Assessment of feigned cognitive impairment: An investigation of the utility of the Multiple Errands Test – Simplified Version

by

Marcia Castiel

Submitted for the degree of Doctor of Psychology (Clinical Psychology)

Volume I

Department of Psychology
School of Human Sciences
University of Surrey

July 2009

© Marcia Castiel 2009
Volume I Contents

Introduction to the Portfolio ................................................................. 5
Copyright Statement ........................................................................... 6
Acknowledgements .............................................................................. 7

Overview of the Academic Dossier ...................................................... 8

Adult Mental Health Essay ................................................................. 9
Is CBT for borderline personality disorder effective and cost-effective?

Professional Issues Essay ................................................................. 30
What impact do you think New Ways of Working might have on Clinical Psychologists, their colleagues in the NHS and service users and carers?

Problem Based Learning Reflective Account 1 ............................... 52
The relationship to change

Problem Based Learning Reflective Account 2 ............................... 62
Child protection, domestic violence, parenting and learning disabilities

Problem Based Learning Reflective Account 3 ............................... 72
Working with people in later life, their families, and the professional network

Summary of Case Discussion Group Process
Account (1) ....................................................................................... 82

Summary of Case Discussion Group Process
Account (2) ....................................................................................... 83
The implementation of Carers' Assessments: a service evaluation of five Community Mental Health Teams in the South East of England

Abstract of Qualitative Research Project .................. 126

How do Clinical and Counselling Psychology Trainees construct racism following the events of Celebrity Big Brother Seven?

Major Research Project .......................................................... 128

Assessment of feigned cognitive impairment: An investigation of the utility of the Multiple Errands Test – Simplified Version
Introduction to the Portfolio

This portfolio consists of two volumes, both containing a selection of work completed during the Doctorate of Psychology (PsychD) clinical training course.

**Volume I** contains (i) the academic dossier, consisting of two essays, three Problem Based Learning accounts, and two case discussion group process accounts summaries; (ii) the clinical dossier, containing summaries of the five placements, four case report summaries and the summary of the oral presentation of clinical activity; (iii) the research dossier, comprising the research logbook, the service related research project, the abstract of the qualitative research project and the major research project.

**Volume II** contains (i) the academic dossier, comprising the two case discussion group process accounts; (ii) clinical dossier containing the four case reports and documentation accompanying the oral presentation of clinical activity, and the placement contracts, evaluation forms, logbooks and trainee feedback forms. Due to the confidential nature of the clinical material, this volume will be kept within the Clinical Psychology department of the University of Surrey.

The work presented in this portfolio reflects the range of client groups, presenting problems and psychological approaches covered during the course. Within each dossier, the work is presented in the order in which it was completed to illustrate the development of my clinical, academic and research skills during the period of training.

Identifying details have been changed or removed in this portfolio in order to maintain confidentiality and anonymity.
Copyright Statement

No part of this portfolio may be reproduced in any form without written permission of the author, except for legitimate academic purposes.

© Marcia Castiel, 2009
Acknowledgements

I would like to thank all those people who helped me in the development of my major research project. Particular thanks to Professor Nick Alderman for his support, time and guidance. I would also like to thank Professor Chris Fife-Schaw, Dr Keith Jenkins and Ms Linda Morison for their research guidance and help, which has been greatly valued. I am very grateful to St. Andrew's Healthcare for permission to carry out this research and for partly financially supporting the project. I am especially indebted to all the professionals who generously gave up their time to participate, and without whom the study would not have been possible.

I would also like to thank my placement supervisors and my clinical tutor, Nan Holmes for their support and guidance over the past three years. I would like also to thank my friends on the course for their encouragement and support.

Many thanks to my family and in particular my partner Ian for their love and support.
Overview of the Academic Dossier

This dossier consists of the two essays written during the first two years of the PsychD training course, the three Problem Based Learning accounts and summaries of the two case discussion group process accounts. The case discussion group process accounts can be found in Volume II of the portfolio.
Adult Mental Health Essay

Is CBT for borderline personality disorder effective and cost-effective?

Programme Year: Year One
Introduction
Borderline personality disorder (BPD) refers to a pervasive pattern of instability of personal relationships, self-image, affect and high levels impulsivity (DSM-IV, American Psychiatric Association, 1994). BPD is estimated to affect approximately 2 per cent of the general population (Bateman & Fonagy, 2004). This condition is associated with high levels of emotional distress and behavioural dysregulation. Individuals suffering from BPD are often unable to develop and sustain close relationships or to function adaptively in educational or vocational settings. A high proportion of individuals with BPD also engage in self-harming and suicidal behaviour (Linehan et al., 2006). Consequently, BPD is associated with high use of health care services, such as Accident and Emergency (A&E) services and psychiatric hospitalisation (Palmer et al., 2006). Historically, BPD has been associated with poor treatment engagement and with a culture of therapeutic nihilism (Fonagy & Bateman, 2006).

This essay will explore the effectiveness of several adaptations of cognitive behavioural therapy (CBT) for BPD. In order to examine this issue, I have chosen to focus mainly on randomised control trials (RCT). Although BPD is a chronic disease, long-term follow up studies have demonstrated that this condition follows a process of natural recovery. In fact, around 90 per cent of individuals diagnosed with BPD in their twenties no longer met sufficient inclusion criteria by middle age (Paris, 2005). In this context, therapeutic interventions are seen to accelerate the natural process of recovery of this disorder (Fonagy & Bateman, 2006). Therefore, it is essential for studies to include matched control groups in order to rule out the possibility of naturalistic remission. After discussing the effectiveness of several forms of CBT this essay will focus on issues of cost-effectiveness.

Having worked in a large psychiatric hospital I soon became aware of the negative connotations associated with BPD. I frequently heard
clinical staff describing individuals with BPD as being difficult and manipulative. I hardly knew what to expect when I first went to work in the unit that cared mainly for individuals with BPD. But perhaps what marked me the most was realising the immense levels of personal distress experienced by these individuals and the extent of their self-destructive drives. I saw this essay as an opportunity to add a more theoretical perspective to my knowledge of BPD. I was also aware of the enormous interest that Dialectical Behaviour Therapy (DBT) has created among clinicians and researchers. I was thus curious to understand the reasons for its popularity.

**Dialectical Behaviour Therapy**

DBT was developed by Linehan (1993) to treat individuals with BPD who self-harm. Although its theoretical framework draws on a range of theories, such as mindfulness and acceptance-based philosophy, DBT is mainly a cognitive-behavioural therapy. In fact, cognitive-behavioural strategies such as self-monitoring, behavioural analysis, cognitive restructuring, skills training, active directive approaches and exposure procedures are the main instruments of change in DBT (Swenson, 2000). The concept of dialectics, that is, accepting the client as they are whilst simultaneously encouraging change, is also central to the delivery of DBT.

The key components of DBT are: a weekly session of individual psychotherapy, a parallel weekly skills training group, telephone consultations with therapist as necessary and a weekly consultancy meeting to ensure treatment adherence and provide therapist support. DBT is a four-stage treatment. Stage one is predicted to last one year and aims to stabilise the individual and establish behavioural control (e.g. decrease suicidal and therapy interfering behaviours). Stage two deals with problems relating to past trauma. Stage three focuses on developing self-esteem and effective management of problems of daily
living. The last stage aims to develop the individual's capacity for optimum experiencing.

The first randomised control trial (RCT) investigating the effectiveness of DBT was carried out by Linehan and colleagues (1991). Individuals with borderline personality disorder, who had engaged in recent and past self-harming behaviour, were randomly allocated to twelve months of DBT (N=22) or treatment as usual (TAU) (N=22). Participants were followed-up for one year (Linehan et al., 1993). Compared to TAU, the DBT group showed a significant decrease in self-harming behaviour and inpatient hospitalisation. DBT individuals were also significantly more likely to complete treatment than controls, 83 per cent and 42 per cent respectively. However, there were no between-group differences on measures of hopelessness, depression and reason for living. At the six-month follow-up period, there were no longer significant group differences in frequency of inpatient hospitalisation. However, at this follow-up DBT individuals continued to have less acts of self-harming than controls (Linehan et al., 1993). At the one-year follow-up period the rates of self-harm were no longer significantly different between the two groups.

A Dutch RCT has also investigated the effectiveness of DBT in the treatment of individuals with BPD and comorbid substance-use (Verheul et al., 2003). Previous trials have tended to exclude individuals with addictive behaviours. However, there is a significant comorbidity between BDP and substance abuse (van den Bosh et al., 2002). Verheul et al. (2003) randomly assigned female patients with BPD, some of whom had comorbid substance use, to either 12 months of DBT (N=27) or TAU (N=31). Three major findings emerged from this study. Firstly, DBT was more significantly more effective at retaining individuals in therapy compared to TAU. The 12-month attrition rate for the DBT group was 37 per cent compared with 77 per cent for TAU. Second, there was a greater reduction in self-harming impulsive
behaviours in the DBT group compared with TAU. This was particularly the case for individuals with high baseline levels of self-harming, suggesting that DBT might be especially appropriate for individuals who present with severe life-threatening impulsive behaviours. Third, although DBT produced good outcomes in both individuals with and without substance abuse problems, it did not reduce substance use. Therefore standard DBT might need to be modified or complemented by another treatment in order to target substance use. There is no follow-up information for this study.

In my view, Linehan and colleagues were pioneers in challenging the existing attitude of therapeutic nihilism in relation to BPD and is something I admire them for. Unfortunately, their study contained a number of limitations. For instance, as pointed by Scheel (2000), 30 per cent of potential participants were dropped from the study or were failed to meet the inclusion criteria before the commencement of treatment. Two participants also dropped out from the DBT group early on and were excluded from the major outcome analysis. On the other hand, the TAU group consisted of a mix of individuals who received, declined and discontinued therapy and they were all included in the outcome analyses. Scheel (2000, p.71) concluded that: "both this observation and the pre-treatment attrition rate suggest the possibility that the comparison groups differed in slight but systematic and potentially relevant ways". Furthermore, individuals in the DBT group received free treatment whilst TAU subjects had to pay for their treatment.

Both studies compared DBT with unstructured TAU in the community. This is more ethically appropriate than using a waiting-list control group and more practical than using a second structured treatment group (Scheel, 2000). However, DBT is a highly structured manualised treatment with strong training and supervision elements whilst TAU includes a variety of therapeutic orientations and modes of therapy.
(e.g. individual therapy, outpatient treatment, inpatient hospitalisation, etc). Furthermore, individuals in the TAU conditions did not necessarily receive stable individual therapy. The DBT therapists, some of whom also belonged to the research team, may have experienced higher levels of motivation and commitment than TAU therapists. Similarly, the DBT participants may have also been more motivated by their positive expectations of receiving a new treatment by skilled therapists whilst TAU individuals may have perceived their allocation as less desirable. These uncontrolled variables may have influenced the retention rates and outcome results in favour of DBT.

Recently, Linehan and colleagues (2006) avoided some of the previous shortcomings by using a more rigorous control condition. Individuals in the control condition received community treatment by experts (CTBE). CTBE therapists were recruited for their expertise in working with challenging clients. Their orientation was mainly eclectic and a minimum of one individual weekly session of therapy was delivered. This study also had the larger sample (DBT=60 CTBE=51) of the three DBT studies reviewed in this essay. Both treatment conditions lasted one year and participants were followed up for another year. Similarly to previous findings, DBT was more effective than CTBE at retaining individuals in therapy. The treatment dropout rates were 19 per cent and 43 per cent, respectively. Individuals in the DBT group also had fewer suicide attempts, emergency department visits and psychiatric inpatient admissions for suicide ideation. However, the treatment protocol for DBT encourages therapists to maintain their clients in the community whenever possible. Therefore the lower rates of hospitalisation in the DBT group could be a result of therapists' reluctance to recommend inpatient treatment (Linehan et al., 2006). Contrary to previous findings, there were no group differences in rates of self-harming. Levels of depression, suicide ideation and reasons for living significantly improved in both conditions. A limitation of this study was that the DBT group received significantly more therapy from the
study therapists compared to the CTBE group. This was mainly due to the weekly DBT group session and greater treatment retention in the DBT group. Although this study had a good level of methodological rigour, future studies should compare DBT with another form of manualised treatment with an equivalent level of direct therapeutic input.

To summarise, there is promising evidence that DBT is more effective at reducing life-threatening behaviours, retaining individuals in therapy and reducing hospitalisation than TAU (Linehan et al., 1991; Verheul, et al., 2003; Linehan et al., 2006). However, when compared to another active treatment the effectiveness of DBT becomes is less evident (Linehan et al., 2006). Conclusions also need to be drawn carefully as two of the studies reviewed had relatively small samples (Linehan et al., 1991; Verheul et al., 2002). Additionally, BPD is a chronic disorder and follow-up data is limited to one year. The longer term effectiveness of DBT remains unknown. Moreover, at follow-up the gains from DBT are less obvious. There is also little evidence suggesting that DBT is equally effective in reducing other core features of BPD, such as interpersonal instability and identity disturbance (Scheel, 2000; Verheul et al., 2003). Studies to date have only investigated the efficacy of stage one of DBT which focuses on behavioural control. Future studies are needed to demonstrate the efficacy of the later stages of DBT. Otherwise the question remains whether DBT is just a treatment for individuals with life-threatening impulsive regulation disorders rather than a treatment for BPD per se (Verheul et al., 2003).

**Manual-assisted Cognitive-Behaviour Therapy**

DBT is resource intensive and requires three weekly sessions of therapy. Evans et al. (1999) developed a manual-assisted cognitive-behaviour therapy (MACT) for suicidal behaviour which is more feasibly delivered in a busy and over-stretched NHS practice. MACT consists of two to six sessions of therapy, structured around a manual that covers
problem solving, cognitive techniques for negative thinking and emotions, and relapse prevention. Participants with personality disturbance within the flamboyant cluster who had a history of self-harm were randomly assigned to six months of MACT (N=18) or TAU (N=16). Rates of self-harm, time till next self-harming act, anxiety symptoms and costs of care all showed trends in favour of MACT compared to TAU. However, none of these trends achieved statistical significance. This study included a small sample of individuals and not all had a diagnosis of BPD. Additionally, this study also had a relatively short time-frame. Therefore, it is difficult to draw any strong conclusions from this study for the purpose of this essay.

Fortunately, the efficacy of MACT for treating self-harming has been further investigated with a sample of individuals who all met the diagnostic criteria for BPD (Weinberg et al., 2006). This study focused specifically on deliberate self-harm (DSH) and individuals with comorbid substance-abuse, single episodes of DSH or suicide attempts, and individuals with an elevated suicide risk were excluded from the sample. The MACT manual was adjusted to reflect the exclusion criteria of this study. Participants were randomly allocated to TAU (N=15) or MACT plus TAU (N=15). Individuals in the MACT+TAU group were required to attend all six sessions of therapy. At post-treatment, the MACT+TAU group had a greater decrease in DSH frequency compared to TAU and a decrease in both frequency and severity of DSH at the six-month follow-up. The beneficial effects of MACT on DSH were stronger than the effects of concurrent treatments. In contrast, MACT had no impact in suicide ideation or time to repetition of DSH. The results of this study need to be interpreted cautiously for a number of reasons. Firstly, due the exclusion criteria of this study the findings may not extend to individuals who are more suicidal or present with comorbid substance-abuse. Second, this study had a relatively small sample. Third, MACT was delivered by the main investigator and treatment adherence was not monitored. Finally,
MACT was administered in addition to TAU. Therefore, the findings of this study might have resulted from an increase in amount of treatment provided rather than due to MACT per se.

The two MACT studies are not directly comparable due to significant differences in sampling methods and treatment conditions. Weinberg et al. (2006) reported that MACT is associated with a reduction in DSH. However, these results need to be replicated in studies with a greater level of methodological rigour. Personally, I feel that MACT could be administered as an initial treatment, maybe in primary care, to target self-harming behaviour. However, individuals who present with higher levels of distress probably need more intensive and specialised treatment for BPD.

**Cognitive-Behavioural Therapy**

A more conventional form of CBT for BPD has been investigated by Davidson, Norrie et al. (2006). CBT is a structured and problem-focused therapy which focuses on teaching the client to identify and modify dysfunctional thinking and related behaviours which prevent adaptive functioning. A cognitive behavioural formulation is used to help the client understand their problems and goals for improved functioning are agreed between client and therapist. CBT has the overall aim of helping the client to develop more adaptive beliefs regarding the self, others and the world as well as behavioural skills which promote more adaptive social and emotional functioning. The dysfunctional thinking of individuals with BPD is perceived to be pervasive and likely to be manifest in the therapeutic relationship (Bateman & Fonagy, 2004). Therefore, cognitive therapy for personality disorders places a stronger emphasis in changing ‘deeper’ core beliefs rather than more ‘surface’ dysfunctional thoughts and on sustaining a collaborative therapeutic relationship.
Adult Mental Health Essay

Although several manuals of cognitive therapy for personality disorders have been developed (Beck & Freeman, 1990; Davidson, 2000), the first RCT of CBT for BPD has only been recently published (Davidson, Tyrer et al., 2006). This study is known as the BOSCOT trial. Participants had a diagnosis of BPD and had either received in-patient psychiatric services, accident and emergency (A&E) services or had engaged in a DSH or suicidal act the last twelve months. Randomisation was stratified by centre and frequency of DSH. Participants were assigned to twelve months of CBT plus TAU (N=54) or TAU only (N=52). This study was carried out across three different centres in the United Kingdom (UK): Glasgow, London and Ayrshire, in a mixture of both urban and rural settings. Unlike most other trials described in this essay, the control intervention in this study is likely to be representative of the types of treatment usually available in this country for individuals with BPD. The sample was constituted of mainly white female individuals, with low educational achievements and receiving social security benefits.

Post-treatment analysis indicated no significant group differences in both frequency of inpatient hospitalisation and A&E contacts. However, the CBT plus TAU group had a significant decrease over the course of the study in number of suicidal acts compared to TAU alone. At the end of treatment, the CBT plus TAU group also had significantly lower ratings than the TAU group on the Brief Symptom Inventory positive symptom distress index and at the one-year on the dysfunctional core beliefs and state anxiety scales. There were no significant differences between the two groups on measures of depression, trait anxiety, other psychiatric symptom indexes, interpersonal functioning, or quality of life. Although both groups showed gradual improvement over the course of the study, their levels of distress and dysfunction still remained relatively high at follow-up. Therefore, the beneficial effects of treatment should not be overstated.
In conclusion, this study had a number of strengths in terms of methodological rigour: it was a multi-centre study, the sample was not overly selected, the drop-out rates were low and therapist competency was monitored. A possible weakness was the variation in therapist competence, with one therapist not achieving the minimum competency ratings. Another difficulty is that participants in the experimental group received two active treatments, CBT plus TAU. Therefore the results could be due to an increased amount of treatment rather than CBT per se. Future CBT studies for BPD should ensure that the amount of therapy offered is balanced across conditions and therapist competency is adequate. The attendance pattern of participants in this study was also erratic and participants only received the minimum amount of therapy required to benefit (Davidson, Norrie et al., 2006). Perhaps studies with a more optimal level of therapy attendance will produce better outcomes.

Schema-focused therapy

With the exception of Linehan et al. (2006), all the studies previously discussed were limited by their TAU control conditions. As explained before, TAU rarely allows controlling for treatment goals, therapy intensity and session frequency. In a recent Dutch study of BPD (Giesen-Bloo et al., 2006) schema-focused therapy (SFT) and transference-focused psychotherapy (TFP) were compared in the treatment of BPD.

SFT is an integrative form of cognitive therapy which conceptualises the core pathology of BPD as stemming from abusive childhood experiences (Beck et al., 2004). Some of the dysfunctional patterns of behaviour displayed by individuals with BPD are perceived to be a form of regression into highly emotional states experienced as a child. These patterns of dysfunctional behaviour are schema modes, that is, pervasive patterns of thinking, feeling and behaving. Four schema modes are central to this view of BPD: the abused/abandoned child,
the angry/impulsive child, the punitive parent mode, and the detached protector mode. Additionally, there is also the healthy adult mode which represents the healthy part of the individual. The therapist employs a range of cognitive and behavioural experiential techniques focusing on the therapeutic relationship, the individual’s daily life and traumatic past. The aim of therapy is to cease dysfunctional schemas controlling the individual’s life. TFP is a psychodynamic therapy for BPD which places focal attention on transference relationship between client and therapist. Both treatments aim to achieve an overall personality change rather than just reducing self-destructive pathological behaviours.

The study was carried out across four different centres in The Netherlands. Participants were randomly allocated to the treatment conditions, SFT (N=45) and TFP (N=43). Both forms of therapy involved fifty-minutes twice-weekly sessions for a period of three years. The results indicated that TFP participants had a significantly higher risk of dropping-out of treatment than SFT participants. Intention to treat analysis indicated improvements in both groups after one year of treatment. Improvements were even more pronounced at the end of the trial, with reductions in all BPD symptoms, general psychopathological dysfunction, changes in associated personality features and increases in quality of life. SFT was superior to TFP in producing greater reduction in BPD manifestations, general psychopathological dysfunction and change in personality concepts.

In conclusion, this study demonstrated that SFT, a form of cognitive therapy, can produce significant changes in the core symptoms and features of BPD. When comparing this study with other trials described in this essay, it is important to bear in mind that both therapies offered in this study were far more intensive and prolonged than in all other studies. In my opinion, this study produced the best outcomes for BPD from all the studies reviewed in this essay and is likely that individuals with chronic and severe presentations require intensive therapy input.
Unfortunately, the one-year follow-up data for this study and cost-effectiveness analysis for this study is not yet available.

Cost-effectiveness

In contrast to other areas of mental health, there is scarce information regarding the cost-effectiveness of treatments for BPD (Palmer et al., 2006). This is particularly striking given the significant economic burden of BPD on health services (Zanarini et al., 2004). One also needs to consider the personal burden of individuals who suffer with BPD. It is likely that successful therapy would reduce symptomatology, improve quality of life and decrease individuals' use of health services.

Brazier et al. (2006) carried out a retrospective cost-effectiveness analysis in RCTs which contained sufficient information for this purpose. The cost-effectiveness analyses were based on parasuicidal events because this was a common outcome report shared by all the studies selected. The authors acknowledged that their outcome measure was narrow and it does not reflect individuals' health-related quality of life. This measure may also be vulnerable to slight differences in definition and measurement across different studies.

Four DBT trials were analysed by Brazier et al. (2006). Two of the four studies were previously described in this essay (Linehan et al., 1991; Brazier et al., 1999). In all four trials, the DBT group incurred higher therapy cost than the control group. In two studies the reduction is use of services (e.g. hospitalisation) in the DBT group was sufficient to outweigh the additional cost of therapy. In a third study this was also nearly the case. However, one study still had a larger incremental cost for the DBT condition when all costs were taken into account. Only two trials provided enough information to conduct more detailed cost-effectiveness analysis. However the results produced were contradictory and did not support the cost-effectiveness of DBT.
It is also important to bear in mind that these four studies were carried out in different settings, participants had varying baseline characteristics and the method and types of therapists employed differed. It is also likely that the TAU conditions differed across studies. In addition, most of the DBT studies reviewed were carried out outside the UK and the results may not necessarily be generalisable to the NHS. Therefore, the cost-effectiveness of DBT remains largely unknown.

The only formal cost-analysis evaluation of CBT was carried out by Palmer et al. (2006) using the BOSCOT trial. It was predicted that although CBT plus TAU was resource intensive the effectiveness of this intervention would be sufficient to outweigh the cost disadvantage compared to TAU alone. However, the results indicated that there were no significant differences between CBT plus TAU and TAU alone for either total healthcare costs or health-related quality of life. The authors considered these findings hardly surprising given the lack of significant group differences in inpatient hospitalisation and A&E contacts reported in the clinical effectiveness study (Davidson et al., 2006). It was also proposed that the instrument used to measure quality of life may have been too generic to capture clinically significant changes in individuals with BPD. In addition, the participants who took part on the BOSCOT trial were difficult to engage in therapy. Their session attendance was erratic and participants only received the minimum amount of therapy required to benefit. A more optimal level of engagement in therapy may have resulted in improved clinical and cost-effectiveness results.

It is not possible to draw any firm conclusions regarding the cost-effectiveness of the various forms of CBT discussed in this essay due to the significant lack of research carried out in this area. Future RCTs should collect comprehensive data on resource use and carry out systematic economic evaluations. This is particularly crucial given high
use of resources associated with BPD and the current climate of very limited NHS resources.

**Conclusion**

Trials of DBT for BPD have generated promising evidence. Findings suggest that DBT is more effective at reducing life-threatening behaviours, retaining individuals in therapy and reducing hospitalisation than TAU (Linehan et al., 1991; Verheul, et al., 2003; Linehan et al., 2006). However, when compared to another active treatment the effectiveness of DBT becomes is less evident (Linehan et al., 2006). The long-term maintenance of gains is also uncertain (Linehan et al., 1993). The current evidence for DBT is limited to the first stage of therapy, which focuses on behavioural control. At present, we do not know if DBT is equally effective in treating other core features of BPD, such as identity disturbance and chronic feeling of emptiness (Verheul et al., 2003).

