problem | | .49 | .57 |
| I make a plan of action and follow it | | .73 | .53 |
| I am inspired to do something creative when faced with a problem | | .42 | .58 |
| I think up as many ways as possible to handle the situation | | .54 | .49 |
| I pray for guidance | | .40 | .32 |
| <u>Factor 4</u> | <u>Problem solving confidence</u> | | |
| I can generally see a way out of problem situations and know what to do | | .74 | .65 |
| I make decisions and am happy with them later | | .61 | .59 |
| When faced with a new situation I have confidence that I can handle any problems that might arise | | .55 | .55 |
| My way of dealing with the situation usually turns out exactly as I planned | | .43 | .70 |
| I go over in my mind what I will do or say | | .41 | .34 |
| <u>Factor 5</u> | <u>Avoidance style</u> | | |
| I feel that time is a great healer and just wait | | .59 | .73 |
| I think 'everything will be O'K', and don't worry | | .66 | .48 |
| I just wish that things might go away | | .56 | .48 |
| I try to ignore and forget the whole thing | | .56 | .44 |
| I have fantasies or wishes about possible outcomes | | .41 | .36 |
| <u>Factor 6</u> | <u>Approach style</u> | | |
| I take some positive action | | .61 | .52 |
| I see problems as a challenge to be overcome | | .70 | .63 |
| I feel that problems are a normal part of living and face up to them | | .52 | .54 |
| I try to see the positive side of the situation | | .60 | .72 |
| I will bargain or compromise to get something positive out of the situation | | .35 | n/a |

Table 2: Cronbach’s coefficient alpha and mean inter-item correlation coefficients for the Problem-solving Style subscales across the two studies.

| Factor | Study 1 | | Study 2 | |
|----------------------------|---------|-------------------|---------|-------------------|
| | Alpha | Mean inter-item r | Alpha | Mean inter-item r |
| Helplessness | .66 | .32 | .86 | .60 |
| Problem-solving control | .66 | .33 | .60 | .28 |
| Creative style | .57 | .25 | .66 | .32 |
| Problem-solving confidence | .71 | .39 | .66 | .33 |
| Avoidance style | .52 | .21 | .51 | .21 |
| Approach style | .65 | .32 | .53 | .22 |

Table 3: Pearson correlation coefficients (corrected for attenuation) between the problem-solving style factors and the dimensions of affect as measured by the MAACL for Study 1.

| | Anxiety | Depression | Hostility | Positive affect |
|----------------------------|--------------------|-------------------|-------------------|--------------------|
| Problem orientation | .05 | <u>.14</u> | .01 | <u>-.15</u> |
| Problem-solving control | <u>.14</u> | .09 | <u>.17</u> | <u>-.21</u> |
| Avoidance style | .01 | <u>.20</u> | .09 | -.07 |
| Creative style | <u>-.24</u> | -.08 | -.03 | <u>.15</u> |
| Problem-solving confidence | <u>-.16</u> | -.07 | -.06 | <u>.32</u> |
| Approach style | -.04 | -.08 | -.04 | .03 |

NB: Figures shown in bold and underlined are significant at the .05 level

Table 4: Standardized canonical coefficients from Discriminant Function analysis between the Clinical group, the Self-help group and Controls using Function 1 in both cases.

| Factor | Clinical v Controls | | Self-help v Controls | |
|----------------------------|---------------------|---------|----------------------|---------|
| | (n=48) | (n=509) | (n=54) | (n=509) |
| Helplessness | | -.39 | | -.42 |
| Creative style | | .33 | | .35 |
| Problem-solving confidence | | .46 | | |
| Approach style | | .28 | | |
| Attributional style | | .36 | | .20 |
| Social anxiety | | .53 | | |
| Social support | | .23 | | |
| Locus of control | | | | .24 |
| Hopelessness | | | | .21 |
| Attitude to exercise | | | | .32 |

Table 5: The percentage distribution of age, sex and marital status across the groups from study 2.

| Variable | | Control group % | Clinical group % | Self-help group % |
|----------------|-------------|--------------------|---------------------|----------------------|
| Sex | Male | 53 | 43 | 34 |
| | Female | 47 | 57 | 66 |
| Age | 16-25 years | 32 | 14 | 37 |
| | 26-40 years | 39 | 33 | 40 |
| | 41+ years | 29 | 53 | 23 |
| Marital status | Single | 27 | 32 | 29 |
| | Married | 57 | 62 | 38 |
| | Divorced | 12 | 06 | 28 |
| | Widowed | 03 | 00 | 05 |

Table 6: Results of multivariate analysis of covariance across the groups from study 2 controlling for age, sex and marital status, showing significant factors.

| Factor | Clinical v Controls (n=48) (n=509) | Self-help v Controls (n=54) (n=509) | Clinical v Self-help (n=48) (n=54) |
|----------------------------|--|---|--|
| Helplessness | ** | ** | |
| Problem-solving control | ** | ** | |
| Creative style | ** | ** | |
| Problem-solving confidence | ** | ** | |
| Avoidance style | | ** | ** |
| Approach style | ** | ** | |

** represents a significant effect (p<0.01)

Table 7: Standardization data for the Problem-solving factors based on Study 2.

| <u>Factor</u> | <u>Males</u> | | <u>Females</u> | | <u>All</u> | | <u>Controls</u> | | <u>Clinical</u> | | <u>Self-help</u> | |
|---------------|--------------|-----------|----------------|-----------|-------------|-----------|-----------------|-----------|-----------------|-----------|------------------|-----------|
| | <u>Mean</u> | <u>Sd</u> | <u>Mean</u> | <u>Sd</u> | <u>Mean</u> | <u>Sd</u> | <u>Mean</u> | <u>Sd</u> | <u>Mean</u> | <u>Sd</u> | <u>Mean</u> | <u>Sd</u> |
| 1 | 0.59 | 1.2 | 0.94 | 1.4 | 0.76 | 1.3 | 0.79 | 1.4 | 1.6 | 1.4 | 1.3 | 1.3 |
| 2 | 1.7 | 1.3 | 2.1 | 1.3 | 1.9 | 1.3 | 1.8 | 1.2 | 2.9 | 1.4 | 2.2 | 1.2 |
| 3 | 3.7 | 0.75 | 3.6 | 0.87 | 3.6 | 0.82 | 3.7 | 0.75 | 2.5 | 1.4 | 2.4 | 1.1 |
| 4 | 2.9 | 1.1 | 2.5 | 1.2 | 2.7 | 1.2 | 2.8 | 1.1 | 1.3 | 1.3 | 0.9 | 0.76 |
| 5 | 1.3 | 1.2 | 1.5 | 1.1 | 1.4 | 1.2 | 1.4 | 1.2 | 1.6 | 1.2 | 2.7 | 1.3 |
| 6 | 2.5 | 1.1 | 2.6 | 1.2 | 2.5 | 1.2 | 2.6 | 1.2 | 1.7 | 1.2 | 1.2 | 1.0 |
| 7 | 3.7 | 0.54 | 3.6 | 0.63 | 3.7 | 0.59 | 3.8 | 0.52 | 3.0 | 1.2 | 2.7 | 1.1 |
| 8 | 2.1 | 0.89 | 2.3 | 0.9 | 2.2 | 0.9 | 2.1 | 0.89 | 2.7 | 0.8 | 2.1 | 0.75 |
| 9 | 3.0 | 0.71 | 3.1 | 0.74 | 3.1 | 0.73 | 3.1 | 0.69 | 2.7 | 1.2 | 2.8 | 1.4 |

NB: Factor Numbers; 1=Helplessness; 2=Problem-solving control; 3=Creative style; 4=Problem-solving confidence; 5=Avoidance style; 6=Approach style; 7=Outcome evaluation; 8=Support seeking; 9=Problem evaluation.

Table 8: Pearson correlation coefficients between the Problem-solving style factors and other variables from Study 2.

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|-------------------------------|-----|-----|-------------|-------------|-------------|-------------|-------------|-------------|-----|-------------|-------------|-------------|-------------|-------------|-------------|
| 1. Helplessness | 1.0 | .15 | -.16 | -.19 | .35 | -.07 | .13 | -.01 | .17 | .55 | -.27 | .37 | -.17 | -.07 | .02 |
| 2. Problem-solving control | | 1.0 | -.16 | -.36 | .37 | -.20 | .14 | -.03 | .01 | .18 | -.22 | -.39 | -.23 | -.11 | .05 |
| 3. Creative style | | | 1.0 | .31 | -.10 | .34 | -.05 | .11 | .03 | -.14 | .13 | .29 | .12 | .21 | .05 |
| 4. Problem-solving confidence | | | | 1.0 | -.20 | .40 | -.13 | .05 | .02 | -.20 | .20 | .48 | .30 | .19 | -.10 |
| 5. Avoidance style | | | | | 1.0 | -.10 | .08 | -.10 | .04 | .31 | -.18 | -.18 | -.21 | -.03 | .01 |
| 6. Approach style | | | | | | 1.0 | .01 | .10 | .08 | -.02 | .08 | .34 | .26 | .21 | -.02 |
| 7. Sex | | | | | | | 1.0 | -.13 | .11 | .28 | -.01 | -.01 | -.12 | .15 | .02 |
| 8. Age | | | | | | | | 1.0 | .31 | -.21 | -.06 | -.09 | -.06 | -.09 | -.00 |
| 9. Marital status | | | | | | | | | 1.0 | .03 | -.03 | .02 | .06 | .10 | .03 |
| 10. Social Anxiety | | | | | | | | | | 1.0 | -.21 | -.21 | -.22 | .04 | .04 |
| 11. Locus of control | | | | | | | | | | | 1.0 | .41 | .16 | .21 | -.05 |
| 12. Hopelessness | | | | | | | | | | | | 1.0 | .33 | .33 | -.04 |
| 13. Achievement motivation | | | | | | | | | | | | | 1.0 | .03 | -.08 |
| 14. Social support | | | | | | | | | | | | | | 1.0 | -.01 |
| 15. Attributional style | | | | | | | | | | | | | | | 1.0 |

NB: All figures shown in bold are significant at the p<0.05 or less

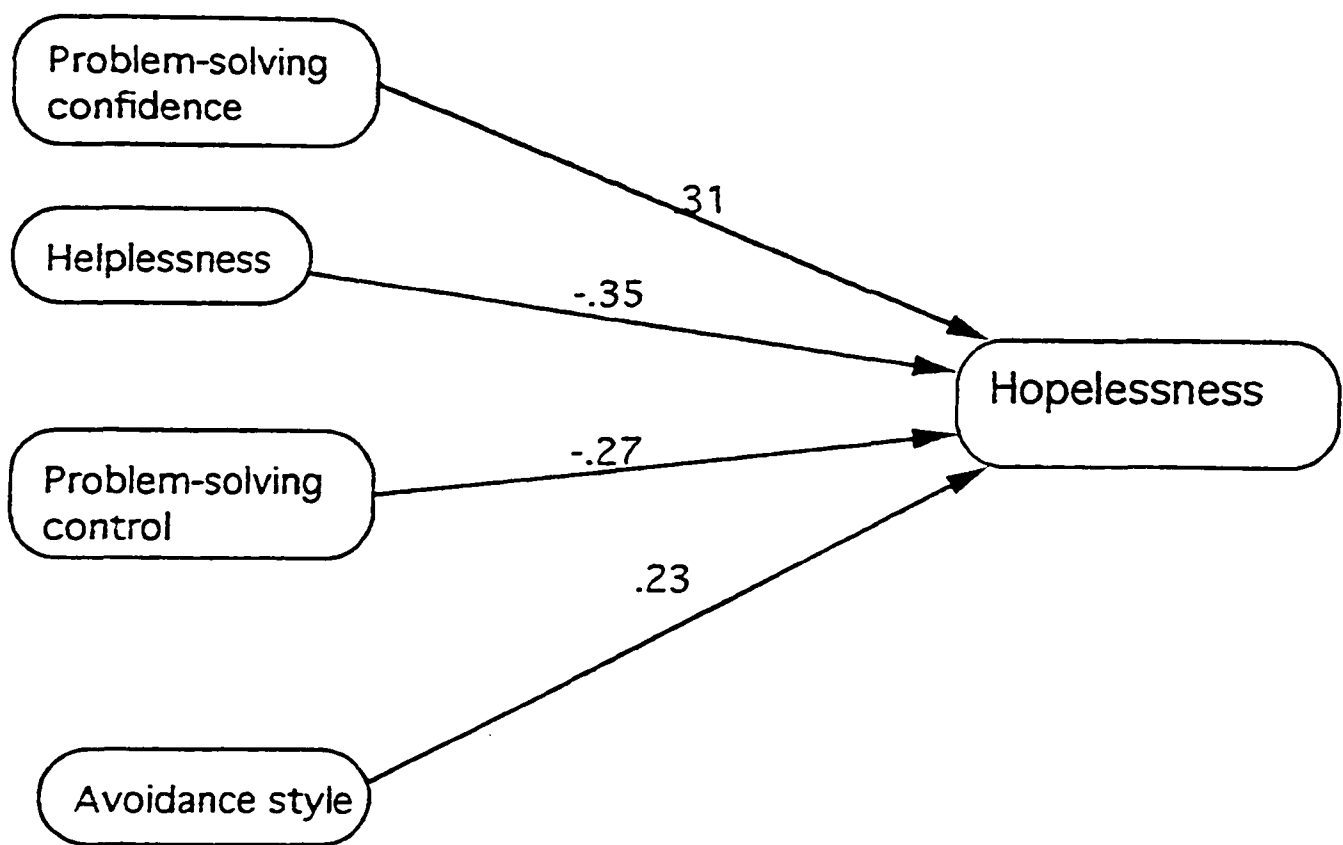


Figure 1: Path diagram of the significant predictors of Hopelessness using beta values from multiple regression analysis for study 2.

In contrast to the preceding papers, the following studies employ survey methods to examine the effects of treatment and environmental change. Milne & Ridley's (1993) survey of publications in the journal *Behavioural & Cognitive Psychotherapy* (contributed to by clinicians most likely to espouse the Scientist-Practitioner model) found that there was a failure to adopt routine measurements of social validity (client satisfaction), and that there was no sign of the development of an environmental approach (Smail, 1991). The latter finding, confirmed by Milne (1994) limits the efficiency of behavioural psychotherapy (Tarrier, 1991), tends to blame the victim (Holland, 1978) and fails to provide an complete explanation of clients' needs (Smail, 1991).

The influence of environmental variables is often overlooked by clinicians resulting in the incorrect selection of treatment methods as a result of dispositional bias (Gambrill, 1990). Batson, et al, (1982) found that clinical psychologists were more inclined than people without training, to perceive client's problems as dispositional and they were likely to discount information suggesting the problem was situational. One reason for this may be the clinician's assumption that he or she is better able to help with dispositional rather than situational problems (Batson, et al, 1982). However, this bias reduces the clinician's ability to think critically about the issues involved.

Cochrane's (1983) review of the evidence found support for what he has called a "weak" version of a labelling theory of mental illness. That the treatment setting can be of critical significance in determining the manifestation of mental illness, reinforces the situational specificity of behaviour (Mischel, 1980). This has led to a focus on an ecological perspective that highlights the social validity of treatment programmes, the social climate of the treatment environment and the importance of within treatment factors in outcome. Moos & Finney (1986) highlighted the importance of assessing the treatment domain (its physical

and architectural features, organisation and policy factors, aggregate patient characteristics and treatment climate) in order to move away from the "patient in-put - 'black box' treatment - client outcome" paradigm that had guided many therapeutic interventions.

Within treatment factors are examined in the following two studies (Long, et al, 1990, 1992) which were an attempt to evaluate the rationalisation of in-patient care in a General Hospital Psychiatric unit. As assessment was made of the extent to which environmental change in the organisation of treatment effected the occurrence of disturbed behaviour, rates of re-admission, and length of patient's stay. The effect of this change on staff were evaluated in terms of staff stress, job satisfaction, and rates of absenteeism. In addition to the gathering of objective data, information was collected on the social validity of treatment change, the social climate of the institution (Moos, 1974), staff expectations for change and the attitudes of patients and staff to the two different methods of in-patient care. The two studies were published as follows:

Long, C.G., Blackwell, C.C. & Midgley, M. (1992) An evaluation of two systems of in-patient care in a general hospital psychiatric unit I: Staff & patient perception and attitudes Journal of Advanced Nursing 17, 64-71.

Long, C.G., Blackwell, C.C. & Midgley, M. (1990) An evaluation of two systems of in-patient care in a general hospital psychiatric unit II: Measures of staff and patient performance Journal of Advanced Nursing 15, 1436-1442.

An evaluation of two systems of in-patient care in a general hospital psychiatric unit I: staff and patient perceptions and attitudes

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LONG C.G., BLACKWELL C.C. & MIDGLEY M. (1992) *Journal of Advanced Nursing* 17, 64–71

An evaluation of two systems of in-patient care in a general hospital psychiatric unit I: staff and patient perceptions and attitudes

This study reports a comparison of a single ward versus a two-ward system of acute in-patient care in a general hospital psychiatric unit. It focuses on staff and patient perceptions and attitudes towards the two types of ward. A continuous care ward system was preferred by the majority of staff who described an improvement in 'ward atmosphere'. Patients who had experienced both ward systems also preferred the continuous care system. Both patients and staff felt that the continuous care system still needed to place greater emphasis on 'ward atmosphere' dimensions of involvement, support and spontaneity. The implications of these findings for improving the functioning of the preferred ward are discussed.

INTRODUCTION

Although short-stay acute psychiatric units tend to share a common eclectic orientation to treatment (Glasscote & Kanno 1965, Agras 1976), the nature of the in-patient stay varies between general hospital psychiatric units. One of the ways in which the care varies is in terms of whether the patient remains on one ward throughout the duration of their stay or whether they progress from an 'acute' to a recovery/discharge preparation ward, and it was this aspect of the system that the present study focused.

The importance of considerations such as these is highlighted by the growing concern about the need for

environmental research to investigate the impact of the physical setting on psychiatric patients (Holahan & Saegert 1973, Ittelson *et al.* 1970, Sanson-Fisher *et al.* 1979). Indeed, over the last 2 decades there has been an increasing acknowledgement by nurses (Altschul 1972) and psychiatrists (Clare 1976) of the importance of a 'sociotherapeutic' treatment ideology (Paul 1969) that emphasizes the utilization and manipulation of the patients' environment for therapeutic purposes (Armor & Klerman 1968).

However, although several studies have attempted to create a therapeutic milieu (Hertz 1979, Leeman 1986, Oldham & Russakoff 1987), this has proved more difficult on short-term or admission units for a variety of reasons that include the rapid turnover of patients. Kahn & White

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(1989) argue that where classic milieu techniques have been applied in short-term acute treatment settings, the treatment outcome has shown little measurable benefit for patients and sometimes even harm. They suggest that milieu approaches need to be adapted to meet the demands of the acute setting. In accord with this, the present study attempted to assess which of two possible ward systems would be considered most satisfactory by the staff and patients.

The two types of ward system studied were a two-ward system and a single continuous care ward system. Many two-ward systems involve patients joining an admission ward for the acute stage of their illness and transferring subsequently to a continuing care ward in preparation for discharge. Here the patients' movements are less restricted and there is a greater emphasis on group therapy. Possible disadvantages with this system are: (a) that the patients can be admitted on to a ward that has a high uniform incidence of disturbed behaviour; (b) that disruption of treatment programmes and a loss of relevant information can accompany the transfer between the two wards; and (c) that it is more difficult for nursing staff on admission wards to follow through and see the results of therapies they have been involved with.

Continuous care ward

An alternative form of acute in-patient treatment widely practised involves continuous care on a single ward from admission to discharge. While this system involves mixing the acutely ill with the recovering, and the restrictions of movement of certain patients and not others, some of the advantages of this system compared with the two-ward system may include: (a) more opportunity for patients to establish a therapeutic alliance with particular staff; (b) a reduction in the number of ward rounds; and (c) greater ease of implementation of the nursing process and rationalization of the input of the less populous professions (occupational therapy, clinical psychology).

Despite a priori speculation, there are limited data available to help determine which of these two systems of care is to be preferred. This research was therefore designed to compare the functioning of a continuous ward system in a general hospital psychiatric unit that had historically used a two-ward system. Findings that supported the usefulness of a one-ward system included a marked reduction in disturbed behaviour and, for staff, an increase in job satisfaction and a decrease in stress (Long *et al.* 1990).

However, one of the most relevant considerations is the social validity (Wolf 1978) of programme change: the

opinion of patients and direct care staff and the job satisfaction of the latter group. Despite its importance, the consumer perspective has, with notable exceptions (Raphael 1974, Fox 1986), rarely has been studied. It is, of course, notoriously difficult to define and measure the 'success' or 'effectiveness of systems of ward treatment' (Bachrach 1980, Goldstein *et al.* 1988), and consumer satisfaction research in the mental health arena presents many difficulties (Lebow 1982, Conte *et al.* 1989). However, measures of ward 'climate' (which assess the perceptions of, or feelings about the institution held by those who use it or work in it) have been developed (Moos 1974) and used to analyse its relationship with the features of the institution.

In this study, staff and patients completed the Ward Atmosphere Scale (Moos 1974) and were asked to give their opinions on the perceived merits and disadvantages of the two systems. Comparisons between systems were then made to see which, if either, system was preferred by the staff and patients and in what ways they felt they could be improved.

METHOD

Setting

The study was conducted in the psychiatric unit of the Walsgrave General Hospital, Coventry, England, which served patients from three health districts. At the time of the study, general psychiatric patients were accommodated in four 28-bedded admission units and two 38-bedded pre-discharge wards. The patients came under the care of nine consultant psychiatrists with diverse interests and orientations. Within each ward up to three consultants were responsible for the care of the patients at any one time. Admission wards were staffed with eight whole time equivalent nurses and pre-discharge wards with six.

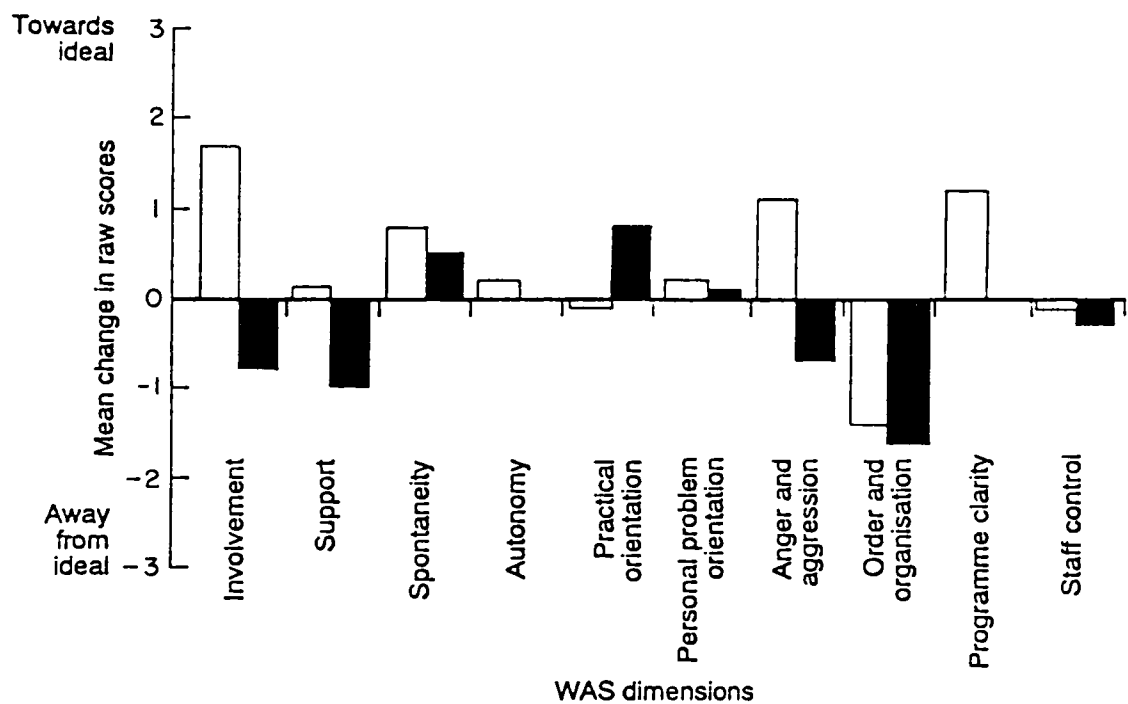
Subjects

During the period of data collection a total of 647 patients (372 women, 275 men) were treated. The diagnostic composition was: schizophrenia 25%, psychotic depression 12%, hypomania 3%, organic brain disease 3%, depressive neurosis 31%, obsessive compulsive neurosis 4%, anxiety neurosis 8%, anorexia nervosa 1%, personality disorder 10%, others 3%. The mean age of the male patients was 39.2 years and that of the females 36.5 years. The mean length of stay was 31.5 days (range 2–274 days).

Design

The programme for the study was as follows. After a month of baseline measures, one of the four admission

Figure 1 Mean changes in WAS real-ideal discrepancies from first to second testing for staff and patients on the continuing care ward. □ = staff; ■ = patients.



wards functioned as a continuous care ward. Following a 1-month acclimatization period, data were collected for an experimental period of 6 months during which time the study ward was compared with the three admission and two pre-discharge wards.

Measures

Ward Atmosphere Scale

The Ward Atmosphere Scale (WAS) Form C (Moos 1974) was completed by staff and patients before and at the end of the experimental period. Ratings were obtained for their own ward (real) and their perceptions of an ideal ward.

Continuous Care Questionnaire

The Continuous Care Questionnaire (CCQ) assessed staff opinion concerning the perceived merits and disadvantages of the two systems of care. This was a purpose-made questionnaire whose items were piloted using the 'random probe' technique (Schuman 1970) for evaluating the validity of closed questions. Its reliability was not tested. All staff replied anonymously to 28 questions using a five-point bi-polar rating scale ranging from 'strongly agree' to 'strongly disagree' prior to the commencement of the study. These covered the likely effects on patients, on treatment and staff. Staff who had experienced both ward systems completed the questionnaire again after the experimental period.

Patient Opinion of Care Questionnaire

The Patient Opinion of Care Questionnaire (POCQ) assessed patients' satisfaction with care received and their

opinion concerning the two ward systems. Items were drawn where appropriate from previous assessments by Raphael (1974) and Larsen *et al.* (1979). This used the same bi-polar rating scale and covered staff-patient relationships, satisfaction with treatment and with ward(s). The other items, devised specifically for the current study, were piloted using the 'random probe' technique (Schuman 1970). Patients who had been in hospital for 5 days or more completed these anonymously on their day of discharge. Those not seen were mailed a questionnaire to complete.

RESULTS

Ward Atmosphere Scales

All WAS Form C data were analysed using one-way analysis of variance (ANOVA) (Myers 1966).

Pre-change

No differences were apparent between the admission wards prior to the commencement of the study. They were perceived as typical British wards in their below-average emphasis on order and organization and on practical orientation (i.e. preparation for release from hospital) (Moos 1974). Pre-discharge wards were, in contrast, above average in their emphasis on involvement (i.e. the extent to which patients were encouraged to express their feelings freely (spontaneity) or display anger and aggression.

There were no significant differences between admission and pre-discharge ward WAS scores before and after the change of function of the wards.

Real-ideal WAS ratings

Figure 1 gives the mean changes in WAS real-ideal discrepancies for the experimental (continuous care) ward

Figure 2 WAS real-ideal discrepancies (post-change) as perceived by staff on admissions, pre-discharge and continuous care wards. □ = continuous care; ▨ = admissions; ■ = pre-discharge.

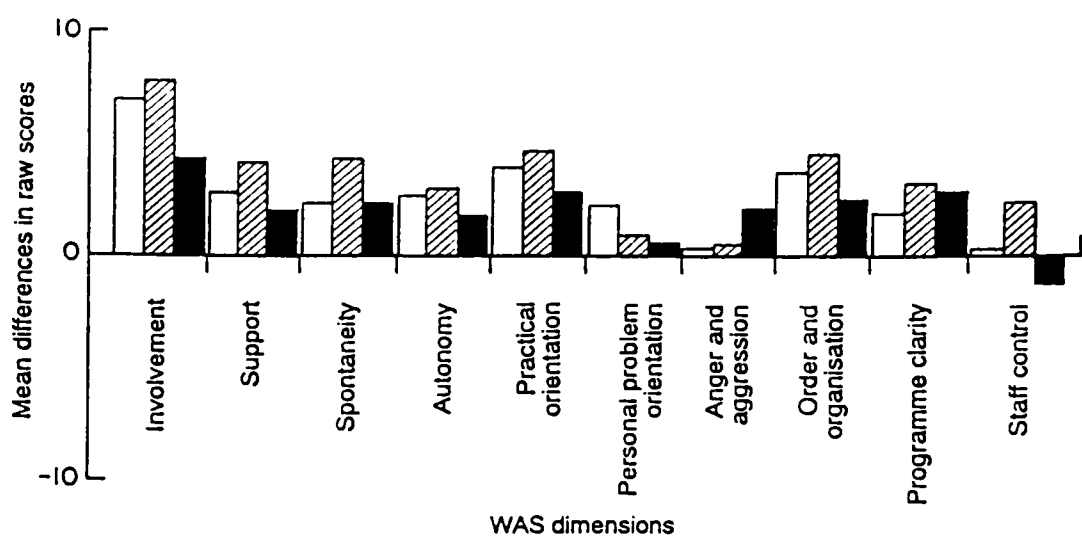
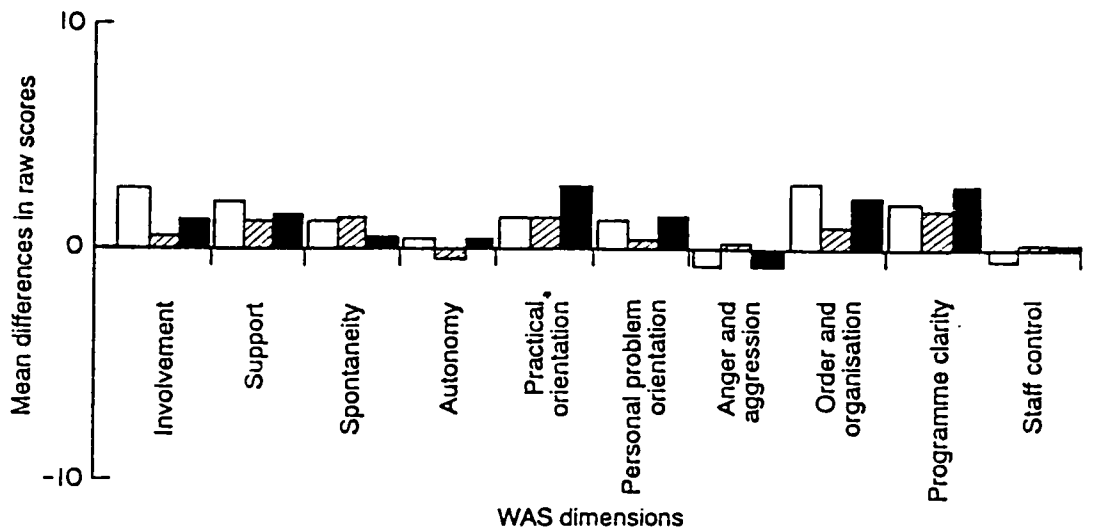


Figure 3 WAS real-ideal discrepancies (post-change) as perceived by patients on admissions, pre-discharge and continuous care wards. □ = continuous care; ▨ = pre-discharge; ■ = admissions.



from first administration of the scale (when it was an admission ward) to the second, 9 months later, for staff and patients. It is clear that staff perceive a positive change in atmosphere (a movement towards the ideal ward) on all but one scale (order and organization). The difference in mean scores before and after on involvement shows a 1.8 score change towards the ideal which is statistically significant ($P < 0.05$).

Despite this positive change, staff felt that after the experiment involvement was significantly closer to the ideal on pre-discharge wards ($P < 0.01$) (see Figure 2). In Figures 2 and 3 (which compare real-ideal discrepancies as perceived by staff and patients on the three types of ward), a positive subscale score shows that more emphasis needs to be placed on that particular dimension while a negative score indicates that less emphasis on that dimension is needed. The closer the scores are to zero on Figures 2 and 3, the nearer they are to the ideal. In the text, however, the (raw) mean scores are quoted and have been statistically analysed.

Further comparisons between staff (Figure 2) show that pre-discharge ward staff perceived their ward as placing

more emphasis on practical orientation (mean = 4.9) than did continuous care staff (mean = 6.4, $P < 0.05$). Both the pre-discharge (mean = 6.8) and admission ward staff (mean = 6.7) perceived more emphasis on personal problem orientation than did continuous care staff (continuous care mean = 4.9 vs pre-discharge mean = 6.8, $P < 0.01$; continuous care mean = 4.9 vs admission mean = 6.7, $P < 0.01$). Thus, staff felt that more emphasis was given on pre-discharge wards to understanding oneself and discussing personal problems and also on practical preparations for discharge from hospital.

Figure 1 shows that both staff and patients on the continuous care ward perceive a movement away from the ideal for order and organization with the change in ward function. However, both groups felt that the amount of staff control on the ward was close to the ideal in contrast to a perceived need for more control by admission ward staff and for less by pre-discharge ward staff (see Figure 2).

Patients perceived a movement towards the ideal with the change in the function of the continuous care ward for the dimensions of practical orientation and spontaneity but

a shift away from the ideal on involvement, support, and anger and aggression (see Figure 1). Indeed, the continuous care ward (mean = 4.1) was perceived by patients as being significantly lower on involvement than either admissions (mean = 5.6, $P < 0.05$) or pre-discharge wards (mean = 6.2, $P < 0.01$) (see Figure 3). Thus, patients felt more able to act openly and freely express their feelings and that more emphasis was now placed on practical preparations for discharge from hospital. However, they were less active in the day-to-day social functioning of the ward as a unit and felt that there was less support from other patients and staff.

There were statistical differences between patient views on what separated the continuous care and the pre-discharge ward (see Figure 3). Patients on the pre-discharge wards (mean = 5.2) saw themselves as more autonomous (continuous care ward mean = 4.4, $P < 0.05$) and felt that their ward placed a greater emphasis on order and organization (continuous care ward mean = 4.5 vs pre-discharge ward mean = 6.4, $P < 0.001$). However, they felt that there was less emphasis placed on patients freely expressing their anger and aggression (continuous care ward mean = 4.1 vs pre-discharge ward mean = 3.2, $P < 0.05$).

Finally, Figures 2 and 3 show that the patients and staff on all wards felt that an increased emphasis on relationship dimensions, of practical orientation and on the system maintenance dimensions of order and organization and programme clarity were needed to bring their ward nearer to the ideal.

Continuous care: staff opinion

Pre-change

There was a 45% response rate ($n = 77$) to the CCQ which was distributed to medical, nursing, occupational therapy, social work and psychology staff before the experimental period. Staff felt that with a continuous care system new patients would benefit from the presence of recovering patients rather than be exploited by them, but did not feel that such a ward would be less stressful or less disturbed. However, it was not felt that patients would discharge themselves prematurely from this type of ward. Staff did not feel their patients would more easily become institutionalized or overly dependent on particular staff.

Staff were less certain about the effects of the continuous care system on treatment. While it was thought that specific ward treatment programmes would be easier to follow through, it was not felt that fewer patients would relapse or that the chances of a breakdown in communication over treatment would be lessened.

Staff also had positive attitudes concerning job satisfaction and the nursing role, neither of which they felt would be adversely affected by the change. There was a strong agreement that it would be more rewarding for staff to work on a ward where one would 'see the job through', that the nurse's role would be more varied and that staff would develop better relationships with the patients. The majority of staff agreed that, on the whole, the continuous care system is better than having admission and continuing care wards.

Post-change

The second survey, taken at the end of the 6-month experimental period and confined to staff who had worked in both systems of care, obtained a 54% response rate ($n = 12$). The most striking change in opinion concerned the effects on treatment; it was now strongly felt that the chance of a communication breakdown over treatment had been lessened and that it was easier to carry out the nursing process and follow through ward treatment programmes. In fact, 70% of staff with experience of both a one-ward and a two-ward system of care agreed that a continuous care model was to be preferred.

With regard to the effects of a continuous care ward on patients, staff were less sure that new patients would not be exploited or that they would not discharge themselves prematurely from the ward. However, experienced staff were also more supportive of the idea that the continuous care ward would be less disturbed.

The opinions of experienced staff regarding the other effects of the continuous care ward system on staff did not differ markedly from opinions expressed in the first administration.

Patients' opinion of care

Two hundred and five patients completed the POCQ — a response rate of 60%. Use of a five-point rating scale enabled a mean 'satisfaction score' to be obtained for staff-patient relationships, treatment received and ward environment. There were few differences in satisfaction between continuous care ward patients ($n = 46$) and those patients who had had experienced admission and pre-discharge wards ($n = 159$) in terms of staff-patient relationships (mean score for both groups = 3.5), ward environment (continuous care mean = 2.5 vs admission/pre-discharge mean = 2.6) or treatment received (continuous care mean = 4.6 vs admission/pre-discharge mean = 3.7).

While the observed difference between the means on the 'treatment received' scales were not significant, it was apparent that patients on the experimental (continuous

care) ward felt they had gained more insight into their problems as a result of their admission (75% of patients on the two-ward system agreed with this statement versus 85% on the continuous care ward). While patients who had experienced the two-ward system were somewhat more satisfied with ward environment, one-third of the patients on each ward system felt they should have been brought into hospital care earlier and one-quarter did not feel that they were ready to leave when they were discharged.

Patients were also asked if they would prefer their treatment split between two wards and whether their most recent admission had been more helpful than any previous in-patient programme. Twenty-one of the 46 continuous care patients had been previously hospitalized and had therefore experienced both continuous care and the two-ward system. They expressed a clear preference for the new continuous care ward (68% were for the continuous care ward and against the two-ward system).

Although patients tended to prefer the ward system they had most recently experienced, this was most apparent among those discharged from the continuous care ward (60% of the admission/pre-discharge patients thought their last admission was most helpful vs 68% of the continuous care patients).

DISCUSSION

When evaluated by the staff, the introduction of a continuous care ward system was successful. Most staff expressed a preference for the single (continuous) ward compared to the two-ward system and this continued to be the case 6 months later for staff who experienced both care systems within the unit. Nurses (numerically the largest professional staff group) had increased their belief that the chance of a communication breakdown over treatment had been lessened and that it was easier to carry out the nursing process and follow through ward treatment programmes.

When patients were asked directly post-treatment about their therapy, staff-patient relationships and satisfaction with their ward, they generally indicated a preference for the ward (whether continuous care, admissions or pre-discharge) they had been discharged from. This is probably accounted for by the clients' desire to give 'grateful testimonials' and to other demand characteristics of the rating situation (Campbell 1969, Lebow 1982). For example, most patients probably had not had an opportunity to sample the care provided on more than one type of ward and therefore had nothing definite against which to compare their own experience. However, patients who had had experience of both care systems expressed a clear preference for the new continuous care ward.

This direct preference for a single ward expressed by staff and by patients who had experienced both care systems is perhaps not surprising since it provides an open 'graduated therapeutic programme' which Kahn & White (1989) argue is one of three things necessary to create a therapeutic milieu. This allows patients to enter at different levels, progress at their own rate and leave the programme at various points according to their goals. This is because, unlike the two-ward system, the continuous care ward offers the full spectrum of care facilities on one ward. It was this ability to follow through treatment smoothly that was recognized and appreciated by the staff in the present study.

Pre-discharge ward environment

Despite this, it is apparent that the pre-discharge ward environment was overall closest to the ideal ward when Ward Atmosphere Scale data are considered. The reasons for this are probably threefold:

- 1 More patients on these wards were nearing the end of their hospital stay and this has been found to be a time when patients are most satisfied (Ley & Spelman 1967).
- 2 On the pre-discharge wards there were fewer floridly psychotic patients and greater emphasis could be placed on the daily programme of on and off ward activities.
- 3 Since the average length of stay was shorter for patients on the continuous care ward (only 22 days, Long *et al.* 1990), less time was available to prepare them for discharge.

However, when comparing the two systems of care it is not sufficient to assess just the second stage of the patient's care, which an analysis of only the pre-discharge ward would do. Rather the patient's total stay needs to be examined, especially as a number of patients were discharged from admission wards without the benefit of a pre-discharge environment.

In view of staff and patient preferences for a single-ward system, the most relevant consideration therefore is how the therapeutic potential of the new ward might be maximized in order to fulfil Kahn & White's (1989) second two requirements of an intensely supportive therapeutic milieu which allows the use of many different therapies and modulates stresses on staff: the creation of a holding environment and a focus on common patient needs. Kahn & White (1989) argue that the development of a holding environment requires five essential elements; safety, structure, support, socialization and self-understanding. These elements constitute a hierarchy of needs such that

acute patients entering the system would probably require emphasis on a safe environment while recovering patients approaching discharge may desire more emphasis on self-understanding.

It is of interest to compare these notions with the elements that patients and staff in the continuous care ward felt needed improvement. The finding that the patients and staff wanted more order, organization and programme clarity suggests that the ward needed to improve the structural element of its care. There are numerous advantages to clarifying goals and treatment philosophy. For example, Carroll *et al.* (1980) found the number of incidents of violence, the use of seclusion and restraint, the average dosage of medicine administered and the number of discharges against medical advice were all reduced by introducing a number of ward changes including clarifying the goals of the unit and placing increased emphasis on methodical care and team work.

In a separate paper (Long *et al.* 1990) it was also found that the levels of behavioural disturbance were significantly reduced by the ward change. That the new ward needed to place greater emphasis on the support and socialization elements in Kahn & White's (1989) hierarchy is suggested by the finding that both continuous care patients and staff were significantly less actively involved in the day-to-day social functioning of the ward than were pre-discharge ward patients. In accord with this, patients felt the continuous care ward was farthest away from the ideal on the relationship dimensions of involvement and support and that the ward's change of function had led to a decreased emphasis in this regard.

This is an important finding in view of the research showing that staff may spend on average 28.5% of their time interacting with patients and 41.1% interacting with other staff in such units (Sanson-Fisher *et al.* 1979). Given that this may reduce the opportunities for therapeutic interaction and for patients to learn new skills and model appropriate behaviour from the staff, it may be that the therapeutic potential of the new ward had not been fully utilized.

Positive therapeutic atmosphere

The maintenance of a positive therapeutic atmosphere is dependent on regular monitoring (Kahn & White 1989, Kahn & Frederick 1988) and the Ward Atmosphere Scale is an appropriate instrument for this purpose. However, while the very act of research can in itself be therapeutic (Leigh 1975, Carroll *et al.* 1980), the feedback of Ward Atmosphere Scale data can sensitize staff to problems,

encourage the setting of realistic goals and speed solutions to ward problems (James *et al.* 1990).

This active element represents the next essential stage in this experiment. The way forward, however, is not always clear, especially when staff and patients' views differ. Goldstein *et al.* (1988), for example, found that whilst staff felt that discussion of personal problems enhanced the type of care given to the patients, patients actually found this unhelpful and instead highlighted the need for clear rules and expectations and a supportive and involving programme.

Similar differences in staff and patient perspective were found in this study. For example, while patients on the admission and pre-discharge wards were satisfied with the amount of staff control, staff on these wards were not. Thus, a change in this dimension to suit the staff needs may lead to a decrease in satisfaction amongst the patients. Consequently, the move towards an optimum therapeutic milieu is of necessity a process of gradual experimentation and reassessment in the context of a specific institution.

CONCLUSION

This research suffers the limitations of studies of the therapeutic milieu that are based on descriptive rather than prescriptive variables (Gunderson 1978) and accordingly it is unlikely that all current findings are generalizable to other settings. However, there is evidence that structural change alone can have direct benefits in terms of staff and patient behaviour (Long *et al.* 1990) and in the hospital unit studied a single ward system was preferred.

The results also reinforce the notion that maximum improvement results when a coherent ward philosophy exists in alliance with working practices that study the ward atmosphere and work to improve it.

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An evaluation of two systems of in-patient care in a general hospital psychiatric unit II: measures of staff and patient performance

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An evaluation of two systems of in-patient care in a general hospital psychiatric unit II: measures of staff and patient performance

This study reports on a comparison between a single ward and a two-ward system of acute in-patient care in a general hospital psychiatric unit. It looked at job satisfaction, levels of stress, absenteeism/sickness and work proficiency amongst the staff and also at patients' level of disturbed behaviour, length of stay and re-admission rates. It was found that a continuous-care ward was associated with a lower level of behavioural disturbance and was preferred by the majority of staff, with some increase in job satisfaction and a decrease in stress. The continuous-care ward was also associated with shorter admissions. However, those who progressed through a two-ward system were less likely to be re-admitted within 3 months. The implications of these results are discussed.

INTRODUCTION

This study was concerned with evaluating the effectiveness of two different systems of in-patient care, a two-ward versus a one-ward continuous-care system. In the two-ward programme, patients joined an admission ward for the acute stage of their illness and were subsequently transferred to a continuing-care ward in preparation for discharge. In the continuous care system, patients joined a single ward and remained on it for the duration of their stay.

The potential advantages of the two systems have been the subject of a separate study by the authors, so they are stated only briefly here. A continuous-care ward could

have the advantage of offering the patients continuity of care and staff the opportunity to follow patients' progress throughout their stay. The two-ward system, on the other hand, offers the possible advantage of separating the acutely ill from less disturbed patients and perhaps allows staff to work with a more homogenous group of patients.

At present, however, there is very little information available to help us determine which of these two systems of care is to be preferred. Therefore, in this study, one psychiatric ward in a general hospital was converted into a continuous-care ward while the rest of the unit continued to run the two-ward system. The impact of this change was then evaluated.

Among the patient measures looked at were length of stay, bed occupancy and re-admission rates, to see if they

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were differentially affected by the two ward systems. Another important dimension looked at was the level of behavioural disturbance. This has been shown to relate to many aspects of the psychiatric hospital treatment environment, including poor staff communication (Stanton & Schwartz 1954, Miller 1957), staff changes (Kellam *et al.* 1966, Torpy 1972), staff attitudes towards the patients (Lion 1987) and according to whether a ward adopts a medical model of psychiatry or implements a form of therapeutic community (Bouras *et al.* 1982). Trauer (1983) found that the level of disturbance could be predicted on the basis of the diagnostic composition of wards, average length of stay and numbers of patients on the wards. Finally, Binder & McNiel (1988) and Convit *et al.* (1988) emphasized the importance of the combination of personal characteristics and situational factors. Binder & McNiel (1988), for example, found that while schizophrenic patients who had been violent before their admission were significantly less so once admitted, manic patients continued to be aggressive.

The second main area of investigation was analysis of measures connected with staff performance, including job satisfaction, levels of stress, work proficiency and sickness/absenteeism to see if they were affected by the type of ward on which the staff were working. Previous research has shown that psychiatric nurses have relatively low levels of stress compared to other types of nursing staff (Mansfield *et al.* 1989). However, it has also been shown that discrepancies between staffs' notions of their real, as opposed to their ideal, working environment can adversely effect their stress levels (Hipwell *et al.* 1989). Thus, if one type of ward system is perceived by staff as being closer to their ideal than the other then this might be reflected in their reported stress levels and job satisfaction.