MACT is another adaptation of CBT that aims to treat suicidal behaviour in BPD. Weinberg et al. (2006) reported that MACT is associated with a reduction in self-harming behaviour. However, these results need to be replicated in studies with a greater level of methodological rigour. Whilst MACT might be appropriate as an initial treatment for self-harming behaviour, I personally feel that individuals who present with high levels of distress and dysfunction probably need more intensive and specialised treatment for BPD.

A more conventional form of CBT for BPD has been investigated by Davidson, Norrie et al. (2006). This was a multi-centre trial in the UK and had a good level of methodological rigour. However, the therapy attendance pattern of participants in this study was erratic and they only received the minimum amount of therapy required to benefit. Although CBT was associated with a decrease in suicidal acts and lower ratings on the dysfunctional core beliefs and state anxiety scales
the results were generally mixed. It is possible that a better uptake of CBT sessions could have produced better outcomes and this issue should be investigated in future studies.

Finally, Giesen-Bloo et al. (2006) reported that SFT was superior to TFP in maintaining participants in treatment and in producing greater reductions in BPD manifestations, general psychopathological dysfunction and change in personality concepts. This study had a good level of methodological rigour and produced the best treatment outcomes. The changes produced in therapy were not limited to behavioural symptoms but were also seen a deeper level of core symptoms and features of BPD. However, it is important to bear in mind that the therapies offered in this study were far more intensive and prolonged than in all other studies. This study suggests that individuals with chronic and severe presentations may derive greater benefit from more intensive forms of therapeutic input.

Due to a significant lack of information it is impossible to draw any firm conclusions regarding the cost-effectiveness of CBT. One can only assume that the higher costs incurred by therapy would be compensated by a decrease in use of general health services and an increase in individuals' quality of life. Future RCTs of CBT need to collect comprehensive data on resource use and carry out systematic economic evaluations. This is particularly crucial given high use of resources associated with BPD and the current climate of very limited resources in the NHS.

Finally, it is worth acknowledging that the individuals who participated in these studies were mainly females with severe presentations. Therefore, the samples used in these studies are not representative of the whole BPD population. Many of the studies reviewed were not carried out in the UK and their findings may not be directly applicable to individuals with BPD receiving treatment in this country. It is also likely
that carefully designed and controlled trials do not reflect the conditions under which clinicians normally work. However, the various treatments reviewed in this essay have produced promising results and the existence of treatment protocols would facilitate their application to clinical practice. Personally, these studies have made me realise the need for individuals with BPD to receive clearly defined treatments. However, I also noticed that there is a lack of information regarding patient preference and it would be helpful for future studies to investigate this.
References


Professional Issues Essay

What impact do you think New Ways of Working might have on Clinical Psychologists, their colleagues in the NHS and service users and carers?

Programme Year: Year One
Introduction

In this essay I will first explain and summarise what New Ways of Working (NWW) is, with particular reference to New Ways of Working for Applied Psychologists (NWWAP). I will then proceed to explore some of the possible implications that NWWAP will have for clinical psychologists, their colleagues and service-users.

The NWWAP consisted of seven working groups, which looked at a variety of issues. I will outline some of this work in greater detail later. However, I chose not to give equal attention to all the NWWAP reports. Instead I paid more attention to some reports, which in my opinion present more interesting issues in terms of their future impact on the mental health system. One of the seven working groups looked at the impact of the new Mental Health Act for applied psychologists. However, due to delays in agreeing the final form of this new legislation, the group has not been able to finalise their report yet. Therefore, I will be not covering this report in this essay.

Finally, I think it is important to consider what made me choose to write an essay on this topic. The profession of clinical psychology and the mental health system as a whole are going through a phase of change and reform. Indeed, it has been argued that the future impact of some of the current initiatives and proposals could be of the same magnitude as the closure of asylums and move towards community care (Turpin, et al., 2006). Some clinical psychologists seem to see this as an exciting opportunity for expansion and development, whilst others are far more cautious and express concerns about the future implications of NWWAP. My motivation to write this essay was therefore to consider the implications of the NWWAP for my future career as a qualified clinical psychologist and how it will shape my role in the NHS.
New Ways of Working and Applied Psychologists

NWW started with a focus on psychiatry and was driven by the challenges faced by the profession in filling posts nationally. These unfilled posts were the result of higher rates of retirement, insufficient number of trainees entering the profession and increased demand for mental health services (Department of Health, 2005). NWW for psychiatrists is about using the skills of psychiatrists more effectively. This is done by supporting those clients with more complex needs and providing teams with consultancy and advice, so other professionals can support clients with less complex needs.

However, it became obvious that it was also necessary to look at the roles of all other professionals and NWW expanded to encompass the whole mental health workforce (Department of Health, 2007d). NWW represents a cultural shift in mental health services. It aims to promote shared responsibility in teams so that skills and competencies are shared across professional and practitioner boundaries. It promotes the matching of the skills of the practitioner to the needs of the service-user. Therefore, NWW is about making the best use of the skills of the current workforce and how the workforce can be further developed to meet needs of service-users and carers in a cost effective way.

The NWWAP was a joint initiative between the National Institute for Mental Health in England and The British Psychological Society over a two-year period. It culminated with the publication of six final reports and a summary report (Department of Health, 2007g). The areas covered by these groups were: New Roles; Training Model; Post Doctoral/Registration Career Roles; Improving Access to Psychological Therapies (IAPT); Team Working; and Organising, Managing, and Leading Psychological Services.

NWWAP is set in the context of growing demand for psychological services, growth in policy advocating increased availability of
psychological interventions and an enlarged body of research supporting the effectiveness of psychological interventions (e.g. NICE, 2004). Currently most psychological distress is treated with medication and service-users and carers feel they do not have adequate access to psychological treatment (Sainsbury Centre for Mental Health, 2006). NWWAP is supportive of a shift in the culture of health services, so psychological understanding and explanations of human distress become more prevalent and the role of psychology is accordingly expanded. However, the applied psychology workforce is insufficient to meet this increase in demand (Sainsbury Centre, 2005) and other professions will have to play a central role. The NWWAP argues that psychologists need to show a clear commitment to these new developments and have important roles to play in terms of training, supervision, mentoring, leadership and developing new ‘psychologically minded’ services.

New Roles, Training Model and Career Roles
In this section I will start to consider the possible future impact for clinical psychologists, their colleagues and service-users of the three NWWAP reports entitled New Roles, Training Model and Post Doctoral/Registration Career Roles. Although the work of these three groups was distinct, there was nevertheless some overlap. So, for the purposes of this essay they are best explored together.

At present there is a 10 to 15 per cent shortfall of trained psychologists, despite the steady increase of trained psychologist over recent years. The effect of this shortfall is particularly evident in the long waiting lists for psychological therapy, with some service-users waiting up to 26 months for their initial appointment (BPS, 2005). The New Roles final report (Department of Health, 2007b) reviewed several pre-qualification roles that have been piloted in England and Wales in recent years (e.g. graduate primary care mental health worker). Based on the results of these pilots, it proposed the creation of three levels of pre-qualification
applied psychologists. The aim would be to increase the capacity of the workforce to deliver psychological therapies in an effective and sustainable way. The proposed new pre-qualification roles are: psychologist assistants, senior psychologist assistants and psychology associates. These new roles would be filled from the vast pool of psychology undergraduates.

The Models of Training report (Department of Health, 2007) states that 40 per cent of the 15000 which graduate in psychology every year would welcome a career in health and social care if this was available. Currently the fierce competition for assistant psychologist positions means that many willing and high calibre candidates are not given the opportunity to enter the profession. Moreover, not all of those who obtain an assistant psychologist post or similar position are then able to secure a place in clinical training. The shape of the current applied psychology workforce resembles a mushroom, with assistants and trainees forming the narrow base and qualified psychologists occupying a much wider area. In the Model of Training report (Department of Health, 2007), it is argued that service-users would be better served by an applied psychology workforce that resembles instead a Christmas tree. The wider base of the Christmas tree would be composed of lower grades delivering more basic and protocol-based interventions and being supervised and managed by a smaller number of more qualified psychologists, who also work with service-users with more complex needs.

The New Roles group (Department of Health, 2007b) believes that these new roles would attract greater diversity of professionals entering the profession. The Career Pathways and Roles group (Department of Health, 2007c) reviewed a number of surveys of the Applied Psychology workforce in Britain and concluded that the profession consists of mainly females, young people and White people. They concluded that “there remains a need to recruit a more ethnically and
culturally diverse workforce for the future" (p.3, Department of Health, 2007c). Currently many candidates may see the assistant psychologist/doctorate route as uncertain and there is increasing evidence that this deters individuals from ethnic minorities and men to consider clinical psychology as a serious career option (Department of Health, 2007b).

Additionally, many of those wishing to secure assistant psychologist jobs and a subsequent place in doctoral training undertake volunteer work and further post-graduate training, which is normally self-funded. This means that those with the financial ability to undertake these experiences may more likely to become clinical psychologists, which has clear implications for the diversity of the workforce.

In order to make these new roles attractive and to ensure adequate level of competency, these posts would include built-in training at post-graduate certificate (assistant), diploma (senior assistant) and masters level (psychology associate). It is anticipated that applicants would want to progress through the levels and at any point exit to commence doctorate training. However, the more senior associate psychologist role would allow candidates to remain in post for as long as the post exists. An advantage of the new roles is that there would be a clearer career structure for pre-qualification psychologists, with a reasonable remuneration (agenda for change band 6/7), more autonomy and longer career prospects. This new system would also allow pre-qualification psychologists to have adequate systems of supervision and accountability rather than being left to gather experience in a piecemeal fashion.

The Training Model report (Department of Health, 2007e) explored several new models of training which incorporated the training for the new proposed pre-qualification roles. This report endorsed the view that the competencies of the various applied psychologies have been
increasingly converging (e.g. counselling psychology courses teaching psychometrics and cognitive behavioural therapy (CBT)). The report suggests that the different grades of applied psychology create confusion for commissioners, service-users and the Department of Health, and the unification of training and the shared denomination of applied psychologist should be considered. One of the new proposed training models involved the complete unification of forensic, health, counselling and clinical psychologies; whilst another model considered having a generic component for the all the applied psychologies leading on to a one or two year specialist module. However, clinical psychology is currently the only group receiving funding. Therefore spreading the funding to all applied psychology training would mean reducing the existing funding for clinical psychology; funding which is already insufficient to meet the needs of service-users (Boardman & Parsonage as cited in Turpin, 2008, p.7). Funding would also be needed to create the proposed new pre-qualification grades, which again could potentially reduce the overall number of clinical doctoral commissions. Similarly, commissioners may attempt to save money by developing psychology services around pre-qualification grades, leading to lower appointment rates of qualified clinical psychologists. It is therefore important that new developments do not detract from clinical psychology training. The clinical psychology doctorate has established high standards for applied psychology training and it represents excellent value for money for commissioners due to their low attrition rates and long rates of retention of clinical psychologists in the NHS (Department of Health, 2007e).

During the consultation of these training models there was also much debate and controversy regarding the need to unify the different applied psychologies. Some clinical psychologists felt that the adoption of the generic title of applied psychologist would actually undermine their role and the profession as a whole. Finally, the current proposals for training are based on the assumption that there are several areas of
commonality between the different applied psychologies. However, this assumption has not been systematically investigated and needs evidence to support it before any important decisions regarding training or unification are made.

Currently most of the work undertaken by psychologists focuses on the restoration of service-users' pre-morbid level of functioning (Department of Health, 2007b). Although, it should be noted that by these standards few people with severe mental illness could be said to recover (Roberts & Wolfson, 2004). Restoration might be better conceptualised as a process of personal discovery and recovery, where the service-user learns to live well within the constraints of their symptoms and vulnerabilities (Roberts & Wolfson, 2004). If the psychology workforce was to be expanded, clinical psychologists and their supervisees could also expand their input to other areas of intervention, such as mental health prevention and working with carers. Working with carers and offering them support is essential so they do not also become recipients of mental health services. It can also be argued the current long waiting-list for psychological therapy might be associated with further mental health deterioration. For instance, a study in a child and adolescent service indicated that a waiting time of more than 30 weeks resulted in 'families giving up' (Foreman & Hanna, 2000) and a similar pattern may be also be present in adult mental health. Therefore, an increased psychology workforce would also allow service-users to access psychological interventions more readily and therefore prevent unnecessary deterioration. Although it seems likely that service-users will be able to access psychological interventions at a quicker pace in the near future, this will be at the cost of therapists' experience and training. Indeed, research has indicated that the therapist's competence and ability to develop a therapeutic alliance are related to the outcome of therapy (Trepka et al., 2004). Most studies seem to indicate that psychological therapies are less effective when administered by less qualified professionals (Centre for Economic
Performance, 2006). Therefore, if these new roles are to be successful it will be crucial to ensure that new therapists have adequate training and competency.

**Improving Access to Psychological Therapies**

The NWWAP report on IAPT focused on the contribution that applied psychologists can make to this initiative. The IAPT programme is based on the proposals made by Layard (2004), who argued for an increased investment in better access to psychological therapies. This would not only give service-users choice regarding the treatment of their mental health needs, but would also reduce the costs of incapacity benefits and increase worker productivity. Layard (2004) states that 40 per cent of people receiving incapacity benefit suffer from mental health problems, which is also a secondary factor for a further 10 per cent of claimants. However, despite the fact that NICE recommends psychological therapy for many common mental health difficulties (e.g. NICE, 2004), access to psychological therapies is currently very restricted. Layard (2004) estimates that only two per cent of all people with mental health difficulties see a psychologist.

In its initial phase, the IAPT is mainly focusing on improving access to psychological therapies for individuals of working age with common mental health problems (i.e. depression and anxiety). But in the future it also aims to expand to cover children and young people, older people and services for black and ethnic minority communities (Turpin et al., 2006). The IAPT programme advocates a stepped-care service delivery, whereby patients firstly access lower-intensity interventions and are stepped-up to more higher-intensity interventions depending on progress and need. The IAPT initiative is currently being trialled in two demonstration sites (Doncaster and Newham) and in ten additional Pathfinder Sites (MHChoices, 2007). It seems likely that new psychological centres like these will expand at a fast pace over the next few years. A business case has been made to create 200 new
psychological therapy services throughout England over the next six years (Department of Health, 2007a). Furthermore, the health secretary recently announced Government funding to "build a ground breaking psychological therapy service in England" rising to £170 million by 2010/11 (Department of Health, 2007i). This is expected to treat 900,000 additional patients suffering from depression and anxiety over the next three years, around half of which are expected to be 'completely cured'.

The staff needed to resource these new centres are likely to be drawn from a range of professions and it is expected that clinical psychologists (particularly band 7) will be involved in the delivery of high-intensity therapies (Department of Health, 2007a). In my opinion, clinical psychologists, with their integrative training, would make ideal candidates for these posts since a number of people do not benefit from CBT. Clinical psychologists can also play a central role in promoting a wider understanding of mental disorder, which goes beyond the consideration of symptoms and their amelioration and incorporates the socio-economic and cultural systems. Other professionals, such as nurses, CBT therapists and graduate workers, will also have the opportunity to train in and contribute to the delivery of psychological therapies. However, it is important to ensure this new grade of psychological therapists possess the necessary competencies, have suitable career frameworks and systems of accountability. This expansion in the provision of psychological therapies means that in the long-term this will become a more competitive market and clinical psychologists will have to demonstrate that the skills and knowledge they bring to the job are good value for money. Clinical psychologists will also be expected to contribute to the management, training, supervision and provision of high-intensity interventions. Pilling and Roth (2008) argue that the IAPT presents clinical psychologists with the unique opportunity to establish a central role in the provision of psychological interventions. The NWWAP report
on IAPT argues that senior applied psychologists also need to contribute to service innovation and redesign at a more systemic level by taking up board level positions. The overall message from this report is that the most senior psychologists need to spend less time seeing service-users individually and instead spend their time more efficiently providing supervision, consultation, training, leadership, as well as engaging in service and workforce redesign, audit and clinical governance (Department of Health, 2007a).

Richards and Suckling (2008) recently published an article describing the stepped model of care adopted in the Doncaster demonstration site. Despite the fact that CBT is not the only evidence-based therapy recommended by NICE, this is the only therapeutic modality offered to service-users in Doncaster. This is due to the fact that training and clinical materials for CBT are more readily available than for other evidence-based therapies (Richards & Suckling, 2008). However, if future services on the IAPT agenda continue to limit service-users' choice in a similar fashion, then fewer people will be able to benefit from this initiative. Furthermore, it will perpetuate the lack of development and expansion of other evidence-base therapies. At Doncaster the low-intensity interventions are delivered by case managers, who hold high numbers of service-users in their case loads. Their weekly supervision is service-driven (i.e. focused on service-users' progress). This raises the question whether there is time left for case managers' personal development and reflection in order to prevent de-motivation and burn-out. Finally, according to this model, all referrals are firstly allocated to the low-intensity intervention, which normally involves self-help or computerised CBT. Only ten per cent of referrals progressed to receive high-intensity interventions, that is, one-to-one CBT sessions with a therapist. Therefore, only a small percentage of service-users at Doncaster are actually accessing psychological therapy. Whilst self-help draws on psychological ideas, it does not constitute therapy per se. As Gilbert (2008, p.17) put it: "are
we talking about improving access to psychological therapies or improving access to psychological support, life-skill training and coaching?" Furthermore, it is important to recognise that the long-term effectiveness for low-intensity interventions is more limited when compared to high-intensity interventions, particularly for depression (NICE, 2004). If low-intensity interventions have to form an integral part of new services due to service and financial constraints, I believe that these would be better delivered through groups facilitated by a mental health professional, as is common practice in many primary care services (Department of Health, 2007a). I would argue that a group setup, which reduces mental health stigma and gives service-users the potential to build up social networks with other service-users, is a more effective and beneficial intervention than accessing self-help material via a book or computer.

Service-users and carers are increasingly demanding better access to psychological therapies (Mental Health Foundation, 2006) and any initiative with this issue at its heart is a laudable one. Although prompter access to psychological therapies is essential, service-users and carers should also be given choice with regards to the practitioner, setting and type of psychological approach they are offered. As pointed out by the DCP Users and Carers Liaison Committee (Department of Health, 2007a), randomised controlled trials of CBT show a positive outcome for 50 to 70 per cent of participants. This shows that a significant proportion does not benefit from this approach and a wider range of therapies need to be available if we are to truly meet the needs of all service-users.

The IAPT agenda also raises the question of whether, as a society, we are 'medicalising sadness' and thus whether CBT is actually the best strategy to tackle these issues. The literature suggests that conditions such as depression are linked with negative life events, domestic violence and absence of social support (Gilbert, 2008). Socio-economic
Professional Issues Essay

factors are also evident, with areas of high unemployment and high levels of poverty having a considerably higher rate of mental health problems (Melzer et al., 2004). In many cases CBT, with its focus on intra-individual factors, may be inappropriate to tackle problems which are socio-economic in nature. Indeed, Gilbert (2008) suggests that different strategies, such as helping to build community networks and targeting domestic violence also need to be advanced. Therefore, whilst the IAPT programme is important and laudable, equal funding, attention and investment need to be given to community interventions which target social inequality and promote social inclusion.

A potential cost for clinical psychologists is that the current focus and investment on the IAPT agenda may detract from clinical psychologists working with service-users whose needs are beyond primary care. Commissioners may perceive the role of clinical psychologists just in relation to delivering/supervising CBT in the context of IAPT. It is important for commissioners to be aware that clinical psychologists also work across many different services, with diverse client groups and provide various levels of interventions. In fact, only approximately a third of applied psychologists in England work in adult mental health services (BPS, 2005). Clinical psychologists outside of the IAPT also need to be given the support and resources to deliver services that meet the needs of service-users and carers. The provision of psychological intervention for individuals with more complex needs is also scarce and inadequate (Department of Health, 2007a). To complicate matters further, it is likely that the psychological needs of other client groups, such as individuals with long-term disabilities and older adults, will increase in the near future (Turpin, 2008). The Sainsbury’s review of workforce demand concluded that in order to implement the National Service Framework for Mental Health a 50 per cent increase of clinical psychology staff will be needed in the next few years (Boardman & Parsonage as cited in Turpin, 2008, p.7). It is
therefore important that the current unprecedented investment in IAPT does not detract from the funding which is greatly needed elsewhere.

**Team Working and Organising, Managing and Leading Psychological Services**

The *Organising, managing and leading psychological services* report (Department of Health, 2007f) argues that in the current climate of service reorganisation, it is essential that psychological services have Board level strategic and systemic clinical leadership. Although, professionals other than psychologists may take up these roles it is expected that applied psychologists will develop greater leadership skills even earlier in their careers than is currently assumed (Department of Health, 2007f). However, despite their extensive training, it cannot be assumed that clinical psychologists possess the leadership skills necessary to take up these new roles. Therefore, the need of clinical psychologists to develop leadership skills and competencies will have to be addressed via continuing professional development activities, leadership skills training, mentoring and succession planning. Clinical psychology doctoral courses will be increasingly expected to address leadership skills in their training and to take into account leadership potential as part of the selection process.

The *Organising, managing and leading psychological services* report (Department of Health, 2007f) also argues that qualified psychologists should facilitate the external understanding of the profession by aggregating together under the title of Applied Psychologists. However, similar propositions concerning the merging of various applied psychology training courses were considered controversial. Many psychologists and training providers argued that commonalities across the different roles and training are being assumed and currently there is no evidence for this.
I feel that becoming an applied psychologist in your area of specialisation can require great commitment and often personal and even financial sacrifices. Nevertheless, I believe that many people choose to embark on this difficult journey because they are enthusiastic or passionate about their chosen area of applied psychology. Therefore, I feel that many applied psychologists would be unwilling to abandon their specific applied psychology title. I also believe that actually maintaining this specific title is more honest for service-users, carers and commissioners, as it clearly implies the type of training and skills you actually possess. I accept that the range of applied psychologies may be confusing for some clients and carers. However, this problem is not limited only to psychology. Indeed, the whole range of different mental health professions is probably confusing and potentially overwhelming for the client and/or carer initially coming into contact with mental health services. We need to be mindful of this and provide service-users and carers with clear information regarding our training and roles by, for instance, having explanatory leaflets available in waiting rooms and surgeries.

Due to their small numbers and specialist expertise, psychologists have historically taken peripheral roles within teams. The Team Working report (Department of Health, 2007h) advocates that psychologists should seek increased integration, whilst maintaining their unique contribution and identity. Adopting a more central position, where psychologists are seen as valued and respected members of the team, would allow them to have greater influence within the team as well as being influenced by other professionals themselves. This would promote an environment where inter-professional learning, cooperation and working can thrive. On the other hand, being more integrated means that psychologists will have less time to do specific psychological work and research, due to some of their time being taken up with generic tasks and team meetings. Psychologists often also hold the skills which allow them to offer consultation, teaching and training...
to the team. Indeed, psychologists are being encouraged to take roles which will contribute to improved team working outcomes. These roles include optimal team design and operation, service planning, peer consultation, promoting of the effective involvement of users and carers, evaluation and research (Department of Health, 2007h). However, being embedded in the team dynamics may make carrying out some of this work more difficult.

Despite some of the challenges that increased integration raises, I believe this form of working will allow clinical psychologists to achieve more positive outcomes for service-users and carers. For instance, it will allow for more effective dissemination of psychological explanations of mental illness in order to counter-balance the predominant medical discourse. Even with the current focus on IAPT, the medical model of mental illness is still very much prevalent. Service-users are given diagnostic labels and therapy is seen as means of ‘curing’ them. Clinical psychologists can advocate a more psychological understanding of mental difficulties by, for instance, sharing formulations of clients with colleagues as a valid alternative to a medical conceptualisation. I am not against biological explanations and, for many cases, these are valid constructions. However, it is also important not to negate the social reality of many of our clients’ mental health problems. Clinical psychologists can also advocate a ‘recovery’ process for service-users. The recovery model refers to a client-centred and collaborative approach, where service-users are encouraged to make active choices about their treatment. The aim of treatment is not to eliminate symptoms, but to help the individual minimise the impact of the mental health difficulties on their ability to lead a fulfilling and meaningful life (Department of Health, 2007h).

**Conclusion**

In the current climate of reform and change, all professionals are being encouraged to clarify their roles and contribution to service delivery. It
is true that "applied psychologists represent an extensively trained, scarce resource that is diverse in roles and function" (p.6, Department of Health, 2007f). Clinical psychologists must therefore clarify their contribution to services and prove to commissioners that they represent value for money compared to other professions that deliver psychological therapies. The current emphasis on expanding access to psychological therapies and implementing NICE guidelines means that services will have to make optimal use of their existing psychological resources. The implication for applied psychologists is that their skills need to be used more efficiently and that inevitably means considering what aspects of the role can be carried out by others with less training. It is likely that clinical psychologists will be increasingly involved in the training and supervision of other professionals delivering psychological therapies. The delivery of mental health care is increasingly based on multi-disciplinary working and applied psychologists are being asked by other professionals to take up leadership roles earlier in their career than is currently expected (Department of Health, 2007f).

The current developments represent a positive opportunity for psychological understandings of mental illness to become more predominant in mental health services. Clinical psychologists will be able to exercise more influential roles within teams. A growth of psychological services would also present an opportunity for clinical psychologists to expand the focus of their work from intervention to incorporate prevention and active working with carers. Clinical psychologists are being encouraged to take up more senior roles and they need to use their influence to promote services that actually meet the needs of service-users and carers. That means developing services which are socially inclusive and giving service-users a choice of interventions delivered by adequately trained and supported professionals.
The creation of new roles would represent a positive step towards widening the access to the profession whilst also making the best use of the wide range of good calibre individuals (psychology graduates and other health professionals alike) who are willing to deliver psychological therapies. This would hopefully foster more diversity within the profession, a feature that would ultimately benefit service-users and carers.

Finally, whilst clinical psychologists can have important roles in widening the access to psychological therapies, I believe that we also need to foster a realistic expectation about what psychological therapies, such as CBT, can actually achieve. Whilst psychological therapies can be very helpful for some clients, it is not an answer for everyone. Mental health services need to start acknowledging the wider social, political and cultural contexts of mental illness and develop interventions which target social inequality and promote social inclusion and mental health prevention.
References


Problem Based Learning Reflective Account 1

The relationship to change

Programme Year: Year One
The initial group process
Our group was initially constituted of six trainees and a facilitator. We met regularly over a period of six weeks to develop a presentation based on the following statement: 'The relationship to change'. The first few meetings felt fragmented; we were unsure about the demands of the task and we were all new to problem-based learning. Furthermore, we were still getting to know each other and finding our feet on the course. The input of our facilitator was invaluable, particularly at this initial stage. Our facilitator contained our anxieties and feelings of uncertainty, and encouraged us to focus not only on the content of our discussion but also on the group process. We reflected on our feelings of uncertainty and realised that we needed to accept and experience these feelings in a contained way.

I realised very early on that one group member contributed more than everyone else, particularly when our facilitator was not present. I felt that this group member was dominating the group discussion. This group member invited another trainee, who she appeared to be good friends with, to join our case discussion group (CDG). We were not asked as a group how we felt about this; instead, we were all approached individually. I had concerns that this new addition would complicate the group dynamics further. I agreed to the new member's inclusion, in part because I did not feel as though I could refuse without hurting the feelings of those involved.

Our meetings continued to feel somewhat chaotic and on several occasions I found it difficult to contribute without being interrupted. I realised that some group members were also unhappy with the situation. I discussed the situation with the two other members of the group who were unhappy with the situation. At the next meeting we tactfully raised the problems of lack of structure and the imbalance of contributions in the meetings. The discussion was welcomed by the group and we agreed to reinforce the role of the chair who, among
other things, would ensure a balance of contributions and keep the meetings structured and focused. We also acknowledged that we all had a responsibility to abide by these new rules. Our new group member also embraced these changes and settled in well. Our meetings improved, the presentation started taking shape and I started to feel more connected to my group.

The presentation
After looking at several models of change, such as Prochaska and DiClemente’s (1983), we settled for a model of mental health promotion developed by MacDonald & O’Hara (1998), which places emphasis on three levels of action: micro, meso and macro. We felt that the other models of change we looked at were somewhat reductionist, focusing solely on intrapersonal aspects and failing to acknowledge the impact of wider systems on the process of change. MacDonald & O’Hara’s (1998) model appealed to us because it took into account the wider systems in which individuals are placed.

In our presentation we illustrated the three levels of change through the example of bullying. At the micro level one can look at increasing the person’s ability to build their self-esteem and develop trusting and supportive relationships to help combat the bullying. At the meso level, human resources strategies and policies in the workplace can be effective in tackling the bullying. These measures can be further reinforced at a macro level by government anti-discrimination and bullying legislation.

We then mapped the relationship to change, as experienced and discussed by our group, onto these three different levels of action. At the macro level we acknowledged the influence that BPS and NHS initiatives have on our development as trainee clinical psychologists. At the meso level we focused on the direct impact of the Surrey DClinPsych course and the effect of its unique orientation in shaping
our learning and development. Finally, at the micro level, we reflected on our individual responses to change, in particular, on the changes we recently faced during the initial weeks of the course. I believe we covered many important issues in our presentation, which are shaping our identities as trainee clinical psychologists. However, on reflection I feel we may have included too much material and failed to consider these issues in sufficient detail.

Re-evaluation of the PBL exercise
In our initial meetings I felt unsure about problem-based learning and how it would benefit my learning and development. This has made me reflect on how service-users may feel in their initial consultations with psychologists (or other mental health professionals for that matter). From my clinical experience I have realised that service-users can sometimes have ambivalent feelings about psychological therapy. Looking back at the initial group dynamics, I realised how little time we spent bonding and getting to know each other. Our anxieties over producing a good presentation within the time constraints lead us to focus too much on the content of our sessions, to the detriment of the group processes. It took our CDG several weeks to identify and address the problematic group dynamics. Perhaps, as a group, we need to take more account of these issues in future PBL tasks. On a more individual level, I feel that I should have been more open about my concerns regarding the group dynamics. For instance, I should have expressed my concerns about a new member joining our CDG.

This experience has also highlighted to me the importance of establishing a good rapport with clients. A good therapeutic alliance between therapist and client is paramount. This alliance is as important as therapeutic techniques in producing good therapy outcomes (Roth & Fonagy, 1996). Through my personal experience of my CDG, I realised how frustrating and disempowering it is not to feel listened to. As first year trainees, we are very often concerned to demonstrate and practice
our therapeutic skills. Our relative inexperience of therapy makes us more likely to want to strictly follow treatment manuals and we are likely to go into sessions with our own agendas in mind. However, we must be aware of this tendency if we are to avoid the trap of not really listening to our clients.

A particular strength of our presentation was our awareness of several issues which are currently affecting the NHS, clinical psychologists and service-users. For instance, we reflected on Layard's (2004) recommendation to expand the availability of CBT for common psychiatric problems such as anxiety and depression. Layard's recommendations, together with the NICE guidelines, have resulted in many mental health professionals, such as nurses and occupational therapists, pursuing CBT training. Indeed, Layard himself has recommended that clinical psychology training should become more slanted towards therapy, in particular CBT. However, a key characteristic of clinical psychologists is our ability to formulate and intervene using a range of psychological approaches. This allows clinical psychologists to choose, if possible in collaboration with the client, the best intervention for him or her. This process allows clinical psychologists to take into account their client's individual characteristics, strengths and weaknesses. Furthermore, the aim of clinical psychology training is not to train therapists (that would make us very expensive therapists), but to train applied psychologists with a range of skills other than just therapy. Diamond (2006, p.7) actually warns us of the danger of clinical psychologists fashioning themselves as healthcare experts, rather "than as healthcare professionals who retain a psychological perspective".

My placement experience to date has made me realise how many mental health professionals (and sometimes clients and their families as well) see CBT as the panacea for almost all problems. I am not against CBT in principle, but I do believe that CBT cannot possibly live
up to the high claims that are currently being made for it. I also do not believe that CBT is a 'one size fits all' approach. In our CDG meeting we have discussed how many trainees in our cohort are in placements where they can only offer CBT. A group member shared the story of a service-user who had been offered CBT for a third time despite feeling that CBT did not work for her. Why do we not listen to our clients' wishes and feelings? Certainly we should give clients more choice regarding the model of therapy they would like to use? It is perfectly plausible to think that some service-users do not see their distress as stemming from maladaptive thinking styles. More importantly, we must remain aware that human behaviour cannot be considered in isolation from its wider familial, social, cultural and economic contexts (Cromby, 2006). For instance, Smail (2006, p.17) argues that clinical psychology focuses too much in the intrapersonal and that "rational, conscious thought plays a much smaller role in the generation of conduct than is conceived in humanistic, dynamic and cognitive approaches". I understand that the evidence for CBT can be very convincing, often composed of neat randomised controlled trials. Given its evidence-based and short-term focus, it is unsurprising CBT has been recommended as the psychological treatment of choice for many mental health problems, for example depression (NICE, 2004). However, the participants used in such studies tend to have single diagnoses and do not reflect the clients often seen in mental health services, especially in secondary and tertiary care. Other psychological approaches, such as psychodynamic approaches, are not as easily researched in such a controlled way and therefore receive less attention and merit.

Most importantly, I have grown to realise that there is a political and economic drive behind the current emphasis on CBT, especially given the current climate of economic crisis within the NHS. We are all aware of the current service closures, frozen posts and reduced funding for training schemes. Mental health problems such as depression and
anxiety cost the economy £17 billion a year (James, 2006). CBT has been marketed as a quick-fix approach that will cure people of their mental health problems, allowing them to return to work and thus reducing the cost of incapacity benefits. I acknowledge the serious impact that mental health problems have on service-users, their families, and society in general. I also think that the current focus on expanding the availability of psychological therapies is extremely positive. During my placement I have realised that many clients do not want to be treated with medication and prefer talking therapies. Unfortunately, the availability of talking therapies does not match the current demand, which results in long waiting lists. However, the expansion of psychological therapy should not just be focused on a single approach to the detriment of all other approaches. Furthermore, underlying the recommendations made by Layard (2004) and NICE is the assumption that the form of therapy, rather than the therapist, is responsible for the outcome. Although this is a question that is still being debated, many would argue that the therapist's effects exceed the effects of therapy on the clinical outcomes (Wampold, 2001). However, I have realised that the assumption that therapy, rather than therapist, has the greater effect tends to go largely unchallenged in many mental health settings. Finally, I am aware that mental health problems are often associated with poor economic and social circumstances (Miller & McClelland, 2006). Therefore, I believe that any expansion of the availability of psychological therapy should be matched with equally robust interventions at the wider societal level if we are to truly alleviate people's distress.

Conclusion
Our presentation allowed me to reflect on the many different factors that are currently shaping my development as a trainee clinical psychologist. I have reflected on my identity as a trainee clinical psychologist and how external forces, at several levels, ranging from the course structure to NHS and government initiatives, can shape this
process. Most importantly reflecting on the presentation has allowed me acquire a wider perspective of mental health problems and how I conceptualise these in my clinical work. Reflecting on the group dynamics has also been a learning experience for me and I believe that these are important skills that will allow me to work effectively in multidisciplinary teams.
References


Problem Based Learning Reflective Account 2

Child protection, domestic violence, parenting and learning disabilities

Programme Year: Year Two
The Problem Based Learning (PBL) exercise
The PBL exercise concerned the Stride family and raised several issues such as learning disabled parenting, child protection and domestic violence. Specifically, Mr and Mrs Stride have a learning disability (LD) and their twin children were placed in foster care due to emotional abuse and neglect. Mr Stride displayed physical aggression towards his wife, which had been witnessed by the children. The professionals involved were concerned with the couple’s ability to parent their children and they felt that the family had been offered all possible interventions without success. Mr and Mrs Stride, however, were desperate to have the twins back.

The Stride Family

![Genogram](image)

Figure 1. A genogram representing the Stride family.

The initial phase
Our first group task was to brainstorm our initial thoughts and reactions to the PBL information. On reflection, from very early on, there were some negative attitudes towards Mr Stride. We disliked his violent
behaviour towards his wife and the fact that he was unwilling to help his wife use the second-hand electrical appliances. However, we were also mindful that his current behaviour could not be understood in isolation from his upbringing. We noticed that Mr Stride came from a male dominant family and wondered about the gender scripts that ran in his family. We hypothesised that, in his family, men were not expected to deal with domestic appliances or carry out domestic tasks. We also speculated about how Mr Stride and his brothers, for instance, expressed conflict and disagreement when they were growing up.

Looking back I think we failed to consider our own values and upbringings and how these impacted on our views of Mr Stride. Personally, I strongly value equal share of domestic tasks between couples and I admire partnerships which are not constrained by traditional female/male roles. I feel inspired when I hear of women being the breadwinners and men who choose to become full-time fathers. I am aware that my current values are the product of growing up in a family where I resented the fact that I was expected to do more domestic work than my older male bother.

Despite our attempts to contextualise Mr Stride's behaviour, I feel that we found it difficult to view Mr Stride in a positive and open minded way due to the nature of our group (predominantly female well-educated professionals). This highlighted how we always bring a lot of ourselves into our work and that often who we ally with will be influenced by our own personal experiences. Unfortunately, we are not always aware of this. Time for reflection, learning from previous oversights and good supervision are essential to become more aware of our blind spots. An individual learning need for the next PBL will be to take more time to consider my personal values and to initiate discussion about personal values in the group.
At the end of our initial meeting we felt overwhelmed with the amount of issues that this case raised and we felt unsure about the role of psychology in this case. The situation of the family felt somewhat desperate and the other professionals seemed to be 'passing the buck' to psychology.

The group process
In contrast to last year, this year we found it difficult to work as a big group and therefore split into smaller sub-groups in order to carry out specific tasks. We did this for several reasons. Firstly, some individuals felt more inclined to explore the issues around learning disabled parenting, whilst other individuals seemed more concerned with the potential risk to the children. It is interesting to consider that cases such as this can also result in splits in clinical teams. Secondly, whilst last year we were very new as a group, this year we felt more able to criticise each others' ideas. Therefore, it was more difficult to progress in the meeting and reach a consensus about the presentation. Thirdly, this year we were experiencing more pressure and stress, which impacted on the group dynamics. We are a very diverse group and had different expectations from one another with regards to how much work and effort should be put into the PBL task. This resulted is some covert resentment and frustration during the group meetings. Finally, whilst last year some group members were more outspoken than others, this year there was more balance in contributions, which means that it was more difficult to resolve issues. Our Case Discussion Group facilitator encouraged us to explore these issues openly in a safe environment, which allowed us to establish and review our formal and informal norms and progress towards more effective team working. A future challenge for the group as a whole is to identify conflict earlier, understand its nature and manage it effectively.
The presentation
A key issue we wished to reflect in our presentation was the discrimination that parents with LD face. These parents "often need to overcome preconceived ideas among other people about their ability to parent" (SCIE, 2005, p.2). In fact, the Children Act (1989) does not assume that children are in need if one or both of their parents has LD. It argues that children are best cared for within their families and that parents should receive the support they need to perform their parenting role. However, we also acknowledged that parents with LD often require financial, social and practical support in order to parent effectively (Booth, 2000). Indeed, the fact that Mr and Mrs Stride's social and support networks were so limited increased their need for adequate professional support.

There are several policies, such as Valuing People (DOH, 2001), which advocate services that recognise the needs of parents with LD. This PBL exercise made me reflect on the range of skills and knowledge required to raise a child. Indeed, becoming a parent can feel like a formidable task for many individuals. Additional factors such as a disability, limited financial resources or lack of social support are likely to further increase the challenge of this task. Parents with LD, such as the Strides, may therefore need support in several areas such as feeding, preparing nutritious meals, child development and stimulation, hygiene, warmth, safety, supervision, discipline, organisation and routines. We were also concerned that Mrs Stride's upbringing in the Looked After System might have deprived her of key experiences, such as warmth and stimulation, potentially limiting her understanding of what children need to grow up healthily.

We felt that Mr and Mrs Stride were not given a fair chance at proving their ability to learn and change. They could have benefited from a combination of home-based and centre-based parenting training specifically tailored for individuals with LD. The research indicates that
what works best for parents with LD is education undertaken in the home and tailored to the abilities of individuals. The training should be interactive, practical and involve repetition or reinforcement (McGaw et al, 2002). On the other hand, centre-based programmes can be a source of social interaction and mutual support for parents with LD, who are often socially isolated (Booth & Booth, 2003).

Although our presentation focused mainly on issues of discrimination and lack of appropriate help for parents with LD, we were also mindful of the rights of the twins. The Every Child Matters states that all children and young people should be healthy, stay safe, enjoy and achieve, make a positive contribution and achieve economic well-being (HM Government, 2003). We recognised that parental psychopathology has a deleterious effect upon the child’s health and development (McGaw, 2001), but were reassured by the fact that Mrs Stride was receiving psychological intervention to help her with her depression. Another major concern for us was the fact that there was physical violence in the home, which had been witnessed by the children. We were aware that children can be greatly distressed by witnessing the physical and emotional suffering of a parent. Prolonged and/or regular exposure to domestic violence can have a serious impact on a child’s development and emotional well-being (BPS, 2007).

Re-evaluation of the PBL exercise
Reflecting on the issues raised by the PBL task and my clinical experience, I have come to realise that services can fail individuals because they lack a holistic approach to the reality of family life (SCIE, 2005). Most local authorities organise their services according to either medical or social categories, which can result in gaps in care and individuals feeling ‘batted over’ from service to service. There can also be a tendency to pass responsibility between children’s and adults’ services, which can leave parents such Mr and Mrs Stride feeling unsupported and seeing the input of services as unhelpful. There is
also some evidence suggesting that services do not take a proactive and preventative stance to working with parents with LD and only intervene when there is a crisis and concerns with child protection (Morris, 2003).

In our presentation, we failed to highlight the fact that there is often an assumption that the cause of problems lies in the parent’s disability when difficulties arise (SCIE, 2005). However, Mr and Mrs Stride were under a number of significant additional stresses, such as living in extreme poverty and social isolation or exclusion. Research has indicated that parents with LD have fewer opportunities for “informal social learning” from friends and extended family than non-disabled parents (McGaw et al, 2002). These factors might also have contributed to the problems the family was facing. I think we also failed to deconstruct Mrs Stride depression as an understandable emotional response to losing her children, being socially isolated and living in extreme poverty.

Finally, we did not explore our personal attitudes towards people with LD becoming parents. I still remember my astonishment at realising that, up until very recently, people with LD were sterilised without their consent. Although it is now recognised that people with LD have the same rights to intimacy and parenting as anyone else, in practice I feel that there are still many barriers to overcome. During my LD placement I realised how psychology departments receive many referrals regarding sexuality and consent issues because other professionals often feel unable to discuss sexual matters with their clients. For instance, during the initial stages of planning a relationships group I was specifically asked not to talk about sex. I was shocked to realise that the staff thought that more knowledge would actually result in more risky sexual behaviour rather than the opposite.
Conclusion
Reflecting back on the two PBL exercises, I realised that in both cases our initial reactions to the material were confused. We felt 'swamped' and unclear about what the presentation would actually look like. I feel that we struggled with the initial stages where we explored the material and had difficulty dealing with the uncertainty about the focus of the presentation. Perhaps our reactions were similar to what a clinical team dealing with the case would experience. We felt overwhelmed and believed that the situation was 'desperate'. We also felt the urge to quickly decide the structure and focus of our presentation. Similarly, I wonder if professional teams facing those difficult situations will implement interventions too quickly and try to create change, instead of spending time trying to understand the clients and what the issues really are for the family.

On a more positive note, I feel that we were able to move the focus of the problem from Mr and Mrs Stride to actually consider the system as a whole. By trying to answer the question 'whose problem is it?' we came to realise the extent of the systemic failure around this couple and their children. We affirmed in our presentation that the problem also lay in the lack of adequate intermediary service provision for learning disabled parents.
References


Problem Based Learning Reflective Account 3

Working with people in later life, their families, and the professional network

Programme Year: Year Three
The Problem Based Learning (PBL) exercise

The PBL exercise concerned Mr Nikolas, who is a 69-year-old divorced man referred to psychology for an assessment of his short-term memory problems. The social worker was concerned that Mr Nikolas was not looking after himself or his flat adequately. Mr Nikolas had been divorced for six years. Following the divorce he suffered from a period of low mood. Things had gradually improved for Mr Nikolas. He had re-established a more active social life and formed a new romantic relationship. Mr Nikolas had recently become engaged to Mrs Edwards, although they still lived in separate houses. When the memory problems were noticed, Mr Nikolas's older son, Alexander, accused Mrs Edwards of financial abusing his father and demanded that she should stop seeing him. Social services invoked the Court of Protection and Mr Nikolas's financial affairs were being managed by his ex-wife.

Mr Nikolas's genogram

![Genogram](image)

- **RIP**
- **White English**
- **Russian Jewish émigré**
- **54**
- **69**
- **Mr Nikolas**
- **Mrs Edwards**
- **Alexander**
- **James lives abroad little contact with his father**

Suffered from depression during marriage
The group process
I feel that the group showed less interest in Mr Nikolas's case compared to previous PBL exercises. From the beginning some group members said that they wanted to keep the PBL workload contained so that they could focus their energy on other more important pieces of work. However, I now wonder if this in part reflected a general lack of interest for the older adult client group. Traditionally, working with older adults has not been seen as an attractive career option by trainee clinical psychologists (Laidlaw & O'Shea, 2004). In 2003 it was estimated that just over five per cent of the Clinical Psychology workforce specialised in work with older adults (PSIGE, 2003). A BPS briefing paper in 1995 reported that there is much less interest in working with older people compared to other client groups and under-recruitment in this area has been a recurrent problem. Yet the older adult population is predicted to increase three-fold in the next fifty years (UN, 2001). This will mean a significant increase in the number of individuals suffering from dementia and mental health problems and consequently an increased need for clinical psychologists to work in older adult services.

Laidlaw and O'Shea (2003) feel that what is underlying this lack of interest is the stereotype that working with older people is unlikely to produce meaningful and life enhancing change in this client group. Negative stereotypes about the value of therapy for this client group can be traced back to Freud, who remarked that older adults lacked the plasticity to achieve meaningful benefit from psychotherapy. Obviously, this has been since disproven and a variety of psychological therapies have been shown to be effective for this client group (Laidlaw et al., 2003).

I think that it would have been worthwhile to reflect on our feelings and expectations for our then approaching older adult placements. We could have considered whether we were unconsciously holding ageist
views about the ability of this client group to benefit from psychological interventions. As future clinical psychologists, not only do we need to be self-reflective, we also need to be mindful that clients themselves may hold unhelpful beliefs about ageing. For instance, some of my clients have told me that they feel less able to cope with their mental health problems now that they are older. Some older clients also believe that it is harder to change when you are older (‘you can’t teach old dogs new tricks’). Yet people generally fail to acknowledge that with ageing also comes greater knowledge and lived experience, which can be used to aid treatment. Clinicians working with older adults need to explore with their clients their unhelpful beliefs about ageing which may interfere with therapy. Clinicians also need to facilitate discussion on whether there are positive aspects of ageing that are being overlooked.

The presentation

Old age is a period of life marked by declines of all kinds. Mr Nikolas’s case allowed our group to consider the role of loss in emotional problems in later life. We realised how Mr Nikolas had experienced several losses over his life: he had lost contact with his father in childhood; he had lost the role of husband and the family home following his divorce; and he wondered if he had lost his professional identity after retirement. Mr Nikolas’s sisters lived in Australia and he had very limited contact with one of his sons. Now, with the possible cognitive decline, Mr Nikolas may face the loss of cognitive functioning and loss of independence.

In our presentation we drew on the psychodynamic literature on old age, which highlights how early losses in life can compromise the individual’s ability to cope with later losses in old age (Evans & Garner, 2004). I feel that this was a unique aspect of our presentation that set us apart from the other groups. In our presentation we showed curiosity about Mr Nikolas’s early life. We highlighted the fact that Mr Nikolas was born at the beginning of the Second World War and we wondered
if he had been evacuated from London during the war. For instance, our group wondered if he had any memories of this period, whether he was separated from his main caregiver and whether he and his sisters stayed together during this process. We also knew that Mr Nikolas had suffered the further loss of his father when he was seven years old. We wondered about the potential impact of these early life experiences on his personality and resilience. We were also curious about the role of shame in the family since Mr Nikolas's mother only told Mr Nikolas that his father was a Russian Jewish émigré when she was dying. Our group wondered what it was like for Mr Nikolas to be the only male in his family of origin and whether his mother and sisters associated him with the father who abandoned them.