METHOD

Nurses completed a version of the Nursing Stress Scale (NSS) (Gray-Toft & Anderson 1981) both before and after the study. They also completed the Work subscale of the Job Description Index (JDI) (Smith *et al.* 1969) as a measure of the degree of satisfaction with their work.

An *ad hoc* measure of nursing performance (a 7-point Work Proficiency Scale) was completed by the nursing officers responsible for each ward before, during and at the end of the experimental period. Items rated on a 7-point scale ranging from 'very poor' to 'very good' included the operation of the nursing process, the standard of written records, communication with other nurses, problem solving, decision making, getting the work done, using nurses' skills, meeting individual needs and the quality of care

Table 1 Average number of hours lost per month per whole time equivalent qualified staff

| Ward | 3-Month baseline | 6-Month experimental period |
|-----------------|------------------|-----------------------------|
| Admissions | 7 | 9 |
| Pre-discharge | 7.4 | 5.2 |
| Continuous care | 5.3 | 3.3 |

given to patients. In addition, data on staff absenteeism/sickness, bed occupancy and length of in-patient stay were also collected.

A shortened (24-item) version of the Disturbed Behaviour List (DBL) (Trauer 1983) was completed by nursing staff on a daily basis for 1 week in every 4 before the study commenced (baseline) and for the 6-month experimental period.

Finally, staff opinion concerning the perceived merits and disadvantages of the two systems of care was assessed using a purpose-made questionnaire. All staff replied anonymously to 28 questions using a 5-point bi-polar rating scale ranging from 'strongly agree' to 'strongly disagree' prior to the commencement of the study. These covered the likely effects on patients, on treatment and on staff. Staff who had experienced both ward systems completed the questionnaire again after the experimental period.

RESULTS

Nursing Stress Scale

No differences were apparent between the continuous-care ward and the other wards on six of the subscales at first or second testing. Continuous-care staff, however, expressed a greater amount of uncertainty concerning treatment compared with continuous-care ward staff prior to the change in ward function, significant at the 5% level ($F=5.42$, d.f. = 1,18). This difference between wards was not apparent at the second administration, and before and after comparisons on the continuous-care ward confirm that there was now less uncertainty concerning treatment, significant at the 5% level ($F=5.16$, d.f. = 1,18).

Staff absenteeism/sickness

Differences in rates of staff sickness before and after the experimental period are given in Table 1. This shows

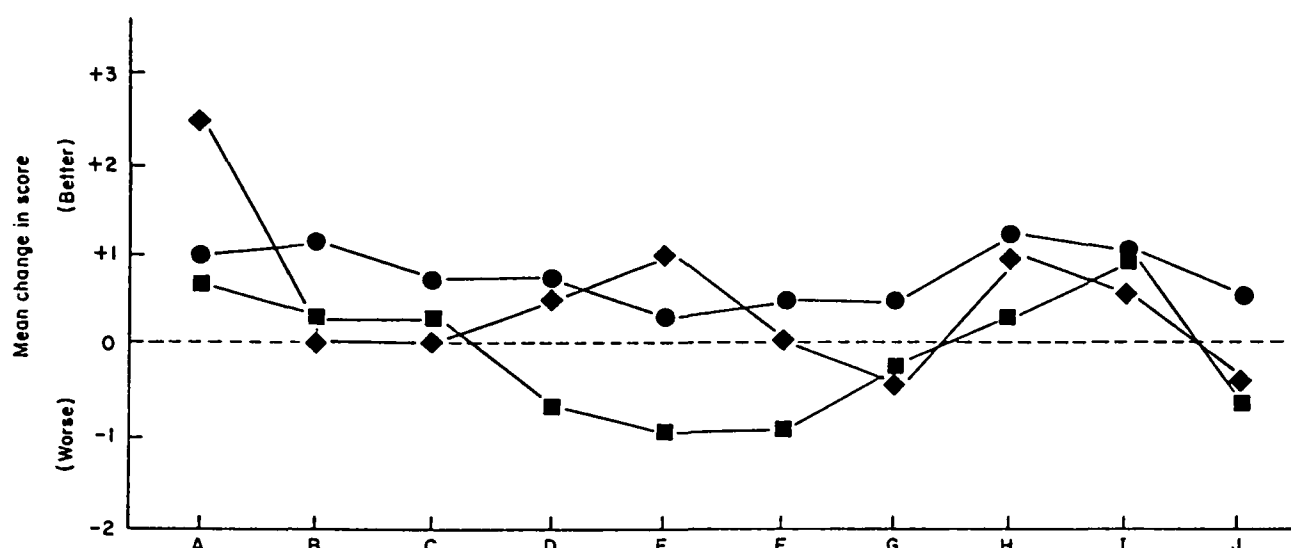


Figure 1 Mean changes in score on the Nursing Work Proficiency Scale from first to second administration. —●— = Pre-discharge ward; —■— = admission ward; —◆— = continuous-care ward. A = nursing process; B = standard of written records; C = communication with senior nurses; D = communication with nursing peers; E = problem solving; F = decision making; G = getting the work done; H = using nurse skills; I = meeting individual needs; J = quality of patient care.

clearly that far fewer hours were lost by the staff on the experimental ward and that this difference was accentuated after it began to function as a continuous-care ward.

Job satisfaction

The JDI was administered to all staff before and after the change in ward organization. The only change was on the continuous-care ward, where job satisfaction had increased ($F = 4.06$, d.f. = 1,17, $P > 0.05$).

Work Proficiency Scale

Figure 1 shows the nursing officer ratings for various scales relating to standards of nursing care before and after the continuous-care experiment. This shows a positive change throughout on the pre-discharge wards and on the majority of items rated for the new continuous-care ward. All wards improved with regard to the operation of the nursing process and in making use of nurses' skills and abilities but this was most marked in the new continuous-care ward. Improvement in communication with nursing peers and problem solving was evident on the new ward and on the pre-discharge wards but admission wards had become somewhat less effective in this respect. Overall quality of care was thought to have declined on two of the three admission wards, to have declined slightly on the continuous-care ward and to have improved slightly on the pre-discharge wards.

Disturbed Behaviour List

The items on the DBL were grouped on a system of weights according to the seriousness of the behaviour.

Table 2 Mean disturbance score by ward

| Ward type | Mean score | Standard deviation | Range |
|-----------------|------------|--------------------|-------|
| Admissions | 13.33 | 28.96 | 1–289 |
| Pre-discharge | 5.4 | 10.73 | 1–76 |
| Continuous care | 7.48 | 15.54 | 2–92 |

based on the weighting system used by Trauer (1983). The disturbance level of a patient was quantified each week by summing the weights of the DBL items scored. Thus, a mean score per ward type could be calculated. These data are presented in Table 2.

Examination of these data indicates that the overall level of disturbance was higher on the admission ward. An ANOVA was carried out for all data. This showed that there are some significant differences within the data ($F(12,764) = 12.33$, $P < 0.01$).

Further ANOVAs comparing ward-type pairs show a significant difference between the admissions and continuous-care ward ($F(1,463) = 5.28$, $P < 0.05$) and between the admissions and pre-discharge ward ($F(1,632) = 21.4$, $P < 0.01$). These significance levels are maintained after a Scheffe Test Modification. This bears out the observation made on examination of the means.

The weekly mean frequency of the 24 items on the checklist for each ward was calculated. These data are presented in Table 3. On the pre-discharge and continuing-care wards, the more serious items (items 1 to 5) have a

Table 3 Weekly mean frequency of items for each of the wards

| Behaviour | Ward type | | |
|---|------------|---------------|-----------------|
| | Admissions | Pre-discharge | Continuing care |
| Weight 4 | | | |
| 1. Self injury | 4.2 | 0.6 | 1.0 |
| 2. Overdose | 0.0 | 0.2 | 0.6 |
| 3. Physical aggression to staff | 11.0 | 0.4 | 1.8 |
| 4. Physical aggression to another patient | 6.4 | 2.0 | 0.8 |
| 5. Threatening physical aggression to another patient or patients | 13.2 | 2.4 | 1.2 |
| Weight 3 | | | |
| 6. Damaging fixtures | 10.0 | 2.0 | 0.2 |
| 7. Taking alcohol | 0.2 | 4.2 | 0.6 |
| 8. Taking unprescribed drugs | 0.4 | 0.4 | 0.8 |
| 9. Not taking medicine | 12.8 | 9.0 | 6.8 |
| 10. Creating a disturbance at night | 20.8 | 2.0 | 3.4 |
| 11. Creating a disturbance outside the hospital | 1.4 | 0.2 | 0.6 |
| 12. Provocative or instigating behaviour | 15.0 | 7.0 | 6.4 |
| 13. Creating a disturbance in another part of the hospital | 3.2 | 1.2 | 1.6 |
| 14. Trying to leave the unit | 30.2 | 2.2 | 4.4 |
| 15. Using abusive language to another patient or patients | 15.4 | 7.0 | 3.0 |
| 16. Threatening physical aggression to the staff | 11.6 | 2.0 | 2.4 |
| Weight 2 | | | |
| 17. Threatening self-discharge | 14.4 | 5.6 | 2.4 |
| 18. Not attending prescribed activities | 32.4 | 26.2 | 9.6 |
| 19. Having troublesome visitors | 3.6 | 0.4 | 0.6 |
| 20. Requesting excessive attention from the staff | 57.6 | 22.8 | 9.0 |
| 21. Insistently asking for different treatment or management | 16.4 | 12.0 | 7.6 |
| 22. Using abusive language to the staff | 24.8 | 6.8 | 4.0 |
| 23. Verbally overactive | 30.8 | 13.0 | 5.6 |
| Weight 1 | | | |
| 24. Being argumentative or critical of the unit or the staff | 24.0 | 13.0 | 5.4 |

lower mean frequency than on the admissions ward. A notable exception is overdose, which did not occur on an admissions ward in the experimental period. Taking alcohol and unprescribed drugs was also less frequent on the admissions ward.

The percentage of people exhibiting the different items was also calculated for each ward type. Examination of these data does not reveal any clear patterns. The overall percentage of people exhibiting one or more of the items was calculated for the admission, pre-discharge and continuing-

Table 4 Length of stay, rate of discharge and factors affecting discharge in the experimental period

| Ward | Mean length of stay (days) | Mean number of patients discharged per month | Percentage of patients whose discharge was delayed by lack of suitable after care | Patients discharged against medical advice |
|-----------------------------|----------------------------|--|---|--|
| Continuous care | 22 | 32 | 5 | 6 |
| Admission and pre-discharge | 41 | 22 | 12 | 7* |

*Average per ward.

Table 5 Number of re-admissions by ward

| Ward discharged from | Number of re-admissions |
|----------------------|-------------------------|
| Continuous-care | 30 |
| Admission 1 | 29 |
| Admission 2 | 29 |
| Admission 3 | 8 |
| Pre-discharge 1 | 11 |
| Pre-discharge 2 | 16 |

care wards. These figures were 51%, 47% and 47%, respectively. The proportion of patients exhibiting disturbed behaviour was constant but the profile of frequency changed.

Comparison between before and after data for the admissions and pre-discharge wards showed no differences in mean score or mean frequency profile.

Bed occupancy

There were 647 different patients (372 females and 272 males) discharged from hospital in the 6-month study period. Table 4 shows that the average length of stay for continuous-care ward patients was approximately half that of patients on other wards and that the rate of discharge per month was correspondingly higher (32 vs 22 patients).

A lack of suitable aftercare accommodation, patients discharging themselves against medical advice, and pressure for beds were seen as factors affecting discharge in only a small minority of cases by psychiatrists.

There were 123 patients discharged in the experimental period and re-admitted within 90 days of discharge. This represents 19% of the total number of discharges. Table 5

below gives numbers of re-admissions by ward. As can be seen, re-admission rates were highest on the continuous-care ward and on two out of the three admission wards. The rate of re-admission to admission ward 3 is probably accounted for by the very low rate of discharge from this ward which was less than half that of all other wards.

DISCUSSION

Staff surveyed before and after the experimental wards' change of function felt that it had moved nearer to their perceptions of an ideal ward since becoming a continuous-care ward. The advantages of changing an admissions ward into a continuous-care system, as perceived by staff, were that new patients would benefit from the presence of recovering patients; that it would be more rewarding for staff to work on a ward where one could finish the job; that the nursing role would be more varied; and that nurses would develop better relationships with patients.

Staff disagreed with the idea that patients discharge themselves prematurely from a continuous-care ward and this is confirmed by a comparison of self-discharge rates between wards. They also disagreed with the idea that the work environment is more frustrating or stressful, or that it would lead to less job satisfaction. Indeed, there was a statistically significant increase in job satisfaction for continuous staff after the change to the new ward system (as assessed by the Work subscale of the Job Description Index), as well as less uncertainty concerning treatment and lower rates of staff absenteeism/sickness. In addition, the operation of the nursing process was found to have improved markedly on the experimental ward. Finally, apart from some initial uncertainty concerning treatment before the introduction of the continuous-care ward system, nursing staff stress levels were the same for all the wards. Therefore, these findings suggest that the introduction of

the continuous-care ward system was beneficial for staff on a number of measures (i.e. job satisfaction and reduced sickness/absenteeism).

It could be argued that these improvements were due to the Hawthorne effect (Carroll *et al.* 1980); that is, they were due to the 'special' nature of the ward as a new innovation rather than its actual substance. As a counter argument, it could be argued that staff on all the wards received increased attention while this research was carried out, that staff rotated between wards and therefore were able to make more objective comparisons and that, as the research was carried out for 6 months after the new ward had been introduced, perceptions of it as an innovation may have diminished.

Contrary to staff expectations, there was a much lower incidence of disturbed behaviour on the new ward than on admissions wards, although the proportion of people exhibiting disturbed behaviour did not differ between wards. On the admission wards, only three behaviours (overdose, drinking alcohol, taking unprescribed drugs) were not more frequent than on other wards and this undoubtedly reflects the greater restrictions on admission-ward patients' freedom. Whilst patients with a schizophrenic diagnosis are consistently most likely to exhibit disturbed behaviour (Pearson *et al.* 1986, Bouras *et al.* 1982), this did not account for the observed difference in the current study where all wards were diagnostically similar. Neither can it be related to different nursing staff approaches to control (Levy & Hartcollis 1976) since nurses regularly rotated between wards. Further, since this study covered a 9-month period in total and thus approximately three 'cycles of disturbance' (Trauer 1983), it is unlikely that the observed difference represents a temporal artifact of sampling.

Although correlations cannot generate causal conclusions, it would seem highly likely that the presence of recovering patients had a beneficial effect on the overall level of ward disturbance. This finding is consistent with other research which has also found that levels of behavioural disturbance can be affected by situational factors (Binder & McNiel 1988, Convit *et al.* 1988).

Mixed wards

Further support for an 'unclassified unit system' of ward care comes from the work of Ellsworth *et al.* (1979) who surveyed 20 000 patients from 79 programmes in 34 hospitals throughout North America. The major finding was that patients who were admitted and treated on wards on which there was a mixture of acute and chronic patients had a better outcome in terms of community adjustment over 2

years, than those treated on wards with more narrowly defined selection criteria.

Given a shorter follow-up to date in this study it is not possible to speculate on the long-term 'success' of the ward in terms of adjustment. Within the short term, however, it was apparent that patients who had progressed through the two-ward system were much less likely to be re-admitted within 3 months. Further, it was apparent that re-admission rates to the continuous-care ward were as high within that period as that for patients discharged from admission wards.

Whilst it may be that these findings reflected premature discharge from a new ward where hospital stay was half as long as for the two-ward patients, research by Caton (1984) has shown that length of in-patient stay (21 vs 70 days) bore no relationship to the number of rehospitalizations. It is possible that this difference reflects the admission policies of different consultants but no differences in the diagnostic composition of the wards was apparent. Despite this, one third (30%) of all patients, regardless of the ward they were discharged from, felt that they were not ready for such a move and it may be that while changing an admission ward led to an increased emphasis on practical orientation, this was not sufficient to make a difference to post-hospital adjustment. In this respect, it is important to note that the therapist's ability to create situations which allow the patient to practise or learn relevant post-treatment skills is an important aspect of an effective social learning environment (Sanson-Fisher & Jenkins 1978).

Conclusion

In general terms, these results support Shepherd's (1984) assertion that, although there may be a limit to which mixing patients in psychiatric units is possible, heterogeneity within client groups is an important principle.

A second implication of this study may be that the positive effects of a heterogeneous client group (mixing the floridly ill and the recovering) may not improve the long-term adjustment of patients if it is associated with a shortened stay in the absence of improved community facilities and aftercare.

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These studies highlight the importance of studying the social validity of organisational change and the climate of the treatment setting before and after such change. The following study develops this theme further. A research-driven change in an addiction unit treatment programme was evaluated before and after change in terms of the work environment as perceived by therapy staff. Research findings, particularly the work of the ecological psychologist George Fairweather (Fairweather, et al, 1974; Tornatzky, et al, 1970) were used to shape the methods of “selling” change to staff and to maintain a positive work environment throughout the transition. Use was made of the Work Environment Scale (Moos, 1986) to assess change in the study that highlights the role of the Scientist-Practitioner as both research consumer, utilisier and producer (Morrow-Bradley & Elliott, 1986). The study is currently in press as detailed below:

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Staff perceptions of organization change of treatment delivery on an addiction unit

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Staff perception of organization change of treatment delivery on an addiction unit

The Work Environment Scale was used to assess staff perceptions of a change in a treatment programme for problem drinkers. A more cost-effective 2-week research-based day-patient programme, which included the concept of matching, replaced a 5-week cognitive behavioural in-patient programme. The maintenance of a positive work environment was attributed to the meeting of staff expectations, a cognitive behavioural ideology, and the establishment of a research culture. The study highlights the importance of the thorough preparation of staff for change, and their active involvement in the process in settings where work satisfaction is already above the average level for mental health facilities.

INTRODUCTION

The evaluation of many alcoholism treatment programmes has, until recently, been characterized by a patient input — 'black box' treatment — client outcome paradigm (Moos & Finney 1988). In order to provide information that will be of use to policy makers, programme providers and researchers, evaluators have begun to look within the 'black box' to examine treatment processes and the relationship between specific aspects of treatment and treatment outcome. Five sets of categories of the treatment domain have been identified by Moos & Finney (1988): (a) general programme factors; (b) characteristics and func-

tioning of staff; (c) work milieu; (d) treatment components or services offered; and (e) indices of system performance such as patient satisfaction. This paper is concerned with the work milieu of an alcoholism treatment programme. As well as providing a treatment setting for patients, an intervention programme provides a work environment for health care staff. In an effective treatment setting the work climate should satisfy the staff therein.

Although a number of measures of 'organizational climate' have been developed (James & Jones 1974), perhaps the best researched is the Work Environment Scale (WES; Moos 1986b), which can be used to assess health care staffs' perceptions of their work settings. The 10 WES subscales assess three underlying domains (relationship, personal growth, and system maintenance and change) of social climate in work settings. Involvement, peer

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cohesion and supervisor support assess the quality of personal relationships at work and form the relationship domain. Autonomy, task orientation and work pressure assess the goals to which the setting is orientated (personal growth domain). Clarity, control, innovation and physical comfort measure the structure and openness to change in the work place (system maintenance and change domain).

Employee strain

The WES explores facets of the workgroup climate that are associated with employee strain and lack of mental and physical well-being: high job demands, supervisor control, lack of clarity, and insufficient opportunity to participate in decision making (Moos 1986a). Employees who are engaged in their work and form positive bonds with their peers and managers, seem both to experience fewer work stressors and to react less negatively. These social resources and the work setting are explored by the WES relationship dimensions: involvement, peer cohesion and supervisor support.

LITERATURE REVIEW

Responses from over 1500 health care employees to the WES highlighted the particular problems of health care facilities (Moos 1986b). In comparison to workers in other settings, health care staff report less job involvement, and less support from co-workers and supervisors. In addition, health care settings are lacking in autonomy and clarity, are less comfortable physically and have more work demands than supervisor control. As Moos (1988) points out, these conditions probably reflect the stressful and emotionally difficult nature of health care, and problems associated with large highly structured organizations. Variations in work climate affect the morale and performance of health care employees so that staff who see their work as independent and challenging, and as characterized by clear and consistent policies and good personal relationships, tend to be more satisfied and to perform better. In contrast, staff morale is lower in highly demanding work settings that lack cohesion and autonomy (Moos & Schaefer 1987). In an analysis of the relationship between work settings and job satisfaction amongst staff in a mental health centre, Brady *et al.* (1980) found that employees who saw their work milieu as more orientated towards involvement, cohesion, support, autonomy and innovation, showed greater job satisfaction. Hunnicutt's (1983) study of over 800 community mental health centre employees also found that individuals who saw their work environment as higher in involvement, supervisor support, autonomy, task orientation and clarity tended to feel they were accomplishing more at work, and they reported less emotional exhaustion and depersonalization.

Application

An important application of this work is the use of information about the work climate to monitor the process of organizational change (e.g. Griffin 1989, Maloney *et al.* 1991). In a study comparable to the current investigation (Eriksen 1987), a short-term alcoholism in-patient treatment unit was restructured into patient and staff teams, while a new programme was developed based on behavioural and social learning principles. Patients and staff reported, via the Ward Atmosphere Scale (WAS), increased involvement, autonomy, practical orientation, organization and clarity. Jackson's (1983) study of a hospital out-patient unit found that the increased participation in decision-making among nursing and clerical employees lessened role strains and enhanced valued individual and organizational outcomes. Participation had a positive impact on perceived influence (as measured in part by WES autonomy) and job satisfaction, and helped reduce role-conflict ambiguity. However, there was no positive effect on work support (as measured in part by WES peer cohesion and supervisor support).

This latter point reminds us that organizational change can have both positive, neutral and negative impacts on the work environment. Wilderman & Mezzelo (1984) examined the effects on work climate of change in a community mental health unit from a consultation model to a direct-service model in which staff spent more time with clients and less with their colleagues. As regularity and structure increased, job clarity and supervisor control increased as well. However, staff cohesion declined, probably because staff members spent much less time with each other.

Finally, Maloney *et al.* (1991) used the WES to assess the impact of organizational change on nursing staff perceptions of the working environment. They found that the change had no effect: the working environment continued to show little cohesion among staff members, unclear expectations about rules and procedures, and a high degree of control over workers along with a perception of the work setting as poorly organized and inefficient.

Other research (e.g. Wilderman & Mezzelo 1984, Maloney *et al.* 1991) reminds us that organizational change designed to improve mental health care and service delivery can have a disruptive or neutral impact on the work environment. It is important to ensure that innovations in treatment do not reduce the quality of the working environment for stable staff teams who already show high levels of satisfaction with their work. An aim of the current study in an addiction treatment unit was to maintain a positive work environment following a research-driven change in health care delivery. The treatment programme changes were motivated in part by considerations of cost effectiveness (Holder *et al.*, 1991) and in part to evaluate the effectiveness of the 5 week in-patient regime

(treatment A) with that of the 2-week day-patient regime (treatment B):

Treatment A consisted of a 5-week cognitive behavioural in-patient treatment programme that included education, social skills training, group psychotherapy, covert sensitization and self-control training, with a focus on relapse prevention. Patients received approximately two individual counselling sessions per week in an otherwise full-time group therapy setting.

Treatment B, which replaced treatment A, was a 2-week, largely day-patient, programme also run along cognitive behavioural lines, but using only treatment strategies of proven effectiveness with problem-drinking clients (Holder *et al.* 1991). It included the concept of matching patients to treatment (DiClemente *et al.* 1992) around core group sessions of social skills training, self-control training, motivational counselling, behavioural marital therapy, stress management training and covert sensitization. Individual specific therapy needs were identified at the assessment phase using the Comprehensive Drinker Profile (CDP; Miller & Marlatt 1984), and treatment strategies supplementary to core sessions were identified. Sessions involving physical recreation and group discussion of drinking histories were omitted, while behavioural marital counselling, disulfam compliance training and bibliotherapy was provided on an as-needs (matched) basis. The same balance of group and individual sessions was maintained. Treatment integrity was ensured by regular reviews of the programme content in relationship to the unit's treatment therapy manual.

Change

In addition to attempting to fashion a state-of-the-art treatment programme for problem drinkers, particular attention was given to the negotiation and management of change. The vital importance of working to aid the organizations' integration and acceptance of a new programme was demonstrated by the extensive work of Fairweather *et al.* (1974). The major changes in the working practices of staff were delivering a new core treatment programme and preparing patients for discharge more quickly. This modified treatment programme (which repeated itself on a 2-week basis) had some potential for decreasing the satisfaction of treatment staff by virtue of a shorter, and therefore less intense, relationship with those they were counselling, and by virtue of the repetitiveness of the programme content.

A number of initiatives were undertaken by the team in order to ensure that the quality of the working environment was not reduced by a change in treatment delivery. These included the following.

- 1 A 6-month programme of weekly education sessions to acquaint all staff with the existing literature, that would currently inform the change in the treatment pro-

gramme. Team members presented and discussed, on a weekly basis, the implications of research and treatment papers based largely on the work of W.R. Miller at the University of New Mexico. Particular emphasis was given to work that assessed evidence for the effectiveness of particular treatment strategies (e.g. Miller & Hester 1986, Institute of Medicine 1990, Hodgson 1991, Holder *et al.* 1991), motivational interviewing (e.g. Miller & Rollnick 1991), matching patients to treatment (e.g. DiClemente *et al.* 1991, Litt *et al.* 1992), brief interventions (e.g. Miller & Sovereign 1989) and treatment outcome (e.g. Moos *et al.* 1990, Miller *et al.* 1992).

- 2 The employment of an international expert in the field of problem drinking, to advise on and 'sell' changes in the programme. Research by Fairweather *et al.* (1974) highlighted that spontaneous adoption of innovation rarely occurs in the absence of external stimulation.
- 3 Involvement of all staff in the planning and development of new treatment sessions.
- 4 The establishment of a procedure whereby individual unit counsellors could follow up patients on an individual out-patient basis after their discharge from full-time therapy.

Thus, many of the principles for creating change in mental health organizations, identified by Fairweather *et al.* (1974) (e.g. action orientated intervention; participation; group action and implementation; and simple innovation) were adhered to.

THE STUDY

The aims of the study were to use a variety of strategies to facilitate the introduction of a streamlined addiction unit treatment programme and to assess the impact of this change on the staff responsible for programme delivery. This was achieved by measuring the work environment in treatment programmes A and B.

METHOD

Setting

This research was completed on the addiction treatment unit of a large independent charity hospital, devoted to the care of the mentally ill. The Thomas Prichard Addiction Unit at St Andrew's Hospital, Nottingham, England was staffed by a team of 10 professionals, including psychiatrists, a psychologist and counsellors with backgrounds in nursing and occupational therapy.

Measures

Three versions of the WES (forms R, I and E) were used to provide descriptions of the social climate on the unit. WES

form R assesses perceptions of the work environment at the time of form completion, form I identifies a hypothetical 'ideal' environment, and form E indicates expectations of how a future working environment will be.

For each version of the WES, subjects answer 90 true or false questions, from which 10 subscales are derived (nine questions per subscale). Possible scores for each subscale range between one and nine. Each subscale examines the following dimensions of the work milieu.

Relationship dimensions

- 1 Involvement measures the extent to which staff are concerned about and committed to their jobs.
- 2 Peer cohesion measures the extent to which staff are friendly and supportive of one another.
- 3 Supervisor support assesses the extent to which management is supportive of staff and encourages them to be supportive of one another.

Personal growth or goal-orientation dimensions

- 4 Autonomy measures the extent to which employees are encouraged to use their initiative and to be self-sufficient.
- 5 Task orientation assesses the degree of emphasis on planning and efficiency in the workplace.
- 6 Work pressure assesses the extent to which the urgency of job demands dominates the working day.

System maintenance and system change dimensions

- 7 Clarity measures the extent to which staff know what to expect in their daily routines and how clearly rules and policies are communicated.
- 8 Control assesses the extent to which management uses rules and pressures to control the staff.
- 9 Innovation measures the emphasis on change and on new ideas and approaches.
- 10 Physical comfort assesses the extent to which the physical surroundings contribute to a pleasant work environment.

For each subscale, a higher score indicates 'more of' that aspect of the work environment. Consequently, low scores for work pressure and control are generally favourable.

Research design

The WES (real profile, form R) was administered to the staff group on the unit on three occasions: 10 months before the programme change, 1 month after the initiation in the programme, and 14 months after the start of a new programme. In addition, staff's views on the ideal work environment (as measured by WES form I) were obtained prior to a change of programme, along with a measure of

staff expectations for the new programme (WES form E). The WES data were analysed using repeated measures analysis of variance.

RESULTS

The real work environment

Figure 1 shows a comparison between the standardized WES form R staff profile 10 months before the programme change and normative data for health care workgroups (Moos 1986b). The data reveal relatively positive perceptions of the unit work environment. The staff gave a high emphasis on the three relationship dimensions: they were committed to their work, were generally friendly and supportive towards one another, and found their supervisors to be supportive and encouraging. They also perceived their level of independence to be high, showed strong emphasis on planning and work efficiency, and knew what to expect in their daily work routines. The staff indicated a low level of work pressure, and did not believe the supervisors used rules and pressure to keep them under control. They found both the degree of emphasis on innovation and the level of physical discomfort to be about average.

Table 1 gives a summary of mean values and statistically significant differences for 'pre-change real versus 14-month post-change real', 'ideal versus pre-change real', and 'ideal versus 14-month post-change real'.

Expectations of the new programme

Staff expectations of the new programme immediately prior to the programme change, as measured by WES form E, showed only one significant difference to the real pre-change situation: the staff perceived a somewhat less clear idea of what to expect in their daily work routines from the new programme (clarity subscale). Only small differences were observed for the other nine WES dimensions, indicating that staff expected the generally good

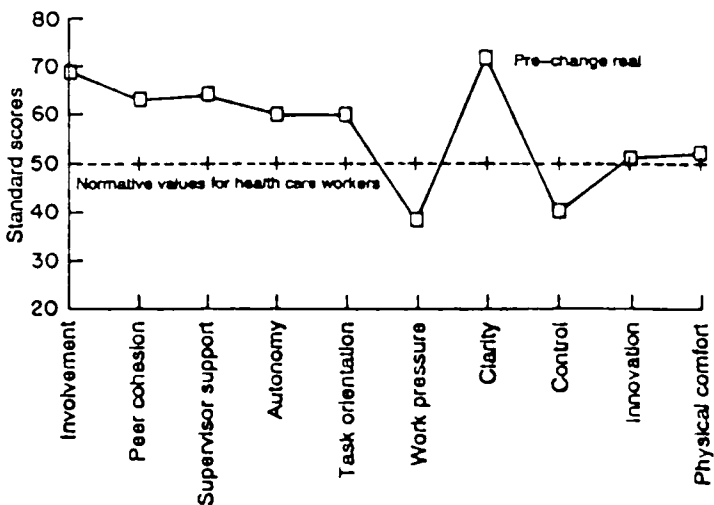


Figure 1 Pre-change Work Environment Scale real profile.

Table 1 WES mean raw scores

| | Ideal (n=9) | Expected (n=6) | Real pre-change (n=9) | Real 1-month post-change (n=6) | Real 14-month post-change (n=7) |
|--------------------|--------------------|-------------------|-----------------------------|---|--|
| Involvement | 9.0 | 8.0 | 8.7 | 8.7 | 8.6 |
| Peer cohesion | 8.3 | 7.0 | 7.2 | 6.7 | 7.8 |
| Supervisor support | 8.7 ^d | 6.5 | 6.9 ^d | 6.5 | 7.4 |
| Autonomy | 8.2 ^{a,h} | 6.5 | 6.3 ^a | 6.0 | 6.3 ^b |
| Task orientation | 8.0 | 7.8 | 7.2 | 7.7 | 7.8 |
| Work pressure | 3.6 | 4.0 | 3.1 ^b | 5.2 ^b | 3.4 |
| Clarity | 8.0 ⁱ | 5.5 ^a | 7.4 ^{ac} | 7.2 | 6.1 ^{cd} |
| Control | 3.6 | 5.0 | 4.0 | 5.3 | 5.1 |
| Innovation | 7.3 ^g | 5.0 | 4.7 ^g | 4.0 | 6.3 |
| Physical comfort | 8.1 ^{ij} | 5.0 | 3.9 ^f | 4.0 | 3.4 ^j |

Statistically significant values are denoted by superscript letters:
a, expected versus pre-change real clarity ($F=7.35$, $df=5$, $P<0.05$); b, pre-change versus one month post-change real work pressure ($F=11.42$, $df=5$, $P<0.05$); c, pre-change versus fourteen-month post-change real clarity ($F=45.00$, $df=5$, $P<0.01$); d, ideal versus pre-change real supervisor support ($F=40.96$, $df=8$, $P<0.01$); e, ideal versus pre-change real autonomy ($F=13.60$, $df=8$, $P<0.01$); f, ideal versus pre-change real physical comfort ($F=40.68$, $df=8$, $P<0.001$); g, ideal versus pre-change real innovation ($F=21.33$, $df=8$, $P<0.01$); h, ideal versus 14-month post-change real autonomy ($F=7.68$, $df=5$, $P<0.05$); i, ideal versus 14-month post-change real clarity ($F=22.27$, $df=5$, $P<0.01$); j, ideal versus 14-month post-change real physical comfort ($F=15.08$, $df=5$, $P<0.05$).

working environment to continue after the programme changes.

The new working environment

Perceptions of the new work setting, measured 1 month after the programme change, revealed only one significant difference from their pre-change values: staff noted an increase in work pressure. By 14 months after the programme change, this increase in work pressure had disappeared, and the only difference to pre-change values was a decrease in clarity. Generally speaking, staff had perceived only minor changes to their work environment as a result of the changes to the programme.

Expectations and reality

A comparison between staff expectations of how the new programme would be and the 14 month post-change actual values, showed no significant differences on any of the 10 subscales.

Real and ideal work environments

WES form I gave in indication of what staff would ideally like from their work settings. Significant differences were found between pre-change real and ideal profiles on four of the 10 WES dimensions. Although the WES subscales for supervisor support and autonomy were already high for health care workers, the staff expressed a desire for

more support and encouragement from their supervisors, and a greater ability to be independent and to make decisions. Ideally, they would also have liked an improvement in their physical environment, and a greater emphasis on new ideas and variety in their work.

A comparison between the ideal and 14-month post-change values showed that, although staff still did not have their ideal level of autonomy or physical comfort, their levels of supervisor support and innovation were no longer statistically different from the ideal. Clarity had, however, fallen significantly below the reported ideal level.

DISCUSSION

The results of this investigation confirm that organizational change did not adversely affect the work climate for staff, such that an above-average profile on all the WES subscales was maintained following programme change. Further, there were only three subscales on which the new treatment programme differed significantly from the ideal (physical comfort, autonomy and clarity) compared to four such differences pre-change (physical comfort, autonomy, supervisor support and innovation). A significant increase in work pressure evident in the first month of the programme change did not persist. These findings are encouraging for the future functioning of the streamlined addiction programme, since lack of autonomy and involvement, together with high work demands, have been related to emotional exhaustion on the Maslach Burnout Inventory (Savicki & Cooley 1987). Most significantly perhaps, a

change to the work environment following programme change had been congruent with staff expectations.

Measurement of social climate

The value of the measurement of the social climate of a treatment setting, and the constructive feedback of results to institute positive change, has been demonstrated frequently in settings such as burn units (e.g. Koran *et al.* 1983), psychiatric day hospitals (Milne 1986), psychiatric wards (James *et al.* 1990) and alcoholism treatment units (Verinis 1983). However, the ongoing measure of a favourable social climate is equally important in order to ensure its maintenance over time in response to staff and organizational changes. The current study clearly demonstrates that a change that is congruent with staff expectations, and which involves all treatment staff, can maintain a positive working environment. Just as patients perform best in those settings where their expectations about the treatment environment are accurate (e.g. Brown & Miller 1993), the same is probably true of staff. The importance of this is underlined by those studies that show a relationship between work climate and job morale and performance (Moos & Schaefer 1987) and between irregular patient (self) discharges from an alcoholism treatment unit and staff absence from work (Bowen & Tremlow 1978).

In addition to meeting staff expectations, the more likely explanations for the maintenance of a positive work climate in this study includes continued identification with a formal cognitive behavioural ideology in a programme anchored to research findings and placed in a research setting (Cherniss & Krantz 1983). Such a formal belief system both lessens the ambiguity of human service work and provides a rational for difficult decisions.

The findings of the current programme confirm that of the one previous comparable study of an alcoholism unit, which showed improved social climate ratings by staff after it was restructured according to behavioural and social learning principles (Eriksen 1987). Indeed, the general effect of new treatment programmes based on social learning principles is to enhance involvement autonomy and practical orientation, although these programmes may, as in our own study, decrease temporarily programme clarity (Lacoursiere & Bradshaw 1983).

Preparing staff

While much effort within the mental health area has been devoted to creating new treatment programmes, there has been less attention paid to the use of specific techniques that will facilitate their adoption (Fairweather *et al.* 1974). This study emphasizes the importance of actively preparing staff for change, involving them intimately in the process, and the importance of employing an outside change agent. In doing this, it highlights the diffusion of treatment

innovation as a process that goes through several stages (knowledge — persuasion — decision — confirmation), with different channels of communication being more or less important at different stages (Fairweather *et al.* 1974). Early preparation for change, and a small stable staff team where there were no major changes to norms and roles, helped to ensure that plans to minimize disruption were successful. A further example of the effectiveness of this preparation for change is arguably the finding that staff did not expect the new work environment to differ significantly from the pre-change programme.

Future research

When findings of the sort identified here occur, it is important to guard against complacency by regular monitoring of the unit's work environment. The insights such surveys of work climate provide may help anticipate problems and provide solutions to current organizational challenges (Moos & Schaefer 1987). Research to date has provided only an initial understanding of health care milieus and their influence on staff and the quality of patient treatment. Future evaluations of the impact of health care jobs should aim to identify the precise aspects of work that are linked to varied staff and patient outcomes (Moos & Schaefer 1987), so that work settings that benefit health care staff as well as their patients can be created.

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SECTION THREE:

**THE CLINICAL PSYCHOLOGIST
AS RESEARCHER USING
SINGLE CASE METHODOLOGY**

INTRODUCTION & HISTORICAL OVER-VIEW

Single case methodology has long been regarded as the means of bridging the scientist-practitioner divide (eg, Barlow, 1981; Stanley, 1985; Spellman & Ross, 1987) and in particular as a way of enabling clinicians to become both consumers and producers of clinical knowledge.

Investigation of the single case has a long and respectable history (Robinson & Foster 1979) and has been more important in clinical psychology than in other areas of psychology (Kazdin, 1982). Indeed, clinical psychology has been defined in part as the application of psychological principles and techniques to the problems of the individual (Korchin, 1976).

The earliest investigations in experimental psychology in the late 1880's and 1900's by Wundt (1822-1920), Ebbinghaus (1850-1909), Pavlov (1849-1936) and Thorndike (1874-1949) utilised one or a few subjects. The father of modern psychology, Wundt held that the in-depth investigation in one or a few subjects using a specific and rigorous introspection procedure was the way to understand sensory and perceptual processes (Boring, 1950). In the area of human learning Ebbinghaus' work "On Memory" (1885) in which he served the dual role of experimenter and subject, comprises one of the most famous examples of the scientific study of the single case. Ebbinghaus (whose best known discovery was the retention curve) followed Fechner's (1860) methods in making repetition the basis of the experimental measure (Boring, 1950). Seventy years later the approach known as "the experimental analysis of behaviour" was to employ again repeated measurements on individuals to study complex animal and human behaviour (Barlow & Herson, 1984). In terms of scientific yield, the study of the individual reached an early peak in the work of

Pavlov and Skinner (1966) cited this approach as an important link and a strong bond between Pavlov and himself.

In psychiatry and clinical psychology the case study method of investigation (Bolger, 1965) was the sole methodology of clinical investigation in the first half of the twentieth century. Several early case studies reported provided illustrations of the scientific ingredients used in later experimental single case research. For example, Watson and Rayner's (1920) study of an analogue of a clinical phobia introduced a prototype of a withdrawal design. Breuer's description of the now familiar case of Anna O in "Studies on Hysteria" (Breuer & Freud, 1957) describes a process of treatment of one behaviour at a time which fulfils the basic requirement for a multiple baseline experiment design. In addition, theories about the aetiology of psychopathology and the development of personality have emerged from work with an individual case. Psychoanalysis both as a theory of personality and a treatment technique developed from a relatively small number of cases seen by Freud (1836-1939) in out-patient psychotherapy. His case of Little Hans, for example, has been accorded a major role in this development (Kazdin, 1982).

Analyses of publications in psychological journals have shown that from 1900 to 1930 research with very small samples (eg, one to five subjects) was the norm (Kazdin, 1982). Major factors that shifted the focus of psychological research to larger sample sizes included dissatisfaction of the yield of small sample size research and the absence of controls within research (eg, Chaddock, 1925) as well as the development of statistical methods. Pearson's newly described statistical tests began to appear in the journal *Biometrika* in the early 1900s and his enthusiasm was such that he seemed to believe even inaccurate data would yield accurate conclusions if proper statistics were applied (Boring, 1950). The statistical innovations of R.A. Fisher constitute one of the most important

developments of the twentieth century. His book on statistical methods (Fisher, 1925) demonstrated the importance of comparing groups of subjects and presented the now familiar notions underlying the analyses of variance. By the 1930s only a small minority of single case studies were reported in psychological journals which were replete with large sample studies utilising statistical analyses (Robinson & Forster, 1979). The zeitgeist in psychological research was group comparison and statistical estimation. A notable exception was the work of B.F. Skinner who was developing the approach known as the experimental analysis of behaviour.

By the late 1940s clinicians were aware of basic research strategies and there was a recognition that any adequate test of psychotherapy would have to include a more precise definition of terms, particularly outcome criteria or dependent variables (Knight 1941). The advent of serious applied research in the 1950's led investigators to reject reports from uncontrolled case studies. In view of the extraordinary claims made by some clinicians after successful case studies this attitude was understandable. The appearance in 1952 of Eysenck's notorious article (comparing percentage success of psychotherapy with spontaneous remission rates) highlighted the notion of the average response to treatment and strengthened the idea that the logical way to evaluate psychotherapy was through the prevailing between-groups comparison designs. Katnrovich's (1928) comparison of aversion therapy with hypnosis and medication in the treatment of alcoholism is an interesting example of this approach. The inability of the larger group studies at this time to prove the effectiveness of psychotherapy (eg, the Cambridge-Somerville study of Powers & Witmer, 1951) led to heated controversies. It was not until Bergin's (1966) article showing that some clients were improving while others were getting worse that research began to ask the more basic question of the effectiveness of specific treatment for a specific individual.

The practical and methodological difficulties of the group comparison approach and a widening gap between scientists and practitioners led to a “flight into process” (Hoch & Zubin, 1964) and a second approach, the open “naturalistic” study (Kiesler, 1971). These correlational studies, however, were incapable of determining causal relationships on the effects of treatment. The proliferation of certain types of process research, (eg, Rogers et al, 1967) led to an unfortunate dichotomization between process and outcome studies and the reluctance to relate process variables to outcome (Kiesler, 1971). Largely overlooked at this time was the work of M B Shapiro at the Maudsley Hospital who repeatedly administered measures of change to individual cases during therapy and continued these measures to an end point, thus relating outcome to changes (eg, Shapiro, 1961).

One result of the search for an appropriate methodology was a re-examination of the role of the case study which had been rejected by the scientists of the 1950's. Allport (1961; 1962) argued eloquently that the science of psychology should attend to the uniqueness of the individual and championed the so-called idiographic (individual) approach over the nomothetic (general or group) approach. A number of suggestions for studying the individual case experimentally began to be made (eg, Chassan, 1967; Shapiro, 1961) that proposed observing patient behaviour directly and evaluating changes in performance as treatment systematically varied over time. One of Shapiro's contributions was the utilisation of carefully constructed measures of clinically relevant response which was administered repeatedly over time in an individual. Shapiro and Ravanette's (1959) case study on paranoid delusions was a prototype of an A-B-A design. Perhaps Shapiro's most important contribution, however, was a demonstration that independent variables in applied research could be defined and systematically manipulated within a single case, thereby fulfilling the requirements of an “open true” experimental approach to the evaluation of therapeutic

technique (Underwood, 1957). His work and that of Chassan, (1967; 1969) did not have a major impact on the conduct of applied research because of a failure to produce clinically relevant changes and because of the use of indirect and subjective measures (Leitenberg, 1973). Together with their students (eg, Yates, 1970; 1975) however, they had an important influence on the development and acceptance of a more sophisticated methodology. Other methodological innovations proposed at this time included the quasi experimental designs (in particular the time series design and equivalent time series design) proposed by Campbell and Stanley (1963) and Cook and Campbell, (1979) and the representative case (Shontz, 1965).

The development of single case research as currently practised can be traced to the work of B F Skinner who developed programmatic animal laboratory research to elaborate operant conditioning. Skinner's research goal was to discover lawful behavioural processes of the individual organism (Skinner, 1956), and his approach consisted of several of the distinct characteristics underlying single case experimentation (Skinner, 1953): this included studying the frequency of performance, the study of one or few subjects, the use of a subject as its own control and a lack of dependence on statistical analysis to detect change. In the 1950s and 1960s the experimental analysis of behaviour and intra-subject or single case designs became identified with operant conditioning research.

As early as 1947 F C Thorne had described the principles of single case research (including A-B-A withdrawal designs) and recommended that research proceed in this manner, but it had little apparent effect (Barlow, et al, 1983). The growth and popularity of behaviour therapy provided a vehicle for the introduction of single case methodology on a scale that attracted attention from investigators and applied scientists. The extension of the application of operant conditioning to human behaviour became evident in educational

settings, psychiatric hospitals and out-patient treatment by the mid-1960's (Ullman & Krasner, 1965). By the late 1960s the extension of the experimental analysis of behaviour was formally recognised as applied behaviour analysis (Baer, et al, 1968). When, in 1970, Bergin and Strupp's paper "New Directions in Psychotherapy Research" appeared with his recommendations, the philosophy underlying applied research methodology had come full circle in a little over 100 years. They advised against further investment in process and outcome studies and proposed a single case approach for the purpose of isolating mechanisms of change in the therapeutic process. This would be followed by the construction of new procedures based on a combination of variables, its effectiveness was demonstrated by single case experiments. The approach aimed to bring research and practice closer together.

The paper which follows (Long & Hollin, in press) gives an overview and critique of single case methodology and recent development in the field. The full reference is:

Ref: Long, C.G. & Hollin, C.R. (in press) Single case design: a critique of methodology and an analysis of current trends Clinical Psychology and Psychotherapy

Single Case Design: A Critique of Methodology and Analysis of Recent Trends

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Following a brief discussion of the history of the development and use of single cases studies, an overview of the single case design in contemporary outcome research is offered. This overview encompasses varieties of single case design, methods of data analysis, and pitfalls and problems with single case methodology. An analysis of current trends in single case design, based on publications in two leading behavioural journals, highlights a move toward alternating treatment designs and the growth of cognitive measures in single case studies. It is concluded that while single case designs are not necessarily the design of choice in all circumstances they are a fundamental research strategy in outcome research.