Our group also reflected on issues of capacity. The New Mental Capacity Act (2005) states that a person must be assumed to have capacity unless proven otherwise. We were surprised by the fact that Mr Nikolas was deemed not to have capacity to manage his finances. Mr Nikolas had not yet been assessed by psychology so little was actually known about his intellectual abilities. Furthermore, the act states that capacity is situation and time specific. Therefore an assessment of Mr Nikolas's capacity to manage his finances would have been necessary. Even if Mr Nikolas was found not to have capacity to manage his financial affairs, any decisions about this would have had to be made using the 'best interests' guidance. This involves taking into account what is known about the person's values and principles. We were puzzled by the fact that Mr Nikolas's wife had been appointed by the Court of Protection to manage his finances. We knew that Mr Nikolas had found his divorce very difficult and that he had recently proposed to Mrs Edwards. We wondered if these issues had been taken into account when deciding who should manage Mr Nikolas's finances. We were also curious whether or not the Court of Protection decision was a temporary measure. We were mindful that there could be several causes of Mr Nikolas's memory problems and
that the memory difficulties may be ‘reversible’. Therefore it was still possible that Mr Nikolas could regain the capacity to manage his finances.

Re-evaluation of the PBL exercise

Having since had experience of neuropsychological assessments with people with suspected dementia, I now realise that we paid very little attention to ethical issues. For instance, in order to give informed consent to the neuropsychological assessment, clients need to be told what the assessment involves, what the possible outcomes are and what the implications of these might be. Clinical psychologists need to be open with their clients about the advantages and disadvantages of undertaking a neuropsychological assessment. The Department of Health consultation document on the National Dementia Strategy (2009) advocates that dementia should be diagnosed early on and communicated sensitively to individuals. However, clinicians must not automatically assume that everyone wishes to receive a diagnosis. Clinical psychologists need to spend time with their clients prior to the assessment to understand their client's preferences and wishes in relation to the assessment.

I also feel that our group failed to acknowledge and reflect on the profound emotional impact that dementia has on the sufferer and their family. Alongside the progressive decline in multiple areas of cognitive functioning, individuals may develop behavioural and psychological symptoms such as depression, psychosis, aggression and wandering, which makes caring a significant challenge (Department of Health, 2009). Carers often lack the information, resources and support to understand and manage this type of challenging behaviour. For instance, if Mr Nikolas was indeed diagnosed with a dementia, Mrs Edwards would have to be helped to understand the nature and progression of the disease. The recent relationship between the two of them raises important ethical dilemmas and additional challenges. For instance, individuals with dementia often lose their more recent
memories first. Given this temporal gradient of memory loss, Mr Nikolas could soon forget who Mrs Edwards was. Carers and family members often find this very difficult, especially if they lack adequate information about how the disease affects memory. Carers may also develop depression when they can no longer care for their relatives at home. For instance, in my placement I have witnessed how neighbours and family can blame and ostracize carers for deciding to put the person with dementia in a nursing home. I have become increasingly aware of how the general public lack knowledge and awareness about dementia. I am hopeful that the National Dementia Strategy (2009) will result in an increased professional and public awareness of this condition, which will hopefully reduce the associated stigma.

Finally, I think that our group failed to acknowledge and highlight the levels of age discrimination that exist in mental health services. Mr Nikolas suffered from a period of low mood following his divorce, yet there was no indication that his GP discussed the possibility of psychological treatment. According to the Royal College of Psychiatrists ‘older people do not have access to the range of services available to younger adults despite having the same, and often greater, need.’ (Royal College of Psychiatrists Faculty of Old Age Psychiatry, 2007). Older people are often aware of the discrimination they suffer and this has a detrimental effect on their mental health resulting in a negative spiral (Yuan, 2007). There is a great need to develop adequate services that meet the needs of older adults. However, current initiatives are purposefully excluding older adults. For instance, the current emphasis in increasing access to psychological therapies (Department of Health, 2007) is restricted to people of ‘working age’, despite the evidence that older people to benefit from psychological treatment.
Conclusion
Re-evaluating the PBL presentation in light of my current clinical experience in the field of older adults has allowed me to utilise the insights I have gained since. I realise that my passion for working with older adults is fuelled by a sense of injustice in the inadequate provision of mental health services for this client group. Whilst old age is a time of enjoyment and pleasure for most people, a significant minority of people experience later life emotional problems and cognitive difficulties. There is a huge need to increase the availability of psychological treatments for this client group. Clinical psychologists need to be proactive in promoting greater quality of mental health care for older adults and increasing psychological-mindedness amongst fellow professionals.
References


PSIGE (2003). National *minimum standards of expected capabilities that trainee clinical psychologists should gain to fit them for work with older people, with guidance on minimum supervised practice and academic teaching*. Leicester: Psychology Specialists working with Older People A Faculty of the Division of Clinical Psychology British Psychological Society.


Summary of Case Discussion Group Process Account (1)

This account explored how the case discussion group evolved over the course of the first year of training. Initially the group was felt to be disorganised and chaotic; there was a lack of structure, common vision and unequal contributions from the various group members. In response to this, clearer boundaries and goals were set by the group, which included the regular allocation of slots to present clinical cases as well as the regular rotation of the chair and scribe. The reasons underlying the initial unhelpful group dynamics were reflected upon, including my individual role in the group.

The group became a forum to discuss the anxieties associated with commencing training; a variety of clinical, research and personal issues were discussed throughout the year. The group adopted a systemic approach and a reflecting team format was used during presentations of clinical work. This approach, which was suggested by our facilitator, proved to be productive and it was embraced by the group. The strengths of this way of working were elaborated upon.

Several common themes emerged during the first year of the case discussion group, such as the concept of ‘curiosity’ in clinical work, being mindful of the language we use and the importance of using a range of psychological approaches to guides us in our understanding of human distress. Challenges for the following year were discussed.
This account explored how the case discussion group evolved over the course of the second year of training. Tuckman's model of group development (as cited in Department of Health, 2007) was used to understand and theorise the group dynamics. The first year was conceptualised as representing the 'forming' stage in which the individuals were becoming acquainted with one another and consensus prevailed. The second year represented the 'storming' phase, characterised by increased levels of disagreement and conflict, possibly due to individuals' feeling more able to voice their beliefs and opinions. Issues of diversity and difference were also reflected upon as being another underlying reason for the change in dynamics. Links were made between the experience of the group and the function of conflict in multidisciplinary teams. The strengths and weaknesses of how the group managed conflict were discussed and new challenges for the following year were considered. Particular attention was paid to my changing feelings and contributions towards the group.

In terms of the work of the group, there was a move from presenting clinical cases to discussing wider professional issues, such as new legislation, the changing identity of the clinical psychologists, their role in teams and systemic influences on the profession such as New Ways of Working (Department of Health, 2007). This change in focus was understood as reflecting a decrease in group members’ anxieties about clinical work paralleled with a greater interest in wider issues relevant to the profession.

References
Overview of the Clinical Dossier

This dossier consists of summaries of each of the five placements completed during the three years of training. It also includes summaries of the four case reports and the oral presentation of clinical activity, which are contained in full in the confidential Volume II of the portfolio. The case reports and oral presentation of clinical activity were prepared during the three years of training: two were written on the year-long Adult Mental Health placement and one from the Child and Adolescent, Learning Disabilities, and Older Adults placements. These documents represent the psychological assessments and interventions undertaken on these placements and are presented in the order the placements were undertaken.
Summary of Placement Experience

Adult Mental Health Placement

Dates: October 2006 to September 2007
Setting: Community Mental Health Team (CMHT), Primary Care Mental Health Service and an Acute Inpatient Unit

Summary of experience:
I undertook extended cognitive assessments with two individuals, under the supervision of a neuropsychologist, and gained experience of using standardised outcome measures in therapy. Risk assessment work was ongoing with all service users. In the primary care setting I worked with individuals who were experiencing anxiety, depression and obsessive-compulsive disorder, using a cognitive-behavioural approach. All the interventions were short-term (six to eight weeks) in line with the service model. In the Community Mental Health Team I worked with individuals experiencing depression, anxiety and bipolar disorder. I used both psychodynamic and cognitive-behavioural approaches, in a range of settings. I was able to observe sessions within the Family Therapy Service. In the Acute Inpatient Unit I co-facilitated groups for people experiencing psychosis.

Learning Disabilities Placement

Dates: October 2007 to March 2008
Setting: Community Learning Disability Team

Summary of experience: This placement involved providing support to individuals using a predominantly Cognitive Behavioural approach. I used standardised measures that had been adapted for people with learning disabilities. I carried out a number of cognitive assessments, including dementia assessments with individuals who had Down's

Summary of Placement Experience

Syndrome. I worked therapeutically with individuals aged from 21 to 73 years, with a range of emotional and behavioural difficulties, in a range of settings. I planned and co-facilitated an 'Understanding Relationships group' for people with learning disabilities run at a day centre.

**Child and Adolescent Placement**

**Dates:** April 2007 to September 2008  
**Setting:** Child and Adolescent Mental Health Service (CAMHS)

**Summary of experience:**  
I worked with children aged between three to 17 years and their families, with a range of behavioural and emotional difficulties. I used cognitive-behavioural therapy, behavioural programmes and systemic therapy, always involving carers in the therapy. I undertook extended cognitive assessments with two children, one of which contributed to multi-disciplinary assessment of autism spectrum disorder. There were opportunities to observe specialist clinics, for obsessive-compulsive disorder, neuro-developmental issues and trauma. I also worked jointly with a family therapist using systemic ideas. A large part of the placement also involved liaising with other agencies and schools and I worked both directly and indirectly with clients.

**Older Adults Placement**

**Dates:** October 2008 to March 2009  
**Setting:** Psychology Service – Older Peoples Mental Health

**Summary of experience:**  
This placement was based in an older adults psychology service providing input to community and inpatient services for people with both organic and mental health difficulties. The main approaches used were CBT, life-review and person-centred approaches. The placement provided the opportunity to work with a people from a diverse range of
Summary of Placement Experience

backgrounds and ages (68 to 90 years). Presenting difficulties included dementia, depression, anxiety and multiple health difficulties. Several cognitive assessments were completed under the supervision of a neuropsychologist. A large part of the placement involved working with staff teams, offering consultation and co-facilitating a reflective practice group. Service development work was also undertaken including developing a tool for evaluating reflective practice groups. I also helped to develop and implement life-story work on the inpatient ward and a reminiscence group. Training sessions were run for the multi-disciplinary team on dementia screening assessments.

Specialist Placement
Dates: April 2009 to September 2009
Setting: Neuropsychology service and neurorehabilitation unit

Summary of experience:
This placement involved working both in an outpatient neuropsychology service and in an inpatient neurorehabilitation unit. The main approach used was biopsychosocial. In the outpatient service I mainly carried out complex neuropsychological assessments with individuals presenting with memory difficulties, often focusing on differential diagnosis. In the neurorehabilitation unit I carried out neuropsychological assessment and cognitive rehabilitation with clients from diverse range of backgrounds with conditions such as brain injury, stroke and multiple sclerosis. The placement offered the opportunity to work within a multi-disciplinary team and I co-facilitated a memory group with an Occupational Therapist.
Adult Mental Health
Case Report 1 Summary

Cognitive assessment of a 50 year old woman presenting with memory difficulties

Presenting problem
Linda Smith, a White-British woman, was referred for a cognitive assessment following an accidental overdose due to difficulties in managing a new self-medication system.

Initial Assessment
Sources used in the assessment included: clinical file; conversation with referrer and clinical interview with Linda and her partner.

Formulation
It was felt that Linda’s cognitive difficulties might be linked to her long history of mental health problems dating back to her teens; this hypothesis was informed by the literature on schizophrenia and cognitive difficulties. Additionally, the role of a previous mild head injury, medication ad low mood were considered.

Extended Assessment
An extended cognitive assessment exploring the following areas: premorbid intellectual functioning (Wechsler Adult Reading Test), current intellectual functioning (Wechsler Adult Intelligence Scale – Third UK Edition), memory functioning (Wechsler Memory Scale - Third UK Edition), executive functioning/language (Controlled Word Association Test) and mood (Hospital Anxiety and Depression Scale).
**Extended Formulation**
The assessment indicated a significant decline of cognitive functioning compared to Linda's estimated level of functioning, including significant difficulties both verbal and visual memory.

**Recommendations**
Recommendations centred on the need for Linda to receive regular input from services in order to maintain her ability to live independently. The use of external memory and orientation aids was discussed and implemented with Linda. It was also recommended that Linda's cognitive functioning should continue to be monitored should further deterioration take place.

**Critical Evaluation**
This included a discussion of the assessment process, professional and ethical issues, and evaluation of the assessment measures used.
Psychological assessment and intervention with a 22 year old woman presenting with depression and a disordered eating pattern

Presenting problem
Lisa White, a White-British woman, was referred for symptoms of depression, anxiety and disordered eating.

Assessment
A clinical interview was carried out over two sessions. Lisa reported low mood and feelings of hopelessness. She lacked confidence and felt unloved by her parents. She did not feel in control of her eating. Risk issues were closely monitored during the work and the Beck Depression Inventory (BDI) was used to monitor progress.

Formulation
Lisa’s problems were conceptualised using attachment theory and Malan’s triangles of insight and conflict.

Intervention
The first ten sessions followed an exploratory psychodynamic approach. Lisa explored feelings of not belonging, inadequacy and inferiority stemming from her childhood and relationship with her parents. Lisa also voiced feeling of anger about the ‘abandonment’ by her mother. After ten sessions, Lisa requested a change of therapeutic approach as she felt she would benefit more from a more practical approach. The following nine sessions followed a CBT approach and focused on gaining awareness and challenge negative thinking.
**Outcome**
Lisa reported feeling more confident and being able to face situations previously avoided. She also reported feeling closer to her father and less upset by her mother's distancing behaviour. Lisa also managed to go back to work on a part-time basis. The BDI was to be readministered administered at the end of therapy.

**Critical Evaluation**
The importance of carrying out a specific assessment of suitability for psychodynamic work before embarking on this approach was discussed.
Neuropsychological assessment of a woman with a learning disability presenting with memory loss

**Presenting problem**
Dorothea, a White British woman in her forties, was referred for a cognitive assessment due to increasing memory difficulties. Presenting difficulties included going to work on the wrong days, forgetting regular arrangements and confusion.

**Assessment**
Sources used in the assessment included: referral letter; clinical file; conversation with referrer, Dorothea's mother, husband, support worker and employer. Some brief assessments had been carried out in 1998 and 2002.

**Formulation**
The literature on dementia was discussed. A differential diagnosis between dementia and mood difficulties was considered.

**Extended Assessment**
The following measures were administered: Wechsler Adult Intelligence Scale – Third UK Edition, The British Picture Vocabulary Scale, the Harris-Goodenough Draw-a-man Task, the Schonell Graded Word Reading Test, the Cambridge Examination for Mental Disorder of Older People with Down's Syndrome and Others with Intellectual Abilities, the Glasgow Depression Scale for People with Learning Disabilities, and the Hampshire Assessment Scale for Living with Others.
**Extended Formulation**
Dorothea’s results indicated a global decline in all areas of functioning compared to her previous baselines. Her awareness of her difficulties resulted in a drop in mood secondary to the cognitive difficulties.

**Recommendations**
Recommendations centred on the need for a multi-agency meeting to take place in order to review Dorothea’s care-plan in light of the results of the assessment. The results were shared with her psychiatrist and GP to aid diagnosis.

**Critical Evaluation**
Issues relating to the cognitive assessment of individuals with learning disabilities and methods used were discussed.
Thinking and working systemically with a family in a Child and Adolescent Mental Health Service (CAMHS)

**Presenting problem**
Rose was referred to CAMHS Team by her Paediatrician, due to concerns regarding recurrent abdominal pains with no organic cause. Mr and Mrs Collins suspected Rose's pains to be non-physical and a possible reaction to her brother's illness; Rose's brother was born with a serious abdominal condition.

**Assessment**
Two clinical interviews were conducted with the family, who was composed of Rose, her brother, her mother, her father and her maternal grandmother.

**Formulation**
The systemic formulation was developed collaboratively with the family. Circular questioning was used to elicit new perspectives about the 'problem'. Important factors included Rose not feeling special, different parenting styles, Mrs Collins lack of confidence in her parenting ability and feelings of guilt.

**Intervention**
Several interventions were discussed and implemented collaboratively with the family including arranging for Rose to have daily special time with her mother and a positive reinforcement programme for Rose and her brother. Emphasis was paid during session to exceptions to the problem in order to increase more useful narratives and beliefs, such as exceptions when Mrs Collins felt confident as a parent, exceptions
when Rose was calmer and well behaved and exceptions to the narrative of sibling rivalry.

**Outcome**

The family reported more positive and relaxed family interactions. Mrs Collins reported feeling increased confidence in her parenting ability. The work was still ongoing at the time of the oral presentation so outcome was not formally assessed.

**Critical Evaluation**

Limitations around outcome assessment and who was the 'patient' were discussed.
Cognitive behavioural therapy with a 77-year-old man presenting with Obsessive Compulsive Disorder

Presenting problem
Mr Leahy was a man in his seventies with a long history of obsessive-compulsive disorder (OCD). His obsessions involved thoughts of harming other people, particularly his wife. There was also some evidence of possible cognitive decline.

Assessment
Sources used in the assessment included: hospital file; discussion with supervisor and other professionals involved in the care of Mr Leahy, and clinical interview with Mr Leahy.

Formulation
A CBT formulation was developed collaboratively with Mr Leahy. The formulation centred on the role of Mr Leahy's faulty cognitions, avoidance and compulsive rituals in maintaining his OCD difficulties.

Intervention
Mr Leahy had in the past successfully benefited from a CBT approach. This same approach, including exposure with response prevention, was undertaken during our work. The goals for exposure were developed collaboratively with the client. The treatment included the active of involvement of Mr Leahy's wife. The cognitive elements of therapy had to be simplified due to Mr Leahy's memory difficulties.
Outcome
On the Yale-Brown Obsessive Compulsive Scale, Mr Leahy's score dropped from 'severe' to 'moderate' and he made good progress on the exposure hierarchy. However a measure of general functioning continued to indicate significant levels of symptomatology.

Critical Evaluation
Issues discussed included the limitations of not directly addressing a childhood sexual trauma which was possibly central to the client's difficulties. Ethical issues of client's decisions of not wishing to address possibly relevant issues were discussed.
Overview of Research Dossier

This dossier consists of the research log checklist, which summarises the research skills and experiences gained during clinical training; the Service Related Research Project completed during year one; the abstract of the qualitative research project completed in year two; and the Major Research Project completed during years two and three.
<table>
<thead>
<tr>
<th>No.</th>
<th>Task Description</th>
<th>Checklist</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Formulating and testing hypotheses and research questions</td>
<td>√</td>
</tr>
<tr>
<td>2</td>
<td>Carrying out a structured literature search using information technology and literature search tools</td>
<td>√</td>
</tr>
<tr>
<td>3</td>
<td>Critically reviewing relevant literature and evaluating research methods</td>
<td>√</td>
</tr>
<tr>
<td>4</td>
<td>Formulating specific research questions</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Writing brief research proposals</td>
<td>√</td>
</tr>
<tr>
<td>6</td>
<td>Writing detailed research proposals/protocols</td>
<td>√</td>
</tr>
<tr>
<td>7</td>
<td>Considering issues related to ethical practice in research, including issues of diversity, and structuring plans accordingly</td>
<td>√</td>
</tr>
<tr>
<td>8</td>
<td>Obtaining approval from a research ethics committee</td>
<td>√</td>
</tr>
<tr>
<td>9</td>
<td>Obtaining appropriate supervision for research</td>
<td>√</td>
</tr>
<tr>
<td>10</td>
<td>Obtaining appropriate collaboration for research</td>
<td>√</td>
</tr>
<tr>
<td>11</td>
<td>Collecting data from research participants</td>
<td>√</td>
</tr>
<tr>
<td>12</td>
<td>Choosing appropriate design for research questions</td>
<td>√</td>
</tr>
<tr>
<td>13</td>
<td>Writing patient information and consent forms</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Devising and administering questionnaires</td>
<td>√</td>
</tr>
<tr>
<td>15</td>
<td>Negotiating access to study participants in applied NHS settings</td>
<td>√</td>
</tr>
<tr>
<td>16</td>
<td>Setting up a data file</td>
<td>√</td>
</tr>
<tr>
<td>17</td>
<td>Conducting statistical data analysis using SPSS</td>
<td>√</td>
</tr>
<tr>
<td>18</td>
<td>Choosing appropriate statistical analyses</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>Preparing quantitative data for analysis</td>
<td>√</td>
</tr>
<tr>
<td>20</td>
<td>Choosing appropriate quantitative data analysis</td>
<td>√</td>
</tr>
<tr>
<td>21</td>
<td>Summarising results in figures and tables</td>
<td>√</td>
</tr>
<tr>
<td>22</td>
<td>Conducting semi-structured interviews</td>
<td>√</td>
</tr>
<tr>
<td>23</td>
<td>Transcribing and analysing interview data using qualitative methods</td>
<td>√</td>
</tr>
<tr>
<td>24</td>
<td>Choosing appropriate qualitative analyses</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>Interpreting results from quantitative and qualitative data analysis</td>
<td>√</td>
</tr>
<tr>
<td>26</td>
<td>Presenting research findings in a variety of contexts</td>
<td>√</td>
</tr>
<tr>
<td>27</td>
<td>Producing a written report on a research project</td>
<td>√</td>
</tr>
<tr>
<td>28</td>
<td>Defending own research decisions and analyses</td>
<td>√</td>
</tr>
<tr>
<td>29</td>
<td>Submitting research reports for publication in peer-reviewed journals or edited book</td>
<td>√</td>
</tr>
<tr>
<td>30</td>
<td>Applying research findings to clinical practice</td>
<td>√</td>
</tr>
</tbody>
</table>
Service Related Research Project

The implementation of Carers' Assessments: a service evaluation of five Community Mental Health Teams in the South East of England

Programme Year: Year One

Please note: the name of the service and any details that would enable the identification of the service has been removed to ensure anonymity.
Abstract

Rationale
Mental health carers are legally entitled to receive a Carers Assessment (CA). However, a recent research report has identified significant regional variations in the availability of information, help and support for carers (Pinfold & Corry, 2003).

Objectives
To investigate how CAs have been implemented across five Community Mental Health Teams (CMHTs) of a NHS Trust in the South East of England and in particular to establish:

1) How many CAs have been offered, carried out, or referred to external agencies by care coordinators in the last 12 months.
2) The factors that care coordinators believe affect CAs being offered, carried out and referred to external agencies.
3) Care coordinators views on how the uptake of CAs can be improved.

Design
Non-experimental descriptive design.

Setting
Five CMHTs of a NHS Trust in the South East of England.

Participants
55 care coordinators were sent an invitation letter and questionnaire, 25 were returned.

Results
The care coordinators surveyed stated that they offered CAs as a matter of routine. However, care coordinators identified a number of
barriers that affect their ability to offer CAs, such conflicts of interest between carers and service-users. The majority of care coordinators had had no experience of carrying out CAs in the last 12 months, due to the low uptake of assessments by carers and the practice of referring CAs to independent carers' organisations. Referring CAs to external agencies was seen to have both advantages and disadvantages.

Conclusions
Recommendations for CMHTs and limitations of the study were explored.

Acknowledgements

I would like to thank my research and field supervisors for their guidance and support. I am also grateful to all the care coordinators who gave their time to take part in this project.
Introduction
The needs of carers of individuals with mental health difficulties have been recognised by several governmental policies. For instance, the Carer's (Recognition and Services) Act 1995 gives carers who provide substantial care on a regular basis the right to request a Carers Assessment (CA) from Social Services. The aim of CAs is to give carers the opportunity to discuss what their needs are in relation to their caring role and to identify and discuss what actions need to be taken to meet these needs. In addition, Standard 6 of the National Service Framework for Mental Health (1999, p71) states that:

All individuals who provide regular and substantial care for a person on a Care Programme Approach should:
- Have an assessment of their caring, physical and mental health needs, repeated on at least an annual basis
- Have their own care plan which is given to them and implemented in discussion with them

In Community Mental Health Teams (CMHTs), the care coordinator for the service-user usually will also offer a CAs whenever a carer is identified. However, clinicians are aware that carers often decline to have their needs assessed. When these assessments are accepted, the current trend is to refer the assessments to independent carers' organisations, such as Rethink. However, because independent agencies do not have access to the full care history, this practice can result in assessments and care planning that does not fully take into account the idiosyncratic relationship between service-user and carer (Rapaport, et al., 2006).
Caring for individuals with mental health needs is associated with deterioration in the carer's own physical and mental health. Mental health carers are also likely to have reduced finances and career prospects as well as strained family relationships and lack of leisure opportunities (Pinfold & Corry, 2003). Lack of information and insufficient support by professionals working with the service-user are factors that have been identified to further hinder mental health carers. Mental health carers in particular worry about their ability to carry on caring without adequate support and believe that professionals do not spend sufficient time listening to their point of view (The Princess Royal Trust for Carers, 2004).

A recent research report from Rethink has identified significant regional variations in the availability of information, help and support for carers (Pinfold & Corry, 2003). In the survey, only one in five carers had received a CA. This suggests that the majority of carers are not accessing the support and information that may be available to them. Several factors have been proposed to account for the low uptake/poor implementation of CAs. These include things such as resources constraints (Manthorpe & Twigg, 1995), poor publicity (Scourfield, 2005) and difficulties in recognising positive outcomes for carers (Arksey, 2002).

In light of the low uptake of CAs, this service evaluation was designed to investigate how CAs have been implemented across five CMHTs of a NHS Trust in the South East of England.

In particular, this project aimed to establish:

4) How many CAs have been offered, carried out, or referred to external agencies by care coordinators in the last 12 months.
5) The factors that care coordinators believe affect CAs being offered, carried out and referred to external agencies.
6) Care coordinators views on how the uptake of CA can be improved.

Method

Participants
Care coordinators working in the five CMHTs were sent a questionnaire (appendix 1) and a letter (appendix 2) inviting them to take part in the study. Of the total 55 questionnaires sent, 25 were returned (46% response rate). Participants' demographic and employment information can be found in table 1. One participant did not provide demographic and employment data.

Table 1. Demographic and employment information of participants

<table>
<thead>
<tr>
<th>Age</th>
<th>Percentage (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-24 years</td>
<td>33% (8)</td>
</tr>
<tr>
<td>25-34 years</td>
<td>38% (9)</td>
</tr>
<tr>
<td>35-44 years</td>
<td>0% (0)</td>
</tr>
<tr>
<td>45-54 years</td>
<td>25% (6)</td>
</tr>
<tr>
<td>55-64 years</td>
<td>4% (1)</td>
</tr>
</tbody>
</table>

Gender
Female 79% (19)
Male 21% (5)

Profession
Nurse 46% (11)
Psychologist 17% (4)
Social Worker 38% (9)

Time in post
0-2 years 50% (12)
3-5 years 25% (6)
6-8 years 8% (2)
9-11 years 0% (0)
12 years or more 17% (4)
Design
Non-experimental descriptive design.

Measures
Due to the lack of existing measures, a questionnaire was designed in collaboration with two community psychiatric nurses and a CMHT manager. The questionnaire was piloted and adapted according to the feedback received. The questionnaire contains questions that yield both quantitative (e.g. 'How many CAs have you offered in the last twelve months?') and qualitative information (e.g. 'What factors do you think lead some carers to refuse a CA?'). Due to time constraints the questionnaire was not assessed for validity or reliability.

Procedure
The CMHT managers were briefed about the service-evaluation and asked to distribute the questionnaires to all care coordinators in their teams. Participation in the study was voluntary and anonymous. Participants were invited to complete the questionnaire and return it via the internal post system. Care coordinators were encouraged to contact the researcher if they had any queries. Ethical approval was not required because this study fell within the limits of a service-evaluation.

Analysis
Descriptive statistics were used to analyse quantitative data and thematic analysis (Braun & Clarke, 2006) was used to analyse data from open-ended questions. The thematic analysis involved identifying patterned responses or themes within the data set.
Results

Offering Carers Assessments

Nearly half of the sample offered between three and six CAs in the last 12 months (figure 1).

![Figure 1 Number of Carers Assessments offered by care coordinators in the last twelve months](image)

Care coordinators were asked when it is appropriate to offer a CA. The vast majority of care coordinators (88%) stated that they offered CAs as a matter of routine when a new client was being assessed and whenever a carer was identified. However, eight care coordinators (32%) stated that they would not offer a CA if this explicitly went against their client’s wishes. Care coordinators stated that they record in the CPA documentation and clinical notes whether a CA has been offered. When asked about this arrangement, thirteen care coordinators (52%) felt that the two tick options available (‘yes’ and ‘no’) should be expanded to include ‘not-applicable’. Seven care coordinators (28%) also stated that there should be a way of recording additional information, such as carers’ reasons for accepting and declining the assessment.

Care coordinators were asked about the difficulties they had experienced in offering CAs (table 2). The main difficulty identified related to potential conflict of interests between their client and the carer and blurring of the boundaries. For instance, one care coordinator...
stated that “the service-user might have disclosure/confidentiality concerns about what will be discussed about them”. Care coordinators also felt that time constraints and difficulties in finding someone to carry out the assessment were obstacles to offering assessments. One care coordinator wrote: "Carers Assessments are [...] very time intensive and we are time-poor. They can really push your workload over the edge."

Table 2. Difficulties for care coordinators in offering CAs

<table>
<thead>
<tr>
<th>Themes</th>
<th>Percentage of sample for each theme (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conflict of interests/blurring of boundaries</td>
<td>48% (12)</td>
</tr>
<tr>
<td>Care coordinator’s time restriction/finding someone to do the assessment</td>
<td>36% (9)</td>
</tr>
<tr>
<td>Carers not viewing themselves as carers/accessing carers</td>
<td>24% (6)</td>
</tr>
<tr>
<td>Limited support/resources for carers</td>
<td>16% (4)</td>
</tr>
<tr>
<td>Lack of confidence/training</td>
<td>8% (2)</td>
</tr>
<tr>
<td>No difficulties</td>
<td>8% (2)</td>
</tr>
<tr>
<td>Service-user focused</td>
<td>4% (1)</td>
</tr>
</tbody>
</table>

Care coordinators were also asked about the factors that lead carers either to accept or refuse a CA. Care coordinators feel that carers are often reluctant to be involved with statutory and mental health services and may fear the stigma associated with mental health. As one care coordinator put it, “[carers] fear they may be seen to be not coping or ill themselves”. Similarly, another participant stated that carers “may be reluctant to involve themselves in the mental health system”. Care coordinators also think that carers often believe that no significant change will result from the assessment: “they [carers] seem to believe they have nothing to gain from the process".
Table 3. Factors leading to the refusal of Carers Assessments

<table>
<thead>
<tr>
<th>Themes</th>
<th>Percentage of sample for each theme (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not wanting to be involved with statutory services/stigma</td>
<td>40% (10)</td>
</tr>
<tr>
<td>Nothing will change</td>
<td>36% (9)</td>
</tr>
<tr>
<td>Lack of information/understanding about CA</td>
<td>28% (7)</td>
</tr>
<tr>
<td>Wish to concentrate on the relative's/friend's needs</td>
<td>28% (7)</td>
</tr>
<tr>
<td>Not seeing a need</td>
<td>24% (6)</td>
</tr>
<tr>
<td>Carer's lack of time</td>
<td>20% (5)</td>
</tr>
<tr>
<td>Not accepting the label of carer</td>
<td>20% (5)</td>
</tr>
</tbody>
</table>

Care coordinators felt that carers' desire to obtain support and/or resources for themselves or their relatives is the main reason leading carers to take up a CA ("They may feel worn down by looking after someone with a mental health problem and want some support themselves"). Carer coordinators identified that the support and/or resources sought by carers can range from information and advice about diagnosis to respite and financial benefits.

Table 4. Factors leading to the uptake of CAs

<table>
<thead>
<tr>
<th>Themes</th>
<th>Percentage of sample for each theme (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carers seeking support/resources for themselves or their relatives</td>
<td>76% (19)</td>
</tr>
<tr>
<td>Wish to feel listened to</td>
<td>32% (8)</td>
</tr>
<tr>
<td>Good understanding of the aim of CAs</td>
<td>16% (4)</td>
</tr>
</tbody>
</table>
Carrying out Carers Assessments

As shown in figure 2, 60% of care coordinators surveyed had not carried out any CAs in the last twelve months. The two main reasons given for this were the low uptake of assessments by carers and referring assessments to another team member or independent agency.

Care coordinators were also asked about the factors that hinder the process of carrying out CA, as well as what measures could be taken to increase their uptake. As can be seen in table 5, care coordinators felt carers sometimes lack an understanding of CAs and that these need to be more widely promoted and publicised. As one care coordinator put it, carers need a "better awareness of the positive rewards for uptaking this process".

Many care coordinators also feel that it is not appropriate for them to carry out CAs for their own clients' carers due to potential conflict of interests and detrimental impact on the therapeutic/working relationship ("I have experience of it compromising my relationship with the client, especially in the harder to engage client-group"). Although several care coordinators already refer their CAs to independent organisations, it was suggested that teams should also have an allocated professional
within the team to deal with these assessments. Some care
coordinators were willing to carry out these assessments themselves
but felt constrained by their heavy caseloads (“In view of work
demands with clients on caseload there is the risk that carers needs
may not be addressed”).

Care coordinators also felt that there is little support and resources
available for carers following assessments and more tangible outcomes
for carers would improve the uptake. (“Having more tangible services,
so they can see the purpose, sometimes what is available can be a bit
vague”). It was also reported that more training was needed in the
following areas: how to carry out CAs, what resources are available
locally for carers, and how to access these resources.

**Table 5. Factors that hinder the process of carrying out CAs and
suggested measures to increase the uptake of CAs**

<table>
<thead>
<tr>
<th>Factors which hinder</th>
<th>Percentage of sample loading on theme (N)</th>
<th>Measures to improve uptake</th>
<th>Percentage of sample loading on theme (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time pressure/long process</td>
<td>40% (10)</td>
<td>More publicity and promotion of CAs</td>
<td>72% (18)</td>
</tr>
<tr>
<td>Conflict of interest</td>
<td>32% (8)</td>
<td>Dedicated person within teams to do CAs</td>
<td>36% (9)</td>
</tr>
<tr>
<td>Carers not available/lack of understanding of CAs</td>
<td>16% (4)</td>
<td>Having more time to carry out CAs</td>
<td>32% (8)</td>
</tr>
<tr>
<td>Lack of resources and support to offer carers following</td>
<td>8% (2)</td>
<td>More tangible services and resources for carers</td>
<td>16% (4)</td>
</tr>
</tbody>
</table>
service related research project

<table>
<thead>
<tr>
<th>assessment</th>
<th>Lack of training</th>
<th>More user-friendly process</th>
<th>More training on how to carry out and how to access resources for carers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>8% (2)</td>
<td>20% (5)</td>
<td>20% (5)</td>
</tr>
</tbody>
</table>

Referring Carers Assessments

Care coordinators referred between zero and six CAs to independent agencies in the last 12 months (figure 3).

As shown in table 6, one of the advantages of referring from care coordinators' point of view is the specialised service that independent agencies can offer carers. Care coordinators believe that the independent nature of these agencies allows the carer access to a less biased assessment. Care coordinators feel that carers may be more willing to engage with external sources and feel more able to raise issues they may not feel comfortable discussing with care coordinators ("[Referring to independent agencies] gives carers time to vent their frustrations which they possibly would not to the care coordinator"). Care coordinators also feel that external agencies are more aware of
the resources available for carers and more competent in accessing these resources. However, care coordinators feel that one of the disadvantages of referring is the possible lack of a joint perspective and communication difficulties. Furthermore, external agencies do not have access to the full care history and the outcomes of the assessment may sometimes be unrealistic.

Table 6. Advantages and disadvantages of referring CAs to external agencies

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Percentage of sample loading on theme (N)</th>
<th>Disadvantages</th>
<th>Percentage of sample loading on theme (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specialised service for carers/less bias</td>
<td>76% (19)</td>
<td>Lack of joint perspective/communication issues</td>
<td>28% (7)</td>
</tr>
<tr>
<td>Prevents conflict of interests/blurring of boundaries</td>
<td>32% (8)</td>
<td>Limited perspective/do not have full care history</td>
<td>28% (7)</td>
</tr>
<tr>
<td>Better informed regarding resources</td>
<td>20% (5)</td>
<td>Outcomes agreed may be unrealistic</td>
<td>12% (3)</td>
</tr>
<tr>
<td>Decreases care coordinators’ workload</td>
<td>16% (4)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Discussion
The findings suggest that care coordinators offer CAs as a matter of routine. However, since care coordinators are primarily concerned with the interests of service-users, some were unwilling to offer and carry out CAs themselves when there was a potential conflict of interest.
between carers and service-users. Mental health professionals aim to build and maintain good working relationships with their clients based on trust (Backler, 2001). Some care coordinators in this sample worried that engaging with the carer could jeopardise their therapeutic relationship with the service-user and that sharing information with carers may raise issues around confidentiality. Previous research has indicated that professionals may fear litigation if breaches of confidentiality occur (Montgomery, 1997). The government of England and Wales has published several guidance documents on confidentiality (e.g. Department of Health, 2003). However, “this does little to demystify the complexities of information sharing with carers where the service user withholds consent” (Rapaport et al., 2006).

Another barrier to care coordinators offering and carrying out assessments was time restraints due to heavy caseloads. Carers themselves may be unwilling to engage with statutory services because of stigma, lack of understanding of the aims of CAs or because they may think no tangible change will result from completing the assessment.

In addition, the findings suggest that in the last 12 months most care coordinators have had little or no experience of carrying out CAs. Care coordinators attributed this lack of experience to the low uptake of assessments by carers and to the current practice of referring CAs to external agencies. This practice was seen by care coordinators as having several advantages for both themselves and carers. Care coordinators felt that referring prevented potential conflict of interests and blurring of boundaries. Care coordinators also believed that carers received a better and more specialised service from using independent agencies. However, it was also acknowledged that the assessments might lack a joint perspective, since external agencies do not have access to full care history. As Rapaport et al. (2006) point out, the practice of referring may result in assessments and care planning that
does not take fully into account the idiosyncratic relationship between service-user and carer.

**Recommendations:**
Several suggestions were made by care coordinators to improve the implementation and the uptake of CAs.

- **More publicity and promotion of CAs:** CMHTs may want to review what information is currently given to carers. CMHTs may want to consider handing out a leaflet to carers on a regular basis informing them of their legal rights. The leaflet could also address issues such as what it means to be a carer, what the assessment entails and what other carers have found useful about the assessment.

- **Dedicated individual to carry out CAs within teams/more time to do CAs:** It was suggested that teams should have a dedicated person to deal with carers’ issues. Some care coordinators were willing to do CAs themselves but felt constrained by their heavy client caseloads and felt that they needed more dedicated time for carers.

- **Knowledge of resources available for carers:** Although care coordinators believe that more tangible resources and support for carers are needed, they were sometimes unsure of what is actually available in their local area and how to access these resources. Where appropriate, CMHTs may want to consider creating a pack for care coordinators containing such information.

- **Reviewing the CPA documentation:** Many care coordinators felt that it would be appropriate to include a 'not-applicable' box in the CPA documentation as well as space to record any other relevant information, such as carers' reasons for accepting or declining a CA.

- **More specialised training:** Care coordinators felt that they would benefit from specialised training on how to carry out CAs and how to access resources for carers. Where appropriate training could involve carers and/or organisations representing carers. This
training could also address issues of confidentiality and conflict of interests.

*Dissemination of findings:*
The findings of this service evaluation will be presented at the Trust Health & Social Governance meeting, where an action plan will be discussed and agreed. A copy of this report will also be emailed to all the CMHTs involved, to the Trust Carers' Lead and to the local Rethink carers support workers.

*Limitations:*
This was an exploratory study based on a small sample of care coordinators from a specific geographical area. Therefore the conclusions discussed here need to be interpreted cautiously. It is also important to acknowledge that the tool used in this service-evaluation has not been assessed for either validity or reliability. This service-evaluation only surveyed the opinions and experiences of care coordinators. Future research should focus on carers' perspectives as well as explore the views of carer support workers of independent organisation who undertake several of the assessments referred by the CMHTs.
References


Appendix 1 – Carers Assessment Questionnaire

CARERS ASSESSMENT QUESTIONNAIRE

Please tick the option that is most appropriate for you:

<table>
<thead>
<tr>
<th>AGE</th>
<th>18-24 □</th>
<th>25-34 □</th>
<th>35-44 □</th>
<th>45-54 □</th>
<th>55-64 □</th>
<th>65 or more □</th>
</tr>
</thead>
</table>

GENDER

Male □ Female □

PROFESSION

CPN □ Psychologist □ Social Worker □ Psychiatrist □ Other □
(please specify)________

TIME IN CURRENT POST

0-2 years □ 3-5 years □ 6-8 years □ 9-11 years □ 12 years or more □

Please complete the following questions:

1) How many Carers Assessments have you offered in the last 12 months?
   0 † 1-2 † 3-4 † 5-6 † 7-8 † 9-10 † 11-12 † 13 or more †

2) If you have not offered any Carers Assessments in the last 12 months, what do you feel are the reasons for this?

3) When do you feel it is appropriate for you to offer a Carers Assessment?
4) Under what circumstances would you **decide not to offer** a carer a Carers Assessment?

5) As a care coordinator, what do you feel are the **difficulties of offering a Carers Assessment**?

6) What **factors** do you think lead some **carers to refuse a Carers Assessment**?

7) What **factors** do you think lead some **carers to accept a Carers Assessment**?

8) What do you think could be done to **increase the uptake of Carers Assessments**?
9) How many Carers Assessments have you carried out in the last 12 months?

0 | 1-2 | 3-4 | 5-6 | 7-8 | 9-10 | 11-12 | 13 or more

10) If you have not carried out any Carers Assessments in the last 12 months, what do you feel are the reasons for this?

11) What factors do you think facilitate the process of carrying out a Carers Assessment?

12) What factors do you think hinder the process of carrying out a Carers Assessment?

13) What could be done to help you carry out Carers Assessments more effectively?

14) How long does it take for you to complete a Carers Assessment?
15) Where do you **record** that a carer has been offered, but declined, a Carers Assessment?

16) The last page of the CPA document asks if a Carers Assessment has been offered. The current answers available are ‘Yes’ or ‘No’. Do you think the range of answers should be increased, for example to include ‘not-applicable’, or anything else?

17) How many Carers Assessments have you **referred to external sources** (e.g. Rethink) in the last 12 months?

| 0 | 1-2 | 3-4 | 5-6 | 7-8 | 9-10 | 11-12 | 13 or more |

18) What **reasons** did you have for referring a Carers Assessment to an external source? If you have never referred a Carers Assessment to an external source, under what circumstances would you decide to refer a Carers Assessment?

19) What do you think are the **advantages of referring** a Carers Assessment to an external source?

20) What do you think are the **disadvantages of referring** a Carers Assessment to an external source?
21) It is recommended that a Carers plan should be reviewed at least on an annual basis. How many Carers plans have you reviewed in the last 12 months?

0† 1-2† 3-4† 5-6† 7-8† 9-10† 11-12† 13 or more†
Appendix 2 – Invitation Letter

01 March 2007

Dear colleague

Carers Assessments Audit - area

I would please like to request your kind participation with this audit, which I am carrying out in collaboration with and . The aim of this audit is to collect care coordinators’ opinions regarding the process of completing Carers Assessments.

I would appreciate if you could complete the questionnaire enclosed and return it to your service manager within two weeks. Alternatively, you could post the questionnaire directly to me at the above address. Please complete this questionnaire even if you have little or no experience of carrying out Carers Assessments, your opinions are still valuable for us!

Please note that the questionnaire is anonymous, and at no time will your individual responses be revealed. Copies of the final report will be available for dissemination.

Please feel free to contact me if you have any questions or concerns, and I have enclosed my contact details at the top of this letter. I am grateful for your participation. Thank you very much, in anticipation,

Yours sincerely

Trainee Clinical Psychologist
MATERIAL REDACTED AT REQUEST OF UNIVERSITY
Abstract of Qualitative Research Project

How do Clinical and Counselling Psychology Trainees construct racism following the events of Celebrity Big Brother Seven?

Background
Issues of racism on the seventh series of Celebrity Big Brother gave rise to a great deal of controversy in the media. Racism has long been of interest to researchers interested in social behaviour.

Aims
The present study aimed to explore their interpretations of the issues raised in the media following CBB7 and how they shaped their construction of the concept of racism in light of this.

Method
Eight clinical and counselling psychology trainees took part in a semi-structured focus group. Participant responses were analysed using Interpretative Phenomenological Analysis (Smith & Osborne, 2003).

Analysis
Six main themes emerged: expressions, causes and emotional reactions, British identity, fear of perception and confusion. The main analysis focussed on the themes expressions and causes of racism. Trainees perceived racism as expressed in a variety ways from individual to wider media portrayal and that it could be communicated in a range of ways. They perceived the media portrayal of racism to be narrow with a failure to address wider issues within society such as institutional racism. In relation to causes, participants viewed group boundaries, social change, negative assumptions and ignorance as important in racism. Participants also felt that that ignorance was an important determinant of racism.
Discussion
The limitations of the use of focus groups in relation IPA were discussed. Implications of the research and clinical practice included the importance of remaining mindful of ignorance in relation to racism when formulating with service users as well at a macro-level (e.g. institutional racism).

References
Assessment of feigned cognitive impairment: An investigation of the utility of the Multiple Errands Test – Simplified Version

Programme Year: Year Three

Please note: the name of the service and any details that would enable the identification of the service have been removed to ensure anonymity.
# Table of Contents

Abstract.............................................................................................................133

Introduction ...........................................................................................................134

*Definitions of malingering.............................................................................136

*Base rates of malingering ..............................................................................139

*Contemporary practice in the UK.................................................................140

*‘Stand-alone’ effort tests ..............................................................................141

*Embedded measures of effort.....................................................................145

*Embedded measures within executive functioning measures.............147

*Malingering and the Wisconsin Card Sorting Test ....................................149

*The early WCST malingering studies.........................................................150

*Further WCST malingering research .........................................................152

*Embedded measures within other measures of executive functioning ....158

*The Multiple Errands Test – Simplified Version ......................................162

*Summary ..........................................................................................................164

*Objective and Hypothesis.............................................................................165

Method ...................................................................................................................167

*Design.............................................................................................................167

*Sample size .....................................................................................................167

*Recruitment of participants ........................................................................167

*Research participants ....................................................................................168

*Measures for simulating malingerers ..........................................................170

*Procedure for simulating malingerers .........................................................171

*Safety and ethical Implications ..................................................................173
Major Research Project

Data analysis .............................................................................................................. 173

Results ......................................................................................................................... 177

Section A: Inter-rater reliability ................................................................................. 177
Section B: Analysis of group demographics ................................................................. 177
Section C: Analysis of group differences on the MET-SV ........................................... 179
Section D: Classification accuracy statistics ................................................................. 187
Section E – Qualitative information ........................................................................... 193

Discussion ...................................................................................................................... 196

Quantitative differences in MET-SV performance ....................................................... 197
Qualitative differences in MET-SV performance ......................................................... 202
The diagnostic validity of the MET-SV ........................................................................ 204
Clinical implications .................................................................................................... 206
Critical evaluation ....................................................................................................... 208
Diversity ......................................................................................................................... 214
Future research ............................................................................................................ 214
Dissemination of findings ............................................................................................. 216
Final comments ............................................................................................................ 216

References .................................................................................................................... 217

Appendix 1: Participant Information Sheet ................................................................. 228
Appendix 2: NART ....................................................................................................... 229
Appendix 3: Consent Form .......................................................................................... 230
Appendix 4: Self-rating scales for the MET-SV ............................................................ 231
Appendix 5: Participant exercise sheet ......................................................................... 232
Appendix 6: MET-SV Instructions ............................................................................... 233
Appendix 7: NHS Research Ethics Committee letter .................................................. 235
Appendix 8: Surrey Research Ethics Committee letter ........................................... 238
Appendix 9: St Andrew’s R&D approval ................................................................... 239
Appendix 10: MET-SV error scoring tables ................................................................ 240

List of Figures

Figure 1: The Rey-15 Item Test .............................................................................. 142
Figure 2: WCST stimulus cards ............................................................................. 149
Figure 3: Layout of the shopping centre
(figure extracted from Alderman et al., 2003) ......................................................... 171
Figure 4: Median number of errors by group ....................................................... 182
Figure 5: Median shopping efficiency and task success ratings across groups ........ 186
Figure 6: Median number of requests for help by group ....................................... 186
Figure 7: ROC curve graph for logistic regression model ...................................... 191

List of Tables

Table 1: Diagnostic accuracy of the three WCST formulae 
(King et al., 2002) .................................................................................................. 155
Table 2: Criteria for scoring the MET-SV ............................................................. 174
Table 3: Gender by group ..................................................................................... 177
Table 4: Age and current intellectual ability by group .......................................... 178
Table 5: Error scores by group ............................................................................. 180
Table 6: Level of significance and effect sizes across the three contrasts for the MET-SV error categories.......................... 181

Table 7: Spread of errors the ABI and simulating malingering groups .......................................................................................................................... 183

Table 8: Requests for help, rating of efficiency and rating of success by group .................................................................................................................. 184

Table 9: Level of significance and effect sizes across the three contrasts for the remaining MET-SV variables ....................... 185

Table 10: Logistic regression predicting likelihood of being a simulated malingmer ................................................................. 188

Table 11: Classification accuracy of the logistic regression model.... 189

Table 12: Optimal logistic regression model........................................... 189

Table 13: Classification accuracy of the optimal logistic regression model...................................................................................... 190

Table 14: Co-ordinates of the ROC curve .......................................................... 192

Table 15: Unique simulating malingerers’ errors on the MET-SV...... 193

Table 16: Simulating malingerers’ feigning strategies .................... 195
Abstract

Objectives: Malingering research has largely focused on detection strategies based on short-term learning (Rogers, 2007); fewer studies have focused on non-memory feigned cognitive impairment. The present study addressed this gap in the literature by investigating the utility of the Multiple Errands Test – Simplified Version (MET-SV) in the detection of feigned executive functioning impairment. Method: A three-group simulation quasi-experimental design was used to compare the MET-SV performance of a simulating malingering group instructed to feign cognitive impairment (N=47) with individuals with an acquired brain injury (N=46) and a healthy control group (N=50). Results: Although simulating malingerers were successful at feigning a realistic level of impairment on the MET-SV compared to the brain injury group, there were significant differences between the two groups in terms of their pattern of performance. A logistic regression model was able to successfully classify 79.2 per cent of simulating malingerers and brain injured individuals (sensitivity 84 per cent and specificity 74.5 percent). A ROC analysis supported the discriminatory power of the model. Qualitative information regarding simulating malingerers’ unique errors was also analysed. Conclusion: The results indicated that standard neuropsychological measures of executive functioning, like the MET-SV, can be adapted to yield useful information about feigned cognitive impairment. The strengths and limitations of detection measures derived from logistic regression models and issues concerning simulation designs were discussed. The potential implications of using a knowledgeable group of simulating malingerers were also considered. Finally it was acknowledged that more research is required to further establish the utility of the present model.
Introduction

Neuropsychological assessments have a key role in establishing the presence, nature and extent of cognitive impairment for people who have suffered brain injuries (Evans, 2003). Such assessments also help to ascertain the practical and functional consequences of cognitive impairment for the individual, such as being able to live independently and hold paid employment. Although imaging techniques, such as computer tomography scans and magnetic resonance imaging, are often used to quantify structural damage to the brain, these tests are not designed to make inferences about the presence or impact of cognitive dysfunction (Wasyliw & Golden, 1985). In cases where structural damage to the brain is subtle, such as in mild traumatic brain injury (TBI), neuropsychological assessment may be the primary means of establishing the presence and degree of cognitive impairment (Evans, 2003).