INTRODUCTION

Despite the importance of studying the individual in a clinical science of human behaviour change, a methodology uniquely suited to this purpose has been slow to develop. While Baer *et al.*'s (1968) landmark publication describes the potential of single case experimental designs for studying psychological and behavioural processes, over a decade later there was a consensus that this methodology was under-used (Hersen and Barlow, 1976; Kratochwill, 1978; Barlow, 1980; Barlow and Hersen, 1984). Despite a number of contemporary champions (e.g. Wilson, 1987; Morley, 1989; Morley and Adams, 1991) research of this type in the market-driven NHS has had to co-exist with an organizational push towards large scale group outcome studies that will more easily influence purchasers of health services. A recent debate over a single case report (Booth, 1990) on an alcohol-dependent man who was considered to have maintained controlled drinking over a period of 10 years, illustrates the divergence of

opinion over methods of evaluation. Commentaries ranged from congratulations (Stockwell, 1990) to the dismissive statement that 'single case reports are not substitute for good science', and that 'since ... the introduction of more effective methods to assess psychotherapy in controlled clinical trials, the single case report has been relegated to an occasional letter to a clinically-oriented journal' (Meyer, 1990). It may be that we are witnessing a return to the zeitgeist of the 1930's, in which psychological research was characterized by group comparison and complex statistical analyses. The recent development of the statistical technique of meta-analysis (Cook *et al.*, 1992) has encouraged a trend towards larger scale investigations since it provides a means of producing a standardized overview of a large number of empirical studies. The undoubted value of such investigations, however, should not detract from a method of evaluation that uniquely enables practising clinical psychologists to bridge the scientist-practitioner gap (Spellman and Ross, 1987). Despite the mystique that surrounds single case design as involved and overly complicated, a glance through the literature shows single case studies in fields as diverse as rehabilitative medicine (Schindele, 1981),

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neuropsychology (Caramazza, 1986), neuropsychological rehabilitation (Wilson, 1987), social work (Geismar and Wood, 1982), school performance and education (Schwieso, 1985), family therapy (Cross, 1984), hypnosis (Bushnell, 1984), and the treatment of rare diseases (Lindberg, 1988). Today, the field of single case designs is an active one, with advances in design and methods of analysis (Morley, 1989; Morley and Adams, 1991).

The purpose of the present critique is to offer an overview of a changing field, including the case for single case research, a discussion of the controversies over data analysis, and an analysis of current trends in single case research.

HISTORICAL OVERVIEW

In psychiatry and clinical psychology, the case study was the sole method of clinical investigation in the first half of the 20th Century (Bolger, 1965; Robinson and Foster, 1979; Kazdin, 1982). Several early case studies such as that of 'Anna O' (Breuer and Freud, 1957) provide illustrations of the strategies used in later experimental single case research. In terms of scientific yield, the study of an individual reached an early peak in the work of Pavlov (1849–1936) and Skinner (1987) suggested this was an important link between himself and Pavlov.

The main factors that shifted the focus of psychological research to larger sample sizes by the 1930's, included dissatisfaction with the yield of small sample size research, the absence of controls within research and the development by Pearson and by Fisher of statistical methods based on data collected from large sample groups. Eysenck's (1952) article comparing percentage success of psychotherapy with spontaneous remission rates, highlighted the notion of an average response to treatment and strengthened the position that the logical way to evaluate psychotherapy was through the use of between group comparison designs. The failure of the large group studies to prove the effectiveness of therapy, as for example the Cambridge-Somerville study (Powers and Witner, 1951), led to heated debate. Further, Bergin's (1966) article which found that some clients were improving during therapy while others were deteriorating, forced researchers to ask the more basic question concerning the effectiveness of a specific treatment for a specific individual.

In therapy research several suggestions for studying the individual case experimentally were advanced that proposed observing the patient's

behaviour directly, administering the peaks and measures of change, defining variables clearly and evaluating change over time (e.g. Shapiro, 1961; Chassan, 1967). Shapiro and Ravanette's (1959) case study of paranoid delusions was a prototype of an A-B-A design. While this work was not then accorded due status, the trend towards the development and acceptance of a more sophisticated methodology had started and was taken up by researchers such as Yates (1970, 1975).

From the late 1960's the extension of the principles from Skinner's experimental analysis of behaviour gave birth to that approach called applied behaviour analysis (Baer *et al.*, 1968). Two years later Bergin and Strupps' (1970) paper 'New Directions in Psychotherapy Research' advised against further investment in process and outcome studies, and proposed a single case approach to elucidate state change in the therapeutic process. This 'new' approach aimed to bring experimental and applied research closer to each other, spawning varieties of single case design to advance theory and practice. As interest in single case research grew, as evidenced by a flow of scholarly works (Kazdin, 1982; Kazdin and Tuma, 1982; Barlow and Hersen, 1984), the past decade has witnessed a virtual explosion in the popularity of single case studies.

BRIEF REVIEW OF TRADITIONAL DESIGNS

The case study is the earliest traditional design and a direct forerunner of modern single case designs: it takes the individual as the unit of analysis by which to identify a general phenomenon applicable to other individuals. More recent proponents of the method show how it can be used to generate hypotheses that are later subjected to more rigorous experimental scrutiny (e.g. Lazarus and Davison, 1971), or to make sense of extensive case notes and interview data (e.g. Gresswell and Hollin, 1992). However, the case study provides no opportunity to control extraneous variables that may effect the outcome of the study, it cannot rule out alternative explanations for observed relationships, and cannot determine if a phenomenon is unique to the individual being observed. Alternatives to the uncontrolled case designs include the 'good case study' or quantitative case-analysis model that has roots in ethnomethodology (Ruckdeschel and Farris, 1981). While an ethnomethodological approach has several advantages, and may serve as 'a valuable cross-check for traditional research methodology' (Watts, 1981,

p. 363), it has several shortcomings. The approach is time-consuming and expensive, investigators may be engulfed by the number and complexity of the variables, and the individuality of each account—the ‘Rashomon effect’ (Mittelmeier and Freidman, 1991)—limits the usefulness of the method.

Alternatives to these uncontrolled case designs include pre-experimental case studies in which objective data are gathered on a continuous basis but the researcher cannot rule out the usual threats to internal validity (Kratochwill, 1985). Despite the contribution that case study can make to scientific knowledge (e.g. Mace *et al.*, 1983) a formal single case study design represents a considerably more powerful methodology.

The main issue, of course, is determination of causality in an experimental study. Among traditional approaches the greatest amount of information can be gained from the group comparison design originally developed for agricultural and genetics research. Paul (1967, 1969) analysed the power of several group experimental designs: two were deemed capable of establishing a functional relationship between treatments and the average response of clients in the group. These two were a comparison of the treatment with a no-treatment group, and the powerful factorial design that specified what type of clients, under what conditions, improve with a given treatment. There are, however, limitations with group designs: (a) results represent mean responses across several individuals, such that information about the individual is lost; (b) it is difficult to bring together large numbers of sufficiently homogeneous subjects; (c) group results do not enable the clinician to match treatment to the individual client; (d) within-subject variability and the clinical course for a specific patient during treatment is ignored; (e) there can be ethical objections to a design that requires withholding or minimizing treatment for controls.

Single case designs avoid the major weaknesses of all three traditional design types: the practical problems of obtaining large numbers of homogeneous subjects are eliminated; ethical concerns are reduced since treatment need not be withheld from those who request it; and the problems associated with aggregated data are avoided as idiographic data are obtained. In addition, several other advantages of single case experimental designs improve the reliability of drawing valid inferences from data. The collection of data before, during, and after the intervention allows measurement of change over time. In addition, threats to internal validity can be ruled out through replication of ex-

perimental effects: these include within-series strategies such as A-B-A designs and changing criterion designs; between-series designs, such as alternating treatment design and simultaneous treatment design; and combined series design, as with variations of the multiple baseline strategies (Barlow *et al.*, 1984). Finally, single case studies can be ‘data-driven’ as there is flexibility to change the design as data are evaluated across time, or to combine elements to rule out threats to internal validity (Johnston and Pennypacker, 1980).

SINGLE CASE DESIGNS

A-B-A Basic Withdrawal ‘Reversal’ Design

There are many examples of what Hayes (1981) described as ‘within series strategies’. The basic A-B design involves a period of baseline measurement followed by the intervention. While this is of use in settings where repeated introductions and withdrawals of treatment are not feasible, this quasi-experimental design (Campbell and Stanley 1966) does not determine whether changes during the B phase are due to the intervention or to uncontrolled events. The most direct way to decide whether treatment was responsible for change in the data is to introduce a ‘reversal’ design, with a return to baseline conditions. However, a more complex A-B-A-B reversal design, or the equivalent time-samples design (Campbell and Stanley, 1966), is preferable as it ends on a treatment phase that can be extended for as long as necessary. This design provides two strands (B-A A-B) for demonstrating the positive effects of the independent (treatment) variable, allowing the second introduction of the A and B phases to be compared with the first.

An example is provided by Zlutnick *et al.* (1975) in which the interruption of pre-seizure behaviour proved effective in reducing violent motor seizures in a 7-year-old boy. The A-B-A-B design with monitoring of concurrent behaviour is of particular importance when the side-effects of treatment may be negative (Sajwaj *et al.*, 1972), and it also facilitates identification of response generalization. Further, if treatment cannot be withheld, a B-A-B-A design or a variant can be used. Finally the A-B-C-B design can be used where the third phase ‘C’ is not a return to baseline conditions but another component of the intervention. While A-B-A-B designs have a simple elegance, in practice the sequence is necessarily extended and time-consuming when two or more treatment inputs are used and there are potential carry-over effects between phases. Carry-over (or

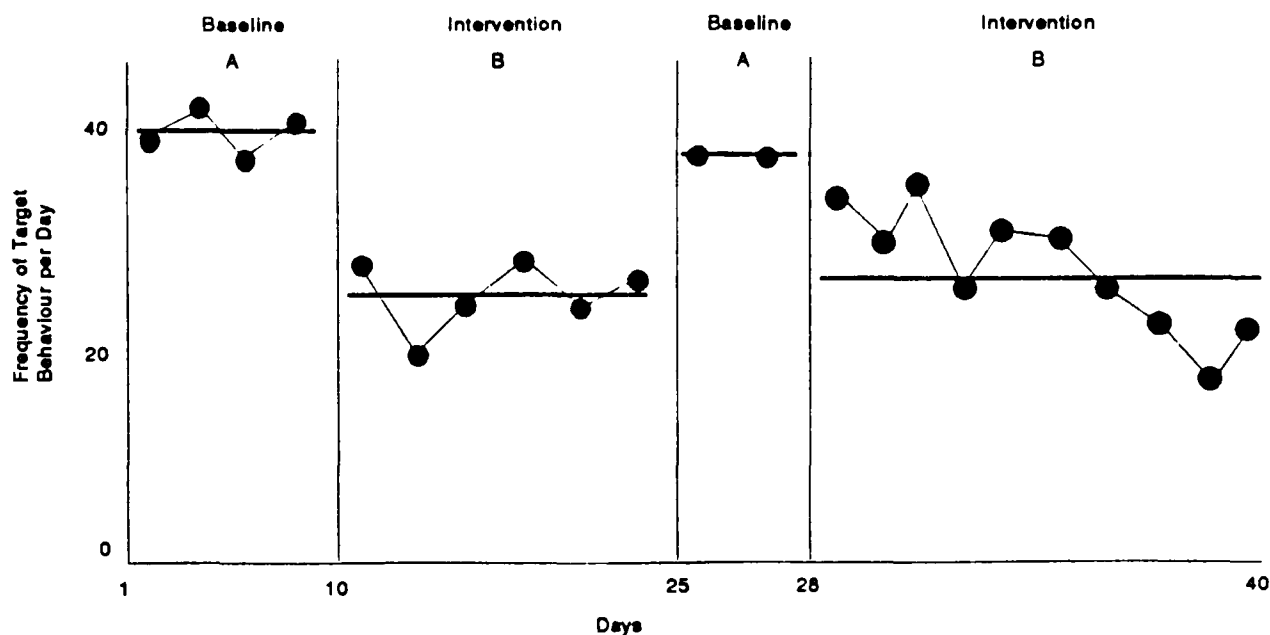


Figure 1. Hypothetical data to illustrate ABAB design

overlapping) effects usually occur in the second baseline phase of the ABAB design when the experimenter cannot recover the original levels of baseline responding (e.g. Hawkins *et al.*, 1966), and when on occasion (e.g. Zeilberger *et al.*, 1968) the behaviour under scrutiny undergoes more rapid change when a treatment variable is introduced for a second time. Although sometimes clinically advantageous in psychological research carry-over effects pose a problem of evaluation since the controlling effects of procedures are then obfuscated. In recognition of this researchers concerned with drug evaluation and behavioural research have recommended short experimental periods (application of the treatment variable) to counteract these problems (Barlow and Hersen, 1984). However, there are a number of clinical situations (including many psychotherapeutic, cognitive neuropsychological or skilled learning interventions) where ABAB designs cannot be used. An intervention may not be reversible either because an individual has learnt new behaviour that is now under self-control, or because it is ethically inappropriate to withdraw treatment that might result in distress or harm to the subject (e.g. due to seizures or head banging), or to others in the environment (e.g. physical assault) (Morley, 1989).

Changing Criterion Design

The changing criterion is particularly attractive for a clinical setting as it does not require a reversal or phase change to a non-therapeutic condition. In this

design treatment is provided to enable the client to reach a predetermined level of performance. When behaviour has stabilized at this level this then becomes the new baseline, and treatment is initiated so as to change performance to meet a more stringent criterion. The procedure is repeated several times (with each phase differing according to the amount of change expected) until the behaviour reaches an optimal level targeted earlier (Hersen, 1982; Morley, 1989). The correlation of these changes in the intervention with changes in measured target behaviour are held to demonstrate the relationship between the two (Schwieso, 1985). Such a design is particularly suited to any situation where cumulative learning may occur.

Hartmann and Hall (1976) illustrated this procedure with a smoking reduction study, as did Hegel *et al.* (1986) in their rehabilitation programme for severely burn-injured patients. In the smoking reduction study (Hartmann and Hall, 1976) a positive reinforcement plus response cost therapeutic programme was initiated after measuring cigarettes smoked during a baseline period. The criterion set for the first phase was 95% of the previous smoking level and this was repeated for each subsequent phase. A limitation of this design occurs when it is not clear that the behaviour is tracking the changes in criterion and may be controlled by an extraneous factor. Partly in recognition of this problem Morley, (1989) advocates certain guidelines (a minimum of two changes; varying in length of treatment phases and the magnitude of the criterion; reversing where possible the direction of criterion changes) to consider with changing criterion designs.

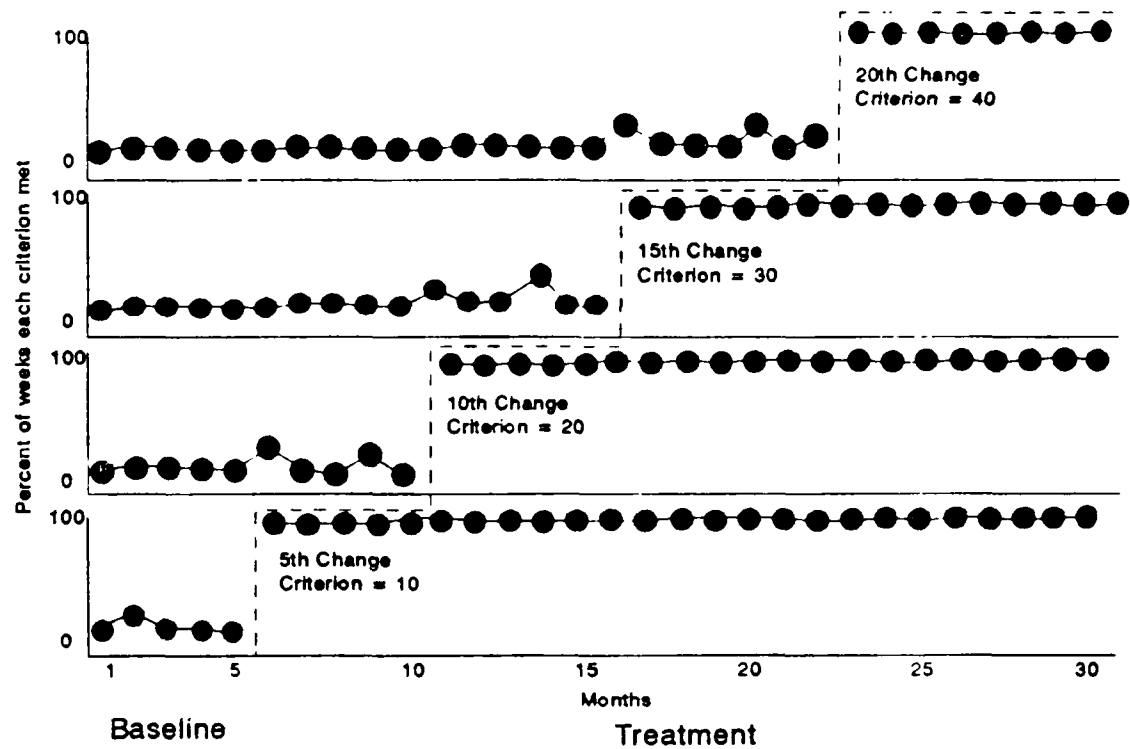


Figure 2. Hypothetical data to illustrate changing criterion design

Multiple Baseline Design

This design has been used with increasing frequency in the past 20 years, particularly when withdrawal or reversal designs have not been possible due to practical limitations, ethical considerations, or problems with staff co-operation (Barlow *et al.*, 1977). A multiple baseline design provides a means to use control variables to demonstrate the effect of an intervention without requiring a reversal phase (Hayes, 1985). There are three different types of multiple baseline design: the first is an ‘across person’ design (e.g. Barmann *et al.*, 1981); the second is across behaviours (e.g. Bornstein *et al.*, 1977); and the

third is across settings (e.g. Fairbank and Keane, 1982).

A variation of the multiple baseline design, the multiple probe technique (Horner and Baer, 1978), has been developed to deal with situations where repeated measurement will result in reactivity. This can be used across behaviours, subjects, and settings and its use is recommended for the assessment of generalization with behaviours not targeted in an intervention (Kazdin, 1982).

While multiple baseline designs provide elegant controls without the need for reversal or withdrawal of treatment they have one important weakness.

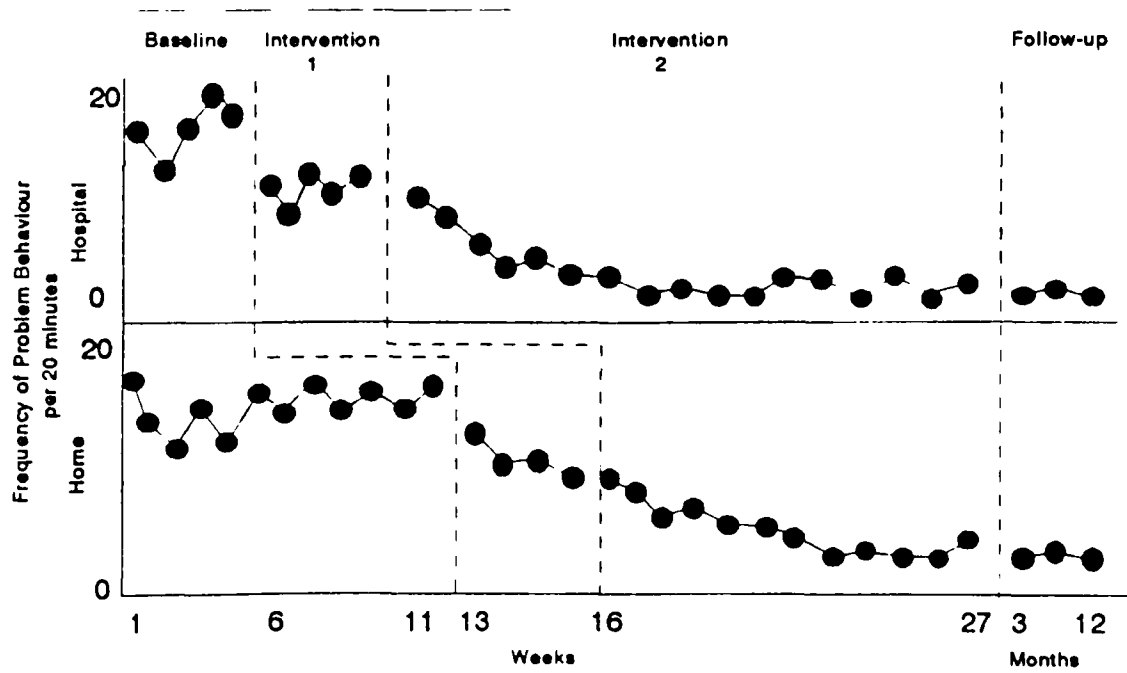


Figure 3. Hypothetical data to illustrate a multiple baseline across settings

Behaviour, settings, or even persons may not be independent. In practice, results from multiple baselines can only be unambiguously interpreted when there is change in target variables following the introduction of treatment and there is no change in the corresponding baselines. It is impossible to know whether other patterns within the data are due to a generalized treatment effect or to a coincident effect of an extra treatment. In an effort to prevent problems of interpretation, Kazdin and Kopel (1975) recommend both the use of four or more baselines as topographically distinct as possible from one another, and the withdrawal and reintroduction of treatment for the correlated baseline (as in a B-A-B design). While this latter strategy is designed to demonstrate the controlling effects of the target response, a true reversal is not possible and this recommendation applies best to the specific techniques of feedback, reinforcement, and modelling (Barlow and Hersen, 1984).

However, although the ability to demonstrate the controlling effects of a treatment variable is weaker with a multiple baseline, a major advantage is that this design fosters simultaneous measurement of several concurrent targets. This, in turn, allows for a closer approximation to naturalistic conditions and an analysis of co-variation among target behaviours.

Alternative Treatment Design

Barlow and Hayes (1979) note that the primary reason for the development of an alternating treatment design was that the effects of two or more treatments could not be compared using reversal, withdrawal, or multiple baseline designs. Such com-

parisons could be of value as they would control intra-subject variability in a more convincing fashion than was possible with group research (Sidman, 1960; Barlow and Hersen, 1984).

The design involves the rapid alteration of two or more treatments—for example, each time a person is seen he or she participates in alternative treatments—following the baseline period. The order of treatments is randomized to control for sequential confounding, relevant experimental factors are counter-balanced with non-experimental factors, and a minimum of two data points for each treatment is advocated (Barlow and Hersen, 1984).

A major problem with this design has been the difficulty of ensuring the generalization of treatment effects across experimental conditions, thus confounding treatment effects and diminishing experimental control (e.g. Ollendick *et al.*, 1980). Barlow and Hersen (1984) note that carry-over effects are almost always transient and mostly due to a subject's inability to discriminate among two treatments. Accordingly they suggest the following guidelines to minimize this problem: (a) counterbalancing the order of treatments; (b) separating treatment sessions with time intervals; (c) making slower and more discriminable alterations between treatments.

Random Stimulus Design

A further alternative design that avoids many of the difficulties listed above, is the random stimulus design (Matson and Ollendick, 1982). This design is particularly appropriate in situations where limited subjects are available, and when repeated presen-

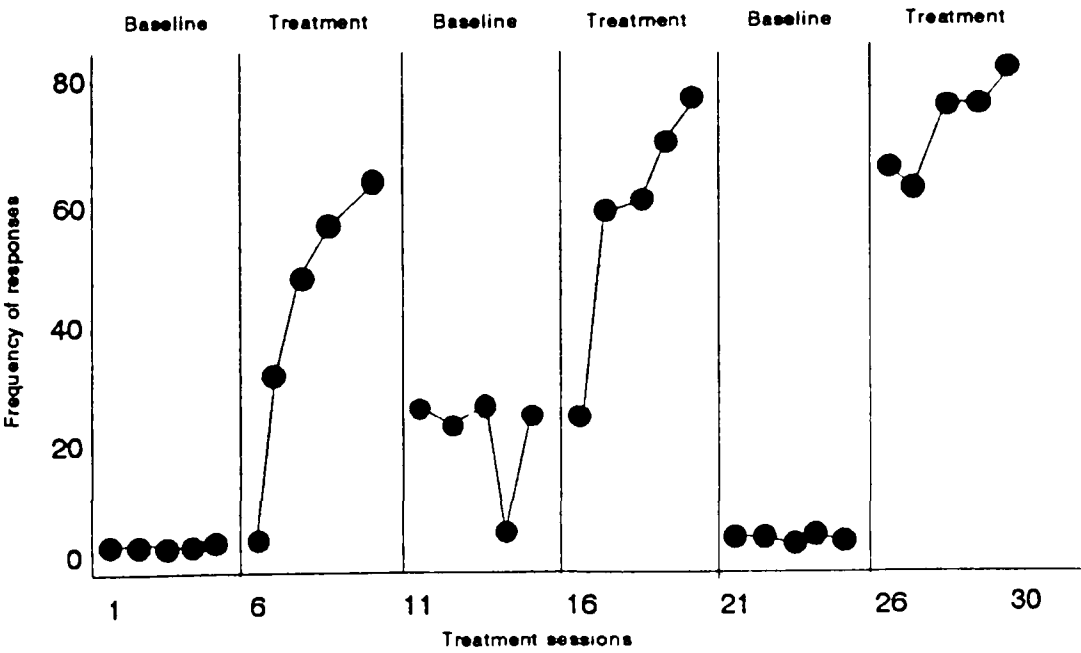


Figure 4. Hypothetical data to illustrate the random stimulus design comparing three baseline and three treatment phases

tations lead to either improvement due to the practice effects or detrimental effects due to boredom or habituation.

An example of this design to assess the effects of positive practise over-correction in the acquisition of correct spelling skills with children is provided by Matson and Ollendick (1982).

The random stimulus design is so named because stimulus items from an initial pool of equally difficult items were randomly selected for alternating baseline and treatment conditions in a reversal fashion. In Matson and Ollendick's (1982) study six cohorts were established each containing eight stimulus words tested over six sessions per cohort. Cohorts were randomly designated as treatment or baseline and then evaluated separately over five consecutive days. While cohorts were alternatively assigned to baseline and treatment conditions in the study, random assignment is possible so that baseline (B) and treatment (T) can be presented in any sequence such as BT BB TT or BTT BT.

The random stimulus design controls for internal validity and obviates many of the problems of reversal and withdrawal designs and lends itself to the repeated comparisons of a given treatment to baseline conditions in the same subject. Although not widely used the advantages of this design (which decreases threats related to boredom, habituation and practise effects) has major implications for the evaluation of children.

DATA EVALUATION IN SINGLE CASE DESIGN

The psychological tradition from which single case designs emerged adheres to a non-statistical point of view (Sidman, 1960). Although statistical techniques such as time series analysis are available, most investigators rely on visual inspection of data to determine change. Visual inspection refers to the process of reaching a judgment about the reliability or consistency of intervention effects by visually examining the graphed data. The guiding philosophy is that researchers should seek strong intervention effects, and that such effects should be apparent from visual inspection of the data (Baer, 1977). Kazdin (1982) has provided criteria for assessing changes in mean and changes in level, related to the magnitude of the effect; as well as changes in trend and latency of effect, related to changes in the rate of the dependent variable. The major problem with these criteria is that they have not been specified in sufficient detail to allow for precise application. Kaz-

din's (1982) text does not reflect recent thinking about graphical displays of data (Cleveland, 1985), nor does it cover exploratory data analytic techniques (Velleman and Hoaglin, 1981) that offer additional tools for the analysis for single case data.

Recent work by Morley and Adams (1991) outlines several contemporary methods for exploring time series data with graphical techniques, including procedures for summarizing the central tendency of data, plotting linear and non-linear trends, and displaying variability and change in variability in time. Since judgments may disagree whether a reliable effect has occurred (Sandvik, 1988), and since weak effects may also be of clinical interest, Morley and Adams (1991) argue that graphical analysis should where possible be conducted in tandem with statistical analysis. When the pattern of data is sufficiently unequivocal for visual inspection to yield consistent interpretations, statistical analysis is unnecessary. Statistical tests may be particularly useful under the following circumstances: when baselines are unstable, in new areas of investigations when weak treatment effects are of interest, when inter-subject variability is high, and when small changes in the effect of the variable are important (Kazdin, 1982). There are several commonly used statistical tests in single case studies.

Conventional *t* and *F* tests can be used but the most serious problem with the application of these tests to single case data is that of serial dependency between data points. Unless computation of auto-correlations has shown that the data are free from such dependency, these tests should not be used. *Time series analysis* is widely advocated to deal with the problem of correlated errors but is rarely used in clinical studies (Gottman, 1981). The major limitations with time series analysis are that it is statistically complex and demands large sets of data ($N > 50$) per experimental phase. Recently however Crosbie (1993) had presented a new, powerful method for single-case analysis of change over time using the interrupted time series design. Interrupted time series analysis (which controls auto-correlation and then uses a *t*-test to assess change) requires very few data before and after the intervention and makes time series methods available to the general clinician for the first time.

Randomization tests can be used to estimate the probability that a more extreme set of data than that obtained if the data were to be rearranged in all possible combinations (Hand, 1982; Edgington, 1984). The use of randomization test requires that the investigator should randomly select an intervention before the start of the study (e.g. Clements

and Hand, 1985). Randomization tests can be applied to most summary statistics and the test has been extended to the analysis of multiple baseline designs (Wampold and Worsham, 1986). However, as Onghena (1992) argues, caution is needed in the use of this test given its statistical limitations.

There are several *nonparametric tests* that can be used to search for trends in data set (Morley and Adams, 1989). These tests can be used with small data sets ($N < 6$) and allow the detection and description of trend and variability within the phases of a single case design. Such tests include the Records test, a test of trend in mean and variance; and the C statistic that tests for changes in trend across different phases (Tryon, 1982). However, Blumberg (1984) has noted typographical errors in Tryon's original paper; while there is debate about the utility of the C statistic (Crosbie, 1989). Other statistical tests include the split middle technique, and Revusky's T-test for multiple baseline data (Kazdin, 1984).

Thus the availability of a range of statistical methods provides the investigator with diverse options for the single case study. Nonetheless, the appropriateness of using statistical criteria for the evaluation of applied behavioural interventions remains a source of controversy. It seems likely, however, that the use of statistics as an adjunct to graphical analysis is likely to increase given concerns over the inter-judge reliability of visual inspection, increased dissemination of statistical analysis for single case designs, and the availability of computer programs.

PITFALLS AND PROBLEMS WITH SINGLE CASE RESEARCH

Despite the advantage with single case research of ruling out major threats to internal validity, there are several methodological 'pitfalls and hassles' with the practice of this style of research (Kratchowill and Williams, 1988). The threats to validity that are particularly relevant to single case research can be classified into four categories: (1) pragmatic issues related to restrictions imposed by setting or subject; (2) variability in the data; (3) measurement issues; (4) issues of generalizability. In addition single case research raises ethical and legal considerations.

Pragmatic Issues

Establishing an adequate *stable baseline* from which to measure changes is critical to all single case

designs, and the baseline phase of the study must contain adequate data. There is no simple formula, but Barlow and Hersen (1984) suggest the following measures: (a) extending the baseline until stability is achieved; (b) the use of trend lines and inferential statistics in computing baseline and treatment trends; (c) assessing systematically the source of variability. To date, however, no completely satisfactory strategy for dealing with the baseline has emerged. As Morley (1989) notes, decisions about the implementation and withdrawal of treatments are governed by the data collected during the study. For example, clinical decisions to introduce a withdrawal treatment in a *reactive* manner (e.g. Glass *et al.*, 1974) are often confounded with naturally occurring changes in behaviour, thus precluding the possibility of investigating a given problem.

In deciding the length of each treatment phase to maximize experimental control, factors such as baseline stability and the magnitude and speed of treatment effect need to be considered (Morley, 1989). Most investigators agree that treatment phases should continue until some stability in the data emerges, although this can lead to widely differing lengths of phases. These strategic difficulties have led Barlow and Hersen (1973) to note the advantages of obtaining a similar number of data points for each phase, although multiple criteria need to be invoked when deciding to shift phase (Kazdin, 1982). The magnitude and rate of change in the data are criteria that are often used although clear decision rules are not widely available, even when invoking 'social validation' criteria (Forehand, 1983).

An issue related to the comparative lengths of baseline and treatment phases is one of *carry-over* effects. Not only is the original baseline not recoverable in some cases (e.g. Hawkins *et al.*, 1966), but sometimes the behaviour undergoes a more rapid modification the second time the treatment variable is introduced (e.g. Zeilberger *et al.*, 1968). Proponents of the group comparison approach (e.g. Bandura, 1969) contend that the presence of carry-over effects in single case research is one of its major shortcomings as an experimental strategy. Both in terms of drug evaluations and with respect to behavioural research short periods of experimentation are recommended to counteract these difficulties.

Variability

Single case studies can be subject to variability in the data that emanates from a variety of individual and environmental influences. While most researchers accept that variability is external rather than in-

trinsic, particularly in applied research, there is less possibility of defining an effective treatment beyond these uncontrolled variables. Indeed, this was a major reason why early group treatment studies produce small effects or weak results (Bergin and Strupp 1972). Repeated measurement of the dependent variable or problem behaviour is one way in which single case design enables the investigator to adjust to the variability with immediate alteration in experimental design to test out hypothesized sources of change—the strategy of ‘response guided experimentation’ (Edgington, 1983, 1984). High variability does, however, make it difficult to interpret treatment effects. Although investigators will occasionally use ‘intra-subject averaging’ or ‘blocking’ to make trends in behaviour more visible, it is preferable to present all data so that other investigators can draw their conclusions.

Measurement Issues

Variations in the data may be accounted for by measurement issues such as observer error, instrumentation effects, and artifacts that accompany measurement such as observer bias or drift. Most of the measurement problems that pose a threat to the validity of single case designs—including the reliability and validity of measurement devices, choice of appropriate dependent variables, and reactivity to repeated measurement and experimenter demand—are also relevant to group designs. The decision regarding type of measure can be difficult, although the best complement to single case experimental designs are direct, continual, repeated, and intra-individual or idiographic measures, rather than inter-individual or normative (Hartmann, 1984). With the use of self-report data on a repetitive basis, there is the possibility that the subject will provide data that confirms to ‘experimental demand’ (Hersen, 1978). While the use of alternate forms and the correlation of self-report measures, motor and physiological indexes of behaviour can address this problem, the discrepancies in verbal and motoric indexes of behaviour have often been highlighted (Barlow *et al.*, 1980). Often the constructs of interest to clinical investigators are not readily amenable to measurement via standardized tests or psychophysiological recording. Targets for change must therefore frequently be measured using behavioural observation (Foster and Cone, 1986). Among the problems inherent in this methodology are observer effects, which involve ‘human’ errors in measurement. The most widely recognized of these problems is *reactivity*, in which subjects respond

atypically because they are aware of being observed (Weick, 1968); *drift* as seen in the decrease in observer accuracy over time (Foster and Cone, 1986); and *bias* that is particularly problematic when global appraisals of behaviour are recorded (Kent *et al.*, 1974). Other problems associated with behavioural observations include maintaining observer reliability, and a tendency to ignore research on individual differences in observation skills when selecting observers (Boice, 1983).

Generalization

Many of the major objections to single case studies concern generalizability. However, the use of a large number of subjects does not, in itself, ensure generalizable findings (Sidman, 1960). A major problem for group research has been generalizing from the performance of groups to individual subjects. This problem is confounded by the statistical criteria used to judge the effects of treatment—which may not be of clinical or individual significance. In contrast, a clear problem with single case experiments lies in generality across subjects, although it has been suggested that information on setting and therapist generality may be more important (Kazdin, 1980). However, proponents of single case studies use the process of logical (non-statistical) generalization (Edgington, 1980) by repeating the same study several times with similar patients. In the view of Barlow and Hersen (1984) such a strategy surpasses the non-factorial group design that cannot easily address the question of generality across therapists and settings, and which may be less effective in accounting for placebo effects. In single case studies, however, rather large effects may be generalizable across a variety of populations, settings and clinical problems (Parsonson and Baer, 1978).

The issue of *replication* in single case design is important as it establishes the reliability and the generality of the phenomena under investigation (Sidman, 1960). Replication involves the repetition of a study through variation of at least five dimensions—subjects, behaviour, settings, procedures, and process (Johnston and Pennypacker, 1980). However, it is often very difficult for one investigator to establish the generalizability of specific experimental effects when replicating across subjects, meaning that collaborative subjects across multiple treatment sites are often necessary.

The notion of *clinical replication* is assuming increasing importance in the literature. Exemplified in the early work of Lovaas with autistic children (Lovaas *et al.*, 1965, 1967; Lovaas and Simmons, 1969), it

Table 1. Types of single case design

| | A:B uncontrolled case design | Basic A:B:A | Complex reversal design | Changing criterion | Multiple baseline including multiple probe ¹ | Alternating treatment design | Combination designs ² |
|--|------------------------------------|----------------|-------------------------------|-----------------------|---|------------------------------------|-------------------------------------|
| Journal of Applied Behaviour Analysis | 1% | 6% | 17% | 0.5% | 52% | 15% | 6.5% |
| Behavioural Psycho- therapy | 33% | 47% | 8% | – | 10% | 2% | – |

¹ Mostly across subject design.
² Mostly multiple baseline with alternating treatment or reversal.

involves the application by the same investigator of a treatment package with two or more distinct procedures to clients with clusters of multiple behaviours or emotional problems.

Ethical and Legal Issues

The application of single case research in a research context raises a number of ethical and legal considerations.

Ethical issues are raised by A-B-A designs (where the paradigm ends on the A or baseline phase, and may deny the subject the full benefit of treatment), by A-B-A-B designs (the withdrawal of effective treatment), and by design strategies that invoke long baseline phases or replication strategies to meet experimental demands. Common concerns also include the right to privacy and informed consent (Kazdin, 1980). The act of labelling a psychologist's work as research makes it subject to the scrutiny of local Research Ethics Committees (Department of Health, 1991) and can highlight concerns that may not be apparent in practice. An example is the ethical and legal problems that arise with those adult patients who are unable to give consent to treatment (Fulford and Howse, 1993). Informed consent re-

quires the researcher to disclose information about the experiment. Kratochwill and Williams (1988) note the problems of deciding whether to inform the client that he or she may be participating in a strategy considered less successful than another readily available treatment. Further, it can be difficult to provide advanced knowledge about the likely outcome of experimental treatments.

While many of these considerations are common to research with human subjects that use different methodologies they are vital considerations for clinicians using single case designs in settings where the line between research and good clinical practice can be difficult to draw.

CURRENT TRENDS IN SINGLE CASE DESIGNS

Two leading journals that publish studies in applied, clinical psychology were examined over the period from 1987 to 1991 to examine current trends in single case design and research. Both the *Journal of Applied Behaviour Analysis* (JABA) and *Behavioural Psychotherapy* (BP, now *Behavioural and Cognitive Psychotherapy*) devote more than one-third of their space to

Table 2. Single case study populations

| | Adult learning difficulties | Develop- mental disability | Children and infants | Psychiatric in-patients | Adult out- patients | Brain injured dementing | Medical illness | Normals |
|--|-----------------------------------|----------------------------------|-------------------------|----------------------------|------------------------|-------------------------------|--------------------|---------|
| Journal of Applied Behaviour Analysis | 57% | 11% | 18% | 0.7% | 4.5% | 3% | 1.5% | 5% |
| Behavioural Psycho- therapy | 39% | 0% | 4% | 20% | 33% | 4% | 4% | 0% |

Table 3. Types of problem

| | Journal of Applied Behavior Analysis | Behavioural Psychotherapy |
|--|--------------------------------------|---------------------------|
| Learning and memory training | 27% | 26% |
| Challenging and problem behaviours (self injury, stereotype) | 22% | 16% |
| Social skills/speech and conversation skills training | 21% | 4% |
| Anxiety/phobias | 1.5% | 20% |
| Schizophrenia | — | 14% |
| Staff/parent training | 8% | — |
| Activities of daily living/work adjustment | 8% | — |
| Disorders of eating, sleeping and drug use | 6% | 8% |
| Habit disorders, incontinence obsessive-compulsive disorder | 2.5% | 8% |
| Medical illness and pain | 3% | 2% |
| Sports performance | 0.7% | 4% |

studies using single case design methodology (59% JAB; 37% BP). This compares with a figure of 45% single case reports in 272 studies in chronic psychiatric patients that appeared in nine journals between 1963 and 1988 (Scotti *et al.*, 1993). JABA articles in the main employ more sophisticated single case design, mainly multiple baselines (52%) across subjects, while A-B (33%) or A-B-A (47%) designs are most frequent in BP (see Table 1).

Table 2 shows that the most common study population in both journals are people with learning difficulties (JABA 57%; BP 39%). Psychiatric in-patients (20%) and adult out-patients (33%) are represented in BP's single case studies but account for less than 5% of JABA's. Individuals with developmental disabilities are the subject of 11% of the JABA case studies but this population are not represented in BP (see Table 3). These findings are reflected in the analysis of the types of problem addressed by the studies: learning, memory training and challenging and problem behaviour account for over 40% of articles in both journals. More JABA articles focus on social and speech skills (21% versus 4%), while BP articles deal with anxiety and phobic anxiety (20% versus 4%), while BP articles deal with anxiety and phobic anxiety (20% versus 1.5%), and schizophrenia (14% versus 0%). The findings concur with a current trend identified by Scotti *et al.* (1993) whereby the employment of treatment techniques

using verbal and instructional strategies (e.g. cognitive behavioural techniques, self-control procedures) are most likely to be employed with mood disorders, while techniques more directly linked to basic behavioural principals (e.g. contingency management strategies), are more often selected for those participants included in the categories of organic mental disorder, adult learning difficulties, and psychiatric inpatients.

A major difference between journals is the emphasis in BP on single case studies that focus on only cognitive variables (23% versus 0%), or cognitive and behavioural variables (28% versus 8%). In contrast, 92% of the JABA articles (versus 49% in BP) involve only the study of overt behaviour. It is not surprising that the dependent variables reflect this difference in emphasis. Self-report, including the use of structured questionnaires, is used in 32% of studies published in BP as opposed to less than 1% in JABA. Alternatively, 92% of the JABA articles were used for behavioural observation, compared to 44% in BP; while a combination of behavioural observations and self-report was used in 24% of BP and 7% of JABA articles respectively.

Most studies published in JABA (92%) relied on visual inspection of graphed data as the only method of data analysis. However, 19% of the single case studies published in BP used statistical analysis in addition to visual inspection.

Few trends are apparent in either journal over the five-year period, but a tendency for target behaviours and treatment to be differentially selected on the basis of specific diagnostic criteria is apparent (Scotti *et al.*, 1993). Kunkel (1987), commenting on the future of JABA in its 20th year of publication concluded that it continued to be largely devoted to research with one or a few limited problem activities (and deficits) of children and patients in various institutional settings. This would appear still to be the case, although an absence of studies of chronic psychiatric patients continues despite the roots of behavioural psychology in the treatment of this group.

DISCUSSION

Single case designs expand the province of clinical research beyond what is possible with group designs, and are uniquely suited to the practical and clinical realities of applied research. Further, single case designs offer the means to develop the replications necessary for empirically based confidence in clinical procedures (Watts, 1984). Finally, single

case designs are particularly useful in assessing the clinical value for the individual of the statistically significant findings of group designs (Barlow, 1981). However, as Kratochwill and Piersel (1983) note, single case research faces the problems of embracing a measurement paradigm that argues for the use of idemnotic measures involving direct and continual assessment of behaviour. Further, using research design strategies involving replications to argue for the effect of treatment is often not compatible with the demands of practice in clinical settings where there is often minimal encouragement for research (Haynes *et al.*, 1987). Consequently, it may be as yet premature to envisage a health service where practitioners will integrate single case research into their professional practice.

In terms of future trends, there are two strands of development that appear might be predicted. The first is an increasing use of more sophisticated designs, with complex methods of statistical analysis, across a broadening field of application. The second, as reflected in *Behavioural Psychotherapy*, is an increasing emphasis on the inclusion of cognitive variables in single case studies. Indeed psychotherapy research has in recent years witnessed a renewed interest in the intensive study of the individual (Jones, 1993). While Hilliard (1993) argues that such research is the only means for testing clinically important hypotheses about within subject change and variation.

The idea that investigators much choose either single case or between group comparisons has stopped some from asking the following question: under what conditions would one type of design be most appropriate? Actuarial or political questions require experiments involving groups, as do experiments where the concern is with the effectiveness of a given procedure on a well-defined group (e.g. a classroom). Further a blurring of the distinctions between design options is becoming increasingly apparent in psychological journal articles with reports of, for example, group study data in which patients are individually described and repeated measures of their progress are taken (Barlow and Hersen, 1984). This procedure allows for both statistical analyses and the reporting of change in clinically relevant terms. Combinations of group and single case research such as the Vanderbilt group project (e.g. Strupp, 1990) and the Bernese comparative treatment study (Grawe, 1992) are promising and deserve systematic exploration. In all cases the experimenter needs to make a reasoned choice between design options. Thus there is a need to move away from extremist research positions that advo-

cate either a 'single case only' or the use of the qualitative 'good case study' as the method of choice. Indeed, interventions in the mental health arena have frequently been characterized by cultism, or an attachment to a particular technique or theory based on emotionalism and group pressure. Several authors remind us that the scientific process incorporates a variety of observational, presumptive and inferential processes, and rightly uses a variety of strategies, approaches, methods, tools, and procedures (e.g. Tuma, 1982). While the fundamental rules and criteria that govern this enterprise remain constant, the specific prevailing concepts and methods of pursuit vary in popularity and acceptance among scientists over time and from field to field (Meehl, 1967). This ever-changing state of affairs calls into question any attempt to impose methodological injunctions on an entire field. Currently single case designs constitute fundamental research tools that are especially suitable for clinical investigations and in some cases for the clinician's daily work as well.

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The following four papers (Long & Cordle, 1982; Long & Smith, 1990; Long & Hollin, in press; Bloxham, Long, Alderman & Hollin 1993) are examples of single case studies that have used a cognitive behavioural or behavioural approach to treatment and are, therefore, in a therapy tradition that makes much use of case study material, (eg, Hersen & Last, 1985; Emery, et al, 1981). All are concerned with the treatment of eating disorders, three with approaches to areas where few previous guidelines existed. As such, they are examples of "interesting cases" (Sturmey, 1991), at one end of a research continuum that ranges from description to theory (Eckstein, 1995) and which it is hoped will contribute to the development of "case law" (Bromley, 1986).

Edwards (1989) identifies four points on a continuum from description to theory on which to locate an individual case study:

- a) The exploratory-descriptive case study.
- b) A descriptive dialogue case study (the first step in theory construction, a search for a framework to make sense of the description and to articulate it adequately).
- c) The theoretical-heuristic case study (concerned with vigorously developing or testing existing theory since selected cases furnish a means of testing specific principles, generalisations or hypotheses - Eckstein, 1975).
- d) The crucial or test case study of a particular theoretical position.

Despite the traditional view that case studies are pre-experimental and incapable of yielding valid conclusions, they preserve external validity (generalisability of conclusions) while using logical inference to enhance internal validity (establishing causal relationships). Even evidence bearing on effectiveness of therapeutic interventions can be obtained from single case studies (Kazdin, 1981). Factors that contribute to evidence for the conclusion that

positive outcome is related to the intervention include: where the problem is chronic (as opposed to acute), where therapy changes are immediate and large, and where outcome is assessed by a series of repeated measures.