In order to be valid and useful, neuropsychological assessments rely on clients applying full effort during the examination. In most instances, clients wish to appear capable and are motivated to do their best (Lezak et al., 2004). However, in a litigation context, where the results of the neuropsychological assessment may be used to quantify functional impairment and justify financial compensation, individuals may be tempted to exaggerate or fabricate cognitive deficits. Indeed, the level of effort applied during testing has been shown to account for 53 per cent of the variance on scores obtained by compensation claimants in standard neuropsychological tests (Green et al., 2001). The effect of effort was far greater than the effect of age, gender or even brain injury severity. These findings illustrate the importance of measuring and controlling for suboptimal effort in neuropsychological investigations, particularly when assessing clients who are in the process of claiming financial compensation.
Clinicians therefore need to determine whether clients’ performance during neuropsychological testing reflects their true level of ability instead of a fabricated or exaggerated deficit (McCarter et al., 2009). It has been over 30 years since a landmark study by Heaton et al. (1978) demonstrated that subjective clinical judgement alone is not sufficient to identify suboptimal effort during testing. In their study, the test results of simulating malingerers¹ and genuine head-injured patients were sent to neuropsychologists for blind rating. The clinicians’ ability to identify which results were genuine and which ones were not ranged from chance to just above chance level. A similar study by Faust et al. (1988) also demonstrated that clinicians’ subjective evaluations of symptom or test validity do not achieve acceptable levels of accuracy. In their study, nearly 80 per cent of clinicians failed to identify the feigned tests results. When abnormalities in test results were identified this was mainly attributed to cortical dysfunction; malingering was not selected as a diagnosis for any of the feigned cases.

The findings of these two papers indicate that simulating malingerers can portray convincing profiles of neuropsychological deficits and that clinicians’ subjective clinical judgement is an unreliable method for detecting symptom exaggeration or fabrication on neuropsychological tests. A position paper by the American National Academy of Neuropsychology (NAN) suggests that: ‘when the potential for secondary gain increases the incentive for symptom exaggeration or fabrication and/or when neuropsychologists become suspicious of insufficient effort or inaccurate or incomplete reporting, neuropsychologists can, and must, utilise symptom validity tests and

¹ A ‘simulating malingerer’ can be contrasted with an actual malingerer. An actual malingerer is someone who is feigning cognitive impairment in real life motivated by an external incentive whilst a simulating malingerer refers to a neurologically healthy individual who is asked to feign cognitive impairment as part of a research study. Simulation designs are frequently used to study malingering.
procedures to assist in the determination of the validity of the information and test data obtained’ (Bush et al., 2005, pp.425-426).

Therefore, clinicians must supplement their clinical judgment with more scientific approaches for the assessment of suboptimal effort (McCarter et al., 2009). This introduction will firstly consider issues surrounding the definition and diagnosis of individuals who fail to apply full effort during neuropsychological tests. The prevalence of malingering and how UK clinicians approach the assessment of effort will also be discussed. This introduction will then outline the limitations of common tests of effort which have largely focused on the assessment of feigned memory impairment. The author will then argue for the need to develop measures of effort which are embedded within standard cognitive tests, focusing on cognitive areas other than memory functioning. Finally, this introduction will outline the aims and objectives of the present study.

Definitions of malingering

Several definitions of malingering have been proposed. The Diagnostic and Statistical Manual (DSM-IV) defines malingering as the intentional production of false or grossly exaggerated physical or psychological symptoms motivated by external gain, such as obtaining financial compensation or evading criminal prosecution (American Psychiatric Association, 2000). The DSM-IV states that malingering should be strongly suspected if an individual meets any combination of the following four criteria:

a) involvement in a medico-legal context

b) marked discrepancy between claimed disability and objective findings

c) a lack of co-operation during assessment and
d) the presence of anti-social personality disorder

Rogers (1997) argues that there is a need to move away from the ‘mentally disordered’ or ‘bad’ conceptualisation of malingering endorsed by the DSM-IV. Instead, he proposes an adaptational model of malingering, in which potential malingerers engage in a cost-benefit analysis of malingering when they are faced with a neuropsychological assessment that is perceived to be against their interests. An important factor affecting this cost-benefit analysis is the person’s belief in his or her ability to succeed in feigning without detection. According to this model, individuals are more likely to malinger when the context of the assessment is adversarial, the personal stakes are very high, and no other alternatives appear to be viable.

Some clinicians object to the term malingering and prefer to refer to suspect effort or incomplete effort (Larrabee, 2007); this objection arises from the need to clarify whether a suspect performance during testing is due to a conscious and intentional decision to malinger as opposed to unconscious factors outside of the client’s control. For instance, in somatoform disorders, physical and cognitive symptoms without an organic basis are created unconsciously by the patient for psychological reasons. Malingering also needs to be distinguished from a factitious disorder, in which the conscious production of symptoms is motivated by the need to assume a sick or disabled role, rather than by being motivated by external gain, such as monetary compensation (Larrabee, 2007).

Sweet et al. (2000) defines insufficient effort as a degree of effort which is incomplete or partial and leads to a performance which is significantly worse than standards known to reflect genuine neurological disorder. A range of reasons, other than external incentives, can explain why clients may fail to apply full effort during
testing, including hostile or oppositional attitudes to testing, fatigue and psychiatric disturbance (Slick et al., 1999). Insufficient effort is therefore a broader term that encompasses both conscious and unconscious underperformance. However, the term ‘malingering’ is appropriate when insufficient effort is the result of an intentional decision to perform poorly.

Another difficulty is that tests of effort, which are often used to help diagnose malingering, have only been designed to detect invalid performances, but not the individual's specific motivations. Therefore, these tests can only detect feigning, but not malingering per se. Rogers and Bender (2003, as cited in Rogers, 2007) use the term feigning to refer to the deliberate fabrication or gross exaggeration of symptoms without any assumptions about the underlying motivation.

The most comprehensive classification guidelines produced to date have been provided by Slick et al. (1999). They define malingered neurocognitive dysfunction (MND) as ‘the volitional exaggeration or fabrication of cognitive dysfunction for the purpose of obtaining substantial material gain, or avoiding or escaping formal duty or responsibility’ (p.552). Recognising that there can be different levels of diagnostic confidence, Slick et al. (1999) offer criteria for ‘definite’, ‘probable’ and ‘possible’ MND. Assignment to one of these three MND categories is based on a range of factors relating to the presence of an external incentive, evidence from effort testing, and symptom magnification or misreporting. Importantly, psychiatric, neurological or developmental factors need to be ruled out before MND can be diagnosed. The Slick classification system has been widely adopted in the field of malingering research.
Base rates of malingering

Given the covert nature of malingering, its true prevalence is unknown (Rogers, 1997). A survey of members of the American Board of Clinical Neuropsychology (ABCN) resulted in 41 per cent prevalence rate of probable malingering and symptom exaggeration in mild TBI compensation claimants (Mittenberg et al., 2002). Larrabee (2003) pooled data from 11 published studies with a total of 1,363 compensation-seeking patients with mild TBI and found that 40 per cent of the sample failed effort tests. In criminal cases, in which defendants are claiming neurocognitive dysfunction, symptom invalidity has been estimated to be even greater, exceeding the 50 per cent mark (Ardolf et al., 2007).

Berry and Schipper (2007) highlight the possibility of systematic underestimation of feigned cognitive impairment since the above studies would have, by nature, failed to include successful malingerers who managed to evade detection. It is also not clear to what extent these findings, based on North American populations, generalise to the UK. It is possible that certain cultural and legal aspects of compensation seeking may result in greater rates of symptom exaggeration and fabrication in North America compared to the UK. However, in a UK study of malingering, Moss et al. (2003) reported that a third of litigation patients failed the Test of Memory Malingering (TOMM). This suggests that the prevalence of poor effort may be almost as frequent in the UK as is reported in North America. The available literature suggests that malingering is particularly likely in compensation seeking individuals with mild TBI, although there is also some limited evidence that symptom exaggeration can also take place in compensation seeking patients with well-documented moderate to severe brain injuries (Bianchini et al., 2003).
Contemporary practice in the UK

Much of the research relating to effort in cognitive testing has originated in North America and comparatively less is known about how this issue is approached by UK clinicians. McCarter et al. (2009) addressed this gap in knowledge by surveying members of the BPS Division of Neuropsychology regarding their approach to the assessment of effort. The responses of neuropsychologists who engaged solely in clinical work ('clinical workers') and neuropsychologists who engaged in a mixture of clinical and medico-legal work ('medico-legal workers') were reported separately.

The results of this survey indicated that 66 per cent of clinical workers and 13 per cent of medico-legal workers never used any formal symptom validity test or procedure to assess effort. This difference was due to the fact that the many of the respondents felt that there is little need to evaluate effort in general clinical practice. The majority of neuropsychologists (76 percent) working in normal clinical practice indicated that they comment on effort in almost every assessment, yet only 16 per cent regularly used formal effort assessment to validate their clinical opinion. With regard to the reasons for not using effort measures, 29 per cent of respondents thought that insufficient effort would be obvious from the client's presentation and behaviour. A further 29 per cent indicated that poor effort would be discernable from examining the pattern of test results. McCarter et al. (2009) suggests that these results indicate that many respondents still hold the erroneous belief that they can determine clients' level of effort without testing it formally.

The survey carried out by McCarter et al. (2009) indicated that the most frequently endorsed method of effort testing across both clinical and medico-legal practice were forced-choice recognition memory paradigms, such as the Test of Memory Malingering (TOMM;
Tombaugh, 1996) and the Word Memory Test (WMT; Green, 2005). A sizeable minority of respondents reported that they utilise methods of assessment (such as their own idiosyncratic or unpublished methods) that would probably not be considered suitable by the international neuropsychological community. The authors conclude that 'it is clear that there remains a lot of work to be done to convince UK clinicians that symptom validity testing with tools possessing optimal psychometric properties should be routinely incorporated into neuropsychological assessments' (McCarter et al., 2009, p.12).

‘Stand-alone’ effort tests

In order to diagnose malingering, the clinician needs to take into account a range of contextual variables, such as injury severity, time since injury, premorbid and comorbid factors, and environmental contingencies (Millis & Volinksy, 2001). Alongside consideration of the above factors, a number of purpose-built tests of suboptimal effort have been developed to assist clinicians in the diagnosis of malingering.

Forced-choice effort tests, also known as symptom validity tests (SVTs), are the most popular and evaluated methods of detecting non-credible cognitive impairment during neuropsychological assessments (Millis & Volinsky, 2001; Nitch & Glassmire, 2007). The general format of these tests involves first presenting the examinee with a series of single stimuli items. Following this, the examinee is asked to identify the original stimulus in a two-choice forced recognition task, in which the original stimulus is paired with a distractor. The stimuli used in forced-choice effort tests include words (e.g. WMT), numbers (e.g. Computerised Assessment of Response Bias, CARB, Conder et al., 1992) and picture drawings (e.g. TOMM). The examinee’s performance is then compared to what would be expected by chance alone (Rogers, 1997) (i.e. individuals can theoretically answer 50 per cent of items
correctly just by guessing). The assumption behind this method is that an individual scoring significantly below chance is actively avoiding responding correctly. However, most malingerers do not perform below-chance on these tests and therefore only the most blatant malingerers are detected using this strategy (Millis & Volinksy, 2001). To avoid this short-coming, researchers have identified cut-off scores for effort tests; these cut-off scores typically representing the lowest score achieved by patients with documented brain damage. Therefore, if an individual with a minor or no documented brain injury performs below the cut-off, poor effort should be suspected (Rogers, 1997). As reported earlier, forced-choice effort tests, such as the TOMM and WMT, have been reported to be the most commonly used measures of effort in the UK (McCarter et al., 2009).

Another approach to the assessment of effort is based on the floor effect principle. This refers to tasks which are sufficiently easy that even individuals with neuropsychological deficits can manage successfully. The Rey 15-Item Test, originally developed by Andre Rey, is a well-known test that follows this principle (Reznek, 2005). This test is presented to individuals as being a difficult memory test, which involves having to simultaneously memorise 15 different items presented for only a very brief period of time. In fact, the test is very simple because of the redundancy among items, and even patients with significant impairment can perform the task without difficulty.

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>a</td>
<td>b</td>
<td>c</td>
</tr>
<tr>
<td>〇</td>
<td>□</td>
<td>△</td>
</tr>
</tbody>
</table>

**Figure 1: The Rey-15 Item Test**
Alongside the TOMM and WMT, the Rey 15-item test is one of the most commonly administered measures of effort in the UK (McCarter et al., 2009). Its popularity is likely to stem from its ease of administration, simple scoring and short administration time (Nitch & Glassmire, 2007). However, a review of studies concerning the Rey-15 Item Test revealed that although its specificity\(^2\) is typically above the 90 per cent mark, its sensitivity\(^3\) is much lower, around 50 per cent (Nitch & Glassmire, 2007). McCarter et al. (2009) expressed concern that a measure with such low sensitivity should be so popular amongst UK neuropsychologists. Rogers (2007) also noted that the Rey-15 Item Test has gained unwarranted popularity despite the availability of other sound detection strategies and he recommends that clinicians should use effort tests based on their effectiveness rather than their popularity.

Despite their widespread use, symptom validity tests have significant shortcomings (Ashendorf et al., 2003). For instance, the sensitivity of symptom validity tests can be limited by solicitors coaching their clients about the nature of these tests. A study by Essig et al. (2001) revealed that attorneys view it as part of their professional responsibility to prepare their clients for forensic examinations. In this survey, 75 per cent of solicitors reported spending between 15 to 60 minutes preparing their clients for neuropsychological assessments. This involved discussing with their clients the content of standard neuropsychological tests, detection of malingering and the symptoms of brain injury. For instance, all a solicitor would have to say to a client for them to avoid detection on SVTs would be to ‘do well on every memory test in which you are given a choice of two options’ (Boone & Lu, 2007, p.28). This raises the concern that attorneys may invalidate the results and validity of SVTs. For instance, Allen and Green (2001) reported a declining sensitivity of the CARB over a period of six years,

\(^2\) Proportion of nonmalingering correctly classified.
\(^3\) Proportion of malingering correctly classified.
presumably due to this effort test becoming well known amongst solicitors.

Studies have tried to quantify the impact of coaching on neuropsychological testing performance. Victor and Abeles (2004) note that although some studies have shown that coaching has no significant effect on successful feigning, most of the research in this area has indicated that even minimal coaching can reduce the sensitivity of effort tests. For instance, more believable profiles were observed on the CARB and on the WMT after participants were suggested strategies for passing these tests (Dunn et al., 2003). Similarly, Brennan et al. (2009) reported that coached simulators performed better on 13 out of 14 indices of malingering compared to uncoached simulators, with seven indices reaching statistical significance. Even measures designed to be robust to the effects of coaching, such as the Word Completion Memory Test, were performed significantly better by the coached simulators. These findings led Brennan et al. (2009) to argue that the influence of attorney coaching on neuropsychological assessments is likely to affect and invalidate the results of the assessment.

Internet access is also increasingly a source of easily available information regarding the nature of effort tests and as such it may represent another potential threat to test security (Ashendorf et al. 2003). Bauer & McCaffrey (2006) investigated this issue by performing Google searches on the TOMM, the Victoria Symptom Validity Test, and the WMT. The results revealed that several websites threaten test security and their information can potentially be used by malingerers to learn how to avoid detection on symptom validity tests. Specifically, 26 per cent of websites surveyed fell into either the 'moderate' or 'high' threat categories for test security. The most potentially damaging
information available over the internet related to the TOMM. The type of information available on the internet included ‘purpose and the format of the test, how malingerers versus non-malingerers typically react to verbal feedback after their responses, what the cut-off scores for suboptimal effort are, and exactly who should perform well on this test’ (Bauer & McCaffrey, 2006, p.123). The authors concluded that although it is not clear to what extent litigants use the internet for coaching purposes, the internet does offer easily accessible information that can threaten the validity of SVTs.

Finally, normal scores on SVTs or other tests of memory malingering do not necessarily rule out malingering. Individuals feigning cognitive impairment may chose to apply suboptimal effort in domains other than memory functioning. Rogers (2007) noted that malingering research has focused largely on detection strategies based on short-term learning and consequently neglected other areas of cognitive functioning. Spreen and Strauss (1998) argue that tests of effort should also be developed for other non-memory related cognitive domains.

**Embedded measures of effort**

Given the vulnerability of SVTs to the effects of coaching, research has also attempted to develop measures of effort within existing neuropsychological tests used in standard clinical practice (Suhr & Gunstad, 2000; Greve, Bianchini, *et al.*, 2002). These measures of effort are often referred to as ‘embedded measures’ and examples include the Reliable Digit Span from the Wechsler Adult Intelligence Scale (third edition) and the Rarely Missed Index from the Wechsler Memory Scale (third edition) (Killgore & DellaPietra, 2000; Iverson & Tulsky, 2003).
Sweet and Nelson (2007) argue that, in addition to 'stand-alone' effort tests, neuropsychologists should also use embedded measures of effort for two reasons: (a) the examinee's level of effort may vary during the assessment, therefore testing effort on a single occasion will not detect fluctuation in levels of effort and (b) multiple measures of effort increase the validity of the examiner's conclusion regarding the examinee's level of effort and allow greater diagnostic confidence. This is in line with the recommendations made by Larrabee (2007) that clinicians should adopt a multi-method, and multi-test, approach to the assessment of non-credible cognitive deficits.

The usefulness of embedded measures in the detection of feigned cognitive impairment has also been advocated by Berry and Schipper (2007). They argue that this method of effort testing has several potential advantages: (a) neuropsychological tests with embedded measures serve a 'double-duty' because they assess core neuropsychological functions (e.g. attention, executive functioning, processing speed, and so on) whilst simultaneously yielding important information regarding effort; (b) embedded measures can be used to assess effort retrospectively in cases where stand-alone effort tests were not originally administered; and (c) they are less transparent than stand-alone effort tests, thus providing some protection against coaching.

Effort tests tend to be time consuming to administer (e.g. over 20 minutes) and since clinicians should administer more than one measure of effort, they can considerably increase the length of the assessment (Boone & Lu, 2007). Therefore, another advantage of embedded validity indicators is that they do not add time to often already lengthy assessments whilst allowing the examiner to continuously monitor for insufficient effort.
Finally, SVTs appear to be particularly sensitive to feigned memory impairment but it is less clear if they also detect other types of feigned cognitive impairment (Boone & Lu, 2007). Someone wishing to portray feigned impairment in processing speed or executive functioning may not necessarily choose to underperform on a forced-choice memory test. Sweet and Nelson (2007) state that, ideally, research will be able to identify effective validity indicators in all commonly used neuropsychological tests. This would allow clinicians to continuously monitor levels of effort across the whole assessment process and across different types of cognitive functions.

Despite the above advantages of embedded measures, Sweet and Nelson (2007) acknowledge that stand-alone effort tests will remain necessary for two reasons. Firstly, standard tests were not originally developed to detect effort and therefore the classification accuracies of embedded measures are generally lower than those of symptom validity tests. Secondly, even when embedded measures produce good classification accuracies, these indices may also be affected by genuine neurological impairment or other variables, such as age and education. SVTs, on the other hand, have been designed to avoid the effects of confounding demographic variables. For instance, performance on the TOMM has been reported to be relatively unaffected by age, education, or moderate cognitive impairment (Tombaugh, 1996).

**Embedded measures within executive functioning measures**

Research has also attempted to develop valid embedded indices of non-credible cognitive impairment within standard measures of executive functioning. Executive functions refer to the ‘capacities that enable a person to engage successfully in independent, purposive, self-serving behaviour’ (Lezak *et al.*, 2004, p.35) and can be
conceptualised as comprising of four dimensions: volition, planning, purposive action and effective performance. Executive dysfunction can therefore affect how an individual approaches, plans and carries out a task, as well as the ability to monitor his or her performance. Anatomically, these higher level cognitive abilities are associated with the frontal lobes and related structures (e.g. limbic system and anterior temporal lobes). Executive functions underlie many cognitive, emotional and social skills and consequently executive functioning impairment can be seriously disabling; this point is highlighted by Lezak et al. (2003) in the following quotation.

So long as the executive functions are intact, a person can sustain considerable cognitive loss and still continue to be independent, constructively self-serving, and productive. When executive functions are impaired, the individual may no longer be capable of satisfactory self-care, of performing remunerative or useful work independently, or of maintaining normal social relationships regardless of how well-preserved the cognitive capacities are or how high the person scores on tests of skills, knowledge, and abilities. (Lezak et al., 2004, p.35)

Impairment of executive functioning is therefore associated with significant functional disability. In the context of financial compensation for brain injury, the amount of compensation received is often proportionally related to the extent of functional disability experienced by the individual. Greve and Bianchini (2007) conclude that since impairments resulting from executive dysfunction are potentially highly financially 'compensable', litigants may have a significant motivation to fabricate or exaggerate executive functioning difficulties.
Malingering and the Wisconsin Card Sorting Test

The majority of malingering research regarding tests of executive functioning relates to the Wisconsin Card Sorting Test (WCST). The WCST, which measures the process of abstraction and set-shifting (Lezak et al., 2004), is the most frequently used measure of executive functioning in clinical practice (Rabin et al., 2005). The test consists of four stimulus cards (see Figure 2) which are placed in front of the examinee.

![WCST stimulus cards](image)

**Figure 2: WCST stimulus cards**

The examinee is then given a pack of cards on which are printed varying numbers of different coloured symbols. The test requires the individual to match each of the cards from the pack to one of the four stimulus cards according to one of three possible rules (colour, shape or form). The examinee has to deduce the sorting concept and is informed by the examiner after each placement whether it was correct or incorrect. The sorting rule is purposefully changed several times during the test by the examiner. Of particular interest when scoring the WCST are the number of categories achieved and the number of perseverative errors made (i.e. continuing to match a card to the previous rule which is no longer applies).
The early WCST malingering studies

Several studies have aimed to identify atypical patterns of performance on the WCST indicative of suboptimal effort. Generally, these atypical performance patterns have been derived through discriminant function analysis or logistic regression applied to the scores of simulating malingerers or 'probable malingerers'. These patterns of atypical performance have been compared to the scores and pattern of performance demonstrated by genuine non-malingering TBI individuals.

The first study of malingering using the WCST was carried out by Bernard and colleagues (1996). They hypothesised that some aspects of the WCST are obvious measures of performance (e.g. categories achieved, number of errors), whilst others are more subtle (e.g. perseverative errors). Specifically, they predicted that an individual wishing to perform poorly on this test would aim to complete few categories and/or make a lot of errors. However, due to the malingerer's likely lack of knowledge of how brain injury affects WCST performance, he or she would fail to realise the importance of also making perseverative errors. Therefore, Bernard and colleagues hypothesised that people simulating malingering would be more likely to purposefully perform poorly on an obvious measure (categories achieved) compared to a subtle measure (perseverative errors).