Single case study research is, in the opinion of Salkovskis' (1984), synonymous with Watts' (1984) notion of "applicable" research in the National Health Service where the primary goal is to "solve a problem rather than make a general contribution to knowledge". To overcome the very real constraints on psychologists undertaking single case research, Stanley (1985) suggests ways of overcoming factors of "avoidance" "extinction" and "punishment" via the adoption of practical and internally valid single case designs, including the periodic treatment design (Hayes, 1981), the repeated pre-test post-test design (Thier & Curtiss, 1983) and the non-concurrent multiple baseline (Watson & Workman, 1981). Barlow (1980) further recommends the A-B design to clinicians as a strategy of first resort since the routine collection of demographic data made available to corroborate successes, and failures, would constitute "one enormous step forward that would greatly extend our data base". Case studies of this type also provide a context in which clinicians can develop skilful reflective thinking (Schon, 1987). The first case study in this section is an example of an A-B-A design and reports the results of identical treatment strategies being used by two psychologist colleagues with patients whose presenting clinical problem was binge eating and self-induced vomiting (bulimia nervosa).

This paper, which was among the first to describe the successful treatment of this condition using cognitive behavioural strategies, is included as an example of the importance of publishing promising clinical approaches to emerging clinical problems in order to act as a stimulus to controlled research trials (Long & Cordle, 1982).

In their qualitative review of psychosocial treatments of bulimia Cox & Merkel (1989) assign quality point ratings to group and single case treatment studies using outcome psychotherapy criteria developed by Luborsky, et al, (1975) and Gurman & Kniskern (1978). Of 30 individual treatment studies published only 5 scored above a level that delineated sound from unsound research. The Long & Cordle (1982) study, which was published in the British Journal of Medical Psychology is re-produced overleaf and met the criteria for "sound" research (Cox & Merkel, 1989).

Ref: Long, C.G. & Cordle, C. J. (1982) Psychological treatment of binge eating and self-induced vomiting. British Journal of Medical Psychology 55, 139-145.

Psychological treatment of binge eating and self-induced vomiting

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The literature on an eating disorder characterized by bingeing with vomiting and/or purging behaviour is reviewed. An individualized therapeutic approach using behavioural techniques with cognitive modelling and dietary education is advocated and supported by case illustrations.

An eating disorder characterized primarily by bingeing with vomiting and/or purging behaviour has attracted increasing attention over the last decade and given rise to a variety of labels: 'thin fat' (Bruch, 1973); 'bulimarexia' (Boskind-Lodahl, 1976); 'dietary chaos syndrome' (Palmer, 1979); and 'bulimia nervosa' (Russell, 1979). It occurs predominantly in women and is distinct from anorexia nervosa.

In 1973 Bruch noted that the 'college crowd' had revived the Roman custom of regurgitation after indulging in large meals as a commonplace method of controlling weight. Two years later Boskind-Lodahl (1976) reported her observations on 138 'bulimarexics' treated at Cornell University, and more recently a British study by Russell (1979) has described a group of 30 patients suffering from 'bulimia nervosa'. The patients in both these studies were characterized by a cyclical eating pattern where an irresistible urge to overeat was followed by habitual self-induced vomiting and/or purging in an attempt to counteract the effects of ingesting excessive food. They were preoccupied with food, had a morbid fear of becoming fat and exhibited a distorted body image. Feelings of guilt and shame led to great secrecy about the behaviour. In addition, Russell (1979) found depressive symptoms to be a common feature of his patients' mental state. A majority also had a history of true or cryptic anorexia nervosa. Although two-thirds of the sample were below a 'healthy' weight, they differed from anorexics in being heavier, more active sexually and more likely to menstruate regularly and remain fertile. Palmer's (1979) definition of the 'dietary chaos syndrome' whilst encompassing the characteristics of both 'bulimarexia' and 'bulimia nervosa' also includes features such as markedly idiosyncratic food choice and mastication of food without swallowing.

The disorder is poorly understood and its aetiology remains largely unknown. Bruch (1973) maintains that psychiatric exploration of these women reveals severe underlying psychopathology and an unrealistic approach to life, and Boskind-Lodahl (1976) relates the problem to a struggle to achieve a perfect stereotyped feminine role. Russell (1979) describes the role of self-perpetuating psychological and pathophysiological mechanisms and postulates a hypothalamic response to suboptimal body weight to account for binge eating. Another author (Welch, 1979) has stressed the obsessional-compulsive nature of the disorder.

Despite these differing viewpoints it is generally agreed that the disorder is difficult to treat. While follow-up studies of anorexics (Theander, 1970; Beumont *et al.*, 1976; Hsu *et al.*, 1979) had not subdivided their samples into those with bulimia preceding vomiting and those without, all have reported an association between self-induced vomiting and a more serious prognosis. Palmer (1979) comments that the 'dietary chaos syndrome' is a 'difficult one to manage' and Russell's (1979) preliminary observations 'supports the view that the prognosis is less favourable than in true anorexia nervosa'. In three illustrative case histories psychiatric treatment, including hospitalization and supportive psychotherapy, was unsuccessful (Russell, 1979). The psychoanalytic treatment of 'Gloria' (Bruch, 1973)

was aimed at the development of a more realistic self-concept. Although eating binges gradually disappeared, treatment was 'long and painstaking' and few details of the therapeutic process or of the duration of the symptoms were given. Although some subjects with certain patterns of impulsive bulimia may respond to anticonvulsants (Green & Rau, 1974; Wermuth *et al.*, 1977) antidepressant therapy and the use of appetite suppressants fail to influence the course of the eating disorder (Russell, 1979).

Boskind-Lodahl & White (1978) have reported a pilot study of 13 college women with 'bulimarexia' who were followed up one year after treatment. Their response to a group therapy programme incorporating a feminist perspective with an experiential-behavioural orientation was compared with that of a waiting list control group. Issues central to treatment were the personal isolation and shame of the clients, their relationship problems with parents and men, and issues of sexuality. In addition to progress via catharsis and insight the following techniques were employed: daily journals, weekly goal contracting, assertiveness training with role playing and sensory awareness, and guided fantasy exercises. The treatment group met weekly for 11 two-hour periods in addition to a six-hour marathon session.

Interpretation of the results of the study is complicated by the fact that subjects were not randomly assigned to treatment and control groups. Although in four cases the bingeing with vomiting and/or purging behaviour ceased and in six other cases was less frequent, no attempt was made to compare these results with those for the controls. The pre- and post-therapy incidence of the behaviour is not documented and no attempt was made to link response to therapy with the severity of the presenting disorder. Several women required subsequent therapy following the group experience and the authors concluded that the programme did 'not prove sufficient to alter critical aspects of this syndrome'.

Thus while intensive group therapy would appear to benefit a proportion of subjects it seems likely that the 'bulimarexics' described are a highly selected sample unrepresentative of patients seen in the clinical setting. The lack of attention to eating patterns may account, in part, for the poor response to treatment. In addition, it is likely that the differing symptom combinations of this disorder merit detailed individual assessment. Welch's (1979) report of the successful behavioural treatment of a 28-year-old woman with compulsive vomiting and obsessional thoughts concerning body weight and size is an example of this. It has been objected that behaviour therapy addresses only the consummatory aspects of 'bulimarexia' (Boskind-Lodahl & White, 1978) and further, that although operant techniques may be effective, aberrant eating patterns often return after therapy (Bruch, 1974). Two cases presented here describe the successful application of behavioural techniques to binge eating and self-induced vomiting, and their effectiveness at follow-up. Both cases were unselected being the first of their type referred to the authors' respective psychology departments. Subsequently two similar cases have been referred to both the authors' units and they have been successfully treated with the same techniques. The length of the therapeutic involvement necessary illustrates both the therapeutic challenge the disorder presents and the inadvisability of considering such clients as a homogeneous group.

Method

Subjects

Client A was a 28-year-old teacher referred while undergoing out-patient treatment for depression. Her bingeing/vomiting behaviour of eight years' duration began at a time when she was unmarried and pregnant and living in a home for unmarried mothers. Despite the fact that she was a thin 7 stone 10lb (height 5' 5") she felt fat, was excessively concerned about weight gain, and vainly attempted to maintain a daily intake of 800 calories. Her dieting behaviour had become increasingly rigid over time, such that she could eat only fruit, vegetables, cottage cheese and breakfast cereal

without guilt feelings and would keep only a day's supply of food at her flat. A sequence in which vast quantities of fattening foods were ingested for a period of up to two hours would be terminated by self-induced vomiting and a cleansing ritual. Attempts to eat a normal meal with her family were unsuccessful. Her obsession with food was such that she thought continually of it during the day and dreamt of it at night. In addition she complained of fatigue and episodes of dizziness. The client had attempted to cope with her problem by handing financial control over to her mother, but had responded by shoplifting food to eat and was financially embarrassed by the habit. Following a series of unsatisfactory relationships her life-style had become increasingly solitary over the last two years, such that her parents were her only social outlet. She felt herself to be very dislikable and this was confirmed by her very low score on a shortened version of the Coopersmith Self-Esteem Inventory (Robinson & Shaver, 1973).

Client B was a 27-year-old graduate (5' 7" tall, 9 stone 3 lb in weight) whose history of bingeing and vomiting began when she was 17 after a period of trying to lose weight on a strict protein diet. Over the following year she began to induce vomiting in reponse to the guilt she experienced after eating fattening foods. This was the beginning of a regular pattern of bingeing and vomiting which became a daily habit when she went to university, and had been present intermittently, and in varying degrees of severity, since that time. Although from the onset of her problem her weight had fluctuated between 8 stone 12 lb and 9 stone 7 lb, she was preoccupied with an 'ideal' weight of 8 stone. She also complained of being preoccupied with thoughts of eating, and weighed herself daily. Her eating pattern was irregular: she would typically fast all day or nibble the 'wrong' foods, and then gorge herself on large quantities of fattening foods (cakes, puddings, chocolate, etc.) in the evening before making herself sick. Although she coped well with a demanding job in computing, she complained of fatigue, low back pain, and frequent loss of voice, which she attributed to her chaotic eating habits. Despite being attractive and intelligent she had low self-confidence and self-esteem, and regarded herself as a failure, particularly in not meeting her parents' expectations. She was involved in a very unsatisfactory relationship with a man who was violent and abusive to her in a number of ways, which on several occasions had driven her in desperation to take minor overdoses. She led a very restricted social life with no other close friends.

Procedure

Base-line. After the initial assessment interview each client was asked to keep a daily record of their food intake and incidences of bingeing and vomiting over a two-week period to provide a base-line measure. Their body weight was also measured.

Treatment. Each client was seen initially on a weekly basis for hourly treatment sessions. Therapy involved 40 one-hour sessions over a 10-month period for client A (treated by the male author) and 12 one-hour sessions over three months for client B (treated by the female author). The treatment techniques used with both patients were:

(1) *Behavioural self-control procedures:* (a) self-monitoring of bingeing/vomiting episodes, their precipitating factors and accompanying emotions, and food intake; (b) weekly self-targetting of the number of bingeing/vomiting episodes and visual display of progress via a graph in the therapist's office; (c) positive reinforcement consisting of general praise at each session when the target was achieved; (d) stimulus control, including relaxation training (since some binges were stress related) and fewer weight checks; (e) time-graduated response delay (Welch, 1979) to increase the interval between the chain of events leading to vomiting.

(2) *Dietary education.* Careful examination of each client's eating behaviour was the basis for the negotiated introduction of additional foods to their diet. Specific advice was given for changing their pattern of eating towards three balanced meals per day, and they were also encouraged to increase the amount and variety of foods kept at home. The negative effects of repeated vomiting were discussed and their fatigue was attributed to insufficient carbohydrate intake (Bloom & Azar, 1963). The food thoughts and dreams of client A were explained as characteristic of semi-starving subjects (Keys *et al.*, 1950). The aim of these procedures was to decrease the size of the clients' 'blacklists' of foods with a view to eroding binge cues and counteracting selective receptiveness to dietary information.

(3) *Cognitive restructuring.* Cognitive modelling of covert assertion and thought-management exercises were employed. These procedures, adapted from Mahoney & Mahoney's (1976) 'cognitive ecology' procedures for weight reduction, were designed to encourage the clients to covertly recognize and evaluate their maladaptive thoughts and feelings when they occurred and to encourage

the use of behaviour-altering skills. In addition, a number of homework assignments involving the active confrontation of intrusive thoughts regarding body weight and size and food intake were encouraged, e.g. observing the food intake of female work colleagues and, in the case of client A, comparing her waist and hip measurements with those of her sister, whose figure she admired despite the fact that she was short and plump. Both clients were encouraged and helped towards accepting a higher weight.

(4) *Resocialization*. This included encouragement to develop outside interests, to re-establish friendship links and to disclose their problem to significant others. Brief assertiveness training sessions were initiated as a basis for these moves, and programmes involving controlled eating in a social context were developed.

Follow-up

Client A—at the end of 10 months' treatment four monthly sessions were undertaken with additional follow-ups at six and nine months.

Client B—after three months' treatment, six monthly sessions were arranged as part of a maintenance programme, with follow-up at 12 months.

Results

The number of bingeing/vomiting episodes decreased quite dramatically in the case of client B from a base-line mean of 11 per week to zero after seven treatment sessions. In the case of client A, the decrease was more gradual from a base-line mean of eight per week to zero after 32 treatment sessions, with bingeing ceasing one month before self-induced vomiting (see Figs 1 and 2). The differing length of therapeutic time necessary was felt to be related to the fact that client B's behaviour was more clearly stress related and episodic. Client A, however, had not experienced a period exceeding two days over the previous three years without bingeing and vomiting. She was, in addition, much more socially isolated and allowed herself a smaller range of foods. It is difficult to speculate how the sex of the

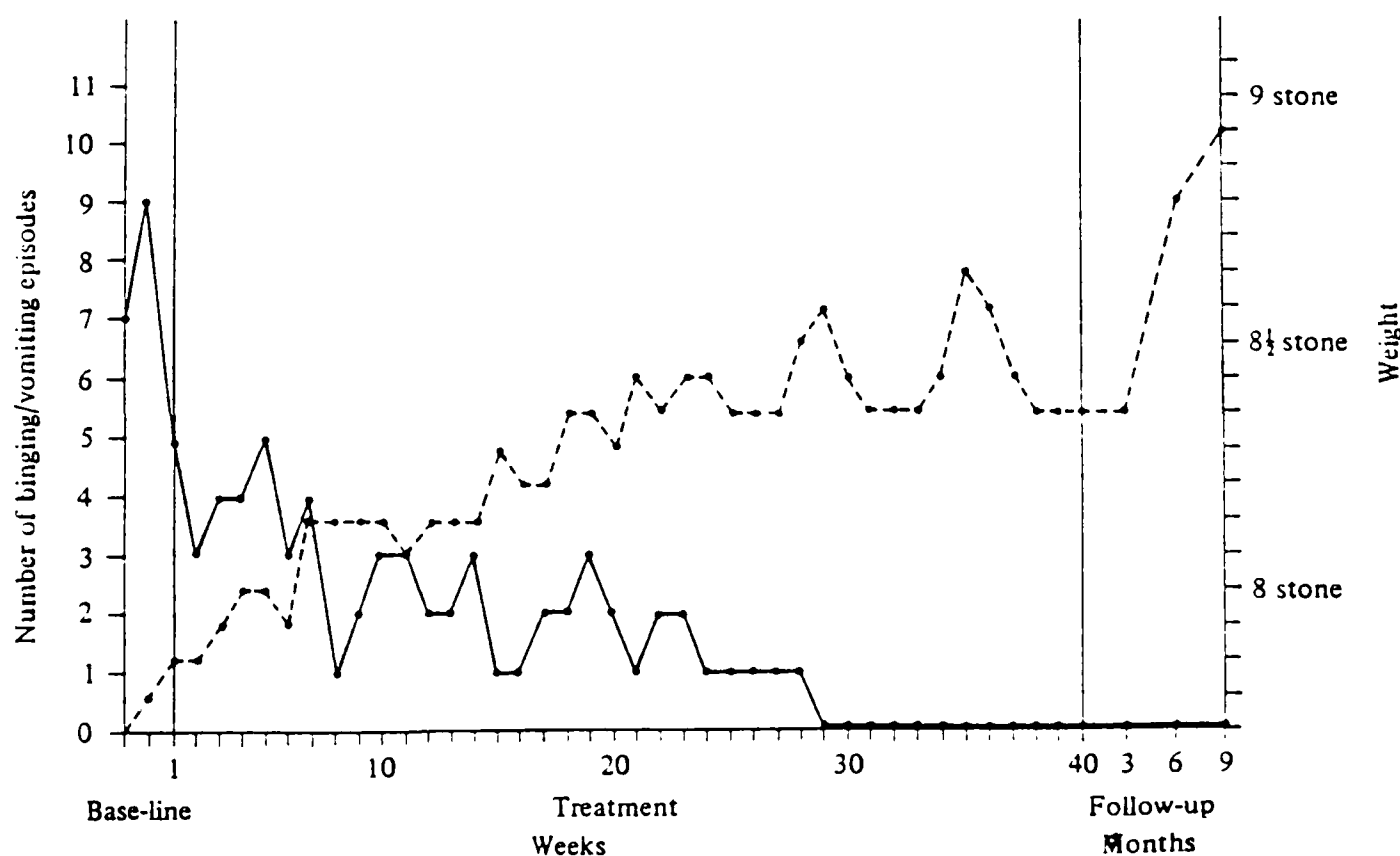


Figure 1. Client A: Incidence of bingeing/vomiting and weight change during treatment and follow-up. ---, weight; —, bingeing/vomiting episodes.

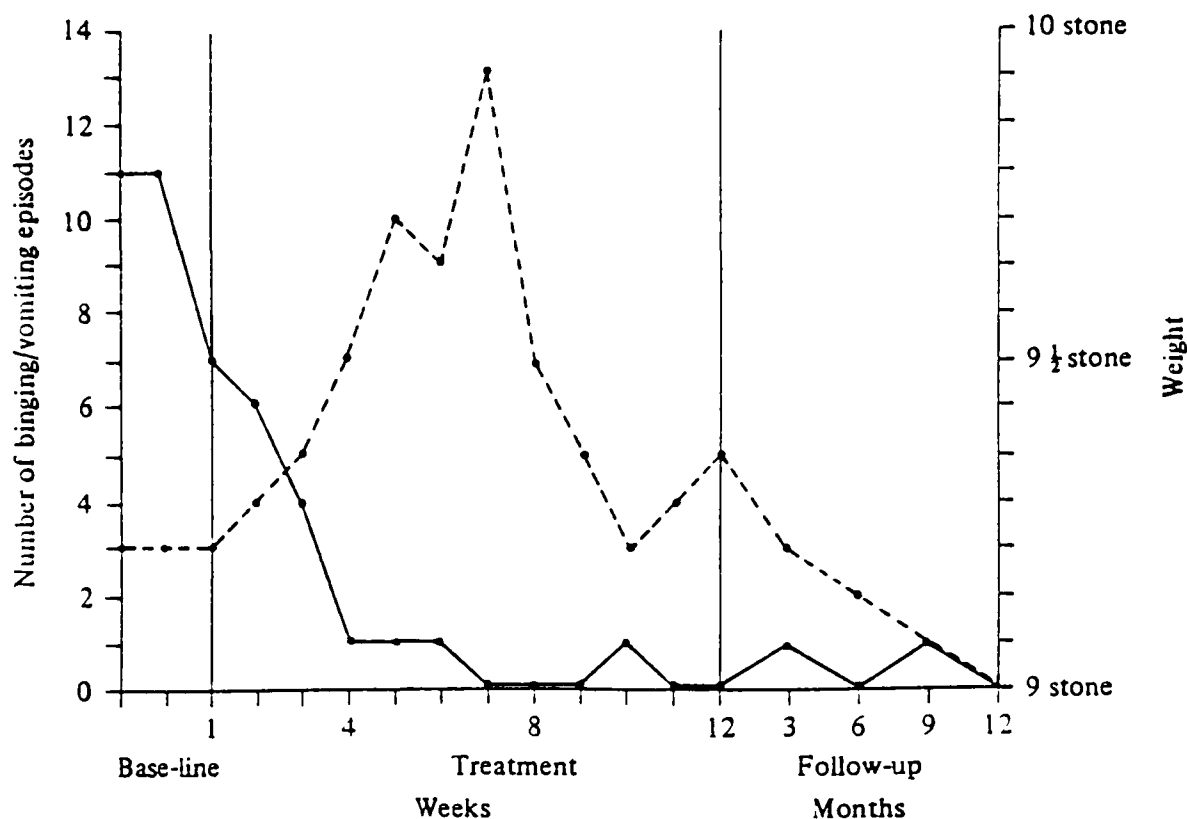


Figure 2. Client B. Incidence of bingeing/vomiting and weight change during treatment and follow-up. ----, weight; —, bingeing/vomiting episodes.

therapist affected treatment although subsequent therapeutic experience suggests that this is secondary to establishing rapport and gaining the trust of the client.

At the end of treatment both clients were eating three regular meals a day. Client A's intake approximated a 2000 calorie food intake and included a large variety of foods formerly avoided (e.g. confectionary, bread, potatoes). They were both able to eat a 'normal' meal in company without subsequent vomiting or purging, were less preoccupied with their body weight and weighed themselves less frequently. Client A's food thoughts and dreams declined with increased food intake as did reports of fatigue and dizziness. Client A became increasingly able to accept gradual weight gain. This rose slowly over treatment and follow up to an acceptable 8 stone 13 lb. The move away from a distorted body image was highlighted by the fact that she was able to loosen old tight clothing and to buy new. Client B's weight fluctuated during treatment and after an initial gain in weight this stabilized at an acceptable 9 stone (see Figs 1 and 2).

Both clients increased their social contracts and activities over the course of treatment, renewing old friends and taking up new interests. Client A entered her first heterosexual relationship in two years and client B finally disengaged herself from her disastrous relationship, which she had previously been unable to do. Follow-up at nine months with client A revealed that this improvement had been maintained and her increased self-confidence was reflected on the Coopersmith Self-Esteem Inventory (her score out of a maximum 25 having risen from 5 to 15). Client B at 12 months follow-up reported one or two isolated incidents of forced vomiting. This period had been particularly stressful with trying to finish the relationship with her possessive and aggressive boyfriend and being made redundant. She had continued to eat regularly and improvement in all other areas was maintained.

Discussion

Thus far reports of intervention strategies have been hopeful (Boskind-Lodahl & White, 1978) and pessimistic (Russell, 1979). This apparent discrepancy would seem to reflect more the different nature of the populations studied rather than the type of therapy employed.

The preponderance of patients with previous episodes of anorexia nervosa in Russell's (1979) study may reflect a bias in patient self-selection at a hospital well known for its treatment of anorexia nervosa (the Royal Free) and accordingly the group described may tentatively be regarded as those with a more severe form of the disorder. Russell's observation that depressive symptoms tended to parallel the overall severity of the eating disorder adds weight to this argument, whereas, in contrast, psychiatric disturbance was not mentioned as characteristic of 'bulimarexics' who 'rarely require hospitalization' (Boskind-Lodahl & White, 1978).

Régimes designed for the treatment of anorexia nervosa may prove unhelpful (Palmer, 1979) for this group of patients and difficulties include low levels of cooperation and the intractable nature of the disorder — 'Whatever form of treatment is offered out-patient supervision is usually needed for several months or years' (Russell, 1979). While it is likely that group treatments of the type described by Boskind-Lodahl & White (1978) may be of benefit if employed in terms of an outreach programme it is doubtful whether this approach would serve to benefit clients at a more advanced stage of their clinical career or those who typically seek help via traditional channels.

It is our contention that out-patient treatment on an individual basis may be a useful alternative to previously described therapies. Sympathetic attention to the client's dietary preoccupations would seem to be a useful means of gaining the rapport necessary for what may be a long-standing therapeutic relationship. Such attention should have an educative function and involve negotiated additions to daily food intake. Fundamental to treatment is the careful use of behavioural procedures with cognitive modelling as part of a comprehensive programme (which may include antidepressant therapy) for a disorder central to which is a loss of self-control. A third important focus of therapy may be described as the resocialization of clients whose problem has effectively isolated them — this may include desensitization to eating in company and social skills training.

As long-term follow-up studies have yet to be undertaken we have little idea of the course of the disorder over time and of whether prior anorexia or the presence of depression is of prognostic significance. The disorder may, as Palmer (1979) suggests, be divisible into subgroups in terms of behaviour or response to treatment. However if, as is suspected, the incidence of bingeing with vomiting and/or purging behaviour is increasing (Russell, 1979) then the need for controlled trials of therapeutic interventions is pressing.

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The following single case study (Long & Smith, 1990) is concerned with the cognitive behavioural treatment of a specific behavioural problem (over-exercising) in a weight recovered patient with anorexia nervosa. Like the Long & Cordle (1982) article that precedes it, it represents an application of established treatment procedures to a problem that has been infrequently described within the treatment literature. An A-B-A design is used along with both visual and statistical (time series) methods of data analysis. While this suggests that treatment is effective (ie, there was an immediate and significant change in over-exercising from introduction of the treatment programme in a patient with a chronic condition), interpretation is confounded (despite multiple measures of psychological distress and eating disorder symptomatology) by the observation that over-exercising may vary with the course of the eating disorder. The full details of the study are:

Long, C.G. & Smith, J. (1990) Treatment of compulsive over-exercising in anorexia nervosa: a case study Behavioural Psychotherapy 18, 295-306

Treatment of Compulsive Over-exercising in Anorexia Nervosa: A Case Study

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Despite being a long recognized feature of Anorexia Nervosa, exercising has been largely neglected as a topic for research and treatment. An increasing cultural emphasis on fitness has highlighted the dangers of becoming addicted to exercise and its role in the development and maintenance of Anorexia Nervosa. Most estimates of the incidence of exercise addiction in the anorexic population are high, and the behaviour would appear to pre- and post-date the eating disorder.

In view of this, the development of an effective treatment method for this particular problem is needed. One such approach that employs cognitive behavioural techniques, including exposure and response prevention is described and illustrated by case example.

Introduction

It is estimated that between one third (Crisp, HSU, Harding and Hartshorn, 1980) and three quarters (King, 1963; Kron, Katz, Gorzynsia and Viner, 1978) of anorexics show a substantially increased level of physical activity. Quantitative studies on the activity levels of patients with Anorexia Nervosa and women using pedometers confirm that anorexic patients are more active than normal (they walk on average 6·8 miles per day, compared to the 4·9 miles walked by normal, average weight women—Stunkard, 1960; Blinder *et al.*, 1970). The traditional view of this was that it reflected either a conscious decision to hasten the desired weight loss by accelerating caloric expenditure or an unconscious denial of the enervating effects of excessive dieting (Katz, 1986). Since this hyperactivity was seen as a secondary phenomena it was assumed that it would be self-correcting with weight restoration and normal eating habits (Crisp, 1967). For this reason perhaps it is only within the past decade that any significant interest has been taken in over-exercising in anorexia nervosa (Kron *et al.* 1978; Touyz, Beamont and Hook, 1987).

Research by Kron *et al.* (1978) has found that, contrary to earlier assumptions, excessive exercise often precedes the onset of the eating disorder and that the majority

of those who regain weight continue to be extremely physically active. A pattern of exercising to excess prior to the development of the eating disorder was characteristic of the majority of 17 patients described by Touyz *et al.* (1987) and the two cases described by Katz (1986). These studies show that excessive exercising is an early and enduring feature of anorexia (Kron *et al.*, 1978) and that excessive exercise such as long distance running can serve as a trigger for eliciting anorexia nervosa in persons "at risk" of developing an eating disorder (Katz, 1986).

Recent work has compared 15 anorexic patients in whom excessive exercising was a cardinal feature with 17 anorexics in whom overactivity was not a major feature (Touyz *et al.*, 1987). The "exercise anorexics" were found to display many of the symptoms of a "Negative addiction" described by Morgan (1979) in normal samples. That is they:

- 1) Required daily exercise and believed they could not live without it (all but one engaged in more than 2 h of strenuous physical activity daily);
- 2) They continued to exercise when it was medically, vocationally and socially contra-indicated;
- 3) They experienced "withdrawal" symptoms (irritability, depression, guilt or anxiety) when their activity was curtailed.

In addition, Touyz found his exercise anorexics to come from sporting families, to be initially motivated by a pursuit of fitness (rather than thinness) and to be engaged in "debting" behaviour (constantly adjusting food intake according to the amount of energy expended in exercise).

However, while treatment studies in anorexia nervosa abound, there is a marked absence of studies describing the treatment of compulsive exercising in anorexia nervosa. Mavisskalian (1982) included 1 h of bed rest (response prevention) after meals for two hospitalized anorexics with a view to overcoming compulsive over-exercising. However, he found that his patients adapted to this only after a "phenomenal number of sessions". A similar strategy using responsive prevention was described as part of a comprehensive multi-disciplinary treatment programme by Touyz and Beamont (1985). Finally, Chalmers, Cattalan, Day and Fairburn (1985) briefly described the successful cognitive behavioural treatment of anorexia nervosa presenting as morbid exercising using an in-patient response prevention programme, but gave few details as to how this was carried out.

Although numerous authors have commented on the phobic and compulsive features of anorexia nervosa—in particular the ritualistic exercising (e.g. Dally, 1969; Crisp, 1965), very few treatment studies, with the exception of Mavisskalian (1982), Chalmers *et al.* (1985), and Touyz *et al.* (1987), have used direct behavioural treatment of phobic compulsive behaviour in anorexia nervosa. The importance of continuing and expanding this line of treatment investigation has been given added weight by studies of obligatory exercising in athletes and others (Dishman, 1985). Kirschenbaum (1987) states that the maintenance of exercise behaviour requires the development of an "obsessive—compulsive style of self-regulation" and elite athletes often develop an obsessive—compulsive style of maintaining their efforts in their

sports. Obsessionality, perfectionism and a willing acceptance of increased physical discomfort and decreased normal socialization are identified by Yates, Leekey and Shisslack (1983) as common in both anorexia nervosa and long distance running. While there are important differences in psychopathology between the two groups (Blumenthal, O'Took and Chang, 1984) data obtained by Goldfarb and Plante (1984) support the contention that obligatory runners and anorexic patients are characterized by high obsessive-compulsive and anxious tendencies. They speculate that "the shared features of anorexia and a problematic programme of obligatory running represent variant manifestations of an underlying obsessive-compulsive disorder".

Case studies described by Touyz *et al.* (1987) using response prevention, however, attest to the difficulty of treating anorexic patients who compulsively over-exercise. The following paper describes a treatment approach for over-active anorexics that varies the above approach by using *exposure* with response prevention supplemented with a number of other cognitive behavioural strategies. The rationale for this treatment strategy was prompted by the following observations:

- 1) The persistence of compulsive/ritual over-exercising in patients following in-patient treatment/weight restoration on our Eating Disorder Unit whose programme routinely uses a sedentary period for reflection after meals.
- 2) The successful treatment of compulsive exercising in non-anorexic patients using exposure with response prevention where the goal is to moderate (not eliminate) the activity and to overcome its compulsive nature (Turner and Beidel, 1988). Indeed, such a treatment goal would seem more acceptable to patients and therapeutically "safer" given the "overweight" outcome for both Mavisskalian's (1982) patients treated with response prevention.
- 3) Finally, it is agreed that since weight restoration is considered an essential prerequisite for psychotherapy in anorexia nervosa then intensive treatment for compulsive exercising should be postponed until this has been achieved.

A treatment approach using cognitive behavioural procedures used at our own Eating Disorders Unit is therefore described and supported by case illustration.

Outline of therapy

Patients are admitted to programmes of therapy for the control of excessive exercising as day, or out-patients (usually following in-patient treatment) if they have maintained their weight within a normal range for a period of 3–4 weeks and continue to over-exercise. The regime involves both group and individual therapy sessions.

Group work

Small group sessions with cases in treatment is concerned with an orientation to therapy and uses motivational interviewing strategies (Miller, 1983); training in self monitoring (many patients are unaware of the extent of their physical activity—Touyz

et al., 1987); education (e.g. on the effects of exercise on weight, training schedules used by athletes, etc); and an individualized decisional matrix (Marlatt, 1985) so that patients can organize and prioritize their reasons for behaviour change. The agreed goals are an absence of a compulsion to exercise, a reduction in the amount of exercise and engagement in exercise for reasons of enjoyment.

Individual sessions

These make use of many elements of the now standard cognitive behavioural approach to Anorexia Nervosa (Garner and Bemis, 1982) but with particular emphasis being placed on the following:

- i) Exposure with Response Prevention (Turner and Beidel, 1988): particularly used where the exercise pattern is very compulsive and rigid in terms of its specification of time, exercise type, place and repetitions and where the individual experiences distress if thwarted.
- ii) Self-targeting of a reduction in activity level, using weekly self-monitoring sheets with an eventual aim of exercise-free days.
- iii) Stimulus control to aid exercise reduction include a variety of strategies (e.g. exercising with a non-anorexic partner; making exercise contingent on a more desired or therapeutic activity. (Premack principle); targeting increasing enjoyment in more sedentary competing activities and this use at high risk times.
- iv) Cognitive techniques include both the monitoring of exercise-related automatic thoughts (Garner and Bemis, 1982) and the rehearsal of coping self-statements (Meichenbaum, 1985) to counteract the anxiety brought on by subjective compulsion to exercise.

Case illustration

J was a 27-year-old policewoman with a 6 year history of Anorexia Nervosa complicated with Bulimia, laxative abuse and over-exercising. She was seen for out-patient treatment of persistent over-exercising following a 15 week in-patient stay aimed at weight restoration and the normalization of eating habits. There was no other concurrent treatment. J was the only child of Ukranian immigrant parents. Difficulties of adjustment were apparent at school where making friends was problematic. Shortly after leaving school at 16 she joined the Police Force and continued to live with her parents. She remained a solitary individual who was happier in the company of her elders rather than her peers and who had few friends of the opposite sex. She was unsure about the suitability of her work and felt uncomfortable with meeting and dealing with the public. Anorexia Nervosa appears to have developed in a context of a grief reaction to the death of her mother, but was preceded by a long period of rigid and excessive exercise. This included swimming 60 lengths of the pool on a daily basis, daily circuit training and walking a minimum of 2 miles per day. She fulfilled the

criteria for Anorexia Nervosa described by the third edition of the Diagnostic Statistical Manual of Mental Disorders (American Psychiatric Association, 1980). Four months after admission, J had made considerable progress in terms of weight maintenance and a more normal diet and episodes of bulimia and laxative abuse had ceased. Free from the restrictions on exercise imposed by parts of the hospital programme, she continued to show compulsive exercise patterns. On attaining out-patient status, her response to an exercise questionnaire (Long, Smith and Cassidy, 1989) covering attitudes to exercise, frequency and type of exercise and knowledge of exercise effects, show that she spent up to 2 h per day in solitary exercise, that she regarded as "compulsive". She swam 60 lengths of the swimming pool at an extremely rapid rate, every other day and walked for between 1 and 6 h on a daily basis. Jogging, aerobics, circuit training and golf were performed on a weekly basis. She walked or ran whenever possible (e.g. would often walk 5 m into town from her village) made many unnecessary journeys for extra exercise. Debting was a major feature of the problem.

J ruminated about exercise and felt she would do more exercise if circumstances were conducive. Feelings of tension, frustration and anxiety were apparent if her regime was thwarted and she would adjust her food intake according to small fluctuations in her exercise level.

J's stated reasons for exercise were to control negative mood states, for fitness and because swimming provided an activity that she could be good at. Finally, she had a number of misconceptions about the effects of exercise. Despite the above, she recognized that her exercise pattern was excessive and she could only maintain this commitment in the future by neglecting other life goals.

J was seen for a total of 12 treatment sessions. Four of these were group sessions in which she joined other "exercise anorexics". An exposure and response prevention regimen (in which J was stopped at random after brief exposure (maximum 10 lengths) to the water) was used for her compulsive swimming. To facilitate generalization of this, J was asked to switch the time of her usual swim (at first by a few minutes) to allow herself less time to swim by going later to the baths and to enlist a friend to make the activity more enjoyable.

Her walking was tackled by a combination of self-targeting and stimulus control procedures.

Measures of outcome

Self-report measures used included:

- 1) A modified version of the 12-item Commitment to Running questionnaire (Carmack and Martens, 1979) with the word exercise substituted to make it more widely applicable. This scale has proven useful in predicting exercise behaviour among College students enrolled in an endurance conditioning class (Dishman, 1983)
- 2) Self-monitoring, using a daily record form of time, type, duration and frequency of activity together with an estimate of the subjective compulsion to exercise (0–10 scale).

Walking was defined as that undertaken where exercise was the primary motive. For practical reasons no attempt was made to record non-specific activity (agitated pacing).

- 3) A battery of eating and symptom questionnaires, including the Eating Disorders Inventory (Garner *et al.*, 1983) the Brief Symptom Inventory (Derogatis and Spencer, 1982) and the Culture Free Self-Esteem Inventory (Battelle, 1981). The Profile of Mood States (McNair, Lorr and Droppleman, 1981) was completed weekly and a Total Mood Disturbance score was derived as a single global estimate of affective state.

Results

Where applicable results were analysed using Time Series Analysis (Tryon, 1982). Analysis of baseline data over a 4 week period of self-monitoring, showed a reduction in activity level from reported pre-treatment levels. There appeared to have been an interaction between the two most frequently performed types of exercise: while walking increased during the four week baseline period (Time Series Analysis showed a statistically significant trend upwards $Z = 2.20$ $P = 0.5$) there was a decline in the amount of swimming.

Anticipatory and post-session anxiety during exposure and response prevention decreased markedly over six sessions of treatment. J was encouraged to follow each therapist-assisted session with her own self-regulated session at home (Table 1). Over treatment, the mean number of lengths of the pool swum per week decreased from 237 (weeks 1–4) to 35 (weeks 11–14) and the mean number of minutes spent swimming from 188 to 30 (Fig. 1). J's level of walking responded more gradually to self-targeting and stimulus control procedures. A significant downward trend was found in the number of hours spent walking during weeks 11–14 over baseline ($Z = 5.11$ $P \leq 0.001$).

By week 12 she had begun to use public transport regularly for journeys and she developed her concentration for reading and letter writing, by gradually increasing the time spent on these. An increasing ability to use, evaluate and alter maladaptive cognitions (particularly those related to magical thinking) helped her to maintain her weight and her eating at a consistent level. Figure 2 shows that these behavioural

TABLE 1. Effect of exposure to swimming and response prevention on anxiety

| Session | Duration (min) | Lengths of pool swum | Self rated anxiety (0–100) | |
|---------|----------------|----------------------|----------------------------|--------------|
| | | | Pre-session | Post-session |
| 1 | 4.7 | 8 | 90 | 80 |
| 2 | 4.1 | 7 | 85 | 85 |
| 3 | 6.7 | 10 | 25 | 0 |
| 4 | 2.3 | 4 | 60 | 45 |
| 5 | 3.2 | 5 | 10 | 5 |
| 6 | 4.1 | 8 | 10 | 0 |

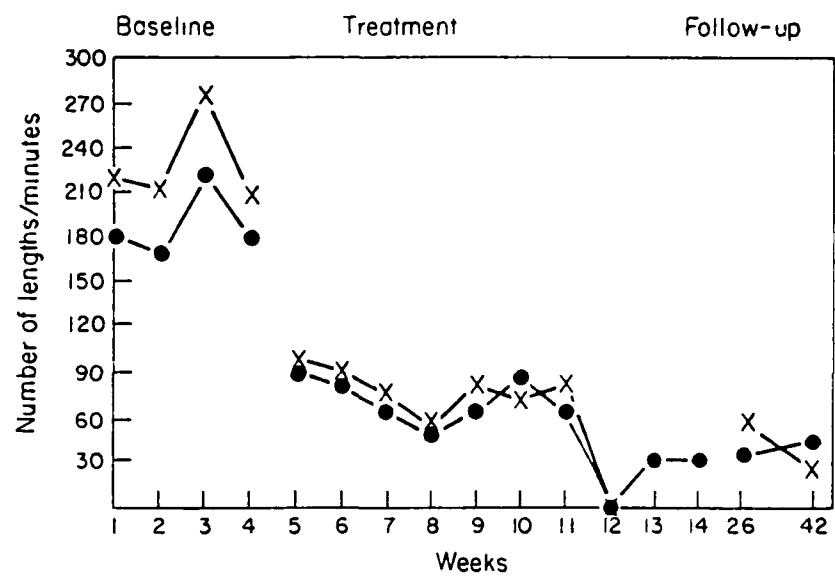


FIGURE 1. Duration and distance of swimming during baseline, treatment and follow-up. —X—, number of lengths; —●—, number of minutes.

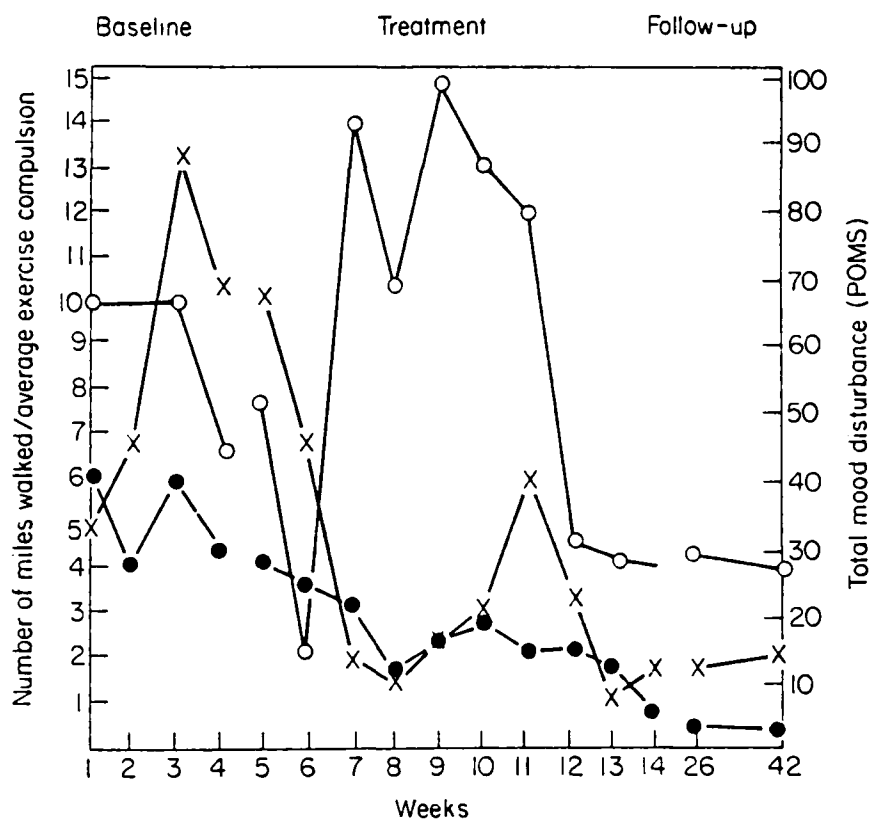


FIGURE 2. Distance walked, total mood disturbance and compulsion to exercise at baseline, treatment and follow-up. —X—, total mood disturbance; —○—, miles walked; —●—, average compulsion to exercise.

changes were paralleled by a significant reduction in her subjective compulsion to exercise in weeks 11–14 ($Z = -2.67$ $P \leq 0.05$) over baseline weeks 1–4 ($Z = 0.34$ NS) and by an improvement in mood as measured by the Profile of Mood States (POMS).

The overall improvement in Total Mood Disturbance on the POMS was reflected in a score typical of normals on four of the six subscales: fatigue and inertia; confusion–bewilderment; tension–anxiety; and depression–dejection.

Similarly ratings on seven out of nine sub-scales of the Brief Symptom Inventory fell within the normal range at post-treatment and follow-up. Only measures of anxiety, anger and hostility showed no significant change. This was accompanied by an increase in personal and general self-esteem as measured by the Culture Free Self-Esteem Inventory.

J's score on the Commitment to Exercise Scale changed from a baseline figure (50) typical of regular runners (Carmack and Martens, 1979) to a score 1 SD outside this range after treatment (40) and follow-up (36).

Mood improvement ratings and exercise reduction mirror a change in the symptoms of her eating disorder. The Eating Disorders Inventory shows a change typical of anorexic patients at the start of treatment to those within the normal range on the sub-scales of Drive for Thinness, Body Dissatisfaction, Ineffectiveness and Interceptive Awareness. This was associated with a normal three meal per day pattern, an estimated daily intake of 1850 kcal and a cessation of vomiting and laxative abuse.

These changes have been maintained at follow-ups at 3 and 6 months, during which time J has maintained a weight within 90% of the agreed target range, and has made a number of lifestyle changes, including leaving home to live independently and taking up different work.

Discussion

The status of excessive activity in anorexia nervosa remains unclear since different investigators view it as a prodromal feature of the disorder (Kron *et al.*, 1978), as a behavioural symptom and as a risk factor for relapse given its tendency to persist after weight restoration. However, a significant number of anorexic patients are not hyperactive. Not all individuals who exercise compulsively are anorexic or become so despite a higher than normal incidence of eating disorders in athletes (Pasman and Thompson, 1988). Further, not all individuals with anorexia nervosa who are excessively active have been premorbidly so, although it may be speculated that the persistence of the behaviour after weight restoration is more likely in those individuals where overactivity provides one of the setting conditions for the disorder. Detailed comparisons of sub groups of anorexic patients are necessary to draw meaningful conclusions in this area.

At an experimental (Thaxton, 1982) and clinical level (Touyz *et al.*, 1987) however, there is evidence to support the conceptualization of hyperactivity in anorexia as a compulsive behaviour. Extreme or excessive behaviours may be present in

a wide range of topographically dissimilar psychological disorders. Orford (1985) has considered the range of addictive behaviours as cases of "excessive appetite" and his social psychological analysis identified common processes that could provide the basis for a unified model of addictions. Despite the fact that there are difficulties at both a theoretical and treatment level in viewing eating disorder behaviour as an addiction (Vandereycken, 1990) such parallelism can serve as a valuable inspiration for therapeutic strategy. In addition to being of help in the treatment of problem drinking (Rankin, Hodgson and Stockwell, 1983) exposure and response prevention strategies have also proved effective in the treatment of eating disorders (e.g. Rosen and Leitenberg, 1982; Smith, 1982; Wilson, Rossiter, Kleifield and Lindholm, 1986). Hodgson (1989) proposes that similar processes are identified or hypothesized "whether we speak of compulsions, addictions, cravings, obsessions, habits or drives" and suggests that treatment of all types of compulsion and addiction should involve exposure to the cues that trigger or fire the compulsive urge.

It is argued that this type of treatment is an important adjunct to therapeutic strategies already applied in helping anorexic patients. It differs from individual cognitive behavioural approaches to anorexia nervosa (Garner and Bemis, 1985) in terms of the emphasis on strategies of exposure and responses prevention ongoing use of stimulus control and in a combination of cognitive approaches. When applied to exercise dependence, it may be important to expose the anorexic to a variety of cues that trigger a compulsive urge, and this should include the exercise itself that is compulsively performed. Perhaps the major benefit of this type of treatment is that exposure to cues can disprove false expectations. In the case study presented, concomitant recordings of mood allowed the patient to observe that this improved as exercise decreased, despite the temporary rise in mood disturbance after the initiation of the regime. Crucial to the effectiveness of this type of approach is the patient's willingness to view the behaviour as problematic, and an undertaking to maintain weight within a specified range during therapy. Engagement of the patient to work on over-exercising cannot be assumed from previous co-operation in therapy, and negotiation of a therapeutic contract after weight restoration may be necessary. Detailed assessment of motivation for exercise and its effects are crucial to successful therapeutic outcome. Identifying exercise as aversive and as a consequence of negative affect may help justify efforts to explore other means of affect regulation (Blumenthal, Rose and Chang, 1985). The issue of which patients would most benefit from this type of treatment is yet unclear, although this approach would in our opinion have merit both in cases where exercise was excessive and where "superstitious" exercise rituals involving minimal energy expenditure are apparent. Clearly treatment must be individualized after the ultimate aim of the exercise is clarified. Although exercise in anorexia nervosa may most often be used as a means of losing weight and balancing calories, (Veale, 1987) behaviour may be maintained for less rational reasons (e.g. as the only way to avoid depression—Blumenthal *et al.*, 1985) and may change over the anorexic career, (Long, Smith and Cassidy, 1989). The motivation must, therefore, determine the exact nature of the individualized treatment offered. The current case study of one chronically anorexic woman does not, of course, allow firm conclusions to be drawn regarding the general efficacy of the type of approach described. However,

the frequency with which hyperactivity remains a problem following more traditional treatment (Kron *et al.*, 1978) and our lack of knowledge concerning whether it fades given a normal weight and eating pattern, suggest this symptom should be routinely addressed in therapy, given the risk it poses for relapse, in a condition that is notoriously difficult to treat.

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306 *Clinical section*

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Although the Long & Smith (1990) study had a follow-up period of 9 months, the extent to which a particular treatment procedure produces lasting effects, continues to be an important concern for both practitioners and researchers alike. The progressive diminishment of therapeutic effects of time both within and across treatments, stresses the importance of examining changes over long time intervals (Mash & Turdal, 1980). This is especially true of eating disorders which are known for their periodic (partial) remissions, where little is known of the natural course of the illness, and where a minimum follow-up of 4 years is advised to permit a determination of the eventual outcome of treatment (Russell, 1992).

The report which follows is a logical development from a single case study (Long & Smith, 1990). It reports a 4 year outcome of six single case studies of patients with anorexia nervosa who received specific additional treatment (described in Long & Smith, 1990) for a problem of excessive exercising. Whilst this is a methodologically adequate follow-up period, its duration makes it more likely that subsequent therapeutic interventions and/or life events might have influenced the evolution that contributed to the patient's actual state. However, it provides a contribution to the "case law" (Bromley, 1986) on the treatment of eating disorder patients who over-exercise and provides a starting point for further scientific enquiry, eg, matched comparisons of over-exercising anorexic patients who do or do not receive specific help with their exercise problem.

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Long, C.G. & Hollin, C.R. (in press) Assessment and management of Eating Disordered patients who over-exercise: a 4 year follow-up of six single case studies.
Journal of Mental Health

**ASSESSMENT AND MANAGEMENT OF EATING DISORDERED PATIENTS
WHO OVER-EXERCISE: A 4-YEAR FOLLOW-UP OF
SIX SINGLE CASE STUDIES**

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and

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SUMMARY

The relationship between excessive exercise and eating disorder, both in terms of aetiology and maintenance, has been widely discussed in the extant literature but there are no treatment guidelines. The utility of a specific cognitive-behavioural treatment, that included exposure with response prevention, targeted at excessive exercise, was examined in six patients with anorexia nervosa. The pooled outcome data, including 4-year follow-up data, from a series of single case studies is presented. The findings suggest that the treatment programme was successful in some cases. A comparison of satisfactory and poor outcome cases indicates a need to evaluate this adjunctive treatment with a larger (controlled) patient sample to assess more accurately its potential additional (relapse prevention) benefit.

Assessment and Management of Eating Disordered Patients Who Over-Exercise: A 4-Year Follow-up of Six Single Case Studies

The importance of excessive exercise as a risk factor in the development and maintenance of eating disorders has been a topic of some debate (Eisler & Le Grange, 1990; Le Grange & Eisler, 1993; Long & Smith, 1990; Touyz, et al, 1987). One of the difficulties in disentangling the findings of such studies is the problem of defining excessive exercise. Although criteria for excessive exercise or dependence do exist (Veale, 1987), a jumble of definitions can be found covering elements from general restlessness through to specific organised exercise routines. To complicate the matter still further, there are estimates as high as 78 per cent of the incidence of hyperactivity among anorexic patients (Davis, et al, 1994; Kron, et al, 1978).

As evinced in the literature, excessive exercise among anorexic patients has largely been ignored as a focus for specific therapeutic intervention. Two possible reasons for this can be suggested. First, a high level of activity is not necessarily an obstacle to weight recovery in anorexic patients since satisfactory levels of weight gain are achieved despite moderately high levels of aerobic and non-aerobic exercise (Beaumont, et al, 1993). Secondly, it has been assumed that the characteristic hyperactivity seen in anorexia nervosa is self-correcting once weight is restored to normal (Crisp, 1967). However, for a number of anorexic patients excessive exercising has been found to pre-date the illness and persist after weight restoration (Kron, et al, 1978). More recently the follow-up study reported by Windauer, et al (1993) showed that many weight-recovered anorexic patients still exercise to excess, although this is often masked by investigations that use very global measures of outcome. There are compelling clinical reasons for giving the behaviour of excessive

exercise a specific relapse prevention focus (Orimoto & Vitousek, 1992), as well as more routinely including its assessment in studies of long-term outcome.

The need for a specific therapeutic focus on excessive exercise can be made on the following lines. First, excessive exercise may place the weight-recovered anorexic at risk of relapse. Kaye, et al (1986) found that in the early months post-treatment weight-recovered anorexics required a higher than normal calorie intake to maintain a stable weight, and a concurrently elevated level of activity. They speculate that these factors could have combined to make continued weight maintenance more difficult. Secondly, excessive exercise hinders resocialisation, and interferes with aspects of daily living (Farrar, 1992). Thirdly, excessive exercise may become the major way of regulating negative emotional states. A recent survey of 21 consecutive anorexic admissions found that controlling negative mood states had become major reasons for exercise (Long, et al, 1993). Finally, excessive exercise may describe a “negative addiction” with a marked compulsive element. Such a state would be characterised by the following features: daily exercise, “withdrawal” symptoms of irritability, anxiety and depression if activity is thwarted, and persistence of exercising despite medical, social and vocational contraindications (Morgan, 1979).

The point has been made that there is a shortage of therapists with extensive experience of treating compulsive or excessive exercisers (Yates, 1991); and, with notable exceptions (eg, Beumont, et al, 1994), little in the way of treatment guidelines. Despite numerous comments on the phobic/compulsive features of anorexia nervosa, very few studies have used a direct behavioural treatment of compulsive behaviour in the eating disorder literature. The extant literature is confined to single case studies, with mixed results, that have used a response prevention approach (Mavissakalian, 1982; Touyz, et al, 1987). While a combination of

cognitive-behavioural techniques, including exposure and response prevention, has looked promising (Chalmers, et al, 1985; Long & Smith, 1990), there has been no adequate follow-up data described for successful outcomes.

This paper describes a 4 year follow-up of 6 cases of anorexia nervosa where excessive exercising was treated. The follow-up study fulfilled the methodological requirement for such an investigation with eating disorder patients (Herzog, et al, 1992).

METHOD

Participants

Six anorexic patients, 5 women and 1 man, were treated following in-patient care for problems, such as intolerance of sedentary activity and disrupted social functioning, caused by persistent excessive exercise. Their mean age of was 26 years (range 14-35 years): 3 had been anorexic for more than 5 years, and all had been anorexic for more than 1 year. In 5 of the 6 cases excessive exercising pre-dated the eating disorder. During an in-patient stay of 100 days average length, all 6 patients achieved weight normalisation, and a marked reduction in psychological distress. The average length of out-patient treatment sessions for problems of excessive exercise was 12 days (range 8-14), with an average of 8.3 sessions of exposure and response prevention (range 4-12).

Patient Selection and Assessment

The six patients selected for the relapse prevention treatment programme, that was run in addition to the standard treatment programme, were anorexic in-patients who displayed a “negative addiction” to exercise. Further, this was often associated with “debting” once they had reached a point in their recovery where their movement was unrestricted, when their weight was within 90% of their normal range, and when they were eating normally. Assessment through a mixture of self-report and observation, carried out in clinical settings, covered the amount, type and duration of exercise, motivation for exercise, compulsivity of the exercise, presence or absence of a negative addiction to exercise, and other symptomatology. Additional treatment was recommended if the assessment showed that

the amount, type and duration of exercise was excessive, if the exercise was compulsively performed, if the patient displayed a "negative addiction" to exercise, and if the activity was linked to the eating disorder.

Treatment Programmes

A two-phase treatment approach, described by Long & Smith (1990), was used for all 6 (consecutively admitted) patients who showed exercise problems in addition to their eating disorder. Phase 1 of the programme was carried out, either in small groups or on an individual basis, by therapists who were both knowledgeable about exercise and who valued its usefulness. This strategy of using "sympathetic" therapists has been found to aid the establishment of therapeutic alliance (Farrar, 1992). Since many patients are in the contemplation stage of change (Prochaska, et al, 1992), work at the motivational level using appropriate consciousness raising strategies of was carried out. This initial work included feed-back and discussion of questionnaire data, self-monitoring of exercise behaviour, and compulsion to exercise, and exercise education. The techniques of motivational interviewing (Miller & Rollnick, 1991) were used throughout both to elicit self-motivational statements and to help patients develop a discrepancy between the desired outcome and their current behaviour. A decisional balance sheet was used to summarise clients' perceived positive and negative effects of exercise change. The agreed goals of treatment were the absence of a compulsion to exercise, a reduction in the amount of exercise, and engagement in exercise for reasons of enjoyment or self-fulfilment.

Phase 2 of treatment utilised a variation of the cognitive-behavioural approach to anorexia nervosa (Garner & Bemis, 1985), emphasising four specific aspects: 1) self-target in

reduction and activity using weekly monitoring sheets; 2) stimulus control strategies; 3) cognitive restructuring to modify exercise related cognitions - that may include fantasies of body deterioration, bloating, and motivational loss if exercise is not carried out - in that patients develop and rehearse a list of coping self-statements in order to handle temptation or urges to exercise to excess; 4) exposure and response prevention (Turner & Beidel, 1988).

Measures

Programme outcome was assessed by interview and self-report questionnaires at pre-treatment, post-treatment, and at 4-year follow-up. The questionnaires were the Morgan-Russell Scales (Morgan & Russell, 1975), the Eating Disorders Inventory (Garner, et al, 1983), the Body Shape Questionnaire (Cooper, et al, 1987), the Brief Symptom Inventory (Derogatis & Spencer, 1982), and the Culture-Free Self-Esteem Inventory (Battle, 1981). Patient self-reports of eating disorder symptomatology were confirmed by a significant other, who also completed the Anorectic Observations Scale (Vandereycken, 1992). Exercise was assessed by the Commitment to Exercise Questionnaire (an adaptation of the Commitment to Running Scale; Carmack & Martens, 1979), and a purpose-designed questionnaire that assessed exercise behaviour and cognitions (Long, et al, 1993).

Follow-up

Patients were contacted by telephone and asked to participate in the follow-up study. All agreed, and were interviewed in person (by the first author) at the Eating Disorder Unit at St Andrew's Hospital. They were also asked to complete the questionnaire measures.

RESULTS

Although data from the 6 patients were pooled, given the small number of participants in this study it was inappropriate to use comparative statistics. The analysis therefore uses descriptive statistics and visual inspection of the data, as is standard practice with single case data (Barlow & Hersen, 1984), to explore for trends and differences in outcome.

Eating Disorder Symptomatology and Psychological Distress

All 6 patients responded well overall to the programme as judged by maintaining their weight during the exercise treatment (relapse prevention) phase. Four had achieved a “good” outcome on the Morgan Russell scales at 4-year follow-up, a conclusion supported both by the selected subscale scores from the Eating Disorder Inventory, and the Brief Symptom Inventory data (see Table 1).

Insert Table 1 About Here

One patient (previously described in Long & Smith, 1990) who showed a good outcome at 6 months post-treatment had lapsed into low weight 1 year later, but this was not associated with increased activity and she recovered without professional intervention. Of the two poor outcomes one patient (male bulimic anorexic) discharged himself prematurely from treatment, but vocationally has continued to function effectively despite low weight. The second poor outcome patient has relapsed on two occasions in the 4-year follow-up period.

Both patients had higher perfectionism scores on this Eating Disorders Inventory subscale (typical of eating disorder populations), at post-treatment and follow-up.

Exercise

Changes in exercise motivation were apparent between the good and poor outcome patients. The latter two patients continued to exercise for reasons concerned with body shape, and increasingly as a means of regulating affect. The good outcome group in contrast showed a significant increase in the use of exercise for social reasons, as well as for fitness.

In contrast with the good outcome group, the poor outcome patients continued to be “negatively addicted” to exercise: that is, they fulfilled all three of Morgan’s (1979) criteria, and their self-rated compulsion to exercise (based on one week’s self-monitoring) was higher at follow-up. Hyperactivity, as assessed by a 5-question subscale of the exercise questionnaire (Long, et al, 1993), did not differ between the good and poor outcomes, nor did scores on the Commitment to Exercise scale. The latter scale, which assesses exercise related cognition, did show that the good outcome group disagreed with the statement that they would “change their schedule to meet the needs to exercise”, and that they saw exercise as less vitally important. The poor outcome patients in contrast to the good were uncertain about their enjoyment of exercise and whether or not they dreaded the thought of it.

Although both of the poor outcome patients continue to exercise at their pre-treatment level, neither resumed those sports (swimming and running) that had been targeted for exposure

and response prevention. Of the good outcome patients, one continues to exercise daily, and has significantly changed her attitude: she reports feeling increasingly embarrassed by her habit despite still feeling compelled to exercise, albeit to a lesser extent.

DISCUSSION

Six patients with anorexia nervosa, who were considered to be at risk of relapse after weight restoration because of their excessive exercising, took part in an adjunctive treatment programme to modify exercising. A 4-year follow-up revealed that four of the 6 had achieved a "good" outcome in terms of recovery from the disorder, and that they had also maintained a normal or significantly decreased level of exercising. In addition, there was evidence of positive changes in exercise related cognitions. The treatment programme was also successful in inhibiting the target exercise sport or behaviour in the two "poor" outcomes; although a similarly high level of activity was maintained by the adoption of substitute activities.

While these findings suggest that the treatment programme is relatively robust, methodological issues such as the small number of patients and the lack of a control group, naturally limit the strength of conclusions that can be drawn from studies of this type. In all six cases the excessive levels of exercise pre-dated the onset of the eating disorder, hence it is unclear whether this patient group are different from those whose exercise problems develop in the context of an eating disorder, perhaps as a substitute for dieting (Le Grange & Eisler, 1993). Further, as there may be sex differences in the predisposing features towards an eating disorder (Anderson, 1992), future outcome research might usefully separate males and females.

Ultimately, firm conclusions can only be based on a knowledge of the natural history of excessive exercise in eating disorder patients, better estimates of the incidence of

excessive exercise using agreed criteria, and on whether the treatment described has benefits additional to those achieved by conventional therapeutic approaches. In this limited series of patients, the outcome for excessive exercising closely paralleled the course of the eating disorder, treatment failures being older, married, and in view of their late onset of the illness, likely to have had a poorer prognosis (Russell, 1992). We remain therefore at the stage of focusing on individual case examples where a specific treatment approach has been adequately followed up. Male anorexics may be more prone to excessive exercising (Sharp et al, 1993), and excessive exercising may be more common in female anorexics who do not binge, vomit or abuse laxatives (Stellefson et al, 1994). A controlled trial of treatment that includes a significant proportion of males, bulimics and restricting and bulimic anorexics, may help answer some of the questions posed.

However, for the moment the findings of this study suggest that there are reasonable grounds for optimism in producing long-term change in the lives of patients with eating disorder.

TABLE 1: EATING DISORDER SYMPTOMATOLOGY AND
PSYCHOLOGICAL DISTRESS IN PATIENTS WITH
ANOREXIA NERVOSA AT PRE & POST-TREATMENT
AND 4-YEAR FOLLOW-UP

| | GOOD OUTCOME (N=4) | | INTERMEDIATE POOR OUTCOME (N=2) | |
|--|-----------------------|-------------|---------------------------------------|-------------|
| | MEAN | (RANGE) | MEAN | (RANGE) |
| * <u>MORGAN RUSSELL SCALE</u> | | | | |
| Pre-treatment | 3.8 | (2.7 - 5) | 4 | (3.1 - 5) |
| Post-treatment | 7.61 | (7 - 9.6) | 9 | (8.1 - 10) |
| Follow-up | 10.4 | (8 - 11.6) | 8-7 | (7.8 - 9.7) |
| * <u>EATING DISORDERS INVENTORY</u> | | | | |
| Pre-Treatment | | | | |
| Drive for Thinness | 14.7 | (10 - 23) | 15 | (16 - 14) |
| Body Dissatisfaction | 19.5 | (15 - 23) | 14 | (9 - 10) |
| Perfectionism | 6 | (1 - 13) | 13.5 | (10 - 17) |
| Post-Treatment | | | | |
| Drive for Thinness | 9.25 | (2 - 16) | 6 | (4 - 8) |
| Body Dissatisfaction | 10 | (4 - 18) | 12.5 | (8 - 17) |
| Perfectionism | 2.25 | (0 - 6) | 10 | (10 - 10) |
| Follow-Up | | | | |
| Drive for Thinness | 6.25 | (0 - 11) | 12 | (6 - 18) |
| Body Dissatisfaction | 10 | (0 - 20) | 14 | (8 & 20) |
| Perfectionism | 1 | (0 - 3) | 10 | (9 & 11) |
| * <u>BRIEF SYMPTOM INVENTORY</u> | | | | |
| Pre-Treatment | | | | |
| General Severity Index | 1.8 | (1.32-2.1) | 2.2 | (2.2-2.2) |
| Post-Treatment | | | | |
| General Severity Index | 1.0 | (0.49-1.45) | 0.9 | (0.5-1.3) |
| Follow-Up | | | | |
| General Severity Index | 1.1 | (0.8-1.32) | 1.45 | (1.0-1.9) |

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The following paper, (Bloxham, Long, Alderman & Hollin, 1993) describes the successful treatment by behavioural methods of a patient with a chronic psychiatric disorder using an A-B-A design. A recent report by Scotti, et al, (1993) documents, via a review of the published literature in 9 journals from 1963 to 1988, a decreased representation in reports of behavioural applications with persons exhibiting such disorders. Indeed, the Journal of Applied Behaviour Analysis contains only 2 treatment reports relating to adults with mental illness after 1980. In the 9 journals studied, research conducted in in-patient treatment settings fell by over a half from the 1960's to the 1980's. These findings were felt to reflect:

- a) The effects of the de-institutionalisation movement,
- b) The fact that demonstrations of meaningful long-term clinical effectiveness is more difficult in these settings,
- c) A lack of comprehensive models of behavioural pathology for chronic psychiatric disorders, such as personality disorders (Staats & Burns, 1992) which handicaps treatment outcome research.

The review highlighted the fact that 45% of studies used single subject format. In most cases (71%) an accepted experimental design (withdrawal, multiple baseline) was employed with 29% of studies using a quasi-experimental design (A-B, pre-treatment/post-treatment only). However, the questionable clinical relevance of interventions that focus on isolated target behaviours (eg, certain activities of daily living skills) as opposed to behaviours that characterise particular disorders (eg, hallucinations, aggression etc) is highlighted along with the fact that 66% of the 272 studies reviewed did not contain any information on functional analysis.

The paper by Bloxham, Long, Alderman & Hollin (1993) includes information on functional analysis, targets key clinical symptoms for intervention and has an adequate post-intervention follow-up. Here, existing theory is used to develop a treatment for problems and treatment efficacy is demonstrated by an immediate and large change in a chronic condition which was assessed by repeated measures (Kazdin, 1981). These factors set the study at the theoretical-heuristic level (Edwards, 1989). The full details are:

Bloxham, G., Long, C.G., Alderman, N. & Hollin, C.R. (1993) The behavioural treatment of self starvation and severe self injury in a patient with borderline personality disorder. Journal of Behaviour Therapy and Experimental Psychiatry 24, 261-267.

THE BEHAVIORAL TREATMENT OF SELF-STARVATION AND SEVERE SELF-INJURY IN A PATIENT WITH BORDERLINE PERSONALITY DISORDER

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Summary — The successful treatment by behavioral methods of self-starvation and self-injury in a 35-year-old psychiatric in-patient, with a diagnosis of borderline personality disorder, is described. An individualized program using positive and negative reinforcers to increase food and fluid intake was used, while a token economy therapeutic milieu with time out was used to decrease acts of self-injury and aggression. Progress in treatment generalized to a non-secure treatment environment, and was maintained at an 8-month follow-up. The study illustrates the differential response of active and passive self injurious behaviors to group-based and individual treatments, respectively.

Self-injurious behavior has been defined by Winchel and Stanley (1991) as “the commission of deliberate harm to one’s own body”. Acts of self-injury range from aggressive mutilation, banging the head and limbs, and picking wounds to poisoning and passive self-neglect (Gardner & Cowdry, 1985).

Winchel and Stanley also note that these acts form different patterns of self-injury which vary with the clinical sub-group, and that there has been a development over the past two decades of a perceived association between self-injurious behavior and borderline personality disorder; this is demonstrated both within the literature and in the structure of DSM-III-R.

The existence of food aversions has been identified (Logue, Phir & Straws, 1981) as a common phenomenon; identified origins include cultural habit, physical and developmental handicap, and social learning, while others are idiopathic (De Silva, 1988). Winchel and Stanley review the accumulation of documented evidence

associating eating disorders and self-injury. Studies of self-injurious populations (Favassa et al., 1989), and of eating disordered populations (Jacobs & Issacs, 1986) demonstrate interchangeable evidence of such an association.

Winchel and Stanley note self-injurious behavior to be a poorly studied phenomenon, with successful treatments being reported for individuals with mental handicap, but remaining elusive for other clinical groups such as those with severe character disorders. Kernbert (1984) comments that a self-injuring patient with borderline personality disorder may benefit from treatment in an environment dedicated to the identification and control of acting out behaviors.

De Silva (1988) suggests that the need for clinical treatment of food aversion is limited to individual cases where the aversion encompasses a wide range of foods (e.g., as in eating disorders such as anorexia and bulimia) since specific aversions may undergo remission (Logue et al., 1981). Treatment of eating disordered individuals,

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however, has variable levels of success in altering, on a permanent basis, the food aversions common in restricting anorexics (Kalucy et al., 1985).

The combination of a triad of symptoms poses a considerable therapeutic challenge. This case study reports the treatment of a severe problem of self-injury and self-starvation, in a female patient with a diagnosis of borderline personality disorder, using a behavior modification approach.

Method

Subject

The patient was a 35-year-old married woman. She first presented to psychiatric care services aged 17, with depressive symptoms. Her social history included strong indication of sexual abuse by males in her immediate family. The patient had also fatally injured her mother in an accident with a shotgun when aged 13; her siblings continued to blame her directly for the loss of their mother.

After leaving school, she completed nurse training, following which she maintained employment in this field for a number of years. On admission she demonstrated intellectual functioning at a level just below the average for her age (WAIS-R FSIQ = 89), indicating a possible deterioration in cognitive ability.

Diagnosis on admission was of a borderline personality disorder. Other mental phenomena included expression of psychotic-type thoughts, and ideas characteristic of obsessional ruminations; these were noted during psychiatric examination, but were not assigned a specific diagnostic label (see Zanarini et al., 1990). The patient's admission followed an escalation of aggressive and self-injurious behaviors during her previous 3 years treatment in a semi-secure environment. During her stay, she proved adept at using manipulative strategies in attempts to exempt herself from standard ward contingencies, or to divide staff opinion concerning her management.

She displayed three behavioral problems of particular concern: self-injury, physical

aggression, and self-starvation. Self-injurious acts took the form of self-strangulation (with clothing or cord), choking (on non-ingestible objects, e.g. clothes, tissues, and batteries), or headbanging. Physical aggression was characterized by attacks on staff, the typical antecedent being their intervention to prevent her from self-injuring. From week six of admission, she engaged in self-starvation, evidenced by complete refusal of all food and fluids; this necessitated nasogastric feeding and hydration four times a day (providing an intake of 2000 calories and 2 liters of fluid daily). Although she expressed dissatisfaction with her weight (i.e. that she was over-weight), she reported her food refusal (starvation) to be a means of harming herself; thus it was viewed as a further aspect of self-injurious behavior.

Anti-psychotic medication (comprising 40 mg flupenthixol decanoate weekly, chlorpromazine 100 mg three times daily, and carbamazepine 400 mg four times daily), with fluoxetine 400 mg nocte for control of ruminative thoughts, remained unchanged during the documented weeks of admission. She was obese (5' 3"/86.4 kg), but otherwise in good general health.

Treatment Environment

The ward provided a secure treatment environment with high staffing levels for a population with severely disturbed behaviors, and/or mental illness. Behavior management was based upon social learning principles (Paul & Lentz, 1977), including the use of a modified token economy and "time out" contingent on physical aggression. As such, it provided a structured treatment environment, together with the flexibility for provision of individual program planning (see Kernberg, 1984).

Measures

Detailed records were kept of nutritional and fluid intake, and of the antecedents and actions involved in self-injurious and aggressive incidents (from which frequencies of these behaviors were calculated; see Figures 1–3).

Psychometric measures including the Brief Symptom Inventory (BSI, Derogatis and Spencer, 1982), and selected subscales of the Eating Disorders Inventory (EDI, Garner, Olmstead & Polivy, 1983) were administered before and after application of the treatment program described below. The EDI was used to evaluate the likelihood of anorexia nervosa existing as the drive for self-starvation; both were used to aid evaluation of treatment.

Treatment

Token economy. The ward employed a modified token economy, with hourly payment of points (in place of tangible tokens) contingent on acceptable social behavior. Points could be exchanged at defined times for items (e.g., canned drinks, cigarettes), and privileges (e.g., access to newspapers or recreation facilities) reinforcing to the individual patient. The provision of hourly verbal feedback and social praise were considered to be central components of the token economy structure. In addition, any incident of actual or attempted physical aggression, or self-injury received a 5 minute period of "time out from positive reinforcement (attention)" in a purpose-built room.

The patient's aggression to others, self-harm, and food refusal were therefore all subject to this basic treatment procedure. Due to the increasing severity and frequency of her aggressive and self-injurious behaviors in the weeks immediately following admission, she was also placed under 24-hour constant observation.

Individual behavior modification program

Setting a baseline. Functional analysis (Samson & McDonnell, 1990) was undertaken to identify factors promoting and maintaining the target behaviors (physical aggression, self-injury, and self-starvation). Such analysis has been effectively employed in the clinical evaluation of both eating disordered patients (Slade, 1982), and the self-injurious (Iwata et al., 1985).

Assessment of her self-starvation through functional analysis indicated that this behavior

was different from all her other acts of self-injury, in that it was passive, i.e., required physical inactivity rather than purposeful action. Functional analysis also indicated that self-starvation was maintained by responses, including expressed concern for her health, time spent with her during feeds, extra staff involved in feeds and observation, her self-imposed exclusion from the meal time, and general ward routine. All of these responses afforded her altered status in comparison with co-patients, and appeared to reinforce the re-occurrence of these behaviors.

Quantitative records of nutritional and fluid intake taken for 4 weeks prior to commencement of the treatment program, indicated all intake to be via nasogastric intubation (carried out four times daily, once at each meal time, and one in the late evening). The problem behavior was therefore shown to be an intransigent aspect of self-injurious behavior (self-starvation) in an individual with extreme behavioral problems.

Program design. Hersen and Barlow (1976) observe that "the use of a reversal design is inappropriate when treatment variables cannot be withdrawn due to ethical considerations"; such considerations "are of paramount importance when the treatment variable is effective in reducing self-destructive behaviors in subjects". Therefore, a program design involving withdrawal of reinforcement for eating at any point in the treatment stage (i.e., an ABAB) format, was considered to be inappropriate. Thus, an ABA format consisting of baseline, treatment, and post-transfer follow-up was adopted.

Program objective. The program aimed to assist the resumption of a normal eating pattern; eating behavior was shaped through successive approximations to a target level of food intake.

Program structure. Both individualized positive reinforcement (for example: social praise; periods of access to her room; and visits to the patient social center), and negative reinforcement (i.e., avoidance of a nasogastric feed) were employed. As progress was achieved and

consolidated, the patient also worked towards long term goals including trips out from the unit.

She was required to attend the dining area with co-patients at each meal time. This increased salient cues to eating through exposure to sight and smell of food, and reduced her isolation from other patients. A meal was offered verbally at breakfast and midday, and a meal was placed in front of her each evening.

All consumption of food was positively reinforced on a graded hierarchy according to her intake; she was also able to avoid the tube feed scheduled for that meal on achieving a minimum level of intake. Intake targets were designed to be highly achievable, for example, the initial level of intake for avoidance of a nasogastric feed was one mouthful at that meal. In the event of a refusal to eat, she was required to remain in the dining area until the meal time was over, after which she received her nasogastric feed. Staff maintained a minimum level of social interaction with her until the feed was completed. Meals comprised foods which the patient indicated a preference for. She was involved in menu selection at the beginning of each week, and consideration was given to attractive presentation of each meal. Portion sizes were regulated with standard serving measures, thus allowing staff to calculate the amount consumed from each meal served. A percentage of each portion was taken to represent a "mouthful" of food, and using this system each meal was served as comprising 22 mouthfuls, giving a total target of 66 mouthfuls per day. Measurement of fluid intake was recorded in milliliters, with a minimum target intake level of 1500 ml per day.

Operation of the program. As target levels of food intake were achieved and consolidated, both the hierarchy of intake targets and the associated hierarchy of positive reinforcers were reviewed and modified in clinical team meetings; regrading took place a total of three times over the course of the treatment program. For example, the minimum intake required for avoidance at a meal was one portion at that meal. Later, all three daytime feeds were admitted when she ate one portion at two meal times per day.

From the outset, the program was designed to target food intake, and did not refer to fluid intake; all staff felt that sensitising the patient to the importance of adequate hydration had the potential of escalating her self-restriction of intake. Generalization of oral intake to include fluids was encouraged in the early weeks of the treatment program by including cans of soft drinks in the list of tangible reinforcers available; these were observed to be a popular choice.

The avoidance of the fourth nasogastric feed (which had not been associated with a meal time at any stage of the treatment program, and which had been valuable as a means of ensuring adequate nutritional and fluid intake), was made contingent on consumption of the target level of daily fluid at week 28 of admission.

Results

The patient's physically aggressive behavior and self-injury (excepting self-starvation), responded well to the standard token economy and use of the time-out room. Collective extinction of these two target behaviors was achieved by week 26 of admission (see Figure 1).

With the implementation of the individualized treatment program, records of oral food intake

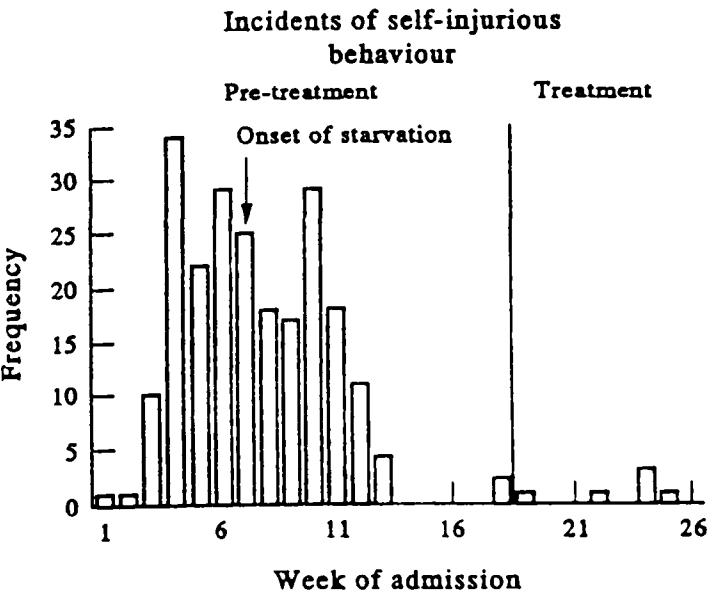


Figure 1.

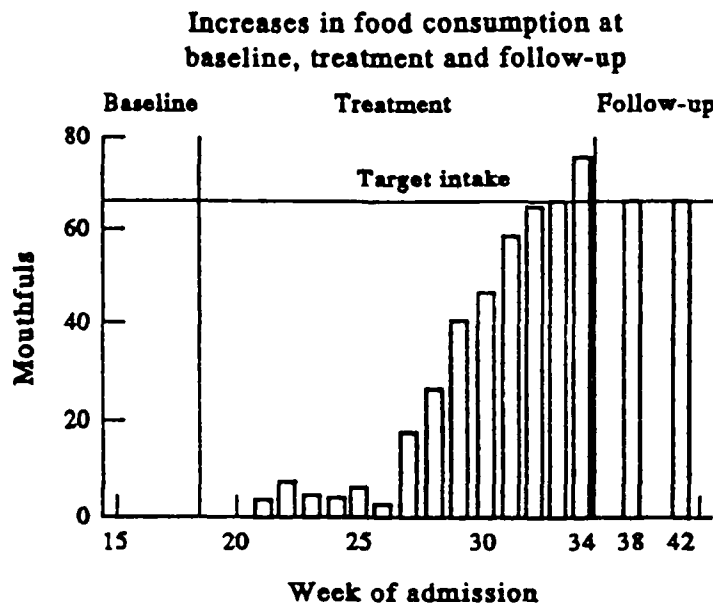


Figure 2.

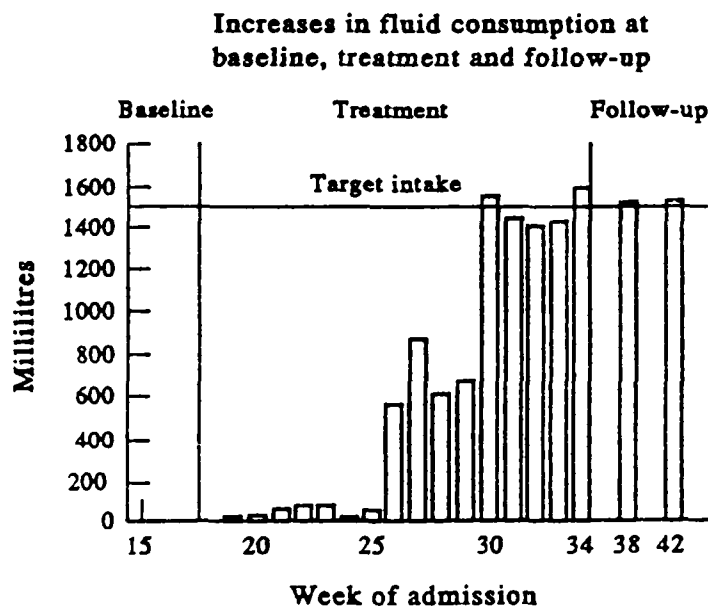


Figure 3.

demonstrate a continuous upward trend in consumption throughout the treatment phase (see Figure 2). These changes were also seen to generalize highly effectively to fluid intake (see Figure 3).

In addition, without the structure of the program, generalization of both oral food and fluid intake occurred spontaneously toward snack times. These became a regular part of her routine from week 31 onward, and allowed staff to employ general social praise rather than structured positive

reinforcement to reward and maintain her progress.

Scores for the hostility subscale and poor appetite item of the BS1 demonstrated a reduction from within the abnormal range pre-treatment, to within normal range on follow-up. Scores on selected subscales of the EDI showed no typical anorexic/bulimic profile pre-treatment. Follow-up administration demonstrated an essentially similar profile, with an increased score for body dissatisfaction compatible with her expressed dissatisfaction with her appearance and weight, the latter rose from 86.4 kg on admission to 93.2 kg on completion of the treatment program. Follow-up of the patient, at 1, 3, and 8 months posttransfer (and thus posttreatment), indicate that these results have been robust. Her weight 8 months posttransfer was 100.4 kg.

Discussion

This patient had an extensive history of disordered behavior which has been shown to be resistant to treatment in psychodynamically orientated settings. However, this study shows that it was possible to modify her aggressive and self-injurious behavior within an environment dedicated to the identification and control of acting out behaviors. This supports Winchel and Stanley's (1991) contention that such an environment can be beneficial for those with a diagnosis of borderline personality disorder, displaying self-injurious behavior. It is interesting to note that while the "active" self-injurious behaviors displayed by this patient, e.g., self-strangulation and choking, responded to the general ward program (see Figure 1), the introduction of an individual treatment program was needed to modify her "passive" self-starvation behavior. The program used was similar to the approach reported by De Silva (1988) who argued that human food aversions are modifiable by graded *in vivo* exposure, with verbal reinforcement and modelling.

Once such a program was introduced this previously intransigent behavior was rapidly

extinguished, and this success has been maintained in other settings. Bruch (1978) suggests that eating disorders may represent a maladaptive search for personal control; in their recent review Williams, Chamove and Millar (1990) note that studies of assertiveness have identified observable deficits in many individuals from this patient group, e.g., in Hawkins and Clement's (1981) study of bulimic patients. Deluty (1985) proposed that unassertiveness may be expressed through hostile behaviours, a concept again upheld by Williams et al. (1990), who state that a greater degree of self-directed hostility is seen among those with eating disorders.

Obstacles to progress within the patient's individual behavioral treatment program were encountered in the initial stages (weeks 19–26; Figures 2 and 3), largely due to numerous attempts by her to renegotiate the program boundaries with selected members of staff. In addition, her history of extreme behavior meant that staff cohesiveness and confidence in the program were essential to its success. This was particularly true during early weeks when she consistently threatened to escalate her self-injurious behavior (although the threats were not acted upon).

Elements critical to the success of the behavioral program described arguably include the presence of clear, attainable goals; the opportunity through these for her to achieve adaptive forms of self-control with tangible rewards attached; and a structured approach maintained by all staff which was instrumental in preventing the success of the patient's manipulative and divisive strategies. Again, Winchel and Stanley (1991) describe similar benefits of behavioral settings for those with borderline personality disorders, "in such environments, patient's attempts at "splitting" staff ... are readily identifiable".

While one must always be cautious about over-generalising from a single case study, two points of interest emerge which may be of value when considering the treatment of individuals with similar problems. First, for a proportion of patients with borderline personality disorder, behavior initially suggestive of an eating disorder may in fact serve a function more consistent with a form

of self-injury. Second, the result of this study show that while all the self-injurious behaviors displayed by this patient were extinguished by the use of behavior modification, important differences were revealed in the way that "passive" and "active" forms of self-injury responded. Unlike "active" self-injury, "passive" self-injury (self-starvation) was resistant to change until the introduction of the individual program.

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Single case study methodology is a developing field that with recent innovations both methodological (Kazdin 1993; Howard, et al 1994) and statistical (eg, Crosbie, 1993; Speer, 1992) offers the greatest promise for unifying a scientist-practitioner split. For the individual clinical psychologist this research process will often start with a pre-experimental case study where methodology is often implicit. There is a case to be made for the publication of single cases that involve the “interesting case”, the psychiatric curio and the novel modification of treatment (Sturmey, 1991) that exist at one end of the research continuum. This involves a different view of the research process to that taught in traditional research methodology courses. However, the case study should not be idealised - its methodological traps needs to be thoroughly understood if one is not to degenerate into the baseless speculation that previously brought the method into disrepute. Some of the dangers are catalogued by Strupp (1981) in relation to some of the problems of theory development in psychoanalysis:

“Total commitment to a single theoretical and technical model; enshrinement of theoretical formulations as dogma; imperviousness to research progress in neighbouring fields; rigid indoctrination of trainees; failure to inspire students to become critical and independent thinkers; failure to teach students abiding respect for empirical data and rival hypotheses; insufficient attention to clinical realities.....” (pp 217-218).

Despite these dangers the case study needs to be established as a core research activity that can influence the fundamental processes of daily research practice - how research students are trained, how research is executed, what gets published and what gets funded. A sophisticated case-based approach to research which is useful for building theory and which is sufficient to address potential effects to internal validity, has been outlined by Kazdin (1981). This involves the use of objective data, continuous measurement, diverse

and heterogeneous samples of patients, and clear evidence of an effect that can be measured for its magnitude and used to modify treatment processes.

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SECTION FOUR

THE CLINICAL PSYCHOLOGIST AS RESEARCHER USING GROUP DESIGNS

INTRODUCTION

The realisation of the Scientist-Practitioner ideal is dependent on psychologists undertaking research that is applicable to clinical services. Traditional group designs are difficult and time-consuming to undertake and their relevance has been questioned (Speer, 1994). Group experimental/comparison paradigms use group averages as a outcome measure. However, individual variation is often a source of information which is of fundamental importance to the clinician. In group designs within group variability is seen as an impurity to be statistically exorcised in the form of "error variance" which is, of course, unmeasured individual differences. A review of the psychotherapy literature in the past decade (Spear, 1994) indicates that outcome studies are still discussed in "Smith, Glass & Miller (1980) terms" (ie, data are reported in terms of the outcome for the average person entering psychotherapy as opposed to no treatment). In addition the representativeness of "laboratory" psychotherapy conditions has been questioned to the extent of suggesting that its efficacy in field settings is unproved, and that psychotherapy in community clinics may not be effective (Weisz, et al, 1992).

This said, experimental, well controlled methods are at least feasible in field treatment settings. Speer (1994) for example, used a research framework built around the basic single sample pre-treatment/post-treatment (repeated measures) design (Campbell & Stanley's, 1966, "recurrent institutional cycle" design) and the Edwards-Nunnally statistical method to investigate change rates in older adult out-patients. Further, group designs may continue to contribute to applied research in a number of ways and remain within the procedures available to the applied researcher under certain circumstances (Sturmey, 1991). Random assignment of clients does not necessarily raise ethical problems where two forms of legitimate intervention are compared, where alternative formats of the same

intervention are compared, or where different procedures to maintain intervention effects are evaluated. Abraham (1992) has recently argued that the important aims of health psychology (establishing generally applicable links between modifiable psychological factors and health behaviours and testing the effectiveness of interventions) actually requires investigations that move beyond case study and use a nomothetic approach using large samples of controlled comparisons, informed by statistical considerations.

The following papers have used group designs to investigate clinically relevant questions that range from ways of improving the assessment of clinical conditions such as anorexia nervosa (Long, et al, 1993); examining the association between parental expectations of their epileptic children and the child's academic social and psychological functioning (Long & Moore, 1979); the usefulness of low alcohol drinks for problem drinkers post-treatment (Long & Cohen, 1989); and the value of subjective predictions of outcome following treatment for problem drinking. (Long, Hollin & Williams - submitted for publication; Long, Midgley & Hollin - submitted for publication).

An obstacle to the psychologist's attempts to fulfil a scientist-practitioner role in his or her work, can be the doubtful accuracy of assessment instruments which are often of the self-report variety. Shapiro's (1985) initial conception of psychology as an applied science was based in part on the idea that the main practical role of clinical psychology was to apply already validated psychological assessments. The validity of self-report tests relies heavily on the assumption that individuals will describe their symptoms accurately and reliably. This is of particular concern for patients with anorexia nervosa since they often display significant denial concerning their surroundings and often complete self-report questionnaires so as to give scores within the "normal range" (Szmukler, 1983; Vandereycken & Vanderlinden, 1983). The following study was undertaken to assess the value of the Stroop Test, following earlier reports of its usefulness, as an indirect non-obvious measure of psychopathology specific to patients with a clinical eating disorder. Confirmation of the specificity of the test can provide valuable additional confirmatory evidence of symptomatology in anorexia nervosa that could guide both clinical and research evaluations of treatment progress.

The study used a between-subjects design with groups of anorexic, obese and normal control participants and was published as detailed below.

Long, C.G., Hinton, C. & Gillespie, N.K. (1994) Selective processing of food and body size words: application of the Stroop Test with obese restrained eaters, anorexics, and normals. International Journal of Eating Disorders, 15 279-283.

Selective Processing of Food and Body Size Words: Application of the Stroop Test with Obese Restrained Eaters, Anorexics, and Normals

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(Accepted 1 May 1993)

The specificity of the retardation effect on the Stroop Naming task with eating disorder clients was examined by comparing anorexic patients and normal weight controls with obese restrained eaters. Although the expected differences between normal weight controls and anorexics were found for color naming of food and body size words, obese restrained eaters were not differentiated from the clinical sample. It is suggested, therefore, that the Stroop phenomena do not have a precise relationship to the extent of psychopathology and that factors such as the ability to "fake" the test and poor concentration leading to general slowing, may explain the results. © 1994 by John Wiley & Sons, Inc.

Recent research using the Stroop Color Naming Paradigm (Stroop, 1935) with eating disorder patients (Fairburn, Cooper, Cooper, McKenna, & Anastasiades, 1991; Ben-Tovim, Walker, Fok, & Yap, 1989; Ben-Tovim & Walker, 1991; Channon, Hemsley, & de Silva, 1988) suggests that it provides a more direct measurement of the cognitive disturbance (the tendency to judge self-worth mainly in terms of weight or shape) of the condition (Fairburn et al., 1991). Studies using different variations of the Stroop Test have produced largely complementary findings. Patients with anorexia nervosa and bulimia nervosa (Ben-Tovim & Walker, 1991; Fairburn et al., 1991) have been found to be slower to color name (emotionally significant) words related to food and shape when compared with age-matched female controls. Two earlier studies (Channon et al., 1988; Ben-Tovim et al., 1989), however, found that anorexic patients were slower at color naming food but not shape words.

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The Stroop phenomena appears to be restricted to individuals with an eating disorder of clinical severity (Ben-Tovim & Walker, 1991), and it is not affected by the normative concerns about shape and weight found in Western society (Fairburn et al., 1991).

There is need for further research into the specificity of the phenomenon (Fairburn et al., 1991), and the relationship between retardation on the Stroop and weight among eating disorder patients (Channon et al., 1988) prompted the current study to: (a) investigate the Stroop phenomena in overweight patients with high levels of eating restraint; (b) assess the value of the Stroop as an indicator of clinical change by reassessment of anorexic patients after weight normalization.

METHOD

The Stroop Test

Only four of the six color-naming tasks developed by Channon et al., (1988) were used in order to decrease the effect of subject fatigue on the results. In view of a failure in previous studies to find order effects (Williams & Broadbent, 1986; Ray, 1979), the following order of presentation was used with all subjects: Control Food Stroop (Words: Fall, Record, Ocean, Pencil, Lane, Powder, Clock, Brass, Shower, Piano, Boot, Luggage); Food Stroop (Words: Food, Dinner, Baker, Sugar, Meal, Butter, Cream, Toast, Picnic, Potato, Cake, Sandwich); Control Body Size Stroop (Words: Far, Morning, Easy, Sauce, Rose, Harbor, Sky, Gentle, Gift, Hopeful, Print, Carefree); Body Size Stroop (Words: Large, Figure, Heavy, Weight, Shape, Fat, Stomach, Massive, Waist, Monstrous, Hips, Bulky).