The performance of simulating malingerers on the WCST was compared to that of closed-head-injury patients and patients with a

---

4 Discriminant function analysis and logistic regression are two related statistical procedures, which aim to predict a discrete outcome such as group membership (e.g. malingering or not malingering) from a set of variables.

5 Categories achieved are the number of sequences of 10 consecutive correct matches (Spreen and Strauss, 1998).
variety of central nervous system (CNS) pathologies. A pattern of performance based on categories achieved and perserverative errors was found to discriminate simulated malingerers from the two patient groups with reasonably good sensitivity and specificity. Specifically, in the simulating versus brain injury group analysis, the formula correctly classified 86 per cent of simulating malingerers (sensitivity) and 94 per cent of brain injury individuals (specificity). In the simulating malingerers versus mixed CNS pathologies group analysis, the formula correctly classified 58 per cent of simulating malingerers (sensitivity) and 100 per cent of mixed CNS patients (specificity). The sensitivity of the discriminant analysis was lower when simulating malingerers were compared to the mixed CNS group possibly due to the wide range of conditions included in the sample (including psychiatric disorders and dual diagnosis). The subtle indicator of malingering hypothesis was also supported: simulating malingerers tended to obtain few categories on the test, but failed to elevate their perserverative errors, which allowed the discriminant analysis to detect this pattern of performance as being a malingering strategy.

Simulation studies, like the one carried out by Bernard et al. (1996), have been criticised for their unknown generalisability to ‘real-world’ malingerers (Rogers, 1997). Suhr and Boyer (1999) attempted to replicate the findings of the above study using two groups of patients (probable malingerers and mild-moderate head injuries) and students (simulators and controls). Suhr and Boyer (1999) also included an additional variable, failure to maintain set (Spreen and Strauss, 1998).

6 Failure to maintain set refers to when an examinee makes five or more consecutive correct matches, but then makes an error before completing a full category (10 consecutive correct matches) (Spreen and Strauss, 1998).
The analysis revealed that categories achieved and FMS discriminated between student simulators and student controls with a sensitivity of 70.7 per cent and a specificity of 87.1 percent. In the patient sample, the formula correctly classified 82.4 per cent of probable malingerers and 93.3 per cent of genuine head-injured patients. The results indicated that student simulators and probable malingerers completed far fewer categories (obvious indicator) and had twice as many failures to maintain set (subtle indicator) than student and patient controls. The authors concluded that a pattern of performance analysis based on categories achieved and FMS was able to identify malingerers in both simulator and patient samples with adequate sensitivity and specificity.

These two original WCST studies indicated that patterns of performance on the WCST can be sensitive to malingering: Bernard et al. (1996) found categories achieved and perseverative errors distinguished simulators and controls, whilst Suhr and Boyer (1999) found categories achieved and FMS significantly discriminated between groups. In the original studies, both formulae produced good sensitivity and specificity (less than 10 per cent false positive error rate). The Bernard et al. (1996) formula continued to be accurate in cross-validation; however the generalisability of the formula to real clinical patients may be compromised by the lack of a clinically diagnosed malingering group. Suhr and Boyer (1999) included a probable malingering group, but the findings were not cross-validated.

**Further WCST malingering research**

Donders (1999) examined the specificity of the Bernard formula in a group of patients with mild to severe head injuries who had no incentive to malingering. A formula which results in a false positive rate of 10 per cent is generally deemed to be clinically useful. Donders (1999)
Major Research Project – Introduction

reported a false positive rate of only 5 per cent for the Bernard formula. Despite these good results, Donders (1999) suggests caution in applying the Bernard formula uncritically to older people. Performance on the WCST tends to decline with age, resulting in a higher probability of false positives with older people. The specificity of the WCST formulae in relation to older adults was also investigated by Ashendorf et al. (2003), who also reported high false positive rates. Specifically, the Bernard formula resulted in a false positive rate of nearly 25 per cent and the false positive rate for the Suhr formula was 52 percent.

Research has also indicated that these two formulae can result in high false positive rates with patients with more severe pathologies. For instance, in a study by Greve and Bianchini (2002), both WCST formulae were found to result in an unacceptably high rate of false positives (i.e. misclassifying nonmalingering patients as malingerers) when applied to a range of clinical samples (substance abuse, severe TBI, stroke and two mixed neurological samples). The authors highlighted that these two formulae have an important limitation: they assume that malingerers chose the same strategy by which to malinger on the WCST. However, the authors state that ‘on complex, multifactorial tests like the WCST such an assumption is not warranted’ (Greve & Bianchini, 2002, p. 52). Furthermore, the patterns of performance selected by these two formulae as being indicative of malingering can actually be seen in genuine nonmalingering patients with severe brain injuries and other severe neurological presentations (Greve & Bianchini, 2002; Greve, Love et al., 2002). Therefore the poor specificity of the WCST formulae arise because these formulae do not take into account the normal variation in performance seen in nonmalingering clinical samples and because they rely on the erroneous assumption that all malingerers chose the same approach on the WCST.
A study by Greve, Bianchini, et al. (2002) supported the idea that malingerers can approach the WCST in different ways. Three approaches employed by the ‘probable malingering’ sample were identified in this study. The most common strategy employed by the probable malingerers was reflected by the Suhr formula and relies heavily on FMS (i.e. avoiding too many consecutive correct responses). The second approach involves avoiding matching a card on any of the three possible dimensions (also known as a ‘unique response’). Although this was not an approach employed by many probable malingerers, having more than one unique response can be indicative of malingering. The third approach was to malinger on other tests, but not on the WCST. This study highlighted two key points. Firstly, different patients may approach malingering in different ways. Secondly, people who are malingering do not necessarily malinger on all given tests. Whether or not someone will malinger on a particular test depends on their beliefs about the effects of brain injury on cognition and what they think a particular test measures.

Given the inconsistent results reported in the literature, the WCST’s ability to differentiate patients with insufficient effort from patients with good effort was further investigated by King et al. (2002). They carried out three studies investigating the classification accuracy of the Bernard and Suhr formulae. In addition, King et al. (2002) developed a new logistic regression model based on categories completed, FMS and percentage of conceptual responses (hereafter referred to as the King formula). Table 1 reports the classification accuracies of the three formulae across the three studies.

---

7 Per cent conceptual responses are consecutive correct responses occurring in runs of three (Spren & Strauss, 1998)
Table 1: Diagnostic accuracy of the three WCST formulae (King et al., 2002)

<table>
<thead>
<tr>
<th>Study 1</th>
<th>Study 2</th>
<th>Study 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insufficient effort and Chronic TBI</td>
<td>Acute moderate to severe TBI</td>
<td>Non acute mild to severe TBI</td>
</tr>
<tr>
<td>Sensitivity</td>
<td>Specificity</td>
<td>Specificity</td>
</tr>
<tr>
<td>Bernard formula</td>
<td>63%</td>
<td>94%</td>
</tr>
<tr>
<td>Suhr formula</td>
<td>59%</td>
<td>88%</td>
</tr>
<tr>
<td>King formula</td>
<td>70%</td>
<td>82%</td>
</tr>
</tbody>
</table>

The first study consisted of a ‘known-groups’ design comparing chronic moderate to severe TBI patients with probable malingering patients using all three formulae. The probable malingering group performed significantly worse than chronic TBI patients on all the standard WCST variables. With regard to the classification accuracies of the three formulae, the King formula was the best at identifying probable malingerers, with a sensitivity rate of 70 percent, whilst the Bernard was the best at correctly classifying the TBI patients, with a specificity of 94 percent.

Studies 2 and 3 assessed the influence of different TBI variables (acute moderate to severe TBI in study 2 and non-acute mild to severe TBI in study 3) on the three WCST formulae. Therefore the three formulae were applied to two groups of TBI patients and their specificity rates were reported. An excellent formula of malingering would have a 100 per cent specificity rate when applied to groups of genuine TBI patients because the assumption is that none of these patients are malingerers.
The King formula produced the best specificity rates in both studies, correctly classifying 97 per cent and 99 per cent of genuine TBI patients respectively.

The results of these three studies were consistent with the findings of Bernard et al. (1996), Donders (1999) and Suhr and Boyer (1999), supporting the usefulness of the WCST in assessing poor effort, but at odds with Greve and Bianchini (2002). Importantly, the King et al. (2002) series of studies indicate that the usefulness of specific WCST formulas can be sample specific (the same formula was found to have less or more specificity depending on the sample used). Therefore, the authors argue that caution needs to be taken when interpreting the WCST results regarding effort and that the clinician needs to be aware of the characteristics of the individual patient that they are assessing.

The most recent WCST study on malingering was reported by Greve et al. (2009), who investigated the classification accuracy of the three WCST formulae using a known-groups design. The results indicated that only the Suhr and King formulae were specific indicators of poor effort and malingering in mild TBI, although their sensitivity was relatively weak. At cut-offs associated with a false positive rate of 6 percent, both formulae detected about 30 per cent of probable malingerers. Greve et al. (2009) also cautioned about the use of these two formulae in patients with more severe pathologies due the higher likelihood of false positive errors. Even in mild TBI, the sensitivity of these three WCST indicators was relatively low, which means that when faced with a negative finding, the clinician can not necessarily rule out poor effort.
Greve et al. (2009) gives three reasons for the low sensitivity of WCST indicators. Firstly, even in the absence of neurological dysfunction, there are still large individual differences in performance in the normal population, with demographic factors such as age and education accounting for as much as 20 per cent of observed variance in performance. Secondly, tests like the WCST are amongst the most sensitive measures of brain dysfunction, which means that at least some nonmalingering TBI controls will achieve scores similar to malingerers. Thirdly, it is possible that some malingerers perceive the WCST performance not to be something normally affected by brain injury and therefore decide not to malinger on this particular task. The authors conclude that 'WCST indicators should not be relied upon as a primary method of malingering detection' (Greve et al., 2009, p.356).

In summary, research surrounding WCST cognitive effort indices has been mixed. Greve and Bianchini (2007) suggest that WCST indicators can be used to detect malingering in mild TBI. However, these formulae need to be used with caution with older or more severe TBI samples due a higher likelihood of false positives. Sweet and Nelson (2007) recommend that clinicians should not rely exclusively on one WCST formula to identify suspect effort. Sweet and Nelson (2007) also caution that the research carried out on the WCST has almost solely focused on individuals with TBI and so these findings cannot be automatically assumed to generalise to individuals with other neurological conditions.
Embedded measures within other measures of executive functioning

Verbal and Visual Fluency: Demakis (1999) compared simulating malingerers and neurologically healthy controls on a range of neuropsychological measures, including two tests of executive functioning: the Controlled Oral Word Association (COWA) and the Ruff Figural Fluency Test (RFFT). The results indicated that simulating malingerers performed significantly worse than controls on these two measures. However, as this study did not include a genuinely brain-injured group, it is not clear how convincing the performance of simulating malingerers was. A different study reported no significant differences in verbal fluency between probable malingerers and non-malingering head-injured individuals (van Gorp et al., 1999). The limited research carried out in this area has used different samples and reported mixed findings. Sweet & Nelson (2007) conclude that there is no data presently available on fluency tasks that would allow for individual classification of suboptimal effort.

Stroop Colour-Word Test: The Stroop test is a measure of executive functioning which assesses the ability to suppress a habitual response (reading) in favour of an unusual one (naming the colour of the ink of stimulus words) (Spreen & Strauss, 1998). Lu et al. (2004) administered the Stroop test to six probable malingerers who were claiming to have never learned to read or to have completely lost their ability to read as a direct consequence of a head-injury. All participants showed marked difficulty on the Colour-Word Interference trial and made frequent reading errors (i.e. reading the word rather than naming the ink colour). The authors concluded that these individuals' difficulty in inhibiting their reading response indicated that they had not lost their ability to read at all. Lu et al. (2004) therefore concluded that the Stroop
Test may be ‘the most powerful and pathognomonic indicator’ (p.187) of feigned impairment in individuals claiming to having lost the ability to read.

The Stroop was also one of the tests investigated by van Gorp et al. (1999). They found that probable malingerers performed significantly worse on this task compared to nonmalingering head-injured individuals. The authors suggested that malingerers may have difficulty in portraying a realistically impaired performance on timed tasks due to their inability to estimate what constitutes a realistically impaired performance in addition to their inability to time themselves whilst completing a timed test.

The Stroop may have a unique role in specific cases where potential malingerers are claiming to have lost the ability to read. Apart from this exception, there is currently no research evidence that the Stroop can be used to make individual classifications in relation to malingering. However, there is some evidence that reduced motivation and effort reduces Stroop performance beyond that normally seen in genuine head-injury patients.

Trailmaking Test: The Trailmaking Test (TMT) is a test of executive functioning that assesses visual-motor and visual-conceptual tracking abilities (Lezak et al., 2004). The test consists of two trials (A and B).

In addition to the Stroop and verbal fluency, van Gorp et al. (1999) also examined performance on the TMT in a group of pre-identified probable malingerers and nonmalingering head-injured individuals. Although probable malingerers demonstrated longer times to complete
both trials A and B, only the TMT B minus A discrepancy reached statistical significance. The researchers suggested that the significant discrepancy difference between the two groups suggests that malingerers are not typically aware of the appropriate levels of change across trials; thus they are not sophisticated at adjusting their performance on one trial of a test relative to another trial of the same test. The combined findings of the Stroop and TMT led the researchers to conclude that malingerers may struggle to feign a realistic performance on timed tasks because they are (a) unaware of how slowly a genuinely brain-injured person might perform and (b) unable to monitor their own times whilst completing the task.

Ruffolo et al. (2000) examined whether performance on the TMT could discriminate between a sample of clinical TBI patients, TBI patients with suspect levels of performance, and simulating malingerers. On trial A of the TMT, the simulating malingerers made significantly more errors and had longer completion times than all other groups. On trial B, the suspect effort group had longer completion times than all the other groups and the simulating group made significantly more errors than each of the other groups. The authors concluded that the presence of four or more errors on either trial of TMT might be indicative of suspect effort. In addition to errors, they concluded that excessive completion times may also reflect a feigning of symptoms. Although the authors found significant mean differences in TMT performance between the groups, they did not investigate the diagnostic accuracy of specific cut-off scores. A further limitation of this study was that it only included seven individuals in the suspect group.

Iverson et al. (2002), wishing to overcome the limitations of the above study, attempted to evaluate the utility of TMT indices for detecting poor effort. In the first part of the study, the TMT was administered to a
large sample of nonmalingering acute TBI patients. Based on their performance, the authors reported cut-off scores for rarely observed performances in genuine TBI patients. The cut-off scores were then applied to a large group of compensation-seeking head-injury individuals. The results indicated that the TMT cut-off scores produced good specificities, ranging from 87 per cent to 100 percent, but poor sensitivities, only ranging from 2 per cent to 19 percent. Therefore, these indices were good at identifying individuals with genuine brain injuries, but very poor at identifying individuals with suspect effort. The authors concluded that the TMT does not carry clinical utility in the detection of poor effort. Although scores below the specified cut-offs may act as 'red flags' for clinicians, they are not necessarily indicative of malingering.

O'Bryant et al. (2003) also investigated TMT performance in a group of mild TBI malingering litigants and mild TBI nonmalingering litigants. Litigants were considered to be malingering if they failed the TOMM and/or the Rey 15-Item Test. Malingering litigants had significantly slower completion times on both trials A and B of TMT, but did not make significantly more errors than nonmalingering litigants. Although the results of this study supported the general finding that malingerers tend to 'overportray' impairments that far exceed the magnitude of deficits displayed by cooperative patients with similar clinical pathologies (e.g. van Gorp et al., 1999), further analysis of the results lead the researchers to conclude that 'none of the TMT variables adequately differentiated between TBI litigants suspected of malingering and those not suspected of malingering' (O'Bryant et al., 2003, p. 73).

The results of the studies reviewed in this section indicate that although compromised or suspect effort results in significantly slower completion
times, the TMT scores alone are not sufficiently sensitive to malingering to allow their use as a reliable indicator of malingering.

In their review of the relevant literature of validity indicators in executive functioning measures, Sweet and Nelson (2007) concluded that clinicians should not rely on the COWA, RFFT and TMT as independent indicators of suspect effort. They argue that although clinicians may wish to examine the results of these executive measures, these tests in themselves 'do not offer useful information regarding possible conscious attempts to perform poorly in order to obtain an external reward' (Sweet & Nelson, 2007, p.171). As such, no conclusions regarding the presence or absence of malingering can be made based on these tests, even when poor effort has been determined through well validated symptom validity tests. These conclusions also extended to the Stroop Test, with the exception that this test may have a unique role in assessing suspect effort individuals claiming loss of reading ability.

The Multiple Errands Test – Simplified Version

Traditionally, the assessment of executive functions involves administering tests, such as the WCST, within the structured setting of the assessment session. However, many of the current tests of executive functioning used in clinical practice were not originally devised for the purpose they currently serve and they may have little relevance to 'real-world' functioning (Burgess et al., 2006). Furthermore, many dysexecutive symptoms demonstrate themselves best outside tightly constrained situations and might not be captured through formal and structured assessment measures. The Multiple Errands Test (MET), originally described by Shallice and Burgess (1991), is an exception to most tests of executive functioning since it is
an 'ill-structured' (Goel et al., 1997) shopping task, which is carried out in a real shopping centre. The individual is required to achieve a number of simple tasks without breaking a series of arbitrary rules, which increase the planning, monitoring and prospective memory demands of the test. Shallice and Burgess (1991) found that brain-injured individuals who performed normally or near-normally on an extensive range of neuropsychological tests, including traditional tests of executive functioning, demonstrated a severely impaired performance of this everyday life type test. The MET was able to capture these patients' difficulties because it mimicked the real-life situations that these patients had problems with.

The original MET was developed to discriminate executive deficits in patients with preserved high IQ. Alderman et al. (2003) developed a simplified version of this test, the multiple errands test – simplified version (MET-SV), which is better suited to routine clinical practice. The MET-SV was developed and validated using moderate-sized groups of neurologically healthy controls (N=46) and individuals with acquired brain injuries (N=50). The results demonstrated that even patients with severe brain injury may do well on traditional measures of executive function, whilst still presenting with dysexecutive difficulties as evidenced by performance on the MET-SV and behavioural observations of everyday functioning. The results revealed that people with brain injuries not only made more errors than the neurologically healthy people, but they also made different types of errors during the task. A scoring method that reflects the 'normality' of errors correctly identified 82 per cent of the brain injured group and only misclassified 5 per cent of neurologically-healthy controls. The authors concluded that the sensitivity of the MET to cognitive deficits is remarkable, especially given that it only takes 45 minutes to carry out this real-world task. Despite these strengths, the MET-SV also has some potential limitations. For instance, the fact that the MET-SV has to be carried out
in shopping centre and it costs potentially ten pounds per participant may discourage some neuropsychologists from using this test. Furthermore, it does not contain a parallel version for re-testing and its utility in other shopping centres has not yet been established.

**Summary**

Research has indicated that it is crucial for clinicians to adopt scientific methods for the assessment of suboptimal effort (Heaton *et al*., 1978; Faust *et al*., 1988). A range of memory tests, also known as SVTs, have been specifically designed to assess effort. Although widely used both in the UK and in North America (Sharland & Gfeller, 2007; McCarter *et al*., 2009) the sensitivity of SVTs, such as the TOMM and WMT, can be compromised by attorney coaching (Essig *et al*., 2001) and Internet-based information (Bauer & McCaffrey, 2006). Research has also identified cut-off scores or response patterns that are associated with feigned or exaggerated cognitive deficits on standard neuropsychological tests (King *et al*., 2002). This approach to the assessment of poor effort has several advantages. One advantage is that this method is a less transparent way of assessing effort, thus providing some protection against coaching (Berry & Schipper, 2007). Indeed, Sweet and Nelson (2007) suggest that research should aim to identify indices of malingering in all neuropsychological tests routinely used in clinical practice. Some of the research in this area has aimed to develop indices of suboptimal effort in traditional measures of executive functioning. The only promising results to date relate to the WCST; however these formulae can produce high false positive rates in individuals who are older or who have more severe pathologies. Therefore, there is still a clear need to further research validity indicators within executive functioning measures. The current study aimed to address this gap in the literature by investigating the utility of the MET-SV in the detection of feigned cognitive impairment. The MET-
SV was chosen because, unlike most tests of executive functioning, it has direct generalisability to real-life situations and it correlates well with ratings of everyday executive functioning difficulties. Knowledge of the validity of the MET-SV in detecting feigned symptoms of acquired brain injury could potentially contribute to the work of the courts and help clinicians better understand the complex behaviours of their clients.

Simulation studies, normally involving college students, have been criticised because of their potentially poor generalisability to 'real-world' malingerers. The argument is that college students lack genuine incentives to malinger (other than getting course credits) and may have a limited knowledge of the effects of brain injuries. This study aimed to overcome the sampling limitations normally associated with simulation designs by recruiting employees of a brain injury rehabilitation unit. It was hoped that their specialised knowledge of brain injury would produce feigning performances which are more alike of sophisticated and potentially coached malingerers.

**Objective and Hypothesis**

The primary aim of this study was:

- to investigate the utility of the MET-SV in the detection of feigned cognitive impairment using a sophisticated group of simulating malingerers
- to identify which of the MET-SV test variables can distinguish between brain injury participants and simulating malingerers
- to report the diagnostic accuracy of the MET-SV in the detection of feigned cognitive impairment
Specific hypotheses

A general finding in the literature is that simulated and probable malingerers tend to 'over-portray' cognitive deficits in neuropsychological tests compared to genuine brain injured individuals. Therefore it was predicted that

1. Simulating malingerers would make significantly more errors than acquired brain injury individuals on the MET-SV.

It has also been reported in the literature that malingerers often display a different pattern of performance compared to genuine brain injured patients. Therefore it was predicted that in addition to making more errors

2. Simulating malingerers would demonstrate a different pattern of performance on the MET-SV.

Alderman et al. (2003) reported that brain injured individuals not only made more errors on the MET-SV than healthy neurological controls, but also made qualitatively different ones. It was predicted that

3. Simulating malingerers' performance on the MET-SV would be qualitatively different from brain injured individuals.
Method

Design

A three-group simulation quasi-experimental design was used in this study to compare a simulating malingering group, a diagnosed acquired brain injury (ABI) group and a healthy control group. A limitation of simulation studies is that external validity cannot be automatically assumed as simulating malingerers may not be representative of real-life malingerers. However, the inclusion of an ABI clinical comparison group, who demonstrate the pattern and level of impairment seen in clinical practice, helps to improve external validity (Rogers, 1997).

Sample size

Existing data regarding the performance of controls and ABI individuals on the MET-SV was provided by Professor Nick Alderman, the first author of the original MET-SV (2003) study. The data was given to me on a SPSS spreadsheet. The ABI group consisted of 50 individuals and the neurologically healthy group consisted of 46 controls. Based on the size of these two original samples, it was decided that the malingering group be of a similar size (i.e. at least 46 simulated malingerers).

Recruitment of participants

Only participants for the simulating malingers groups were recruited for the purposes of the present study. The target population for the simulating malingerers was clinical workers from a brain injury rehabilitation unit. Posters explaining the nature of the study and inviting participation were affixed in staff areas of the brain injury unit.
An email promoting the study was also sent to all members of staff of this unit. Potential participants were advised to contact the researcher to obtain further information about the study and all interested individuals were given an information sheet (Appendix 1). For those clinical workers who wished to participate in the study and who met the inclusion criteria, a date was arranged to take part in the study. The inclusion criteria for simulating malingerers were:

- Member of staff at the brain injury unit
- No acquired neurological conditions, for example traumatic brain injury or stroke
- No acquired neuro-degenerative conditions, for example Alzheimer’s disease
- No learning disability
- Not have previously been a participant of the original MET-SV study (Alderman et al., 2003)

**Research participants**

In total, the study comprised 143 participants divided into three groups:

- **Healthy controls:** this group consisted of 46 people who had no history of neurological disease. Controls were recruited from amongst members of staff employed by St Andrew’s Healthcare, Northampton, UK. Their ages ranged from 21 to 58 years ($M = 29.2$, $SD = 8.5$). The estimated IQ of controls ranged from 85 to 124 ($M = 107.6$, $SD = 9.1$). The control group was composed equally of females and males. There were no significant gender differences regarding either age ($t = 0.89$, $p = .379$) or estimated IQ ($t = 1.35$, $p = .183$).
• **Brain injury group:** the brain injury group consisted of 41 males and 9 females. There was a significantly higher proportion of males compared to females ($\chi^2 (1) = 21.94$, $p < .001$). This reflects the fact that a large proportion of head injuries involve young males (King & Tyerman, 2003). The ages of the TBI participants ranged from 18 to 59 years (mean = 34.6, SD = 12.7). The mean premorbid estimated IQ was 99.9 (SD = 12.9). Thirty-six participants were inpatients of the brain injury unit. The remaining cases were outpatients. Seventy-eight per cent of individuals had sustained a traumatic brain injury. The remaining participants had acquired brain damage through strokes and cerebral tumours. With regard to brain injury severity, 75 per cent of participants fell into the 'very severe' category. Of the remainder, four participants were classified as 'severe', four as 'moderate' and one as 'mild'. Brain injury severity was determined from duration of post-traumatic amnesia and duration of coma.