Participants and Methods

Three groups of participants were investigated: Female patients ($N = 37$) who were consecutive referrals to an inpatient Eating Disorders Unit, and who fulfil DSM-III-R criteria for a diagnosis of anorexia nervosa (American Psychiatric Association, 1987). Obese females attending a slimming club ($N = 51$) who were restrained eaters. Female control subjects ($N = 45$) who were second-year occupational therapy students.

There were no refusals to participate. All groups completed the Eating Disorders Inventory (EDI; Garner, Olmsted, & Polivy, 1983), the General Health Questionnaire—12 (GHQ-12; Goldberg, 1972), and the Cognitive Restraint of Eating Scale of the Eating Inventory (Stunkard & Messick, 1985). These results were used to exclude nonanorexic patients with a frank eating disorder and/or a high level of emotional distress ($N = 1$). Control participants who were currently dieting or who had a score typical of dieters on the "Cognitive Restraint Scale" were also excluded ($N = 3$).

Information on age, height, and weight was obtained. Anorexic patients completed the test in the early weeks of referral, and 20 of these were reassessed on the Stroop Test following normalization of weight (approximately 3 months after admission).

Data Analysis

Because the shape of reaction time distribution is notoriously skewed (Heathcote, Popiel, & Mewhort, 1991) the data were trimmed in a few instances by excluding trials with a latency longer than a fixed value. Analyses of variance (ANOVA) were used

throughout whereas post-hoc tests (Scheffe test and *t* test) were used to assess the significance of differences between pairs of groups and cards.

RESULTS

Initial Screening of Participants

The mean age, body mass index (BMI), and selected subscale scores on the EDI, GHQ-12, and Cognitive Restraint scale for each of the groups are shown in Table 1.

There were significant differences in age among the three groups ($F = 17.82, 2, 130\text{ df}, p < .001$). In subsequent analyses, therefore, age was used as a covariate. There were no significant differences among groups in terms of height, but differences in BMI were apparent ($F = 49.85, 2, 130\text{ df}, p < .001$). Differences among groups were apparent on the Cognitive Restraint subscale of the Eating Inventory ($F = 88.26, 2, 130\text{ df}, p < .001$) and on all EDI subscales. Post-hoc Scheffe's procedure (with p set at .5) showed anorexics differed significantly from controls on all EDI subscales and from obese restrictors on all but two subscales (Bulimia and Body Dissatisfaction). The obese restrictors scored significantly higher than controls on the subscales Drive for Thinness, Bulimia, Body Dissatisfaction, and Interoceptive Awareness. Both anorexics and the obese restrained eaters differed significantly from controls in terms of cognitive restraint, but did not differ from each other. The obese groups thus had Body Dissatisfaction subscale scores similar to those of the anorexics, and a higher than normal Drive for Thinness score (Ben-Tovim & Walker, 1991).

Comparisons Between Anorexic, Obese Restrained, and Control Participants

The mean color-naming times for all cards are shown in Table 2. ANOVA showed no overall differences in either of the control conditions, but significant overall differences

Table 1. Characteristics of three groups of participants

| EDI Subscale | Anorexia Nervosa Patients (<i>n</i> = 37) | | Obese Restrained Eaters (<i>n</i> = 51) | | Female Control Subscales (<i>n</i> = 45) | | Value of <i>F</i> |
|--|---|-----------|---|-----------|--|-----------|-------------------|
| | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> | |
| Age (years) | 25.76 | 10.04 | 35.82 | 11.34 | 24.40 | 36.81 | 17.82* |
| Body mass index ^a | 16.51 | 02.80 | 26.02 | 04.06 | 22.45 | 02.44 | 49.85* |
| Cognitive Restraint (Eating Inventory) | 13.85 | 03.12 | 12.63 | 03.26 | 06.06 | 03.46 | 88.26* |
| Drive for thinness (EDI) | 10.26 | 07.74 | 06.58 | 04.59 | 01.91 | 02.57 | 22.97* |
| Body Dissatisfaction (EDI) | 16.94 | 08.70 | 17.80 | 07.65 | 09.97 | 07.39 | 12.57* |
| Bulimia (EDI) | 03.37 | 05.10 | 02.64 | 02.86 | 00.91 | 01.61 | 06.83* |
| Interoceptive Awareness | 11.73 | 08.17 | 02.93 | 03.63 | 00.57 | 01.21 | 44.82* |
| Perfectionism | 08.37 | 05.53 | 02.04 | 02.57 | 02.68 | 03.37 | 22.12* |
| Ineffectiveness | 12.42 | 08.55 | 03.42 | 03.91 | 02.40 | 02.34 | 36.66* |
| Interpersonal Distrust | 05.89 | 03.23 | 03.17 | 03.44 | 01.89 | 02.73 | 11.32* |
| Maturity Fears | 06.58 | 05.59 | 03.06 | 03.01 | 01.55 | 01.81 | 15.16* |
| GHQ-12 | 08.75 | 06.42 | 02.82 | 03.74 | 01.92 | 01.85 | |

Note. EDI = Eating Disorders Inventory; GHQ-12 = General Health Questionnaire-12.

^aWeight in kilograms in meters.²

* $p < .01$.

in Food Stroop ($F = 4.33, 2, 130\text{ df}, p < .05$) and Body Size Stroop ($F = 3.4, 2, 130\text{ df}, p < .05$) conditions were found. Post-hoc Scheffe analyses showed that anorexics were significantly slower to color name both Food and Body Size Stroop words than control participants. However, they did not differ from obese restrained eaters on these measures.

Paired t tests were used to compare individually the food and food control and shape and shape control conditions for the three participant groups. No significant differences were found between these comparisons for anorexic patients. In contrast both the obese and normal groups completed food and shape conditions at a faster rate than they did control conditions. (Food vs. food control $t = 3.76, df = 50, p < .001$ [obese]; $t = -6.06, df = 44, p < .001$ [normals]: Body size vs. body size control $t = -3.66, df = 50, p < .001$ [obese]; $t = -4.44\text{ df} = 44, p < .001$ [normals].)

Before and After Comparisons for Treated Anorexic Patients

A small group ($N = 20$) of anorexic patients were retested on the Stroop after a 3-month treatment period when their weight had normalized (mean BMI = 20.4, SD 1.5). Retesting on the EDI showed that some symptoms of the disorder had lessened but had not normalized. Lower mean scores were apparent on all EDI subscales (except for Bulimia and Body Dissatisfaction), but these were not within the normal range.

Use of t tests for correlated samples with this group showed that there were no significant differences between Body Size Stroop and Body Size control conditions, and between Food Stroop and Food Stroop control conditions either before or after weight normalization.

DISCUSSION

The results suggest that the Stroop phenomena differentiate eating disordered patients with a high level of emotional distress from normals, but not from normal overweight individuals with high levels of eating restraint. Limitations with this study including using a control group of convenience; obese restrained eaters who were significantly older than other participants and a Stroop measure that was not adopted by all studies of these phenomena (e.g., Fairburn et al., 1991; Ben-Tovim et al., 1989). Although direct comparisons are difficult, the data suggest that cognitive preoccupation with food and body size reflects a conflict within the individual that is not related to weight or nutritional status, and which is relatively independent of the level of emo-

Table 2. Mean time (in seconds) for each of the color-naming tasks

| | Anorexia Nervosa Patients ($n = 38$) | | Obese Restrained Eaters ($n = 51$) | | Female Control Subjects ($n = 45$) | |
|--------------------------|--|-----------|--|-----------|---|-----------|
| | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> |
| Control Food Stroop | 76.00 | 18.30 | 76.40 | 12.90 | 72.50 | 11.40 |
| Food Stroop | 78.20 | 20.10 | 72.70 | 10.40 | 66.20 | 11.00 |
| Control Body Size Stroop | 76.50 | 18.80 | 75.50 | 13.50 | 71.60 | 12.40 |
| Body Size Stroop | 77.90 | 18.50 | 72.10 | 12.90 | 66.50 | 10.80 |

tional distress. More recent research with nonclinical samples (Green & Rogers, 1993) that found significant color name disruptions for highly restrained eaters (whether or not they were dieting) supports this notion. The results cast further doubt on the suggestions that the Stroop Test is measuring the "core psychopathology of eating disorders" (Ben-Tovim & Walker, 1991), and support the idea that it fails to discriminate between patients with and without an eating disorder (Ben-Tovim et al., 1989).

The large standard deviation in the reaction times of the anorexic group clearly shows that the response of a significant number was typical of normal groups on the Food and Body Size condition. This limits the clinical value of the test in two ways: It suggests either that the rest is easily "faked" (indeed, some patients described consciously blurring their optical field so as not to "see" words), or that the effect will not be reliably shown by a large enough majority of clinical cases. The effect of fatigue in producing a general slowing of response in anorexic subjects cannot be ruled out in view of the finding that up to 66% of clinical samples describe impairment of concentration (Garfinkel & Garner, 1982). That this is a likely explanation is suggested by the fact that unlike the sample described by Ben-Tovim et al. (1989) and Fairburn et al. (1991) non-clinical samples were *quicker* to color name target (weight and body size) words that relate to a particular theme. Thus, whether changes in the Stroop disruption score will ultimately be of value in predicting the clinical course of disorders such as anorexia nervosa awaits research studies that are undertaken with larger samples over longer time periods.

We would like to thank Dr. Clive Hollin (Birmingham University) and Dr. Marie Midgley (St. Andrew's Hospital) for their help and advice with this project.

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The second group study in this section (Long & Moore, 1979) has both between and within-subject elements and picks up on an earlier theme regarding the influence of previous scientific explanations and lay knowledge, on the management of physical and mental illness (Long & Midgley, 1992; Long & Smith, 1985). It was undertaken whilst the first author was based at a Paediatric Assessment Centre and was concerned with parental expectations for their epileptic children.

Epilepsy has held a “key position” in medical history in the struggle between magical and scientific conceptions (Temkin, 1971). Classical 19th century studies of epileptics “came from physicians who were closely connected with hospitals for the insane” and “with asylums for epileptics” and a consequence of this was the close links drawn between the epileptic, the criminal and the mentally ill: “Epilepsy united the criminal and the morally insane in one natural family” (Temkin, 1971, page 366). There remains scientific interest in the possibility of an epileptic-like causation to deviant behaviour which has as its historical roots the notion of the epileptic character who was thought to manifest a basic constitutional irritability (Tizard, 1962).

As in the realms of mental illness and crime, lay knowledge of epilepsy echoes medical knowledge of an earlier era and may be stereotyped and negative in its implications for sufferers. Scambler and Hopkins’ (1976) study found lay-people to conceive of epilepsy in terms of a grand mal stereotype. Harrison and Duffield (1976) found “dramatic” evidence of the ease with which their 100 subjects attributed epilepsy to unattractive rather than to attractive persons. Further, an Australian study of 602 adults by Vinson (1975) found that those with epilepsy were specifically distinguished by being thought to be more “temperamental” and more subject to mood swings. Chief among the disvalued attributes ascribed to epileptics was the idea that epilepsy is a mental illness (62%), that epileptics are

“capable of violent crime” (56%) and are of “low intelligence” (45%). In many ways these views reflect the once held expert opinions of a specific epileptic personality and can, perhaps, be explained by the notion of culture lag (Ogburn, 1957).

Harrison & West’s (1977) street survey found, however, that there was no single stereotype of an epileptic and that stereotyped images subject to modification by contact with “normal persons” with epilepsy. The idea that perceptions of individuals with epilepsy can be modified by contact with them and become more accurate as a consequence, has a long tradition in social psychology and is implicit in Newcomb’s (1947) “autistic hostility” hypothesis. The family of an epileptic member should, by this logic, be much less affected by negative and cultural stereotypes and be less inclined to act in ways that contribute to self-fulfilling prophecies.

The findings in the study reported here suggest an association between parental lack of knowledge and uncertainty about the epileptic child’s condition and diminished parental expectations of the child’s social, recreational and academic future together with practices that restrict the child’s behaviour. Such associations suggest the operation of self-fulfilling prophecies both as a result of parental practice and because of the internalisation of those expectations and perceptions (Brewin, 1988) by the epileptics themselves. They provide therefore some support for the “weak” version of labelling theory (Cochrane, 1983) and highlight the importance of addressing parental mythologies concerning physical illness if progress is to be made.

The implications of these findings, amongst others, need to be addressed and acted on and reinforce the notions that psychologists’ practice should be more environmental (Smail, 1991; Orford, 1992) and that they should engage in both proximal work (eg, influencing

carers or service systems) and distal work (eg, health education, social support, interventions etc) (Milne, 1994). The full reference is:

Long, C.G. & Moore, J.R. (1979) Parental expectations for their epileptic children. Journal of Child Psychology and Psychiatry, 20, 299 - 312.

PARENTAL EXPECTATIONS FOR THEIR EPILEPTIC CHILDREN

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INTRODUCTION

THE WAY in which the family acts towards the child with epilepsy may be of enormous importance in the child's development and in its ability to cope for itself in adulthood. The importance of the patient's family has long been neglected by the medical profession (Hansen and Hill, 1964), yet ongoing research suggests that many parents are extremely conscious of the stereotypes of epilepsy held by others, and that these ideas often constitute expectations about their own children (P. West, personal communication). How epileptic children respond to their problems, and the influence of familial conceptions of the disorder on this process, are necessary considerations in the management of such patients. However, they are issues which have been subject to little quantitative research (Green and Hartlage, 1971).

Many writers have emphasized the family and social rejection experienced by the epileptic (e.g. de Haas, 1962) and there is little doubt that when this occurs it may have severely deleterious effects on the child's psychological development (Rutter *et al.*, 1970). Previous work has found that the epileptic child functions in social isolation, has few friends, and reports being teased at school (Mulder and Suurmeijer, 1977; Goldin *et al.*, 1971). Kleck (1968), whose study illustrated a major problem among epileptics—namely, secrecy and fear of exposure—contended that feelings of shame were learned from parents. A low self-concept has been cited as one of the major characteristics of the epileptic child (Winston and Chilman, 1964) but such conclusions are purely inferential. In her review of the literature on the personality of epileptics Tizard (1962) showed that it is very difficult to compare different studies because of the non-existence of unreliability of the measures of behaviour. However, it is plain from surveys of children in the general population that there is a very much greater prevalence of psychiatric disorder amongst epileptic children (Rutter *et al.*, 1970): further, adverse parental attitudes and behaviour have been found to predict much of the variance in the behaviour disorders of such children when other factors are controlled for (Bagley, 1971).

There is a wealth of evidence that epileptic children under-achieve at school, even when intelligence is controlled (Rutter *et al.*, 1970). That they also show relative retardation on tests of communication and social skills led Green and Hartlage (1971) to conclude that they were being allowed to achieve at their own self-regulated rates. A pilot study of 13 families found that more than half the parents

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were uncertain or ambivalent about the future of their epileptic child and did not have high expectations about his feasible level of education (Mulder and Suurmeijer, 1977). In research by Hartlage and Green (1962) thirteen parental attitude factors (assessed by the Parental Attitude Research Inventory [P.A.R.I.]) were independently correlated with the academic and social development of 54 epileptic children. Parental attitudes which encouraged passivity and delay of self-initiated behaviour were found to be related to academic under-achievement. The limitations of the P.A.R.I. as a research instrument are well known (Becker and Krug, 1965) and while such correlations cannot be regarded as indicative of causal relationships they do raise the question of the relative importance of the central nervous system lesions vs environmental factors on the adaption of the epileptic child.

Such findings lead directly to an examination of the nature of the restrictions placed upon the epileptic child because of his disability. There is often a lack of effective communication between authorities and the families who are crucially concerned with the child's welfare and treatment (Holdsworth and Whitmore, 1974). Many parents are uncertain as to how to handle the epileptic child and over-react in a demanding or indulgent fashion (Mulder and Suurmeijer, 1977). Restrictiveness on the part of the parent may rob the epileptic child of vital opportunities for social interaction and may make him feel different from, or inferior to, his peers. One of the few studies to deal directly with this topic concluded that the majority of parents were not "unreasonably" restrictive (Goldin *et al.*, 1971). However, response rates in this postal questionnaire survey were predictably low (35 per cent) and no objective criteria of "reasonableness" was stated by the authors. The disabling potential of epilepsy can be as much psychological as physical, and the possibility of therapeutic manipulation necessitates accurate assessment of parental attitudes, expectations and practices. Adequate data are lacking and most reports have failed to allow for the fact that an observed difference between families containing an epileptic child and control families may reflect a general style of child rearing unrelated to the presence of epilepsy.

THE PRESENT STUDY

The aim of this study is to assess some of these conclusions using standardized techniques and, by comparing parental attitudes and expectations for the epileptic child with those for his sibling, to control for the possibility that previous observations may reflect a "within-family" style of child rearing.

Specifically, it is hypothesized that:

(i) The expectations parents have for their epileptic child's development differ from those held for his sibling closest in age; and, that parents will rate themselves as more dominant, and stricter, in relation to their epileptic child.

(ii) In comparison with their siblings, epileptic children will be rated as less self-directed and more socially isolated; moreover the epileptic children will exhibit lower levels of academic achievement, lower levels of self-esteem and a higher incidence of psychiatric disturbance.

METHOD

Subjects

From the last fifty referrals to the EEG department of the Leicester Royal Infirmary, twenty families who fulfilled the following conditions were asked to participate:

- (i) Those containing one epileptic (out-patient) child free of additional disabilities and a normal (control) sibling within two years of age of the proband;
- (ii) Proband and sibling to fall within the age range six to fourteen years and be attending normal schools.

Refusal to participate occurred in one family who did not accept that their child was subject to seizures.

An operational classification of epilepsy into two groups (Aird and Woodbury, 1974) was used:

- (i) Major fits, in which there is a loss of consciousness. The patient loses posture, falls if not held, and becomes stiff and jerks. This is usually followed by a period of drowsiness or sleep.
- (ii) Absences, defined as episodes of loss of consciousness which begin and finish suddenly, last only seconds and are without after effects or loss of posture.

Types of epilepsy, together with the EEG findings for the sample are given in Table 1.

Twelve of the sample had major fits only (eight boys, four girls), four girls had absences only and three had major fits and absences (one boy, two girls). These numbers concur broadly with the Isle of Wight findings (Rutter *et al.*, 1970) of major fits (50 per cent), petit mal and minor fits (24 per cent) and both groups (25 per cent). One child was clinically considered to be suffering from temporal lobe epilepsy although EEG findings were not confirmatory. Only four children had EEG findings predominating in one hemisphere and only two had mainly nocturnal fits.

The average ages of the nineteen families were 37 and 35 years for mothers and fathers respectively; in the case of the epileptic children and their siblings, the ages were eight years, six months and eight years, ten months respectively. On statistical analysis no significant differences were apparent. In eight cases the proband was the eldest child and in ten cases the youngest. Nine of the epileptic children were male and 13 child pairs (eight female, five male) were matched for sex.

The social class distribution, grouped according to the Registrar General's (1970) classification, was as follows:

| | | |
|---------|---|------------|
| Class 1 | : | 1 family |
| Class 2 | : | 4 families |
| Class 3 | : | 6 families |
| Class 4 | : | 4 families |
| Class 5 | : | 4 families |

The current sample thus differed from the Isle of Wight norms (Rutter *et al.*, 1970) in having a smaller proportion of cases of temporal lobe epilepsy and in terms of higher proportion of families in the semi-skilled and unskilled occupational categories.

Age at onset of seizures ranged from the first year of life to eleven years with the mean onset of seizures at approximately four years. Over half of the patients had suffered their first seizure before beginning school. At the time of this study five children had been free of seizures for at least one year and eight had had less than five during that time. Only four of the patients had more than twelve seizures per year. All but two patients were receiving medication for seizure control, with six being treated with phenytoin, six receiving valporate, four receiving phenobarbitone, two receiving primidone, two receiving ethosuximide, one receiving carbamazepine and one receiving diazepam. Five of the children were being treated with two of these drugs.

Procedure

Families were contacted via the paediatric consultant responsible for the care of their child. Since most fathers expressed a desire to be present, interviews were held during the evenings when both parents could attend. This involved two visits to each family, each visit lasting two hours.

Measures

Repertory grid. The purpose of this technique is to supply a "map" of the respondents' "personal constructs" and their inter-relationships in an attempt to find out how each person "sees" the world

TABLE 1. TYPES OF EPILEPSY AND EEG FINDINGS

| EEG | All males | Male | | | Female | | | Male and female | | | | |
|-------------------------|-----------|-------|--------|-----------|--------|--------|-----------|-----------------|-------|--------|-----------|----------|
| | | Spike | Spike/ | Spike and | Spike | Spike/ | Spike and | All | Spike | Spike/ | Spike and | Normal |
| | | | wave | spike/ | | wave | spike/ | cases | wave | wave | spike/ | (no EEG) |
| | | | | wave | | | wave | | | | wave | |
| Major fits | 8 | 0 | 1 | 1 | 4 (2) | 2 | 0 | 1 | 2 | 1 | 2 | 5 (2) |
| | | | | | 4 | | | 12 | | | | |
| Absences | 0 | | | | | 0 | 2 | 0 | 0 | 2 | 2 | 0 |
| | | | | | 4 | | | 4 | | | | |
| Major fits and absences | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 2 | 1 | 0 |
| | | | | | | | | | | | | |
| | | | | | 2 | | | 3 | | | | |
| Totals | 9 | 0 | 1 | 2 | 4 (2) | 2 | 4 | 1 | 2 | 5 | 5 | 5 (2) |
| | | | | | 10 | | | 19 | | | | |

around him. In accordance with Kelly's (1955) theoretical approach, a construct is the way in which two things are alike and in some way different from a third. By eliciting from the respondent his own "constructs" (in terms of this study, expected differences between the epileptic child and his sibling), we find out what, to him, are meaningful attributes of the stimulus material or "elements".

The repertory grid in this study used the following (supplied) elements: epileptic child, sibling, father, mother (all identified by name) together with "mentally handicapped child", "diabetic child", "emotionally disturbed child" and "physically handicapped child". Constructs were isolated in a pilot study with two families using the technique advocated by Kelly (1955). A grid containing the above elements and the following constructs (cast in terms of expectations for the future and rated on a seven point scale) was administered to the mother and father in each family:

| | | |
|--------|------------------------------------|----------------|
| (i) | Expects to do well at school | Expects not to |
| (ii) | „ play sport | „ „ |
| (iii) | „ be able to concentrate | „ „ |
| (iv) | „ be moody | „ „ |
| (v) | „ have a wide choice of jobs | „ „ |
| (vi) | „ make friends easily | „ „ |
| (vii) | „ have lots of stamina | „ „ |
| (viii) | „ have emotional problems | „ „ |
| (ix) | „ enjoy own company | „ „ |
| (x) | „ be like me | „ „ |
| (xi) | „ mistrust people | „ „ |
| (xii) | „ be aggressive | „ „ |
| (xiii) | „ be unpredictable | „ „ |
| (xiv) | „ be highly strung | „ „ |

Semantic differential. Using this technique Becker (1960) developed a parent rating schedule consisting of 73 bipolar seven-point rating scales with antonym pairs of adjectives defining the extremes. These scales were selected to sample the factors represented in Fels Parent behaviour rating scales (Roff, 1949), Cattell's personality factors (Cattell, 1957) and factors found by Becker (1960) to assess the self concept.

Factor analysis revealed ten factors: the second of these defined by twelve bipolar adjectives and labelled "Dominance Strictness", was completed by both parents in this study for "myself-in-relationship to x" (epileptic child) and "myself-in-relationship to y" (control sibling).

Manchester Scales of Social Adaption. (Lunzer, 1966.) In this measure of social competence ten subscales are arranged in two groups, "social-perspective" and "self direction". The latter group (consisting of "socialization of play/leisure", "freedom of movement", "self help", "handling of money" and "responsibility in the home") was completed for the children by their mothers.

Child Behaviour Rating Scales. The Teacher (B2) Scale and the Parent (A2) Scale, used extensively on the Isle of Wight (Rutter *et al.*, 1970), were completed for the children in this study by mothers and class teachers. A score of thirteen or more (parent scale) and nine or more (teacher scale) has been found to correlate well with other measures of psychiatric disturbance.

Neale Analysis of Reading Ability (Neale, 1958). This was administered to each child pair that fell within the tests age range ($N = 14$ pairs).

Coopersmith Self Esteem Inventory (S.E.I.) (Coopersmith, 1967). To obtain a subjective rating of the child's self esteem the S.E.I. was given to those families where both epileptic and sibling were above eight-and-a-half years ($N = 13$ pairs). Standardized tape recorded instruction was used to avoid the possibility of contamination where educational experience had not resulted in an average reading or conceptual level.

Additional measures. (i) An epilepsy questionnaire devised to elicit the subject's fit history, parental knowledge of epilepsy and restrictions placed on the child because of his disability. Items were drawn from two sources: a booklet distributed by the International Bureau for Epilepsy called *Epilepsy and Your Child*, and a collection of papers entitled "Exploring World Attitudes towards Epilepsy" (1969). Questions were piloted using the "random probe" technique (Schuman, 1970). Maternal responses were compared for "reasonableness" with the guidelines advocated in *Epilepsy and Your*

Child. (ii) A short questionnaire administered to mothers, and comprising selected items from Rutter *et al.*'s (1970) comprehensive interview schedule used on the Isle of Wight. These were chosen to elicit, in a qualitative fashion, the peer and interfamily relationships of the two child groups. (iii) A standardized school report form in which teachers were asked, in addition to specific information concerning scholastic attainments, to rate the child's ability and behaviour in relation to his peers on a five point scale.

FINDINGS

Parental expectations

Thirty-eight repertory grids (two per family) were completed and the data examined using Slater's (1964) Principal Components Analysis. Using the *t*-test for a single mean on inter-element relations (expressed as cosines), no overall difference between maternal and parental perceptions of the epileptic and sibling groups was found in terms of the 14 constructs ($t = 0.7$, d.f. = 37, n.s.). Table 2 lists the results for the expected differences between the mean ranked parental construct scores for the epileptic child (*E*) and his sibling, and for *E* and a diabetic child. In addition, the Pearson product-moment correlations between the construct scores for normal child and sibling and for *E* and diabetic child are given.

TABLE 2. PARENTAL RATINGS OF EXPECTATIONAL CONSTRUCTS ON THE REPERTORY GRID
($N = 38$)

| | <i>E</i> vs sibling (values of <i>t</i>) | <i>E</i> vs "Normal child" (values of <i>t</i>) | Normal child/ sibling <i>y</i> | <i>E</i> /Diabetic child <i>r</i> |
|--|--|--|--------------------------------------|---|
| 1. Expects to do well at school | 2.41* | 2.8† | 0.66* | 0.44‡ |
| 2. Expects to play sport | 2.89* | 3.4† | 0.56* | 0.29 |
| 3. Expects to be able to concentrate | 2.26* | 2.5† | 0.42* | 0.13 |
| 4. Expects to be moody | 1.43 | 1.2 | 0.35* | 0.08 |
| 5. Expects to have a wide choice of jobs | 4.07† | 2.6† | 0.49* | 0.10 |
| 6. Expects to make friends easily | 0.5 | 1.1 | 0.53* | 0.26 |
| 7. Expects to have lots of stamina | 1.6 | 1.6 | 0.66* | 0.21 |
| 8. Expects to have emotional problems | 4.49† | 3.0† | 0.51* | 0.41‡ |
| 9. Expects to enjoy own company | 1.8 | 0.6 | 0.21 | 0.47‡ |
| 10. Expects to be like me | 0.32 | 0.9 | 0.33* | 0.01 |
| 11. Expects to mistrust people | 0.16 | 0.2 | 0.27 | 0.55‡ |
| 12. Expects to be aggressive | 1.46 | 1.3 | 0.37* | 0.43‡ |
| 13. Expects to be unpredictable | 3.57† | 0.2 | 0.29 | 0.14 |
| 14. Expects to be highly strung | 3.66† | 3.4† | 0.51* | 0.37‡ |

* $P < 0.05$; † $P < 0.025$; ‡ $P < 0.05$ and higher than the correlation of *E* and Sibling and *E* and Normal child.

Analysis of individual constructs reveals significant differences between the epileptic children and their siblings on seven such items: the former are expected to have more emotional problems and to be more unpredictable and "highly strung". The siblings, however, are expected to do better at school, to play more sport, to have greater powers of concentration and to have a wider choice of occupation. It is apparent that parental expectations for their non-epileptic children and normal children are significantly correlated on eleven constructs; and that expectations for the epileptic subject are significantly and more highly correlated with those for a diabetic child on six constructs than they are for his sibling and the normal child. Highly significant differences between the epileptic subject and the normal child on six of the constructs differentiating him and his sibling lend support to these findings. The weight of the evidence supports the hypothesis.

Restrictiveness

Using semantic differential scales parents rated themselves as significantly more dominant and strict when dealing with their epileptic child ($t = 2.7$, d.f. = 37, $P < 0.05$). (See Fig. 1.)

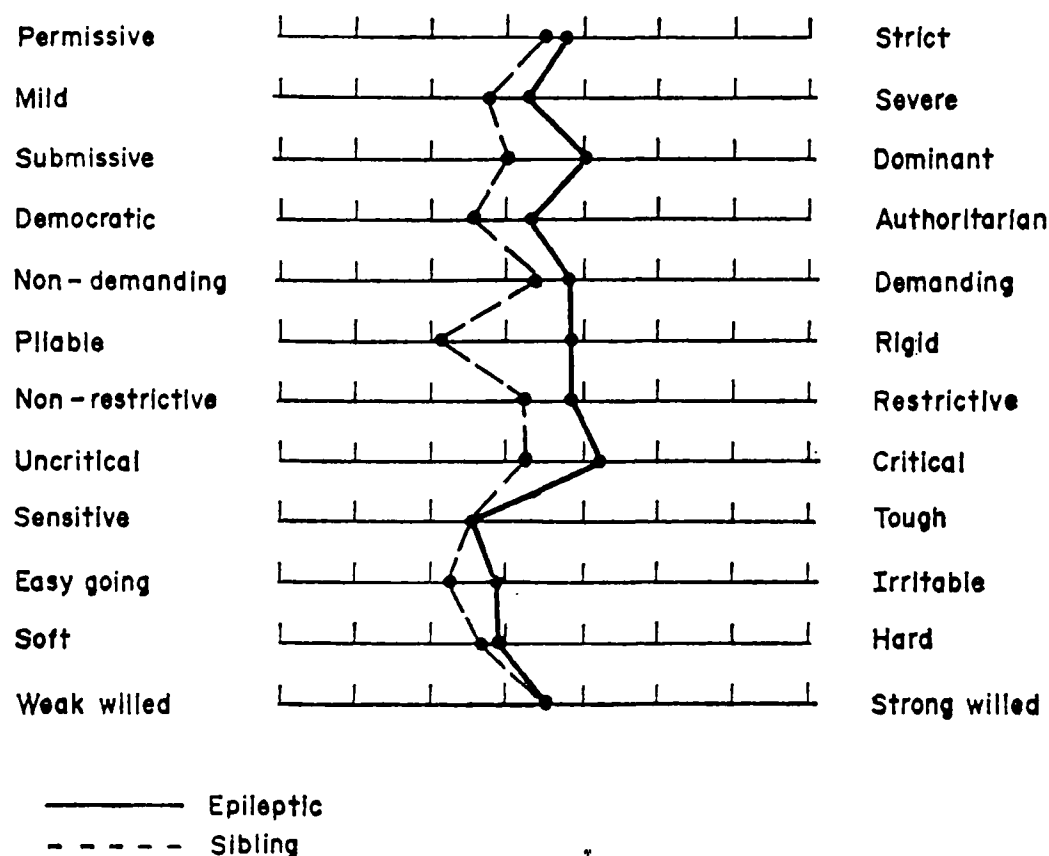


FIG. 1. Parental ratings of their dominance-strictness on the semantic differential.

Clearly this difference reflected only a general attitude; but it is interesting that there were differences in the way that parents actually behaved towards their epileptic as opposed to their non-epileptic children.

Parents were questioned about actual restrictions placed on their children and these answers were analysed to reveal possible differences. In response to the question "Do you think that special care should be taken with children who have fits?", half of the parents agreed. However, over all categories of restriction, less than one quarter of the parents exceeded the suggested guidelines. In no cases were the same restrictions applied to the epileptic child's sibling.

While the majority of parents took no special disciplinary precautions because of their child's epilepsy, 21 per cent stated that they were stricter and a similar number had kept their child away from school because they believed that he was going to have a fit. Two parents felt that all epileptics should attend a "special school". In response to the question "Do you think that children who have fits should not be allowed to play with other children?", three mothers approved the statement under all circumstances and two under certain circumstances. Thirty-two per cent felt that epileptic children should be supervised at all times: swimming, cycling, team games and climbing were prohibited in 28, 21, 16 and 11 per cent of cases respectively. Two mothers did not allow their epileptic child to leave the vicinity of the garden or to climb stairs alone.

Thus, while parents perceived themselves as more restrictive in relation to their epileptic child than in relation to his sibling, actual instances of activity restriction exceeding those recommended were found in a minority of families. The evidence is not strong enough to support the hypothesis.

Self direction

This hypothesis was tested using the Self Direction group of the Manchester Scales of Social Adaption (Lunzer, 1966). Use of the Wilcoxon Matched Pairs Signed Ranks Test confirmed the hypothesis that siblings were significantly more self directed than their epileptic brothers and sisters ($t = 35.2, P < 0.02$).

Social isolation

Two items on the Teachers' and Parents' Behaviour rating scales contain data relevant to this topic: (i) "Not much liked by other children", and (ii) "tends to do things on his own—rather solitary". In order to compare the two groups, replies were analysed statistically by the McNemar test (Maxwell, 1961). Only one significant difference emerged: the epileptic child was rated by his teachers as significantly more solitary than his sibling (chi square value = 4.17, d.f. = 1, $P < 0.02$). Teachers rated the child's ability to mix with others on the five point scale of the school report form but no significant differences were found (chi square value = 1.33, d.f. = 1, n.s.).

Interview responses to questions concerning the children's socialisation patterns evidenced that a similar number of epileptics and controls were described as "good mixers" by their parents (50 and 67 per cent respectively): yet half the epileptic children spent their time outside school in solitary activities (watching TV, drawing, reading etc.) compared with three of the siblings. Moreover, mothers felt that loneliness was "more than rarely" experienced by nine of the epileptics compared with only two of the siblings, and a similar number of them were described as "very clinging" and "very dependent".

Although the analysis did not provide unequivocal support for the hypothesis, it is clear that more of the epileptic children were described as socially isolated.

Self esteem

Mean scores (out of 100) on the S.E.I. were 53 (S.D. = 11.9) and 65 (S.D. = 15.2) for the epileptic and sibling groups respectively. Use of the *t*-test for related samples confirmed the hypothesized lower level of self esteem among the epileptic children ($t = 4.5$, d.f. = 25, $P < 0.01$).

Academic attainment

There were two sources of information about the academic attainment levels of the children—the Neale reading test results and school report data. Results of the Neale Analysis of Reading Ability (Neale, 1958) show that 11 of the 14 epileptics tested had a reading accuracy age below their chronological age, compared to six of their siblings (see Table 3). This difference was significant and in the predicted direction ($t = 2.33$, d.f. = 27, $P < 0.05$).

TABLE 3. READING ATTAINMENT OF EPILEPTIC CHILDREN AND THEIR SIBLINGS

| Group | Chronological age (CA) in months | | Reading accuracy age (RA) in months | | CA > RA | Reading retarded 24 months or more |
|--------------------------------|-------------------------------------|-------|--|------|---------|---------------------------------------|
| | Mean | S.D. | Mean | S.D. | | |
| Siblings (<i>N</i> = 14) | 115.7 | 28.5 | 117.8 | 19.6 | 6 | 2 |
| Epileptics (<i>N</i> = 14) | 115.6 | 27.44 | 106.3 | 26.1 | 11 | 3 |

In three of the experimental groups and two of the control group, reading age lagged two years behind chronological age: school report data indicated these children to be in a "remedial stream". However, three additional members of the epileptic group received tuition for reading. There were no differences in the teachers' subjective ratings of the two groups' attainments in relation to the rest of the class (chi square value = 0.25, d.f. = 1, n.s.).

Psychiatric disturbance

On both the parents' and teachers' child behaviour rating scales more of the epileptic population were deviant and there was a bias in favour of the neurotic subscore (see Table 4).

TABLE 4. CHILDREN SHOWING DEVIANT* SCORES ON CHILD BEHAVIOUR RATING SCALES, WITH ANTI-SOCIAL (A), NEUROTIC (N) AND MIXED (M) CLASSIFICATION

| | A2 (Parent) scale 13 + Score (A, N, M) | | B2 (Teacher) scale 9 + Score (A, N, M) | | Children rated deviant by both parent and teacher |
|-------------------------|---|-----------|---|-----------|---|
| Epileptics ($N = 19$) | 11 | (2, 8, 1) | 5 | (1, 4, 0) | 4 |
| Siblings ($N = 19$) | 4 | (0, 2, 2) | 2 | (0, 1, 1) | 2 |

* > 9 on teacher (B2) scale and > 13 on parent (A2) scale.

Only in the case of parental ratings however, did this attain significance (chi square value = 5.14 d.f. = 1, $P < 0.05$). All but one of the children rated as deviant by teachers were likewise evaluated by the parents.

DISCUSSION

Previous work with epileptic children using matched control groups has failed to allow for differences in parental attitudes between families. The use of a sibling group, while not allowing for age comparison, overcomes this problem and provides an automatic control for the important variable of occupational status (Rose *et al.*, 1955), as well as for a variety of other background factors (Moos and Solomon, 1965). That mothers of epileptic children differ significantly in terms of emotional disturbance both from mothers of normal children and from mothers of children with other handicaps, such as cerebral palsy (Rutter *et al.*, 1970) further supports the use of a within-family comparative study. The small size of the present sample, however, precluded the possibility of controlling for the findings that male sex and the presence of persistent left temporal lobe spike discharge as well as the drug phenytoin may be particularly related to learning and behaviour problems (Stores, 1978). Nonetheless, overall results support previous suggestions (Green and Hartlage, 1971; Mulder and Suurmeijer, 1977), that parents of epileptic children have diminished expectations for their child's future and for his later adjustment. These expectations are specific to the child with epilepsy and do not characterize parental perceptions of his age-related sibling.

Repertory grid data suggests that parents expect their epileptic child to show lower academic levels, diminished ability to concentrate and to have fewer employment choices. However, the effect of attention deficits underlying impaired cognitive functioning has been brought into question (Penry *et al.*, 1971) and surveys have shown that public attitude over the past 20 years has changed dramatically in the area of the employment of the epileptic (Caveness *et al.*, 1974). More than this, five of the children had been seizure free for more than one year and eight had had less than five during that time.

The epileptic children as a group were relatively retarded with regard to reading ability. An association between autocratic parental attitudes and school underachievement has been described (Hartlage and Green, 1972), and in accord with these findings the parents in the current sample perceived themselves as stricter and more dominant in relation to their epileptic child. Although several authors (e.g. Festinger, 1964) have questioned the degree of the relationship between professed attitude and actual behaviour, others (e.g. Rosenthal *et al.*, 1970) have found corre-

spondence, and support for this contention comes from Davids and Hainsworth's (1967) comparison of maternal attitudes as perceived by under-achieving and high-achieving children; under-achievers perceived their mothers as significantly higher on maternal control.

The parents of the epileptic children expected them to be more prone to emotional problems and a significantly higher proportion (58 per cent) were rated by them as "disturbed". This compares with 6.8 per cent in the general population of the Isle of Wight study and a figure of 24.5 per cent for parental ratings of children with uncomplicated epilepsy. The discrepancy could be attributed to a smaller sample size, or to the effects of age, for which the two groups could not be matched. A higher number of parent reported problems have been found to characterize first-born children (Schrader and Leventhal, 1968) but since in over half the current sample the epileptic child was the youngest of the family this criticism does not apply.

That the difference in rating of "disturbance" between epileptic children and their siblings reached significance in the case of parents, and not in the case of the teachers, requires elucidation. While the lack of correspondence between teacher and parent classification of an individual child accords with the Isle of Wight findings, the fact that parents perceived a greater number of the epileptic children as deviant does not. Several explanations suggest themselves: behaviour is, of course, situation-specific (Mitchell and Shepherd, 1966), but this in itself does not account for the data. Tizard's (1968) analysis pointed to the many false positives obtained using the questionnaires, but this would not explain the discrepancy—a suggestion strengthened by the finding of no significant differences between the teachers' school report ratings of the two populations behaviour in relation to the rest of the class.

There is ample evidence supporting the contention that teachers can reliably and validly report overt, discrete aspects of pupil behaviour (Phillips, 1968) and research indicates that parents are extremely conscious of the stereotypes held by others of epilepsy, and that these often constitute expectations about their own child (P. West, personal communication). Holdsworth and Whitmore (1974) point out that a great many teachers in their sample "did not appreciate the association between epilepsy and undesirable behaviour". Parents in this sample, however, clearly did, and contrary to concepts such as "autistic hostility" (Newcomb, 1947), it has been found that, for some, contact with sufferers from epilepsy can confirm and generate "negative" stereotypes (Harrison and West, 1977). Clearly much parent-child behaviour can be interpreted idiosyncratically on the basis of expectancies which stem from knowledge of each other. Halverson and Waldrop (1970) hypothesized that mothers would behave with their own children partly on the basis of expectancies about their performance which would not be operative with other children. The mothers of boys rated (by their teachers) as being more uncontrolled, fast moving and impulsive, seemed to be "set for trouble" and instituted more negative, controlling behaviour in the absence of behaviour that would promote the response. It is not difficult to draw an analogy here between such findings and the above data indicating parental expectancy of emotional difficulties for their epileptic children. Symbolic interaction theory (Spitzer and Denzin, 1968) would suggest that children with epilepsy may come to internalize views which other people hold about them, and behaviour would differ accordingly. We would

thus expect parents of epileptic children to perceive a higher rate of behaviour anomalies among them and the data suggests that this is the case.

A slightly higher rate of psychiatric disorder has been found among those epileptic children whose condition has been publicly identified by a restriction on physical activities (Rutter *et al.*, 1970). Repertory grid results, indicating different expectancies for participation in sporting activities, but none for constructs such as stamina, lead to discussion of the restrictions placed on the present sample. Scores on the self-direction section of the Manchester scales lend support to the notion of a lowered willingness among parents to confer responsibilities on the epileptic children. Further, a significant minority were more actively restrictive than was considered necessary by professional guidelines for the child's safety. Thirty-two per cent of parents felt that epileptic children needed constant supervision, and basic to these attitudes may be the confidence or lack of such that parents place in their child's ability to cope with a seizure outside the family setting. If the child perceives his parents' doubts concerning his own ability to operate effectively and independently now and in the future, he may incorporate these doubts into his own self concept. "Mother will not allow her to lead a normal life" wrote the teacher of an epileptic child in the study, "she has conditioned her to be an invalid". Perhaps linked to this is the parental expectation that their child will be "highly strung" and "unpredictable" and explains the closer association between the epileptic and the diabetic child than between other stereotypes—both expected to differ from the norm and both examples of individuals dependent on regular medication to retain "normality".

That such attitudes may affect the child's ability or willingness to interact with his peers has face validity. In accord with other findings (Mulder and Suurmeijer, 1977), stronger maternal attachment was found in the epileptic children than in their siblings. While the responses of outsiders on children's friendship patterns may not be quite the same as the replies which would be given by the children themselves, it has been shown that teachers' ratings accord with sociometric ratings (made by children) in this respect (Gronlund, 1959). Teachers in this sample rated the epileptic children as significantly more solitary, a finding in agreement with that of Hackney and Taylor (1976). This may reflect other children's reactions to an unusual disorder which somehow sets their classmates apart. Mothers indicated that their epileptic children were more subject to feelings of loneliness and to the feeling that people were "against them"; their out-of-school activities were also described as more solitary. Current findings, indicating a lower self concept among the epileptic children, support this view.

The feeling of being different may be affected by the parents' willingness to talk freely about epilepsy, and by the amount of information they possess on the subject. "Parents knowing of their child's stigmatic condition", writes Goffman (1963), "may encapsulate him with domestic acceptance and ignorance of what he is going to have to become. When he ventures outdoors he does so therefore as an unwitting passer. . . . At this point his parents are faced with a basic dilemma regarding information management, sometimes appealing to medical practitioners for strategies." One third of parents never discussed their child's fits with him frankly, four did not know what kind of fit their child had had, four did not know what to do if their child had a fit at home, and half felt that children with fits were "slow learners".

Although this study was carried out around the well publicised "Epilepsy Week" more than half of parents had never read about epilepsy. Among the more popular of explanations proffered for the cause of fits were those pointing to correlative medical events (injections, measles, etc.) or differing cognitive states (worry, stress, nerves, excitement etc.). A consistent finding throughout the sample was the frequency with which parents confessed to doubts and worries about their child's condition but felt concomitantly that either their specialist did not have time to deal with matters of this type or, since these might seem trivial to an outsider, refrained from asking about them.

Given the presence of such doubts it is not surprising that, in the absence of appropriate guidelines, many parents may adopt controlling and restrictive practices to insure against the possible effects of the unknown. The results can be dramatic: in Hauck's (1972) study, 61 per cent of the children of "autocratic" parents still had seizures despite three years of adequate medication. Of the "non-autocratic" parents, 61 per cent of the children were seizure free. The difference was significant and compatible with Hoff and Strotzka's (1960) theory whereby continual inner tensions such as fear and aggression can lead to accumulation of seizures and lack of response to proper medicinal treatment.

The effects of parental expectations on the child's functioning (lowered self concept, relative social isolation) and on the parents' (restrictiveness, controlling behaviour) are suggestive rather than conclusive. The findings are tentative and in need of replication with sex, type of seizure and drug treatment controlled for in larger family samples. Since the siblings in this study were so frequently rated by their parents as deviant (20 per cent) further investigations might usefully incorporate matched controls for both child groups. This said, the foregoing data and its possible implications strongly support Stores (1976) contention of a very considerable need felt by parents for even basic information and advice about the nature and management of childhood epilepsy.

SUMMARY

Parental expectations for their epileptic children were compared with those held for their non-epileptic children. Parents were found to be less optimistic about their epileptic child's future achievements. These findings were linked with greater restrictiveness on the parents' part, and the epileptic child's lower self-esteem and academic achievement. The disparity between parent and teacher ratings of behaviour was discussed.

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The following group design study combines a survey with a within-subject experimental design, and is the first of a series of studies undertaken on the addiction unit at St Andrew's Hospital. They concern the subjective expectations and predictions of problem drinkers regarding treatment and factors that influence post-treatment functioning.

This study by Long & Cohen (1989), developed from clinical observations concerning (a) a seeming polarisation of opinion on the usefulness/dangers of low alcohol drinks among problem drinkers and (b) an inability to give research based advice on the usefulness of low alcohol drinks to problem drinkers. The full details are:

Long, C.G. & Cohen, E.M. (1989) Low alcohol beers and wines: attitudes of problem drinkers to their use and their effect on craving. British Journal of Addiction, 84, 777-783.

Low Alcohol Beers and Wines: attitudes of problem drinkers to their use and their effect on craving

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Summary

Thirty-one inpatient and 67 outpatient problem drinkers' use of low alcohol drinks and their attitudes towards them were assessed using questionnaire measures. Self ratings of craving for alcohol were made before and after exposure to and optional tasting of low alcohol drinks. Problem drinkers were found to have a generally favourable view of low alcohol drinks, and they claimed that use of these drinks did not contribute to relapse. However, craving for alcohol was found to be significantly raised over baseline after exposure to low alcohol drinks. A significant correlation was found between this increase in craving and severity of dependence as assessed by the SADQ.

Introduction

Despite the increasing popularity of the consumption of non-alcoholic and dealcoholized beverages, comparatively little research has been carried out as to the effects of these drinks on the consumption of alcohol, and the desire to consume it among the normal and problem drinking populations. A survey by Whitehead & Szandorowska (1977) found that following the introduction of a Canadian 'low alcohol' beer 'Cool Spring', it was being used in place of stronger beverages. However, in 6.8% of the drinking situations identified for study (lunch, dinner, sports and games, social activities, watching TV, reading and participating in hobbies) the use of the product was additive, since no alcoholic beverage had previously been consumed there. More ominously, a significant proportion (13%) of the 76 people surveyed, showed additive consumption in at

least one and as many as three situations. Recently, Skog (1988) also failed to find good evidence of a substitution effect following the introduction of a new light beer in Norway. These studies confirm a trend evident since World War II where new consumption habits have added to—rather than substituted—new drinking patterns (Popham, Schmidt & Delink, 1976).

The difficulty in extrapolating from the results of the Whitehead & Szandorowska (1977) study, for example, is that the beverage studied was only low in alcohol in comparison to other Canadian beverages. Containing 3.9% alcohol by volume, it is little different to the majority of British beers. In Britain and America, there would appear to have been a generally favourable public reaction to a wide range of beers and wines containing trace amounts of ethanol (less than 1% by volume) which are currently labelled 'low alcohol' (Schaefer, 1987). It is with these products that this paper is concerned. A Gallup poll conducted in the Summer of 1985 showed that 25% of Americans had sampled a low

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alcohol drink (Schaefer, 1987). In Australia, low alcohol beers have also had some commercial success, capturing between 8% and 20% of the packaged beer sales market (Young, 1984). Proponents of the 'Socio-cultural approach' to the prevention of alcoholism advocate the integration of alcoholic beverages as an ordinary and accepted part of daily life and perceive low alcohol drinks as an important method of accomplishing this end (Whitehead & Szandorowska, 1977). They point out that in addition to lowering the risk of intoxication, they may hold much appeal for women who collectively consume more of their alcoholic beverages in the form of mixed drinks. Despite the technological achievement of producing low alcohol beers (less than 1% alcohol by volume) that cannot be distinguished from stronger beverages when taste is the only available cue (Milner, 1979; McLaughlin, 1988) there is resistance to their use by the young/heavy/problem drinker which appears to be due to social and cultural reasons. Informal interviews with male regular beer drinkers found that many derided low alcohol products as lacking quality, as failing to give a 'lift', as gassy and as not suitably macho. Unlike women, taste is not an important consideration for young males, who rank refreshment and alcoholic effects as their primary and secondary reasons for drinking beer (McLaughlin, 1988).

Despite recent work showing the use of non-alcoholic drinks posed minimal *health* risks in terms of chemical dependency, Foetal Alcohol Syndrome, and hypertension (Schaefer, 1987) the psychological effects of their consumption are largely unknown. There is of course research supporting the idea that an 'alcohol like' effect (the expectancy effect) may accompany the consumption of a non-alcoholic drink that tastes, smells and looks like an alcoholic drink (Marlatt & Rohsenow, 1980). However, the use of products clearly identified as low alcohol beers and wines by problem drinkers and their possible role in prompting alcohol consumption is more controversial. 'Craving' is of course a much debated topic in the alcohol literature (Kozlowski & Wilkinson, 1987), but when seen as a subjective state at one end of the motivational continuum, its importance lies in its ability to undermine a would-be ex-drinker's will to abstain or to drink in a controlled fashion. Pomerleau and co-workers (Pomerleau, 1981; Pomerleau *et al.*, 1983) have described this phenomenon in terms of a conditioning model of alcohol dependence. The studies in which alcoholics have been exposed to

stimulae associated with drinking has shown that craving, or desire for a drink, can be elicited by environmental cues alone, or potentiated when paired with alcohol consumption (Laberg & Ellertsen, 1987). Kaplan *et al.* (1983) and Cooney *et al.* (1984) reported that conditioned environmental stimuli elicited cognitive 'craving' and physiological 'autonomic arousal' changes that may in turn elicit the operant behaviour of drinking.

Hodgson (1980) has argued that the craving concept is useful in describing a drive state, often associated with a lapse into problem drinking. While the effects on craving of priming doses of both soft and alcoholic drinks in combination with cue exposure has been studied (Laberg & Ellertsen, 1987) the effects of low alcohol drinks have not. Our interest in the relative merits of low alcohol products sprang from the following clinical considerations:

- (1) The need to help policy or 'partyline' within our own Addiction Unit on the topic of low alcohol drinks.

- (2) An apparent polarization of opinion among patients regarding the usefulness of low alcohol drinks. These views ranged from those who saw the products as an acceptable substitute for alcohol in social and other situations, to those who saw their use as perpetuating problem drinking styles, and who by implication regarded trace amount of ethanol as dangerous priming doses that would lead to escalation of drinking and relapse. This view is echoed by the National Council of Alcoholism's (1985) statement that those who chose abstinence should avoid non-alcoholic or dealcoholised products: "There is no safe level of alcohol consumption for alcoholics" (Schaefer, 1987).

With these considerations in mind, the major aims of this study are to:

- (1) Examine attitudes to low alcohol beverages among inpatient and outpatient problem drinkers.

- (2) Assess the effect of low alcohol beer/wine on the subjective experience of craving.

- (3) Assess the consumption of these beverages during a 6-month post-treatment period and how helpful they are perceived as being in enabling patients to achieve their therapeutic goals.

Method

General Design

This study used detoxified inpatient and outpatient problem drinkers who had completed more than 1

week of a 5-week therapy programme covering detoxification, education, skill training and relapse prevention strategies.

Use of low alcohol drinks and attitudes towards them were assessed before and after an educational group session, in which the possible advantages and disadvantages of their use were discussed and in which an opportunity was given to taste various drinks. No direct advice regarding the advisability or not of using these products was given. The use of low alcoholic drinks and their role in helping individual problem drinkers maintain their post-treatment resolution was assessed by questionnaire 6 months after discharge.

Craving for alcohol was assessed at baseline (eight ratings made during the weeks before and after the low alcohol drink session), and 1 hour before, immediately before and immediately after the educational session on low alcohol drinks. The following low alcohol beers and wines were available for inspection/consumption: Beers = Barbican, Kaliber (0.5% ethanol), Clausthaler (0.6% ethanol) and Dansk LA (0.9% ethanol); Wines = Wunderbar (0.3% ethanol), Masson Light (0.49% ethanol) Eisberg White and Jungs Schloss Bousenberg (0.05% ethanol). To control for the effects of drinking in convivial company, subjects craving after being given soft, sparkling drinks during an educational session on problem drinking was also assessed. Soft drinks used were sparkling apple juice, sparkling grape juice and ginger beer whose appearance and packaging bore similarity to conventional beer and wine.

Subjects

Thirty one inpatients participating in the Addiction Unit therapy programme and 67 expatients took part in the study. Expatients were those that had replied to a postal survey of 100 subjects. All inpatients had been detoxified between 1 and 8 weeks previously, and their average score on the SADQ measure of dependancy was 20 (range 7-39). There were 68 men and 30 women whose average age was 45.7 years (range 20-74). 53 (54%) had had more than one previous inpatient treatment for problem drinking.

Materials

Questionnaire measures were used throughout. Self ratings of craving were made using a questionnaire in which several ratings related to desire, urge,

preoccupations, etc. were combined into a single craving index. The usefulness of this approach over one rating of craving has been argued by West (1987). The measure adopted in this study used selected items from craving scales used in smoking research by West *et al.* (1984) and Shiffman & Jarvik (1976) and covered craving for alcohol, difficulty in resisting drinking, preoccupation with drinking, urge to drink and missing drinking on a 4-point scale.

Two questionnaires piloted using 'the random probe' technique (Schuman, 1970) gathered information on:

- (1) The use of low alcohol drinks before and after treatment;
- (2) Their usefulness as a substitute for alcoholic drinks in social and other situations.
- (3) Their effect on drinking behaviour.
- (4) Their acceptability over a soft drink.
- (5) Their effect on alcoholic drink-related cognitions.
- (6) Preferences among different types of low alcohol beer and wine.
- (7) The contribution of low alcohol drinks to slips or relapses among abstainers.

In addition, a semantic differential measure of LOW ALCOHOL DRINKS CONCEPT using the bipolar adjectives: good—bad; effective—ineffective; strong—weak; pleasant—unpleasant; helpful—unhelpful; safe—dangerous; interesting—uninteresting; habit forming—non-habit forming, and important—unimportant was administered to all expatients.

Results

Data were parametrically analysed using *t*-tests for related samples. Spearman Rho correlations and Chi square were also computed for selected variables.

Craving Before and After Session

Data on craving before and after low alcohol and soft drinks sessions, are shown in Fig. 1.

Pre-session craving did not differ significantly from base-line ratings ($t=1.9$, d.f. = 30, $p>0.05$). However, craving was significantly raised over baseline ($t=3.3$, d.f. = 30, $p>0.01$) after subjects had participated in the low alcohol drinks session. Further analysis indicated there were no differences between subjects who had tested the low alcohol drinks during the session and those who had not

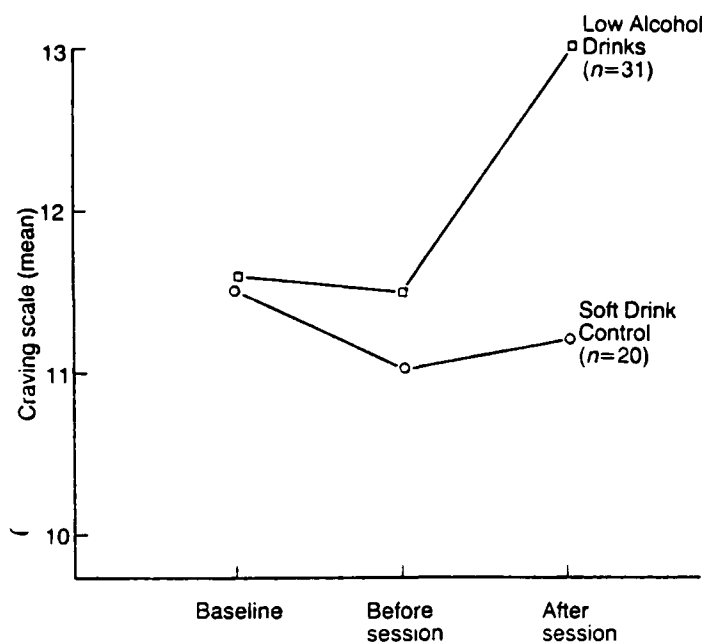


Figure 1. Inpatient problem drinkers' craving for alcohol at baseline, before, and after (i) low alcohol drinks session and (ii) soft drink control session. Craving was assessed by an eight-item questionnaire; the highest possible score is 32.

(Chi square=0.023, d.f.=1, $p>0.05$). The actual amount consumed by those who did sample was small. Drinks were dispensed in standard wine glasses which were given to patients one third full (5 ml). Although no formal recordings were made, observation suggested that the majority of samplers drank 10 ml of low alcohol beer or wine in the session. The range of consumption varied from one sip to 1½ wine glasses of liquid (approximately 22 ml). There was no increase in craving over baseline after the soft drink control session ($t=0.31$, d.f.=19, $p>0.05$).

A significant correlation between severity of

dependence as assessed by the SADQ and an increase over baseline for post-sessions rating of craving was found ($Rho=0.384$, $N=20$, $p<0.05$). But no relationship was found between post-session increase in craving over baseline and the variables of age and length of drinking history.

Attitudes to Low Alcohol Drinks

(a) *Semantic Differential* ($n=67$). Ratings of the concept of Low Alcohol Drinks (see Fig. 2) showed that subjects viewed them as weak, unimportant, and non-habit forming. They were also seen as uninteresting, unpleasant and ineffective, but they were perceived on average as neither good nor bad, neither safe nor dangerous, neither helpful nor unhelpful, and neither useful nor not-useful.

However, these average scores hide a polarization of opinion among problem drinkers concerning the dimensions safe—dangerous and useful—not useful (see Fig. 3 and Fig. 4).

(b) *Questionnaire Response—Inpatients* ($n=31$). Two thirds (65%) of the sample have used low alcohol drinks prior to their current treatment. Of these one in five (19%) have been using low alcohol drinks on a daily basis, while 24% estimated that they used them once a week. The majority of the sample (79%) rated their general attitude to low alcohol drinks as 'favourable'. They disagreed with the idea that low alcohol drinks were a contributory factor in relapse (89%) and with the idea that they increased the tendency to visit pubs (79%). Forty-two per cent of those who had previously used low

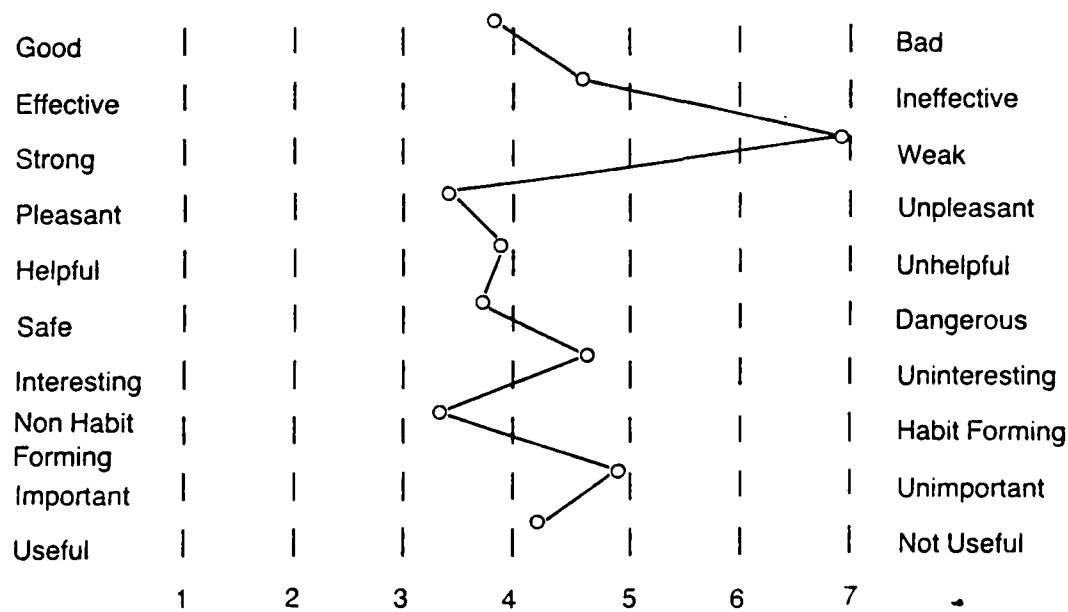


Figure 2. Problem drinkers' views of low alcohol drinks (means), assessed using semantic differential ($n=67$).

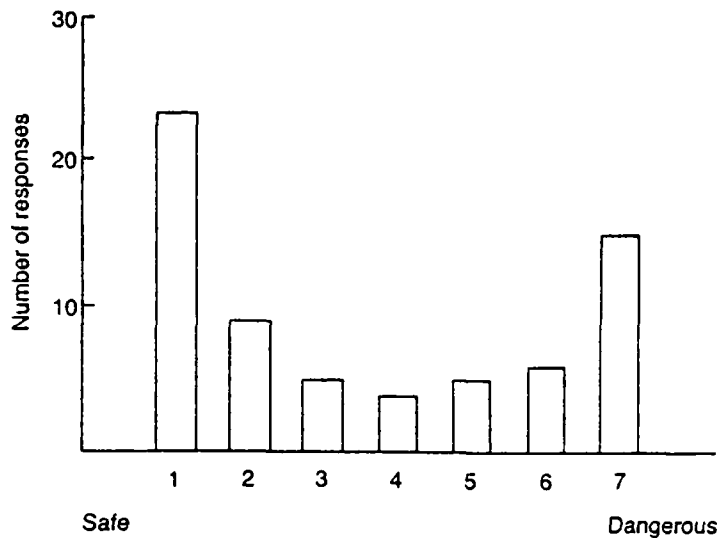


Figure 3. Distribution of problem drinkers' ratings of low alcohol drinks along the Safe—Dangerous dimension ($n=67$).

alcohol drinks felt that they helped to cope with the urge to drink alcohol.

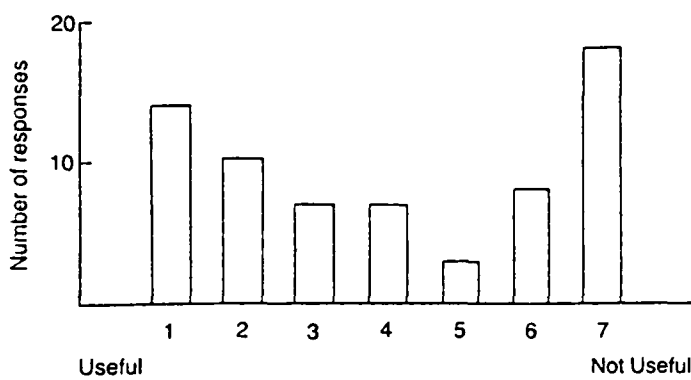


Figure 4. Distribution of problem drinkers' ratings of low alcohol drinks along the Useful—Not Useful dimension ($n=67$).

They disagreed with the idea that the use of such drinks increased craving for a 'real drink' (84%) and the idea that their use lead them to think more about alcohol (79%). Opinions of the usefulness of low alcohol drinks in social situations was, however, divided. Half the sample (58%) felt that low alcohol drinks would be most acceptable alternatives to alcoholic drinks and were useful in helping them to join in at pubs and parties (47%). Only a small number (21%) felt that their use helped to avoid questions about being 'on the wagon'.

The majority (70%) of the subjects participating in the low alcohol drinks educational session sampled these products. Individuals who had previously sampled low alcohol beers were found to have tried the majority of popular brands readily available in this country, the alcoholic strength of which range

from 0.05% to 1% of ethanol. However, the most acceptable beer (preferred and intended to be drunk by 38% of those who sampled products) was one that was 0.05% alcohol (Kaliber). The most acceptable of four wines tasted was Masson Light, preferred by 28% of samplers. A quarter of those attending the session felt that it had lead to an increase in craving for alcohol. When this small sample were questioned as to what they believed to be the reasons for this, the majority stated that it was the sight and taste of the drink that had had this effect. Opinion was divided as to whether the presence of other people drinking had increased craving, and they disagreed with the idea that talking about alcoholic drinks and the smell of them lead to any increase in craving.

Half of the sample described it as their intention to use low alcohol products after discharge (55%) and to buy it for consumption in pubs and clubs (50%) and at home (42%).

Finally it is interesting to note that the educational session, which had aimed to impart an impartial view concerning the merits and demerits of the use of these products, had changed the views of 23% of the sample. Following the low alcohol drink session, only 55% were prepared to use the products after discharge.

(c) *Questionnaire Response—Expatriates* ($n=67$). Half the sample (47%) reported using low alcohol drinks since leaving treatment with a quarter (26%) using these daily, and 40% using these once per week. The vast majority (85%) of expatriates had a post-treatment goal of abstinence and half (44%) felt that the use of low alcohol drinks had helped with this. A similar proportion (39%) felt that they would recommend the use of these products to problem drinkers. Content analysis of comments made suggested that low alcohol drinks were perceived as helpful in a variety of social situations by relieving pressure from others to drink and in making abstinence from alcohol less conspicuous. Some felt that they were most useful in the days immediately after treatment, and in aiding the abstinence days of a controlled drinking programme. Only one individual commented that the use of low alcohol drinks satisfied the craving for an alcoholic drink.

Although 48% had not had an alcoholic drink since leaving, only 6% (two individuals) considered that non-alcoholic drinks had contributed to a slip/relapse. In both cases the individuals reported continuing to drink these in the same places and quantity they had used alcohol.

Discussion

Semantic differential ratings of low alcohol drinks convey a generally negative view of these products, but opinion is divided as to their safety and usefulness in social contexts, and in terms of their use as an aid to abstinence. Despite this, the study suggests that up to 50% of problem drinkers use low alcohol drinks, both when they are attempting to abstain from alcohol and in association with or in close proximity to problem drinking. It may be therefore that the association of low alcohol drinks with an addictive lifestyle has increased the ratings of their 'dangerousness' or 'ineffectiveness' made by patients.

The finding of an increase in subjective ratings of craving, following exposure to low alcohol drinks, accords with the research of Pomerleau *et al.* (1983) Mann *et al.* (1984) and Laberg & Ellertsen (1987) who also found higher ratings in response to alcohol cues in problem drinkers. It is possible that the differing content of the two educational sessions in the current research represents a confounding variable, e.g. the problem drinking/soft drink session may have been more stressful than the low alcohol drinks session, which might have allowed for rehearsal and elaboration of the positive aspects of alcohol ingestion. However, although it was not possible to present the same material in two different sessions of an ongoing programme, there was much overlap in session content (e.g. a focus on relapse prevention). Further since fewer subjects were inclined to use low alcohol drinks after the session discussing/tasting them it does suggest that it was in some way stressful. The possibility remains though that the increase in craving following the low alcohol drinks group was a situational effect. If such an effect were marked, it would go some way towards explaining the finding of a disparity between ratings of craving following the sight and taste of low alcohol beer and wine, and the denial by the majority of the expatients sampled that the use of these drinks increased their desire for an alcoholic drink or contributed to a relapse. However, this denial can equally be accounted for by the fact that low alcohol drinks need to be ordered by name and category. Accordingly there is an explicit absence of an 'expectancy effect' when they are used.

Despite this, it seems likely that for some problem drinkers, low alcohol drinks alone are very potent cues and it may well be that the recovering problem drinker who habitually consumes these products in an old familiar pattern may develop a yearning for aspects of 'old drinking days' (Marlatt, 1985). Thus

the consumption of low alcohol drinks may trigger responses that challenge coping responses in a way that soft drinks do not in problem drinkers.

That craving was strongest among the most dependant members of the sample, provides further support for a conditioning model of alcohol dependence (Pomerleau *et al.*, 1983). Since expectancy appears to be a stronger determinant of craving than actual alcohol content for less dependant drinkers (e.g. Laberg & Ellertsen, 1987) it may be that patients with higher SADQ scores are more prone to pick up internal cues as CSs to a CR of craving. Since SADQ data was not available for all our outpatient sample (and given that retrospective collection of SADQ data may be less valid) it was not possible to assess whether the strongly bimodal scores on the semantic differential scales of safe—dangerous and useful—not useful differentiated between more and less dependant problem drinkers. A future prospective study to investigate this may prove instructive.

Current findings suggest there may be a role for low alcohol drinks in the treatment of very dependant drinkers by the methods of prolonged exposure whilst failing to reinforce craving by the use of alcohol (Rankin, Hodgson & Stockwell, 1983). Low alcohol beers which provide all the relevant immediate sensory cues (McLaughlin, 1988) would seem well suited for such a relapse prevention procedure with problem drinkers if mood state is first controlled for (Bradley & Moorey, 1988). It must be acknowledged however, that since low alcohol drinks provide a much weaker priming dose, they may be less useful than usual alcoholic drinks in provoking a conditioned learnt relationship. Research comparing exposure to priming doses of alcoholic, low alcohol drinks and to alcoholic drink cues (e.g. an alcoholic drink displaying a brand label) whilst preventing consumption may clarify the best use of low alcohol drinks in this context. In the meantime it is clear that these products have a potentially effective use in relapse prevention training through rehearsal of coping strategies at a cognitive level to deal with the urge to drink.

Two factors may this study worthy of replication with larger and more heterogeneous samples:

(a) Subjects studied were those with private means or health insurance, and this would have ensured a social class bias.

(b) The average age of the current sample was 45 years—this may be important in view of the suggestion that younger problem drinkers may be

less accepting of low alcohol products (McLaughlin, 1988).

At this stage, perhaps the best advice we can give to clients in treatment regarding low alcohol drinks is that whilst these products may be of help in dealing with the social (drinking) situations, their use for many may lead to an increase in craving, at least in the early days of abstinence, that their consumption does not satisfy. In view of this and the fact that the use of low alcohol drinks may bring the dependant drinker more readily into situations where alcohol is available the implications of the study are that clinicians advise their patient against their use.

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The following studies are, likewise, concerned with factors affecting relapse in the broadest sense and, in particular, the relationship of subjective variables to outcome following treatment for problem drinking. Recent studies indicate that cognitive processes are more important predictors of drinking behaviour than had previously been imagined (Goldman, et al 1987; Leigh, 1989). Among alcohol expectancies, beliefs about relapse and recovery constitute an important (but relatively ignored) area (Chiauzzi, 1991). For example, a study by Chapman & Huygens (1988) of an 18 month follow-up of treated problem drinkers found that the most direct predictor of future drinking was the individual's own prediction of the probability that he or she would drink again.

The first of the two studies which follow looks at problem drinkers' own predictions of clinical outcome. In particular the relationship of problem drinkers' expectations, fantasies and self-efficacy to treatment outcome in an area where clinicians often seem to base their prognosis on demographic and historical data, while ignoring motivational and intrapersonal evidence (ref: Edwards, et al 1988; Vannicelli & Becker 1981).

The scientist-practitioner, whilst wishing to use empirical information to inform prognosis, has to be selective and choose the best possible combination of predictors. Recent research attests to the usefulness of distinguishing between expectations and fantasies as predictors of outcome with other clinical populations (eg, the obese - Ottingen & Waddin, 1991). The overlap between expectations, fantasies and the individual's self-efficacy (the persons perception that the or she can cope with a high risk situation) was explored in the following study, where the clinical question of practical significance was deducing which set of measures could be used to recommend type of treatment and after-care based on relapse potential. The full details are as follows:

Long, C.G., Hollin, C.R. & Williams, M. Expectations and fantasies as outcome predictors after alcohol treatment: A useful distinction? (Submitted for publication).

EXPECTATIONS AND FANTASIES AS OUTCOME PREDICTORS
AFTER ALCOHOL TREATMENT
A USEFUL DISTINCTION?



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Running head: EXPECTATIONS AND FANTASIES AS OUTCOME PREDICTORS

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Abstract

The usefulness of distinguishing between alcoholic patients' expectations and their fantasies about treatment outcome was examined. Results at 6 and 12 months follow-up did not support the results of research with non-alcoholic participants which related better outcomes to a combination of positive expectations and negative fantasies about the future. Higher self-efficacy at intake, however, was associated with better clinical outcome. Findings support Bandura's (1986) contention that outcome expectations add little information to prediction beyond that explained by self-efficacy expectations. The clinical implications of these results are discussed.

Key words: self-efficacy; expectations; fantasy; problem drinking

There is a good deal of evidence within the field of problem drinking that demonstrates the importance of patient expectations in determining subsequent behaviour, and in particular, the outcome of treatment. Indeed, Hodgson's (1991) review predicts that expectancies will move "centre stage" in future research, given the accumulation of evidence to suggest that behaviour can be influenced by the expected as well as the actual consequences (Critchlow, 1986).

The work of Sandra Brown and colleagues has been particularly influential in this regard, clearly showing that expectations about alcohol consumption is a powerful predictor of treatment outcome (Brown, 1985). More important, however, has been the link between the belief that changes will be achieved and future behaviour (DiClemente, 1986; Solomon & Annis, 1989). In this sense, self-efficacy theory can provide a unifying mechanism to account for the changes brought about by psychological therapy (Bandura, 1977, 1994). The predictive power of self-efficacy is strong in treatment studies of addictive behaviours, especially problem drinking (Annis & Davis, 1988; Burling, Reilly, Molteen and Ziff, 1989) and smoking (Baer, Holt & Lichtenstein, 1986; Colletti, Supnick & Payne, 1985). For example, Burling et al. (1989) found that the magnitude of the change in self-efficacy scores from admission to discharge was an important outcome predictor. However, results have not always been consistent (Brewin, 1988; Powell, et al., 1993). In contrast to the findings of Burling, et al. (1989), Rychtarik, Prue, Rapp and King (1992) found that problem drinkers with high self-efficacy at the start of treatment showed the greatest resistance to relapse at 12 months follow-up, while self-efficacy at discharge was not related to outcome. However, in a

follow-up study of 43 out-patient opiate addicts that incorporated the client's own subjective predictions of clinical prognosis (self-efficacy, and outcome expectancies), Powell, et al., (1993) found that those with lower self-efficacy and higher positive outcome expectations were using opiates less often. These apparent contradictions between studies can be partially explained by a number of factors. These include the use of different measures of self-efficacy between studies and different indicators of outcome (e.g., days abstinent or quantity consumed) and also the presence of ceiling effects in self-efficacy data (Annis & Davis, 1988). The latter are consistent with the unrealistically high expectations for success often seen in clients at the time of discharge from treatment facilities (Rychtarik, et al., 1992). Indeed, it may be that many clients with lower self-efficacy at discharge are more realistically attuned to potential threats to abstinence and are more likely to take protective measures (Powell, et al., 1993). This accords with Baumeister's (1989) view that a certain quantity of illusory optimism (confidence) is adaptive for healthy functioning.

More recent research in the obesity field has, however, shown the value of differentiating between patients' expectations for outcome and their outcome fantasies (Oettingen & Wadden, 1991). Drawing on the work linking positive expectations with enhanced mental health and well-being (Taylor & Brown, 1988; Scheier & Carver, 1987) and the research on cognitive strategies that facilitate coping with physical illness and medical procedures (Suls & Wan, 1989; Bandura, 1994), Oettingen and Wadden (1991) proposed that expectations may be independent of the tone of the images and fantasies in which people engage in anticipating future events.

Specifically, they suggest that while positive outcome expectations (which fosters the resistance of high risk behaviours), are a powerful predictor of successful performance in many life domains, e.g., achievement, mental and physical health, Bandura 1994; positive fantasies, which are not constrained by the cognitive mechanisms which make people acknowledge factual information (Klinger, 1990), imply an anticipatory assumption of positive future experience and reduce motivation to achieve them. An optimal combination, therefore, would be positive expectations and negative fantasies regarding outcome success. Such fantasies may lead to the development of strategies to cope with the situation. Oettingen and Wadden, (1991) have highlighted the existing use of patient fantasy in cognitive therapeutic procedures advocated for relapse prevention (Marlatt & Gordon, 1985), but the most widespread use of this has been in the area of sports psychology as an additional means of enhancing athletic performance (Whelan, Mahoney & Meyers, 1991).

Consistent with their hypotheses, Oettingen and Wadden (1991) found expectations of success in reaching their goal and fantasies (the stream of thoughts or images elicited by consideration of a high risk situation) to differ in quality and to predict weight change in the obese in opposite directions. The combination of optimistic expectations and negative fantasies favoured weight loss; while the poorest outcome in terms of weight loss occurred in those individuals who displayed positive fantasies but negative expectations. Further work by Oettingen (in press), has extended these findings to other areas such as persistence and success in finding a job, applying to graduate schools, and romantic success. Within physical

medicine, optimistic thinking on the part of the patient helps to prevent the onset of and recovery from physical illness (Scheier & Carver, 1992), while positive fantasies in children with asthma and gastrointestinal disease were related to a less satisfactory health outcome after treatment (Oettingen, in press). The conclusion from an accumulating body of work (Oettingen, in press) is that optimistic expectations seem to develop their beneficial effects on motivation and action when people contrast fantasy and reality. We know of no such work with drinkers despite current research that is examining commonalities and differences in the mechanisms that mediate different addictive behaviours (Clark, Abrams, Niaura, Eaton & Ross, 1991).

If Oettingen's (in press) findings were to generalise to individuals with alcohol problems, they would link together such notions as expectations, self-efficacy, cognitive vigilance and the use of both positive and negative thinking strategies as determinants of "survival" following treatment (Litman, Eiser, Rawson & Oppenheim, 1979; Litman, Stapleton, Oppenheim and Peleg, 1983). In particular, they may indicate that those who are most likely to "survive" (abstain or not relapse) after treatment for problem drinking, are those whose high self-efficacy expectations are allied to negative future oriented fantasies about drink-related situations that serve to maintain their cognitive vigilance. This idea is similar to the notion developed in the sports psychology literature that suggests arousal or even anxiety ("the psych-up" effect), when allied with the ability, or belief in the ability, to manage it, is related to optimal or improved performance (Whelan, et al., 1991).

Currently, the literature on the predictive power of these variables is mixed (e.g., Rychtarik, et al., 1992) and the relative importance of

self-efficacy, positive expectations and negative fantasies have yet to be evaluated over an extended period with alcoholic patients. Further, while Bandura (1977) has argued for the need to distinguish between self-efficacy expectancy, outcome expectancy and outcome value, much research has been dogged by a failure to use a common set of terms or has used similar terms to describe differing phenomena (Maddux, 1991).

The following research aims to investigate the usefulness of distinguishing between subjective expectations and fantasies as a way of improving predictions of post-treatment alcohol use, and to assess whether measures of outcome expectations and fantasies are better predictors of post-treatment drinking than self-efficacy expectancy.

Method

Participants

Participants were 42 (31 male, 11 female) consecutive admissions to a two week day-patient programme for problem drinkers. In all cases, alcoholism was the primary diagnosis according to DSM-III-R (American Psychiatric Association, 1987). The sample had an average age of 45.9 years ($SD = 10.2$), and an average of 12.9 years of education. The majority were married (74%) and in employment (69%) at the time of the study. Although comparable to some other samples (e.g., Solomon & Annis, 1990) they were, as a group, more likely to be married and employed and were somewhat better educated than other samples described (e.g., Rychtarik, et al., 1992).

Setting and Treatment Programme

The study was conducted at an independent not-for-profit hospital which provides an in-patient detoxification service and a two week day-patient treatment programme. Treatment is provided by a multi-disciplinary team of professionally qualified staff.

The cognitive-behavioural treatment programme provides individual counselling and a core group therapy programme that uses strategies of proven effectiveness in alcoholism treatment (Holder, Longabaugh, Miller & Rubonis, 1991), and incorporates the concept of 'matching' clients to treatment (Lindström, 1992; DiClemente, Carbonari & Velasquez, 1992) which have a relapse prevention focus including motivational counselling, self-control training, stress management, social skills training and covert sensitisation, and core group sessions are repeated every two weeks. Behavioural marital therapy and oral Disulfiram is provided following assessment for selected individuals. Patients are encouraged to make their own choice regarding abstinence or controlled drinking, and families are involved as much as possible in assessment and ongoing therapy.

Following discharge patients are encouraged to attend group therapy follow-up sessions on a weekly basis during the first 3 months, and on a fortnightly basis in the 3-6 months post discharge. Participants unable to attend the hospital are put in touch with local support agencies which many include Alcoholics Anonymous.

Procedure

All participants were assessed with a variety of semi-structured interviews and self-report instruments on intake, and were followed up at 6 months and 12 months post treatment.

Intake measures. Tests administered on intake included:

1. The Comprehensive Drinker Profile (CDP, Miller & Marlatt, 1984) as a precursor to the Follow-up Drinker Profile (FDP, Miller & Marlatt, 1987) for gathering information in order to assist with classification of 6 and 12 month outcome status.

2. The Severity of Alcohol Dependence Questionnaire (SADQ, Stockwell, Hodgson, Edwards, Taylor & Rankin, 1979; Stockwell, Murphy & Hodgson, 1983) to measure the degree of dependence on alcohol.

3. The Situational Confidence Questionnaire (SCQ-39, Annis, 1987; Annis & Graham, 1988) to assess Bandura's concept of self-efficacy for alcohol-related situations.

4. The Expectation and Fantasy Questionnaire. This was adapted for problem drinkers from Oettingen and Wadden's (1991) study with dieters and contained items for:

(a) Goal choice and expectation of success. At pre-treatment each subject indicated his or her goal option and how many units of alcohol he or she intended to consume per week after treatment if controlled drinking was the option. Expectation of success in reaching that target was assessed by 3 related questions:

i) "How likely do you think it is that you will achieve the goal you have specified one year from now?"

ii) "Do you feel that you will be successful in the addiction unit programme?"

iii) "How confident are you that one year after this programme is completed, you will have achieved the goal you have specified?"

Questions were answered using seven-point scales (1 = very low, 7 = very high).

(b) Alcohol-Related Fantasy. In this semi-projective procedure to assess the positivity of patient's fantasies, each patient was asked to vividly imagine him or herself as the main character in four drinking related scenarios. The stories were designed to elicit fantasies about the subject's drinking status in social situations, while two described encounters with tempting alcoholic beverages. For example, one scenario read:

It is a year since you left the Addiction Unit. You have friends around for dinner in the evening and they have brought a particularly good bottle of wine with them. It's now midnight and you are alone, clearing away, aware that there is a half full bottle of wine open on the dining room table. As you enter the dining room you imagine.....

Immediately after describing their mental images, participants rated the positivity, negativity and intensity of their images using seven-point scales (1 = not at all, 7 = very) and their imagined level of alcohol use using an eight-point scale (1 = much heavier than present, 8 = abstinent).

Follow-up measures. Tests administered at 6 and 12 month follow-ups assessed outcome status and included:

1. The Follow-up Drinker Profile (FDP, Miller & Marlatt, 1987), a companion form of the CDP for assessing treatment outcome.

2. The Collateral Interview Form (CIF, Miller & Marlatt, 1987), also a companion of the CDP. This is a structured interview technique for collecting information for patients significant others and for corroborating information regarding the validity of patients self-reports.

3. Serum-gamma-glutamyl-transpeptidase (GGT) and mean cell volume (MCV) blood tests used as recommended markers of alcohol intake (Chick, Kreitman & Plant, 1981). These markers of alcohol consumption, initially undertaken on intake, were repeated on all patients at 12 months who indicated that they were abstinent or drinking in a controlled way.

Outcome status. Subjects were classified as either remitted or relapsed at follow-up according to the criteria used by Finney and Moos (1991). Remitted patients were those who:

1. Had not been re-hospitalised for problem drinking in the follow-up period.

2. Had not missed work because of problem drinking in the follow-up period.

3. Had consumed less than five ounces of ethanol (e.g., six pints of beer) per drinking day in the past month.

4. Had consumed less than three ounces of ethanol per day, on average, in the previous month.

5. Had no problems associated with drinking (except for family arguments) in the follow-up period.

6. In addition, remitted patients had GGT and MCV blood test results within the normal range at 12 month follow-up (GGT < 50 i.u./l for men and < 35 i.u./l for women; MCV < 95 fl).

Results

Expectation and Fantasy Questionnaire

The expectation and fantasy questionnaire scales for positivity and negativity displayed a strong inverse relationship ($r = -.80$). The large common variance suggested the formation of a single “fantasy valence” score. This was derived by subtracting the negativity from the positivity scale.

The three questions relating to outcome expectations (“How likely do you think it is that you will achieve the goal that you have specified one year from now?”; “Do you feel that you will be successful in the addiction unit programme?”; and “How confident are you that one year after this programme is completed, you will have achieved the goal that you have specified?”) yielded sufficient internal consistency, as measured by a Cronbach’s alpha of .65, to be combined. A single “expectations” score was derived as the mean response to these questions.

The alcohol use scale was significantly positively correlated to participants’ fantasy valence scores ($r = .68$, $p < .001$). The subjective positivity of fantasies appeared to be associated with low alcohol consumption rather than with any imagined pleasure from drinking alcohol.

Participants’ intensity scores were not significantly related to either the fantasy valence or alcohol use scales ($r = .27$ and $r = .02$ respectively). The intensity values were not included in further analyses.

Relationships Between Intake Measures

Participants reported an average duration of problem drinking of 9.14 years ($SD = 6.96$) and exhibited a moderate level of alcohol dependence on the SADQ as reflected in a mean score of 20.83 ($SD = 12.00$).

Expectation and fantasy valence scores showed a significant positive relationship ($r = .47, p = .002$; expectation: $M = 6.07, SD = 0.76$; fantasy valence: $M = 3.16, SD = 2.61$). Expectation and fantasy valence were also positively correlated with mean SCQ-39 score ($r = .38, p = .018$ and $r = .48, p = .002$ respectively; SCQ-39: $M = 85.31, SD = 14.63$). SADQ and age at intake displayed a significant negative association ($r = -.43, p = .02$; age: $M = 45.90, SD = 10.18$).

Drinking Outcome

Participants' six month and one year drinking outcomes were classified according to the criteria for remitted and relapsed status. There were 25 remitted drinkers at six months while 17 had not achieved remitted status (59.5 per cent and 40.5 per cent respectively). At one year, there were 24 remitted drinkers and while 18 were relapsed (57.1 per cent and 42.9 per cent). Nine of the 42 participants had different outcomes at the six month and the one year follow-up: Five of the six month abstinent/remitted group had relapsed by the next follow-up, while four of the six month relapsed group went on to achieve remitted status.

Values for each of the intake measures were compared for remitted and non-remitted outcome groups (see table 1).

Insert Table 1 about here.

Mean SCQ-39 score was significantly higher at intake for those achieving remitted status than for relapsed participants at six months ($t = 2.15, p = .04$;

remitted: $\underline{M} = 89.44$, $\underline{SD} = 12.81$; relapsed: $\underline{M} = 79.37$, $\underline{SD} = 15.42$) and at one year ($\underline{t} = 4.07$, $\underline{p} < .001$; remitted: $\underline{M} = 92.89$, $\underline{SD} = 9.78$; relapsed: $\underline{M} = 76.46$, $\underline{SD} = 14.56$). Duration of problem drinking was found to be higher for relapsed participants at six months than for the abstinent/remitted group ($\underline{t} = 2.88$, $\underline{p} = .009$; relapsed: $\underline{M} = 12.94$, $\underline{SD} = 8.44$; remitted: $\underline{M} = 6.56$, $\underline{SD} = 4.26$). The duration of the drinking problem was not found to be a significant factor at one year. No other intake measures distinguished between the outcome groups at either follow-up.

Logistic Regression Analysis

Participants' one-year outcomes were further examined using a logistic regression analysis with forward stepwise selection for variable inclusion. The only measure meeting the criterion for inclusion in the model generated by the regression procedure (a score statistic probability of less than .05) was mean SCQ-39 score. The best fit model for classifying outcome groups derived from this single scale was highly significant and resulted in correct classification of 82.05 per cent of the cases ($\chi^2 = 14.47$, $\underline{p} = .0001$).

Initial Drinking Goal

Of the 42 participants, 13 expressed an initial goal of controlled drinking while 29 aimed for abstinence. Participants' expectation scores were significantly higher for those with an original goal of abstinence than for controlled drinkers ($\underline{t} = 2.21$, $\underline{p} = .038$). The abstinence goal group also had fantasies involving lower alcohol use than those who planned controlled drinking ($\underline{t} = 2.86$, $\underline{p} = .009$). There were no significant differences in the

ages, severity of dependence, duration of problem drinking or mean SCQ-39 values between the two goal groups.

In terms of outcome status at one year, there were no significant differences between the abstinence goal group and the controlled drinking goal group (see table 2).

Insert Table 2 about here.

Discussion

The results of the present study provide further support for self-efficacy theory as applied to the prediction of level of alcohol consumption. Drinking related self-efficacy assessed at intake to treatment was found to be strongly associated with the level of alcohol consumption at six months and one year follow-up. These findings confirm those of Rychtarik, et al., (1992) which also extended the analysis of the self-efficacy effect to 12 months post-treatment. Duration of problem drinking, the only other variable predictive of outcome at six months, did not discriminate between outcomes at one year.

Positive expectations alone or combined with negative fantasy did not predict post-treatment drinking and, therefore, the data do not support the usefulness of the expectations/fantasy distinction with problem drinkers. There are several possible explanations for these findings. The first is methodological: the measure of expectations used here correlated with

self-efficacy. This is hardly surprising given that it combines questions related both to outcome expectancy and self-efficacy expectancies. As such, it may be but a 'weak' measure of self-efficacy that adds little predictive power. The current data confirm Bandura's (1986) contention that outcome expectancies (beliefs about the probability that a specified course of action will lead to certain outcomes) add little information to prediction beyond that explained by self-efficacy expectations (beliefs about one's own ability to execute a specified course of action). Bandura (1986) argues that when outcomes are contingent on the environment (e.g., social pressure to drink; praise of others) it is unlikely that outcome beliefs will be closely related to performance. Indeed, Solomon and Annis (1990) found that while outcome expectations did not predict alcohol consumption in 100 male alcoholics at 3 months post-treatment follow-up, self-efficacy at intake of treatment did.

The second explanation for these findings relates to population differences. The current study used a clinical sample in contrast to the work reported by Oettingen (in press) with normal participants. In contrast to her findings we were not able to separate for purposes of comparison participants with negative fantasies and positive expectations, since both these measures correlated with each other. Although expectations and fantasies are different ways of thinking about the future they may not, in critical or challenging situations, have different effects on motivation and action. These findings tend to support Kazdin's (1978) view that efficacy expectations and outcome expectations are "differentially important as a function of the specific client problem" (p.180). These views have also been advanced by Eastman and Marzillier (1984) and Teasdale (1978). Thus, the

interaction between fantasy and expectations may be more or less useful according to the type of problem (clinical or non-clinical) and its severity.

The third possible explanation is that the theoretical debate has not yet been taken far enough. Current data do not confirm Oettingen's (in press) findings that positive thinking in terms of fantasy is detrimental for alcoholic patients. Despite evidence of the dangers of illusory optimism (Baumeister, 1989), current finding also provides indirect evidence for the beneficial value of optimistic thinking since positive expectations were highly correlated with efficacy expectations. Since the benefits of optimistic thinking (even illusory optimism) are dependent on the situation or task in hand (Gollwitzer & Kinney, 1989; Gollwitzer, 1990) it may be that such optimistic thinking and positive future-related fantasies are functional for maintaining the determination to pursue a particularly difficult self-control goal over an extended period of time. Current findings accord more with the idea that expectations and fantasies are an important mutual influences (Singer & Pope, 1978) and that fantasies, by becoming "current concerns", on the eve of discharge from an alcoholism unit may reduce the risk of failure and serve the pursuit of goals by further prompting the individual to consider various plans and weigh future outcome (Klinger, 1990). Indeed, they come over time to increase the "cognitive vigilance" necessary for survival (Litman, et al., 1979; Litman, et al., 1983).

Currently, despite the existence of supportive evidence in other areas distinguishing between expectations and fantasy, its value in terms of adding to predictions derived from intake self-efficacy in the clinical field of alcoholism has yet to be established.

These findings provide further support for the idea that the self-efficacy theory is a useful model for exploring the impact of clinical interventions, especially the prediction of relapse and maintenance (DiClemente, 1986). They add to the current debate about the extent to which “cognitive factors” can usefully predict behaviour and highlight the need for further attention to be given to the roles that behavioural intention, commitment, or a behavioural plan may play in mediating the relationship between behaviour and self-efficacy expectancy and outcome expectancy (Maddux, 1991). In practical terms there may be an increased case for targeting patients with low self-efficacy on intake for special treatment as part of a matching process.

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Table 1
Comparison of Intake Measures by Abstinent/Remitted and Relapsed Outcome Groups at 6 and 12 month Post-treatment

| Intake measure | Outcome group | | | |
|-----------------------------|--------------------|-------|----------|-------|
| | Abstinent/remitted | | Relapsed | |
| | (n = 25) | | (n = 17) | |
| | M | SD | M | SD |
| 6 month follow-up | | | | |
| Age at intake | 45.28 | 10.81 | 46.82 | 9.42 |
| Years of problem drinking * | 6.56 | 4.26 | 12.94 | 8.44 |
| SADQ | 20.28 | 13.21 | 21.73 | 10.27 |
| SCQ-39 ** | 89.44 | 12.81 | 79.37 | 15.42 |
| Expectation score | 6.11 | 0.83 | 6.02 | 0.65 |
| Fantasy valence score | 3.49 | 2.59 | 2.68 | 2.64 |
| 12 month follow-up | | | | |
| | (n = 24) | | (n = 18) | |
| Age at intake | 47.25 | 10.68 | 44.11 | 9.47 |
| Years of problem drinking | 8.21 | 6.16 | 10.39 | 7.92 |
| SADQ | 21.00 | 13.44 | 20.55 | 9.80 |
| SCQ-39 *** | 92.89 | 9.78 | 76.46 | 14.56 |
| Expectation score | 6.12 | 0.84 | 6.00 | 0.64 |
| Fantasy valence score | 3.74 | 2.46 | 2.39 | 2.67 |

* t-value = 2.88, p= .009. ** t-value = 2.15, p= .04.

*** t-value = 4.07, p< .001.

Table 2

One-Year Outcome for Abstinent and Controlled Drinking Goal Groups

| One year status | Initial goal | |
|-----------------|--------------|---------------------|
| | Abstinence | Controlled drinking |
| Abstinent | 10 | 2 |
| Remitted | 7 | 5 |
| Relapsed | 12 | 6 |

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That clinician's own judgments about prognosis may also be important is suggested in research by Eastman & Norris (1982). They found that both alcoholics and their counsellors predicted their relapse at a 75% accuracy rate.

The importance of accurate staff prediction or clinical judgment in routine clinical work is obvious since it determines the type, intensity and duration of treatment for clients. Statistical models of prediction have yet to replace the need for individual judgment but the consequences of inaccurate predictions and judgments can, at best, be unhelpful and, at worst, damaging. There is much evidence from the sociological and psychological literature as well as from medical research, job training and education studies to suggest that staff prediction can exert both positive and negative effects in ways that suggest the operation of self-fulfilling prophecies (Rosenthal, 1966; King, 1974). An early study by Rosenthal & Jacobson (1968), showed that teachers' high expectations had favourable effects on certain children's intellectual development. In a similarly ingenious experiment, Leake & King (1977) conducted personality testing of a group of alcoholics in treatment, and then informed their counsellors that certain patients (actually chosen at random) were very likely to show remarkable recovery, based on their test results. At one year follow-up these patients showed significantly better outcomes than others receiving the same treatment programme. Apparently, the therapist's expectations influenced patient's motivation and outcome.

The accuracy and hence the value of clinician's judgments is consequently a matter of some concern, especially on addiction units where therapy is often focused and short-term, and where accurate matching of patient to treatment type is a major aim of cost effective care (Lindström, 1992). What factors are taken into account by those who show sound clinical judgment and whether clinicians can be trained to improve their powers of

prediction, are important empirical questions. The following study, which has been submitted for publication, examines staff predictions of outcome following treatment for alcohol abuse, and the differences between good and poor judges. The full details are as follows:

Long, C.G., Midgley, M. & Hollin, C.R. "Therapist prophecy revisited: Staff Prediction of Outcome Following Treatment of Problem Drinking" (submitted for publication).

THERAPISTS' PROPHECY REVISITED:

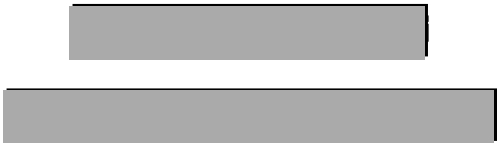
STAFF PREDICTION OF OUTCOME

FOLLOWING TREATMENT OF PROBLEM DRINKING

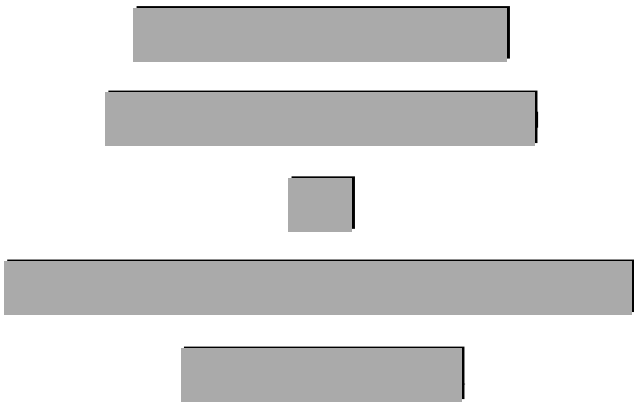
CLIVE G LONG



MARIE MIDGLEY



CLIVE R HOLLIN



ABSTRACT

This study examines the ability of staff to predict outcome at 6 months and one year in 54 problem drinkers. Staff as a group were able accurately to predict drinking status, emotional adjustment and social support but there were marked individual differences between staff. Good predictors were more senior staff who had more addiction unit experience. Predictions of drinking status by good judges appeared to be associated with patient self-efficacy, and coping response style in addition to predictions of future emotional adjustment and determination to succeed. The clinical implications of these findings are discussed including the need for clinicians to make greater use of the research on clinical judgment.

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INTRODUCTION

The ability to predict with some probability of success which treatment will be of most benefit to individual patients is essential in treatment selection. The role that clinicians should play to achieve better predictions than statistics has taxed individuals since World War II (Sarbin, 1943). Nearly 35 years after his 1954 landmark book "Clinical v. Statistical Prediction", Meehl (1986) claimed that there was very little reason to change his conclusion regarding the superiority of statistical prediction. This conclusion was also affirmed by Dawes, et al, (1989). Since then most reviewers (eg, Salovey and Turk, 1991; Lindstrom, 1992) have emphasised the basic notion that clinicians are decision makers just like any other decision maker, and their judgmental powers are probably no better and no worse than anyone else's. Clinical prediction involves integration of different kinds of data (a task that is particularly difficult for humans - Fischhoff, et al 1983), and experts "incorporate biases and ineffectiveness as well as true expertise" (Elstein, 1988 p22). Indeed, clinicians are prone to certain kinds of prediction errors, such as "confusion of the inverse", overlooking the unreliability of data, being influenced by the consistency of redundant data, and ignoring both consensus information and base rate information (Gambrill, 1990).

In view of these experimental findings, it is hardly surprising that studies of clinicians' predictions of treatment outcome have produced inconsistent results. Most studies of staff prediction have examined mixed psychiatric populations. In the study by Lasky, et al (1959) of psychiatric patients, staff were found to make generally accurate predictions of psychiatric patients post-hospital adjustment (especially about work adjustment), although professionals tended to be poorest at predicting in their own area of specialisation. Thus,

Occupational Therapists were the poorest at predicting work adjustment, and Social Workers were poorest at predicting family adjustment. They also found a significant correlation between the weight of the patients' files and outcome! Several other studies (Martin, et al 1977; Lindsey, et al 1976; Ritson, 1969) indicate that staff can predict clinical outcomes with some degree of accuracy, when outcome is measured in terms of change in the Thematic Apperception Test (TAT), the Minnesota Multiphasic Personality Inventory (MMPI), the Brief Psychiatric Rating Scales (BPRS), Diagnostic Interview Data, Subjective Discomfort and Drinking Status.

However, in the Penn psychotherapy project (Luborsky, et al 1980) of therapists' predictions (made after one to two sessions) the outcome of psychoanalytic psychotherapy, was largely unpredictable. In an earlier study (Luborsky & McLellan, 1978) staff predicted the post-treatment adjustment of 50 opiate addicts six months after treatment. While there was agreement amongst staff on post-discharge prognosis, only one judge's ratings correlated significantly with actual outcome. The successful judge was a veteran nursing assistant who felt that the patients treated him "like one of them".

Despite the potential effects of staff expectancies in exerting both positive and negative affects on treatment outcome (Leake & King, 1977), only four studies have examined the relationship between staff predictions and outcome in alcoholic populations (Ritson, 1968, 1969; Vannicelli & Becker, 1981; Schuckit, et al 1993). In both studies by Ritson (1968, 1969) staff were asked to estimate patients' prognosis at the time of discharge - rating prognosis as poor, doubtful, or promising - and these ratings were compared with the actual drinking status of the patient six months later. In both studies, staff predictions were significantly correlated with observed drinking status. In the study by Vannicelli & Becker

(1981), 15 staff predicted the participation in aftercare, success with abstinence and the family and work functioning, of 100 alcoholic patients after three or more weeks of an in-patient stay. Staff responses were averaged to give a single prediction for each patient, and this was correlated with actual outcome at 3, 6 and 12 months. Although staff were more accurate than their alcoholic patients in predicting post-discharge role performance, they were far less accurate in their predictions of future drinking. Staff seemed to base their predictions on patient characteristics, rather than on motivational (personality) factors. In the most recent study of staff prediction (Schuckit, et al 1993) subjective ratings (an average score of 4 staff using an 0-10 scale) of 3 month drinking outcome were obtained for 375 male primary alcoholics to examine whether these would add to the predictive power of more objective variables. A smaller sample (N=101) was followed up at 12 months. Data obtained indicated that while staff were important predictors of short term (3 months) outcome their ratings added little to longer term (12 months) outcome prediction.

There are several possible reasons for this inability to predict, in addition to the prediction errors described by Gambrill (1990). These include the lack of sensitivity of available measures of prediction, the complex and fluctuating nature of the natural history of alcoholism (Ludwig 1972), and the multiple uncontrollable variables that impact on outcome (Schuckit, et al 1993). Further, there is experimental evidence that having more information does not necessarily lead to better staff predictions (Bartlett & Green, 1966). There is an enormous body of research that would lead one to expect that the correlation between behaviour predicted in one context and observed in another, would be low (Mischel, 1968). Since Hartshorne and May's (1928) finding that the assessment of "moral character" was specific to the context in which it was measured, scores of investigators have reluctantly concluded that the cross situational consistency of any type of behaviour, rarely exceeds

the “sound barrier” (Arthur, 1971) of a .40 correlation coefficient. A major problem is that the residential settings in which predictions are made, differ in obvious ways from the open community situations that are the truest tests of predictive validity.

Others have noted that many studies that have attempted to predict future behaviour in clinical populations, fail to use individual clinical assessments and have, therefore, failed to prove that clinicians are poor predictors (Litwack & Schlesinger, 1987). Research has yet to address the issue of individual differences among mental health professionals regarding predictive validity, (Monahan, 1981), and to establish which specific aspects of the patient are being used to evaluate outcome potential. In some studies predictive ability seems to vary by profession (Lasky et al, 1959; Sepejak et al, 1983), and is related to the level of professional training (Sandell, 1991; Shapiro, 1977). Several researchers (Luborsky, et al, 1980; Luborsky & McLellan, 1978) have shown that judges vary as predictors. Sandell (1988; 1991) has shown that the ability to predict psychotherapeutic outcome varies systematically between individuals and it is more prevalent among certain categories or people or professions than among others. For example, psychiatrists and psychologists have been found to be somewhat better predictors than nurses or social workers (eg, Sepejak, et al 1983). Good judges utilise more information and have more adequate ideas about its validity while poor judges use negative information positively (Sandell, 1991). Good judges also leave room for intuitive non-formalised judgment. Whether these differences would generalise to mental health professions predicting the outcome of treatment for problem drinking is, as yet, unknown.

The major aims of this study are, therefore, to determine:

- (1) Whether there is a relationship between treatment outcome and staff perception of patients' performance in treatment, determination to succeed, ability to cope with stress, and degree of control over alcohol and drug use.
- (2) Whether there is a relationship between staff expectancy and treatment outcome, concerning:

drinking behaviour, emotional adjustment, marital and family adjustment, social support, use of after-care resources, carrying out discharge plans, and legal problems related to alcohol use.
- (3) Whether clinical staff's ability to predict the outcome after treatment of their problem drinking clients, varies according to profession and level of experience and training.

METHOD

PARTICIPANTS

(a) Patients (n = 54)

Fifty-nine patients who had completed four or more weeks of a five week residential/day patient programme for problem drinking, were asked to participate. Five refused to enter the study.

(b) Staff (n = 11)

Eleven staff members (two Consultant Psychiatrists, one Senior Registrar in Psychiatry, one Consultant Psychologist, two untrained Assistant Psychologists and six Counsellors) participated in the study. Counsellors had a professional background in nursing (4) and Occupational Therapy (2). Years of experience in mental health settings following professional training varied from 2 to 20 years, while years spent treating problem drinkers varied from one month to 10 years at the start of the study.

TREATMENT FACILITY AND PROGRAMME

At the time of this study, the treatment facility offered an intensive 5 week residential/day patient programme that emphasised goal choice and individual responsibility. The length of

stay was determined by individual needs and circumstance. Drinking was not permitted during attendance, and all patients were expected to participate fully in a therapeutic milieu that was cognitive-behavioural in orientation, focused on skills training and relapse prevention. In addition to daily group therapy sessions, patients had individual sessions with a counsellor and psychiatrist, and were given the option of attending a local AA meeting during their stay.

An ongoing after care (open group) programme (to which patients were introduced during their stay), was offered to all patients twice weekly. Patients were free to attend as many groups as they wished, over as long a period as they required.

PROCEDURE

Within 10 days of admission descriptive data were gathered using the Comprehensive Drinkers Profile (Miller & Marlatt, 1984) and the outcome measures described below. A few days before discharge staff completed prediction questionnaires about patient's future behaviour. These predictions were compared with objective data gathered at six months and one year follow-ups.

At six months patients were followed up by telephone and mail, and completed a short battery of measures, including the Follow-up Drinkers' Profile; (Miller & Marlatt, 1987) and a measure of self-efficacy.

At one year patients were visited and interviewed in their homes, along with their spouse/partner or other informant. A comprehensive battery of measures was completed, and data was gathered on participation in aftercare.

MEASURES

A. During Treatment

- 1) ***Prediction Rating:*** These were completed by staff on patients who had received four or more weeks of inpatient treatment on the day of their leaving. Using a 6 point bipolar forced choice scale, ratings were made on: (i) treatment performance (overall rating on performance in treatment and relationship with other group members); (ii) current level of stress and ability to cope with stress: (iii) determination to succeed: (iv) control over alcohol. They were also asked whether they had insight into (understood) their difficulty, and whether they had persevered with treatment.

Future related predictions (based on a 6 point bipolar forced choice scale) concerned: (i) future drinking (whether likely to drink again; to be re-admitted for treatment for drink problems; to return to problem drinking): (ii) substance dependency: (iii) emotional adjustment (whether likely to be prone to negative mood states such as depression or anxiety): (iv) Marital adjustment (whether likely to establish good relationships with spouse/partner): (v) social support (from friends or family): (vi) use of after-care (AA; follow-up group; individual counselling): (vii)

carrying out of discharge plans: (viii) achieving life goals: (ix) legal problems related to alcohol abuse.

Questions were counter-balanced so that in some cases a score of 1 or 2 indicated good outcome and in other cases, 5 or 6. When converted for purposes of analysis patients given a score of 5 or 6 were defined as those predicted to have a good outcome.

2) ***Comprehensive Drinker's Profile, CDP (Miller & Marlatt, 1984):*** The CDP is a highly structured individual interview of 88 items, organised systematically to collect objective and subjective information classified as "demographic", "drinking", and "motivational". Selected items included 8 from the motivational section to cover reasons for drinking, effects of drinking, life problems, use of outside help together with goal choice and perceived chance of achieving this, whether alcoholism was perceived as a disease or bad habit, and a participant's rating of the drinking habits of themselves, their spouse and a friend. Selected items from the "drinking" section covered drinking history, drinking locations, the use of other drugs, and the Michigan Alcoholism Screening Test (MAST; Selzer, 1971). The MAST is a 25 item list of common signs and symptoms of a generic alcoholism, and in addition generates a second score of alcohol dependence. The CDP was completed by the patient (with the help of their keyworker) within a few days of admission or if necessary following detoxification.

3) ***Situational Confidence Questionnaire - SCQ-39 (Annis, 1987; Annis & Graham, 1988):*** This 39 item self-report questionnaire designed to assess Bandura's concept

of self-efficacy for alcohol-related situations: it was used at weeks 1 and 4 of treatment, and at 12 month follow-up.

- 4) ***The Processes of Change Questionnaire - POCQ (DiClemente & Prochaska, 1985)***: A 44 item self-report questionnaire administered during treatment which uses 5 point Likert scales, ranging from “repeatedly” to “never”, to rate 12 change processes in dealing with problem behaviours. These processes have been identified in studies examining smoking cessation, exercise adoption, weight loss, alcohol abstinence and with general psychotherapy problems (Prochaska & DiClemente, 1986). This was completed during the third week of inpatient treatment.
- 5) ***University of Rhode Island Change Assessment Scale, URICA (McConaughy, et al, 1983)***: A stage of change scale that measures subject’s attitudes towards change on 32 items that represent precontemplation, contemplation, action and maintenance statements. There are 7 items per subscale and responses are given on a 5 point Likert format. Items were written so that they are relevant to a stage of problem drinking. Stage of change profiles confirming DiClemente’s and Prochaska’s (1982) stage model have been found with alcoholism treatment out-patients (DiClemente & Hughes, 1990). This questionnaire was completed by the patient during the week of their inpatient treatment.
- 6) ***Significant Other Scale, SOS (Power, et al, 1988)***: The SOS elicits information on the perceived form and function of social support in actuality, and in an ideal sense for relationships in an individual’s life. The short version used in the study is based on four functions of social support: (i) trusting, talking frankly to and sharing

feelings: (ii) leaning on and turning to in times of difficulty: (iii) giving practical help: (iv) spending time with socially. It assesses the following 7 roles: spouse/partner; mother; father; closest brother or sister; closest son or daughter; best friend; and therapist/professional helper. The SOS was administered during the first week of treatment and at one year follow-up.

- 7) ***The Life Experiences Survey, LES, (Sarason, et al, 1978):*** The LES is a 47 item self-report life stress measure, which allows for separate assessment of positive and negative life experiences, as well as individualised ratings of the desirability and impact of events that is experienced. Ratings on a 7 point scale from extremely negative (-3) to extremely positive (+3) yield positive change, negative change and total change scores. The LES was administered during the first week of treatment and at follow-up.
- 8) ***Religious Scale of the Study of Values, SVR Scale (Allport, et al, 1960):*** This self-report measure of spirituality assesses the individual's "active involvement in traditional religious institutions as a means of making life meaningful", (Hunt 1968, p.70). This was administered during the third week of treatment.
- 9) ***Health and Daily Living Form, HDL (Moos, et al, 1984; Lettieri, et al, 1985):*** Selected items from the HDL covered occupation status, health over the previous 12 months, and coping responses (active cognitive; active behavioural; avoidance coping). The HDL was administered during week 3 of treatment and at 12 month follow-up.

B. Follow-Up

Other measures used only at the twelve month follow-up included:

- 1) ***Follow-up Drinkers Profile, FDP (Miller & Marlatt, 1987):*** A companion form of the CDP for assessing treatment outcome.
- 2) ***Collateral Interview Form, CIF (Miller & Marlatt, 1987):*** Also a companion of the CDP. The CIF is a structured interview technique for collecting information for patient's significant others, and for corroborating information regarding the validity of patients' self-reports.
- 3) ***Family Environment Scale, FES (Moos & Moos, 1986):*** The FES consists of 90 true/false items assessing perceived family social climate. There are 10, 9 item subscales. The subscales Cohesion, Conflict, Active-Recreational and Organisation were completed by both patient and spouse.
- 4) ***General Health Questionnaire 12, GHQ 12 (Goldberg & Williams, 1988):*** This brief measure of mental health distress is a dimensional measure of psychological stress, and a way of estimating the probability that a respondent might be a "case" of psychiatric illness.

RESULTS

(1) Participants

Of the 54 participants (33 males, 21 females), 41 (76%) were married and currently living with their spouse and 11 (20.4%) were separated, divorced or widowed.

55% (N = 29) of the sample were in full-time employment outside the home, and 17% (N = 9) were unemployed. Of the others, 15% (N = 8) were home-makers, 9.4% (N = 5) were retired and 4% were in part-time employment. Social class groupings based on occupation (Office of Population Censuses & Surveys, 1991) were as follows: Class I = 11.4%; Class II = 72.7%; Class III = 13.6% and Class IV = 2.3%. Average years of education was 12.6 (range 11-18). 88% had abstinence as their treatment goal.

The mean age of the sample was 46.7 years (SD 8.58). Mean duration of problem drinking was 7.79 years (SD 5.75), and a mean score of 28.8 (SD 10.3) on the Michigan Alcoholism Screening Test (MAST) indicated severe problems with drinking, while their mean Alcohol Dependence score of 9.8 (SD 4.14) was evidence of definite symptoms of dependence (Miller & Marlatt, 1984).

The average length of in-patient stay for participants was 34.5 days (range 28-49 days). Forty-five (83%) of patients were available for telephone interview at six months and fifty-four (100%) were interviewed in person at one year. A complete data set was provided by 65% of participants at six months and by 94% of

participants at twelve months. Of those patients with a close relative (n = 41), twenty-eight (68.3%) agreed for them to be interviewed.

(2) **Outcome Drinking Status**

Patients were classified according to their drinking status both at 6 months and at 12 months follow-up into Remitted or Relapsed categories following the criteria established by Finney & Moos (1991). In addition, self-reported remitted status was confirmed at follow-up by a collateral report and, on a random basis for self-reports of success by blood test (mean cell volume [MCV] and serum-gamma-glutamyl-transpeptidase [GGT]) data (Chick, et al, 1981). The results at six months and at one year are presented in Table 1:

Insert Table 1 about here

(3) **Staff Group Prediction of Drinking Status**

A composite score for staff predictions of drinking status was based on responses to four items (control over alcohol; likely to drink again; likely to return to problem drinking; likely to be re-admitted for treatment for problem drinking). A score of 20 or more was taken to indicate a predicted successful outcome.

Data indicated that, as a group, staff were able to accurately to predict drinking status at one year ($\chi^2 = 7.407$ df =1, $p < 0.01$).

A one way analysis of variance looking at the two outcome groups at 12 months (ie, relapsed v. remitted) and comparing the scores given to these two groups by staff during their inpatient stay showed that staff's predictions of being more determined to succeed ($F = 4.883$ 1,52 $p < 0.05$); of being less prone to future negative emotions ($F = 4.923$ 1,52 $p < 0.05$); of being more likely to carry out discharge plans ($F = 3.887$ 1,52 $p < 0.05$); and of being more likely to achieve their life goals ($F = 6.593$ 1,52 $p < 0.01$) were associated with remitted drinking outcome status. Staff ratings of performance in therapy, stress and coping skills were not associated with drinking outcome. Other future related predictions that were not associated with drinking outcome included future marital adjustments, social support, use of after-care and legal problems.

A stepwise discriminant analysis with jack-knife (using SPSS/PC Discriminant) was conducted to investigate which of the staff prediction variables (measured during treatment) could be used to predict the patients' drinking outcome (relapsed or remitted) at one year follow-up. Initially, 19 variables were selected as discriminating between the two outcome groups (ie, remitted versus relapsed). A review of the cumulative Wilk's Lambda revealed that the first 9 variables entered into the analysis provided the most useful discrimination between remitted and relapsed drinking outcome. A subsequent discriminant function was then conducted with selection limited to the following staff prediction variables :- predicted future drinking; control over alcohol; proneness to negative mood states; future stress; current stress;

perseverance on treatment course; determination to succeed; how well patients had done on treatment course and whether they had particular difficulties to overcome in the future. These nine staff predictions accounted for 46% of the variance (cumulative Wilk's Lambda = 0.543, 28.951 $p < 0.001$). These results show that the two patient outcome groups (ie the remitted and relapsed groups) differed substantially and significantly on the discriminant function composed of these variables. The correlations between the values of the discriminant function and the values of the staff prediction variables were then examined to assess the contribution of variables to the discriminant function. From this it was found that the variable 'predicted future drinking' was most closely related to the discriminant function with a correlation of 0.39. The next was proneness to negative emotional states and determination to succeed, both with correlations of 0.34. Control over alcohol had a correlation of 0.25 and currently under stress had a negative correlation of -0.23 (ie, those felt to be currently not under stress had better outcomes than those felt to be under stress). The variables of how well the individual "had done on the treatment programme" and of how much "they had persevered" had correlations of 0.2. These results indicate that the discriminant function model to predict patients' drinking outcome at 12 months post treatment using the variables staff used to predict outcome, was dominated by estimates of future drinking and mood state. Overall, the percentage of group cases correctly classified, using this model, was 85.19%.

Of the 54 cases analysed, 4 of the poor outcome were misclassified as good outcome, and 4 of the good outcome group were misclassified as poor outcome.

After use of the jack-knife method 75.9% of the cases were correctly classified. This is well above the chance level of 50% correct classification.

(4) **Individual Staff Member's Prediction of Drinking Status**

Individual members of staff predictions about each patient were compared with the actual outcome at 12 months and predictions were classified as 'hits' when prediction matched outcome and 'misses' when they didn't. Using this method it was found that only certain members of staff (N = 3) were good predictors, ie they achieved above chance in terms of the number of 'hits' achieved. These were a Consultant Psychiatrist who accurately predicted 71% of cases ($\chi^2 = 9.3$ df = 1, $p < 0.01$), a Consultant Psychologist who accurately predicted 70% of cases ($\chi^2 = 8$ df = 1, $p < 0.01$), and a Senior Counsellor who accurately predicted 64% of cases ($\chi^2 = 4.245$ df = 1, $p < 0.01$). Only one staff member, however, predicted at a below chance level, with 39% of rated cases accurately assigned.

The data were examined to ascertain whether a response bias (eg, always predicting in a negative or neutral way) could account for these differences in rated accuracy. Chi-square values for numbers of failures versus successes for each staff member, however, failed to support this hypothesis. It is worth noting, however, from the staff group mean score that staff felt that only 14 patients (26%) would achieve a successful drinking outcome. Therefore, in general staff were fairly pessimistic about outcome in that they felt most patients would relapse. Good predictors, however, were more accurate at differentiating those patients who did well from those that did less well.

Predictions made by the three most successful and three least successful staff members regarding patients' future drinking status were examined to see if there were particular patient characteristics that matched with the judges' predictions of outcome (ie, whether patients were remitted or had relapsed at 12 months). When looking at the various judgments made by staff on the 'Prediction rating questionnaire' it was found that patients predicted to achieve remitted status by good judges were perceived as having more control over alcohol (mean 3.91 SD 0.88 v. Mean 3.42 SD 0.85: $t = -2.1$ df 52 $p < 0.05$), to be more determined to succeed (mean 4.61 SD 0.80 v. Mean 4.11 SD 0.96 $t = -2.08$ df 52 $p < 0.05$), to be less prone to negative mood states (mean 3.17 SD 1.46 v. Mean 3.59 SD 1.08: $t = -2.02$ df 52 $p < 0.05$), to be more likely to follow their discharge plans (mean 8.87 SD 1.16 v. Mean 8.11 SD 1.55: $t = -2.03$ df 52 $p < 0.05$), and to be more likely to achieve their goals (mean 3.74 SD 0.79 v. Mean 3.24 SD 0.99: $t = -2.03$ df 52 $p < 0.05$).

However, when the same analysis was carried out with the data from poor judges, no significant differences were found in perceived characteristics between those patients rated by poor judges as likely to have a successful drinking outcome, and those rated as likely to have an unsuccessful drinking outcome.

The accurate and inaccurate judges' ratings were then compared with the results from the other questionnaires administered to patients during the treatment phase. Again, this analysis was carried out to see if there were particularly patient

characteristics that may have been noted by staff, and influenced their predictions about drinking outcome. The results of this analysis are shown in Table 2.

Insert Table 2 about here

(5) **Social Support and Adjustment (Staff Predicted v. Actual)**

Staff’s rating of future social support (was assessed using three statements: likely to establish good relationship with spouse; likely to get support from family; likely to get support from friends). There were significant correlations between these staff ratings and SOS measures at one year follow-up of number of supporters ($r = 0.314$ (50) $p<0.05$), and for the discrepancy between actual and ideal emotional ($r = -0.3754$ (50) $p<0.01$) and practical social support scores ($r = -0.3103$ (50) $p<0.05$). Further, staff’s predictions of patient’s future social support was negatively correlated with the conflict subscale of the (patient-rated) FES at follow-up ($r = -0.4093$ (40) $p<0.01$).

(6) **Emotional Adjustment (Staff Predicted v. Actual)**

Staff ratings/predictions at intake (of currently under stress; ability to cope with stress; future stress; and proneness to negative emotional states) were compared with patient data gathered at one year follow-up (GHQ12; FDP life problems of aggression, depression, tension and anxiety, sexual problems, problems with social contact and family problems).

Levels of psychological distress as assessed by the GHQ12 at twelve month follow-up are shown in Table 2:

Insert Table 3 here

GHQ12 scores at follow-up correlated significantly with staff predictions of proneness to negative mood states ($r = 0.393$ $df\ 51$ $p < 0.01$), ability to cope with stress ($r = -0.3545$ $df\ 51$ $p < 0.01$), and predicted future social support ($r = -0.3903$ $df\ 51$ $p < 0.01$). When patients were classified into ‘cases’ (ie, a score above 3 on the GHQ12) and non-cases, a similar pattern was found. Non-cases on the GHQ12 had been rated by staff as being significantly more able to cope with stress (Mean 3.55 SD 0.659 v. Mean 3.13 SD 0.63; $t = 2.27$ $df\ 49$ $p < 0.05$) to have a greater degree of social support in the future (Mean 11.86 SD 2.64 v. Mean 10.04 SD 2.85; $t = 2.44$ $df\ 49$ $p < 0.05$), and to be less prone in the future to negative mood states (Mean 3.54 SD 1.48 v. Mean 3.03 SD 1.37; $t = 2.43$ $df\ 49$ $p < 0.05$).

Patients who reported problems with social contact on the FDP at follow-up were rated by staff during treatment as being significantly more under stress and having significantly less control over alcohol (Mean 3.35 SD 0.82 v. Mean 3.87 SD 0.79; $t = 2.26$ $df = 51$ $p < 0.05$), were predicted to be less prone to future drinking (Mean 17.54 SD 3.39 v. Mean 20.02 SD 3.15; $t = 2.64$ $df = 51$ $p < 0.05$) and as being less

likely to have financial problems (Mean 3.82 SD 0.74 v. Mean 4.61 SD 0.8; $t = 3.14$ $df = 51$ $p < 0.01$).

Self-reported problems of aggression, suicidal thoughts, depression and tension and anxiety at one year did not relate to staff predictions.

(6) Use of aftercare, legal problems related to alcohol abuse (staff predicted v. actual)

There was no significant relationship between staff predictions of use of aftercare or legal problems and outcome at twelve months post treatment.

DISCUSSION

Previous research in the area of outcome prediction shows that staff groups are able to predict patients' future drinking behaviour at 3 months (Schuckitt, et al 1993), and 6 months (Vannicelli & Becker, 1981; Ritson, 1968). Current research extends these findings by indicating that staff predictions can be valid at one year post treatment.

Nine staff predictor variables selected from a larger pool of variables accounted for 75.9% of the variance in differentiating problem drinkers in remission from those who had relapsed at 12 month follow-up. Of these 9 variables, predicted future drinking, proneness to negative emotional states and determination to succeed, appeared the dominating factors in predicting outcome. These findings support those that highlight the association of negative emotional states with relapse (Cummings, Gordon & Marlatt, 1980).

In accord with findings in the Vannicelli's and Becker (1981) study, staff predictions of successful overall outcome were related to the perception of a greater determination to succeed. Likewise, Schuckit, et al (1993) in commenting on the staff's successful prediction of their patients' 3 month drinking status inferred that they were responding to the non-verbal actions of the subject that reflected level of maturation and emotional commitment to do everything possible to overcome the problems. However, staff predictions were not related to other admission characteristics.

Current findings also support the conclusions from other studies that highlight individual differences in the accuracy of clinical judgment (Sandell, 1988; 1991). Good judges of future drinking status in the current study tended to be the more experienced and more senior staff. The association between their ratings of drinking outcome and their other predictions, suggests that these staff consistently view certain characteristics as co-occurring in successful patients (determination to succeed; being less prone to negative emotional states; more likely to achieve their goals and realise their plans). Although the current study does not allow us to divine what information (if any) staff were using to make predictions, patients rated as likely to be successful by good judges tended to be higher in self-efficacy at intake (3 judges) and to make less use of an avoidance coping response (2 judges). These findings reflect research findings with regard to the predictive power of self-efficacy assessed during treatment (eg, Rychtarik, et al 1992) and coping skills (Finney & Moos, 1992). In their prediction study Vannicelli and Becker (1981) suggest that the reason patients were more accurate predictors of their future drinking status than staff, was because they use personal motivation data rather than intake characteristics. Good judges in the current study may likewise be picking up on subjective estimates of confidence and self-belief.

Predictions made by the least successful judges showed few consistent differences between those they predicted would succeed or fail. The lack of association between the different subjective predictions of patients among poor judges may indicate a relative lack of knowledge of relapse factors, or a failure to use this knowledge when predicting (eg, ignoring consensus information - Gambrill, 1990). However, one judge predicted that patients with higher scores on the pre-contemplation and lower scores on the action stages of change (ie, the less motivated) would be more successful. Further, one judge had a lower than chance level of success at predicting patients' future drinking. It is important of course to remember that in studies of this type (eg, Webster, et al, 1984) clinicians may feel obliged to make predictions in all cases regardless of their confidence in their ability to do so. Further, some of the differences between good and poor judges in this study may be explained by the fact that the latter group rated fewer patients.

Since 'outcome' has several dimensions of which drinking is only one (Pattison & Kaufman, 1982) there is a need to look at other indices of adjustment. Three major areas highlighted in this study were psychological distress, social support and family functioning.

Staff predictions of future social support were accurate, and these were negatively correlated with the level of conflict within the family. These findings are significant in view of the relationship between outcome and social support and family functioning (Moos, et al 1990; Moos & Moos, 1984; Billings & Moos, 1983). Billings & Moos (1983), for example, found that poor family cohesion exemplified by a lack of expressiveness and the presence of conflict, is found more frequently in relapsed alcoholics.

An expectedly high proportion of follow-up patients qualified as “cases” on the GHQ12 screening instrument. This figure of 43% accords with the estimate of the incidence of current psychiatric disorder in samples of alcoholics and drug addicts (Allan, 1991; Ross, et al 1988). Staff were also accurate predictors of psychological distress at 12 months follow-up; a finding of significance in view of the generally poorer outcome associated with the presence of co-existing psychiatric problems among alcoholics (Rounsaville, et al, 1987).

Overall, it is apparent that staff can predict important aspects of outcome (drinking status, psychological distress, social support), but the “hit” rate even of the best predictors still means that one-third of patients will be misclassified if these judgements alone are used. This is of much clinical significance if advice is to be given regarding aftercare and the viability of controlled drinking.

In arriving at their predictions clinicians have to integrate assessment data with all the available historical evidence. However, this integrative function (“clinical judgment”) is suspect:

“Although the need to ‘integrate all the data’ and the ability to do so are often taken for granted, it is extremely doubtful that clinicians can perform such cognitive operations” (Faust, et al, 1991 p.279).

Mental health practitioners are limited by the state of their science which lacks a formalised general theory of human behaviour that permits accurate prediction. Indeed, it may be that as research findings accumulate, actuarial interpretations will be relied on more heavily (Wiens & Bryan, 1994). However, several authors suggest ways in which statistical aids

such as Bayes' Theorem can be used to combine subjective beliefs with objective data, to arrive at subjective probabilities (Gambrill, 1990; Lindstrom, 1992). A number of studies (Wiggins & Hoffman, 1968; Goldberg, 1970) have shown that it is possible to improve the reliability of predictions by devising a statistical model based on observations of how one or more experienced clinicians combine information on their clients. However, we must currently regret along with Dawes, et al (1989) that the investigations on clinical versus actuarial judgement have had so little impact on everyday decision making. Research into what combinations of variables accumulated in what ways produce especially good or especially poor judgmental outcomes is ongoing (Salovey & Turk, 1991). However, this research will be more likely to influence the practising clinician when it attends to the real conditions in which clinical decisions are made. It is to be hoped that the revival of the scientist-practitioner perspective within clinical and health psychology, will lead to increased communication between clinical judgement researchers and clinicians themselves.

TABLE 1: DRINKING STATUS OF
ALCOHOLIC PATIENTS (N = 54) AT
SIX AND TWELVE MONTH FOLLOW-UP

| Drinking Status | 6 Months | | 12 Months | |
|-----------------|----------|-----------|-----------|-----------|
| | N | (percent) | N | (percent) |
| Remitted | 25 | 55% | 25 | (45%) |
| Relapsed | 20 | 45% | 29 | (55%) |

TABLE 2: PATIENT SELF-REPORT MEASURES WHICH SIGNIFICANTLY DIFFERENTIATE THOSE PREDICTED (BY ACCURATE AND INACCURATE JUDGES) TO HAVE REMITTED DRINKING OUTCOME AT 12 MONTHS

(1) ACCURATE JUDGES (N=3)

- Higher Self-Efficacy scores (SCQ) during treatment - Judges 1, 2 and 3
- Lower scores on Avoidance Coping (HDL) - Judges 2 and 3
- URICA: Lower scores on Action (Judge 3) and higher scores on Precontemplation (Judge 2) Stages of Change
- POCQ: Lower scores on Self Re-Evaluation (Judge 2) and Resistance (Judge 1)
- Higher scores on Religious scale (SV-R) - Judge 2

(2) INACCURATE JUDGES (N=3)

- Lower Alcohol Dependence score (MAST) - Judge 6
- Lower scores on Avoidance Coping (HDL) - Judge 4
- URICA: Higher scores on Precontemplation and lower scores on Action Stages of Change (Judge 6)
- POCQ: Lower scores on Self Re-Evaluation; Interpersonal Control; Resistance (Judge 6); and higher scores on Self Liberation (Judge 5)

**TABLE 3: PSYCHOLOGICAL DISTRESS OF
ALCOHOL PATIENTS (n = 51) AT
TWELVE MONTH FOLLOW-UP**

| GHQ12 Score | N | Mean | Range | Percent |
|--------------------|-----------|-------------|--------------|----------------|
| 0-3 (non-case) | 29 | 0.31 | 0-2 | 57% |
| 3-12 (case) | 22 | 7.95 | 4-12 | 43% |
| TOTAL | 51 | 3.61 | | 100% |

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DISCUSSION AND CONCLUSIONS

This thesis has argued the case for the scientist-practitioner model as a legitimate way of describing the applied work of the clinical psychologist, as an appropriate model for training him or her, and as a model that is currently espoused and practiced by clinical and health psychologists. It espouses the view that it is psychology's commitment to providing practitioners with a scientific mentality that allows for psychology's unique contribution. This scientific mentality has been described by the Task Force on the Future of Professional Psychology (Wright, 1986) as involving (1) a critical, data-based (rather than purely intuitive) approach to patient care, both diagnostic and therapeutic; (2) a sense of intrinsic obligation to remain abreast of the scientific literature; and (3) a sense of stewardship in generating and communicating new knowledge as an essential part of one's professional practice activities. The latter involves structuring one's practice activities so as to generate quantifiable and otherwise meaningful research data.

In adopting a broad based view of the psychologist as scientist-practitioner the thesis has sought to illustrate the practitioner's role as a clinician who's practise is informed by research findings, who evaluates his or her day to day clinical work with patients; and who, as a researcher, attempts to refine the measurement of key clinical concepts and monitors change at a group and individual level. This work is described in a number of settings (client's home, psychiatric and general hospital, community) and with different client groups: (community samples, eating disordered patients, problem drinkers, renal patients, ENT clinic attendees; children with epilepsy and general acute psychiatric patients). It has emphasised the importance of archival material, low-constraint research methods and the quasi experimental designs that are characteristic of field research in natural settings, using both group and N=1 designs. There are many recent advances of quasi-experimental (systematic case tracking) methods (eg, Kazdin, 1993; Howard, et al, 1994) that involve the development of a theoretical framework: [(eg, the "dosage" model of psychotherapeutic

effectiveness, Howard, et al, 1986) and the “phase” conception of psychotherapy (Howard, 1993)], the operationalisation and testing of concepts and the development of a system of feedback to the clinician concerning the course of a single treatment. Approaches such as these seem concurrently to be both ways of overcoming the daunting challenge of convincing clinicians that treatment research is of practical value (Talley, et al, 1994) and of providing them with a methodology which will enable them to contribute via research to the knowledge pool in their area of expertise.

The first section of the thesis highlighted the value of using both historical archival and current research data as an aid in understanding current developments and synthesising these to inform current clinical practice. Section Two of the thesis illustrates the use of survey methods to establish normative data to help make suggestions for clinical practice, to develop new measures of clinically relevant constructs, and to monitor and evaluate environmental factors in organisational change. It also illustrates the importance of using available research data to drive organisational change as well as evaluating its effects. In Section Three particular attention is given to single case study methodology as an accessible way for clinicians to engage in research and contribute to the development of ‘case law’ regarding clinical problems.

Section Four focuses on investigations that move beyond case study illustrations to rule out potentially confounding individual differences by identifying consistent behavioural patterns attributable to specified psychological categorisations. These group studies are informed by statistical considerations and highlight aspects of the role of the scientist-practitioner as researched undertaking studies of direct practical benefit to clinical practice. These studies spring from direct engagement in ongoing service delivery settings, and the day-to-day realities of clinical work. A dominant theme of these studies is the importance of cognitive

variables (particularly expectations and predictions on the part of parents, staff and patients) in terms of their influence on treatment outcome. In focusing on clinicians' judgments it reminds the scientist-practitioner that he or she is an important object of study and that research findings on clinical decision making need to influence their clinical practice. A broader theme that runs throughout these studies is that of treatment effectiveness and the development of (cost) effective therapeutic interventions, especially for problem drinkers (Long, Williams & Hollin, in press; Long, Hollin & Williams- submitted for publication; Long, Midgley & Hollin - submitted for publication). This of course accords with the recent emphasis on effective matching of clients to treatment (Lindström, 1992) and the perception of the increasing relevance of research to health care management (cf. The Culyer Report - Peters & Himsworth, 1994). Further ongoing developments of the author's research in these areas include a matched comparison of two types of treatment for problem drinkers in which a two week day care treatment programme using only research based components is compared with a five week cognitive behavioural residential programme. These future studies will also examine within-treatment components and their relevance to outcome, patient prediction of outcome, and patient attribution of change.

This thesis has espoused the legitimacy of a wide variety of research methods for the practicing clinician. Aspenson et al, (1993) argue that a more positive attitude among psychology trainees to the integration of science and practice might develop if more training was devoted to a wider range of alternative research methods. For example,

- (a) While the exclusive use of archival records to measure a phenomenon might be viewed as less than perfect, it should be remembered that some of the most sophisticated research studies on the genetic influences in psychopathology were archival studies (Kety, et al 1968; Wender, et al, 1996).

- (b) While most British psychologists have little exposure to qualitative research methods and may encounter ideological objections to research of that type (Harper, 1993), many leading research-practitioners (Orford, 1995; Watts, 1992) acknowledge the important contribution it can make to the clinical knowledge base. Stiles (1993) draws a number of parallels between qualitative research and clinical work, while Orford (1995) argues that if practitioners used the opportunities for the data gathering which constantly surround them, they would more comfortably combine the action and research aspects of the applied psychologist's task.
- (c) Although single case studies are widely accepted as potential bridges across the scientist-practitioner divide, a recent discussion paper by the British Psychological Society (1988) highlights the fact that the training of clinical psychologists has yet to routinely include single case study designs and hermeneutic approaches. A research training that covered action research (Argyris, et al, 1985) and collaborative field enquiry, for example, might serve to narrow the gap between education for science and education for practice.

The realisation in practise of the scientist-practitioner ideal has to start with an improved training of applied practitioners and their subsequent placement in post-graduate employment settings that support and help internalise the model of the scientist-practitioner (Hoshmand & Polkinghorne, 1992). To date too much emphasis has been placed in training on the acquisition of facts and the demonstration of competency in specific professional techniques (McFall, 1991), and too little emphasis on the mastery of scientific principles; the demonstration of critical thinking; and the application of knowledge, principles and methods to new problems.

The use of a cognitive developmental perspective as a framework for designing professional training is one possibility (Hoshmand & Polkinghorne, 1992) and the teaching of research in small steps (starting with single case studies and leading through small scale projects to research dissertations) is also advocated (Head & Harmon, 1990). Research suggests that certain features of training environments such as involvement in research at early points in training, emphasis on the philosophy of science, and participation in research teams are all related to students' positive view of research production (Aspenson, et al, 1993). In line with this, this thesis reflects the importance of team work in clinical research by applied practitioners. The routine inclusion of these elements in clinical psychology training courses would probably lead to an increase in the critical thinking that is essential for effective practice but which is often wrongly perceived as incompatible with being a caring professional (Gambrill, 1990). The usual counter-argument advanced against a scientific clinical psychology of this sort (that science does not have all the answers and, therefore, we must muddle along relying on clinical experience, judgment, creativity and intuition cf. Matarazzo, 1990), reflects the mistaken notion that science is a set of answers, rather than a set of processes or methods by which to arrive at answers.

A working environment that supports the scientist-practitioner model needs to be one that produces clinically relevant research (with proper statistical support when appropriate), and which is sensitive to the ways psychologists learn about research and which communicates it effectively. Recently Omer & Dar (1992) have documented a welcome shift from theoretical to pragmatic interests during the past 3 decades of psychotherapy research. However, along with this "flight into pragmatics" they note a misuse of statistical tests that has affected general attitudes towards theory and research (Dar, et al, 1994). Although not all research data lends itself to statistical analysis, that which does should be theory driven

and be subject to appropriately applied statistics. The validity of the scientist-practitioner perspective could be enhanced by these developments.

The failure to bridge the gap from research to practice may often be a function of a clinician's inability to identify accurately what information is and is not empirically derived (Beutler, et al, 1993). If, as Beutler, et al, (1993) suggest, a major reason for this is that research is not available to clinicians through the vehicles of information they rely on, then the task of academic researchers is not to "earn respect" for research findings but to communicate these findings through means that are available to practicing clinicians. This may involve them in translating research findings from scientific journal articles into popular books and articles, and professionally oriented papers. Practice-oriented workshops where academic scientists teach the practical value of their research to clinicians is another possibility. Other integrative possibilities include clinical training assignments to seek research solutions to problems encountered in practice (Gelso, 1985), to seek information from practitioners about research questions (Garmezy & Masters, 1986), and to incorporate clinical views into research journals (Heppner & Anderson, 1985).

The hoped for goal of such endeavours is a radical recommitment to clinical psychology as applied science (McFall, 1990) and the development of future generations of clinicians who prefer scientific explanations to empathic and ideological ones, who value objectivity and observation, and who actively seek out errors in explanation through scientific enquiry. Beyond this the clinical psychologist as scientist-practitioner has to recognise that he or she has a responsibility to market and disseminate the findings of their research through effective communication channels.

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