• **Simulating malingerers:** this group consisted of 47 participants, recruited from amongst members of staff employed at the St Andrew's Healthcare brain injury rehabilitation unit. All simulating malingerers had no history of neurological conditions. Their ages ranged from 22 to 55 years ($M = 34$, $SD = 9.5$). The estimated IQ of simulating malingerers ranged from 105 to 124 ($M = 115$, $SD = 5.31$); 40 out of 47 participants were educated at least to degree level. The mean length of employment for simulators was 57 months ($SD = 64$), ranging from four months to 300 months. The group was composed of 30 females and 17 males, this difference did not reach statistical significance $\chi^2 (1) = 3.60$, $p = .058$. There were no significant gender differences regarding age ($t = -0.86$, $p = .39$) or estimated IQ ($t = -0.54$, $p = .60$). Those with flexible work roles were able to take part in the
study during their work hours; however some participants chose to participate in the study in their own free time.

**Measures for simulating malingerers**

Demographic data, such as gender and age were collected from individuals. Simulating malingerers completed the following measures:

a) **National Adult Reading Test (NART; Nelson, 1982; Appendix 2).** This test consists of reading 50 irregularly spelled words and it provides an estimate of intellectual ability (Spreen & Strauss, 1998). Simulating malingerers were instructed to apply full effort to this task (i.e. not to feign cognitive impairment during this task). The NART results were used to compare the general ability levels of the simulating and control groups. The NART was chosen because this was the measure originally used in the Alderman *et al.* (2003) study.

b) **MET-SV (Alderman *et al.*, 2003).** The MET-SV was administered according to the procedure laid-out in the Alderman *et al.* (2003) paper. Simulating malingerers were instructed to feign cognitive impairment during this task. The MET-SV is an ecologically valid-test of executive functioning which discriminates well between healthy control and ABI individuals (82 per cent of ABI participants fell at or below the 5 per cent performance level of controls). The MET-SV performance of individuals with ABI has been shown to correlate with everyday dysexecutive problems as assessed by carers and relatives using the Dysexecutive Questionnaire (Burgess *et al.*, 1996). No further psychometric information is available in the original MET-SV article (Alderman *et al.*, 2003). However, a hospital version of the MET was found to have good inter-rater reliability (ranging from .81 to 1.00) and
an internal consistency of .77 (Cronbach's alpha) (Knight et al., 2002).

**Procedure for simulating malingerers**

All participants were asked to sign a consent sheet prior to taking part in the study (Appendix 3). The relevant demographic data were also obtained from participants. Prior to completing the MET-SV, all participants were administered the NART.

Participants were then accompanied to the local shopping centre by the researcher where the MET-SV was developed (Alderman et al., 2003). The layout of the shopping centre is presented in Figure 3.

![Diagram of a shopping centre with labels for exits, clock, stalls, and library.](image_url)

Key: 'E' = exits; 'C' = clock; 'S' = stalls and 'L' = library

**Figure 3:** Layout of the shopping centre (figure extracted from Alderman et al., 2003)
Participants were given the following malingering instructions (adapted from Kelly et al., 2005):

I want you to imagine that you are claiming compensation following an accident in which you suffered a head injury and you now have a solicitor who is dealing with the claim. People who have had an injury commonly suffer from psychological problems such as forgetfulness, loss of concentration, difficulty in reasoning and thinking clearly. They may also suffer from emotional problems, such as depression and anxiety, as well as medical problems, for example, affecting their eyesight and hearing. You know that the more affected you appear to be, the more financial compensation you are likely to receive. It is therefore in your best interests to magnify your symptoms but not that it is too obvious to the person testing you. You have been referred by your solicitor to a psychologist who will attempt to evaluate the effect that the head injury has had upon you. As part of the assessment you are asked to carry out the following test.

Participants were given the opportunity to discuss the malingering instructions. Following this the MET-SV was administered. Before starting the MET-SV task, simulating malingers were asked to rate themselves on two statements using a Likert type scale (Appendix 4). It was made clear to participants that this was part of the simulating task. The first statement was a measure of general shopping efficiency (‘How efficient would you say you were with tasks like shopping?’) and the second was a measure of familiarity with the shopping centre (‘How often do you visit this shopping centre?’).

The test began under a clock, which is a landmark feature of the shopping centre. Simulating malingers were given the exercise sheet
(Appendix 5) on a clipboard, a pen, a carrier bag, a ten pound note\textsuperscript{8}, and (if necessary) a wrist watch. The assessor then read the instructions (Appendix 6) to participants. Participants were informed that they would be followed by the assessor during the task for the purpose of monitoring and recording their performance. The assessor also explained that that she should not be spoken to unless it was part of the exercise. Next, participants were given the opportunity to ask any questions. Participants were asked to summarise what they had to do to ensure they understood the requirements of the task. Finally, the start of the test was signalled by the assessor with the instruction 'Begin the exercise.'

Participants were then shadowed by the examiner, who made notes on their performance. At the end of the task simulating malingerers were asked to rate the question ‘How well do you think you did with the shopping task?’ using a ten-point scale with ‘0’ being ‘hopeless’ and ‘10’ being ‘excellent’ (participants were still ‘in-role’ when answering this question).

**Safety and ethical Implications**

The current study received ethical approval from the Leicestershire, Northamptonshire and Rutland NHS Research Ethics Committee (Appendix 7) and from the University of Surrey Research Ethics Committee (Appendix 8). Research and Development (R&D) approval was also gained from St Andrew’s Hospital (Appendix 9). Issues of consent, anonymity and data protection were adhered to throughout the study according the requirements set by the above ethical panels.

**Data analysis**

\textsuperscript{8} St Andrew’s Group of Hospital provided financial support to carry out this study (a maximum of £500 was made available to the researcher).
During the MET-SV the examiner recorded exactly what the participant did during the course of the test in note form. The test is scored based on the examiner's written notes and the exercise sheet completed by the participant. The performance of all 47 simulating malingers was firstly scored by the author, who administered the test. The exercise sheets completed by participants and their respective observation notes were made available to the second rater, the Consultant Neuropsychologist who developed the MET-SV, who also scored all of the tests. Any disagreements in ratings were then discussed between the two raters and a final rating was agreed upon. Participants' performance was scored using the weighted scoring method proposed by Alderman et al. (2003). The criteria for scoring the MET-SV was originally developed by Shallice and Burgess (1991) and subsequently adopted by Alderman et al. (2003) (see Table 2).

**Table 2: Criteria for scoring the MET-SV**

*Rule Breaks*
Where a specific rule (either social or explicitly mentioned in the task) was broken.

*Task failure*
A task not completed satisfactorily.

*Inefficiencies*
Where a more effective strategy could be applied

*Interpretation failure*
Where the requirement of a particular task were misunderstood.

*Total Errors*
The total of inefficiencies, rule breaks, task failures, and interpretation failures.
Each error is given a score according to the scoring guidelines provided in the Alderman et al. (2003) paper. The scoring guidelines reflect the 'normality' of the errors: errors made by up to 95 per cent of neurologically healthy controls receive a score of '1'; errors only demonstrated by 5 per cent or less of controls are assigned a score of '2'; and errors unique to the patient group are given a score of '3' (Appendix 10). All new errors not previously observed in the control sample earn an automatic score of '3'. A total error score can be obtained by adding the values of all individual error scores. The cut-off score for abnormal performance on the MET-SV is 12 or more.

The data analysis of the present study can be divided into five sections:

A. Inter-rater reliability: a potential difficulty associated with unstructured tasks, such as the MET-SV, is that inter-rater reliability may be low (Crawford, 1998). To examine this issue, the scores of two raters were compared and interclass correlation coefficients were calculated.

B. Demographic variables: group differences for age and estimated IQ were analysed using Kruskal-Wallis analysis, as these variables did not meet all the assumptions needed for parametric tests. Significant differences between groups were followed-up using Mann-Whitney tests. Bonferonni corrections were used to avoid the increased possibility of Type I errors. Gender differences between the three groups were analysed using Chi Square.

---

9 Bonferonni correction was used to avoid Type I errors. Therefore, the standard p value of .05 was divided by the number of comparisons being made in order to define the new p value (Field, 2009). The new p value was .017.
C. Group differences on the MET-SV: Differences between groups on the several MET-SV variables were investigated using Kruskal-Wallis analyses. Parametric tests could not be used because the data did not meet the required assumptions. Significant differences between groups were followed-up using Mann-Whitney tests. Bonferroni corrections were used to avoid the increased possibility of Type I errors.

D. Classification accuracy of the MET-SV: a logistic regression was carried out to determine which of the MET-SV variables were statistically reliable in distinguishing between ABI individuals and simulating malingerers. The sensitivity and specificity of the logistic regression model was investigated. Finally to further assess the predictive validity on the logistic regression model a receiver operating curve (ROC) was carried out.

E. Qualitative information: this section includes qualitative information about the unique differences in performance between the simulating malingerers and the two other participant groups. Information regarding the strategies used by simulating malingerers to feign cognitive impairment is also presented.
Results

Section A: Inter-rater reliability

Assessment of inter-rater reliability was carried out for the simulating malingering group data. The method proposed by Shrout and Fleiss (1979) was used to calculate the intraclass correlation coefficient (ICC) for the total error score, as well as the four subtypes of errors: rule breaks, task failures, inefficiencies and interpretation failures. The ICCs were: .97, .99, .95, .86 and .95, respectively. According to the conventions by Spitzer et al. (1978) a value of less than .50 indicates poor reliability, scores between .50 and .75 indicate fair reliability, and values greater than .75 indicate good reliability. All ICCs ranged from .86 to .99, therefore indicating good inter-rater reliability.

Section B: Analysis of group demographics

Group demographics including sex, age and IQ are presented in the following section.

Table 3: Gender by group

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Controls</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>23</td>
<td>23</td>
</tr>
<tr>
<td>% within Group</td>
<td>50%</td>
<td>50%</td>
</tr>
<tr>
<td>ABI Group</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>41</td>
<td>9</td>
</tr>
<tr>
<td>% within Group</td>
<td>82%</td>
<td>18%</td>
</tr>
<tr>
<td>Sim. Maling.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>17</td>
<td>30</td>
</tr>
<tr>
<td>% within Group</td>
<td>36%</td>
<td>64%</td>
</tr>
</tbody>
</table>

A Chi-square test of the data indicated that proportion of males and females differed significantly across groups $\chi^2 (2) = 21.94, p < .001$. As can be seen in Table 3 there was a larger proportion of males than
females in the ABI group; this reflects the higher proportion of males that acquire brain injuries (King & Tyerman, 2003).

Table 4: Age and current intellectual ability by group

<table>
<thead>
<tr>
<th>Group</th>
<th>Range</th>
<th>Mean</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Controls</td>
<td>21-58</td>
<td>29</td>
<td>25</td>
</tr>
<tr>
<td>ABI Group</td>
<td>18-59</td>
<td>35</td>
<td>34</td>
</tr>
<tr>
<td>Sim. Maling.</td>
<td>22-55</td>
<td>34</td>
<td>32</td>
</tr>
<tr>
<td>Current</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Controls</td>
<td>85-124</td>
<td>108</td>
<td>108</td>
</tr>
<tr>
<td>ABI Group</td>
<td>66-118</td>
<td>84</td>
<td>82</td>
</tr>
<tr>
<td>Sim. Maling.</td>
<td>105-124</td>
<td>115</td>
<td>115</td>
</tr>
</tbody>
</table>

A Kruskal-Wallis test revealed a statistically significant difference in age across the three groups $\chi^2 (2) = 6.91$, $p < .05$. The control group was significantly younger ($Md = 25$) than the malingering ($Md = 32$) ($U = 693.5$, $p < .01$, $r = -.3$) group. The malingering and ABI group groups did not differ significantly from each other in terms of age ($U = 1168$, ns).

A Kruskal-Wallis test revealed a statistically significant difference in current intellectual ability$^{10}$ across the three different participant groups $\chi^2 (2) = 81.6$, $p < .001$. As would be expected, the ABI group had a significantly lower median current intellectual ability score ($Md = 82$) than controls ($Md = 108$; $U = 178.5$, $p < .001$, $r = .7$) and the malingering group ($Md = 115$; $U = 67.5$, $p < .001$, $r = .8$). The malingering and control groups also differed significantly in terms of current intellectual ability ($U = 515.5$, $p < .001$, $r = .4$), with the

$^{10}$ Current intellectual ability was measured in the patient sample using the Wechsler Adult Intellectual Scale – third edition (WAIS-III, Wechsler, 1998). For the control and simulating malingers, current intellectual ability was estimated using the NART (Nelson, 1982).
malingering group having a higher median level of current intellectual ability.

Section C: Analysis of group differences on the MET-SV

Summary statistics regarding the different error categories are shown in Table 5.
Table 5: Error scores by group

<table>
<thead>
<tr>
<th>Variable</th>
<th>Neurologically healthy controls</th>
<th>Brain injured individuals (ABI)</th>
<th>Simulating malingerers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>Md</td>
</tr>
<tr>
<td>Rule Breaks</td>
<td>2.50</td>
<td>3.02</td>
<td>1.50</td>
</tr>
<tr>
<td>Task Failures</td>
<td>1.59</td>
<td>1.07</td>
<td>1.00</td>
</tr>
<tr>
<td>Inefficiencies</td>
<td>.48</td>
<td>.89</td>
<td>.00</td>
</tr>
<tr>
<td>Interpretation</td>
<td>.20</td>
<td>.45</td>
<td>.00</td>
</tr>
<tr>
<td>Total Errors</td>
<td>4.76</td>
<td>3.71</td>
<td>4.00</td>
</tr>
</tbody>
</table>

Note: only the following variables were normally distributed task failures (ABI group), total errors (ABI group) and task failures (simulating malingerers); all other variables were non-normally distributed.
Kruskal-Wallis analyses were carried out to identify significant differences between the three groups on the various MET-SV variables. Whenever the Kruskal-Wallis test indicated a significant difference, this was followed up with Mann-Whitney U analyses to determine which specific groups differed from one another. Three possible comparisons were investigated using Mann-Whitney analyses with Bonferonni correction (the adjusted p value is .017):

- Contrast one – controls vs. individuals with brain injuries,
- Contrast two – controls vs. simulating malingerers and
- Contrast three – individuals with brain injuries vs. simulating malingerers.

The results of these analyses are presented in Table 6.

Table 6: Level of significance and effect sizes across the three contrasts for the MET-SV error categories

<table>
<thead>
<tr>
<th></th>
<th>Controls vs. ABI</th>
<th>Controls vs. Simulating Malingerers</th>
<th>ABI vs. Simulating Malingerers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rule Breaks</td>
<td>p&lt;.001 (r = .5)</td>
<td>p&lt;.001 (r = .5)</td>
<td>ns</td>
</tr>
<tr>
<td>Task Failures</td>
<td>p&lt;.001 (r = .8)</td>
<td>p&lt;.001 (r = .8)</td>
<td>ns</td>
</tr>
<tr>
<td>Inefficiencies</td>
<td>ns</td>
<td>p&lt;.001 (r = .4)</td>
<td>p&lt;.01 (r = .3)</td>
</tr>
<tr>
<td>Interpretation Failures</td>
<td>ns</td>
<td>p&lt;.001 (r = .4)</td>
<td>p&lt;.001 (r = .5)</td>
</tr>
<tr>
<td>Total Errors</td>
<td>p&lt;.001 (r = .8)</td>
<td>p&lt;.001 (r = .8)</td>
<td>ns</td>
</tr>
</tbody>
</table>
As can be seen in table 6, the brain injury and simulating groups did not differ from one another with regard to rule breaks, task failures or total errors. However, for inefficiencies and interpretation failures, the simulating malingering individuals scored significantly higher than the controls and brain injured individuals who did not differ from one another. Figure 4 further illustrates these results.

![Figure 4: Median number of errors by group](image)

**Distribution of error across the four error categories**

Although the malingering group produced a similar total error score compared to the ABI group, the above analyses indicated that the spread of error categories differed between these two groups, with malingerers making significantly more inefficiency and interpretation failures. As can be seen in Table 7, 34 per cent of simulating malingerers made errors across all four error categories, whilst only 6 per cent of ABI participants did so. The majority of ABI participants (54 percent) made two different types of errors on the MET-SV, whilst the
most common number of error categories for the simulating malingers was three (48.9 percent). A Chi-square test for independence indicated a significant association between the two groups and number of error categories observed on the MET-SV $\chi^2 (2) = 19.34, p < .001$.

Table 7: Spread of errors the ABI and simulating malingering groups

<table>
<thead>
<tr>
<th>Number of error categories on the MET-SV</th>
<th>Two</th>
<th>Three</th>
<th>Four</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABI group Count</td>
<td>27</td>
<td>20</td>
<td>3</td>
</tr>
<tr>
<td>% within Group</td>
<td>54.0%</td>
<td>40.0%</td>
<td>6.0%</td>
</tr>
<tr>
<td>Simulating Count</td>
<td>8</td>
<td>23</td>
<td>16</td>
</tr>
<tr>
<td>Malingers % within Group</td>
<td>17.0%</td>
<td>48.9%</td>
<td>34.0%</td>
</tr>
</tbody>
</table>

Analyses were also carried out for three other MET-SV related variables: requests for help, shopping efficiency rating and task success rating. Summary statistics regarding the different error categories are shown in Table 8.
Table 8: Requests for help, rating of efficiency and rating of success by group

<table>
<thead>
<tr>
<th></th>
<th>Neurologically healthy controls</th>
<th>Brain injured individuals</th>
<th>Simulating malingers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$M$</td>
<td>$SD$</td>
<td>$Md$</td>
</tr>
<tr>
<td>Requests for help</td>
<td>1.24</td>
<td>1.78</td>
<td>1.00</td>
</tr>
<tr>
<td>Shopping efficiency rating</td>
<td>6.56</td>
<td>1.83</td>
<td>7.00</td>
</tr>
<tr>
<td>Task success rating</td>
<td>7.27</td>
<td>1.81</td>
<td>8.00</td>
</tr>
</tbody>
</table>

Note: only shopping efficiency rating (controls) was normally distributed. All other variables were non-normally distributed.
The scores for these three variables were also analysed for group differences (see Table 9). Please note that the adjusted Bonferonni \( p \) value used was .017.

### Table 9: Level of significance and effect sizes across the three contrasts for the remaining MET-SV variables

<table>
<thead>
<tr>
<th></th>
<th>Controls vs. ABI</th>
<th>Controls vs. malingerers</th>
<th>ABI vs. malingerers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Requests for help</td>
<td>( p&lt;.001 (r = .4) )</td>
<td>ns</td>
<td>( p&lt;.001 (r = .3) )</td>
</tr>
<tr>
<td>Shopping efficiency rating</td>
<td>ns</td>
<td>( p&lt;.001 (r = .4) )</td>
<td>( p&lt;.001 (r = .4) )</td>
</tr>
<tr>
<td>Task success rating</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
</tr>
</tbody>
</table>

As can be seen on table 9, both the controls and the simulating malingerers made significantly fewer requests for help during the MET-SV than the brain injured individuals. With regard to the shopping efficiency ratings, the malingering group rated themselves significantly lower than the control and ABI groups. Figures 5 and 6 further illustrate these findings.
Figure 5: Median shopping efficiency and task success ratings across groups

Figure 6: Median number of requests for help by group
Section D: Classification accuracy statistics

Logistic regression

Logistic regression was performed to assess which of the MET-SV variables best predicted group membership between the ABI and simulated malingerers (see Table 10). All seven MET-SV variables were entered into the model: rule breaks, task failures, inefficiencies, interpretation failures, self-rating of shopping efficiency, self-rating of success with task and number of requests for help. The resulting model explained a significant amount of the variation in group membership $\chi^2 (7, N=97) = 44.48, p < .001$. As shown in Table 10, three variables (task failures, shopping efficiency rating and requests for help) made a significant contribution to the model at the $p \leq .01$ level. The strongest predictor of group membership was the number of requests for help made by participants, recording an odds ratio of .73. This indicated that for every additional request for help the odds of a participant being a malingerer were reduced by a factor of .73, controlling for all the other factors in the model.
Table 10: Logistic regression predicting likelihood of being a simulated malingerer

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>S.E.</th>
<th>Wald</th>
<th>df</th>
<th>Sig.</th>
<th>Odds ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rule Breaks</td>
<td>.05</td>
<td>.04</td>
<td>1.14</td>
<td>1</td>
<td>.29</td>
<td>1.05</td>
</tr>
<tr>
<td>Task Failures</td>
<td>-.14</td>
<td>.05</td>
<td>7.39</td>
<td>1</td>
<td>.01</td>
<td>.87</td>
</tr>
<tr>
<td>Inefficiencies</td>
<td>.22</td>
<td>.13</td>
<td>3.02</td>
<td>1</td>
<td>.08</td>
<td>1.24</td>
</tr>
<tr>
<td>Interpretation</td>
<td>.48</td>
<td>.29</td>
<td>2.81</td>
<td>1</td>
<td>.09</td>
<td>1.62</td>
</tr>
<tr>
<td>Shopping efficiency</td>
<td>-.34</td>
<td>.13</td>
<td>7.19</td>
<td>1</td>
<td>.01</td>
<td>.71</td>
</tr>
<tr>
<td>Task success</td>
<td>.10</td>
<td>.11</td>
<td>.77</td>
<td>1</td>
<td>.38</td>
<td>1.10</td>
</tr>
<tr>
<td>Requests for help</td>
<td>-.31</td>
<td>.09</td>
<td>11.90</td>
<td>1</td>
<td>.00</td>
<td>.73</td>
</tr>
<tr>
<td>Constant</td>
<td>2.73</td>
<td>1.15</td>
<td>5.64</td>
<td>1</td>
<td>.02</td>
<td>15.38</td>
</tr>
</tbody>
</table>

The logistic regression model is based on a mathematical equation which utilises the regression coefficients ($B$ values reported in Table 10) to calculate the probability that an individual is or is not malingering on the MET-SV. The equation results in a probability score ranging from zero to one and the default probability cut-off is 0.5. Therefore, participants with probability values at or below the 0.5 cut-off are considered not to be malingering and those with a probability above the cut-off are classed as being a malingerer. Using a default cut-off of 0.5 to classify participants based on the predicted values from the model, 79.2 per cent of participants were correctly classified. Specifically, the model classified 35 out of 46 malingerers correctly\(^\text{11}\) (sensitivity 76.1 percent) and 41 out of 50 ABI patients correctly (specificity 82 percent). Please refer to table 11.

\(^{11}\) Due to missing data on one of the seven variables, one simulating malingerer was not included in the logistic regression analysis.
Table 11: Classification accuracy of the logistic regression model

<table>
<thead>
<tr>
<th>Participants' 'true' group</th>
<th>ABI</th>
<th>Simulating Malingerers</th>
<th>Percentage Correct</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABI</td>
<td>41</td>
<td>9</td>
<td>82.0% (41/50)</td>
</tr>
<tr>
<td>Malinglerer</td>
<td>11</td>
<td>35</td>
<td>76.1% (35/46)</td>
</tr>
<tr>
<td></td>
<td>78.8%</td>
<td>79.5%</td>
<td>79.2% (76/96)</td>
</tr>
</tbody>
</table>

Given that rule breaks and task success rating were clearly not making a significant contribution to the model, these two variables were removed from the model and a new logistic regression was created containing only the five remaining variables (see Table 12).

Table 12: Optimal logistic regression model

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>S.E.</th>
<th>Wald</th>
<th>df</th>
<th>Sig.</th>
<th>Odds ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Task failures</td>
<td>-.12</td>
<td>.05</td>
<td>6.79</td>
<td>1</td>
<td>.01</td>
<td>.89</td>
</tr>
<tr>
<td>Inefficiencies</td>
<td>.25</td>
<td>.13</td>
<td>3.80</td>
<td>1</td>
<td>.05</td>
<td>1.28</td>
</tr>
<tr>
<td>Interpretation failures</td>
<td>.61</td>
<td>.27</td>
<td>5.07</td>
<td>1</td>
<td>.02</td>
<td>1.84</td>
</tr>
<tr>
<td>Requests for help</td>
<td>-.28</td>
<td>.09</td>
<td>10.62</td>
<td>1</td>
<td>.00</td>
<td>.76</td>
</tr>
<tr>
<td>Shopping efficiency rating</td>
<td>-.28</td>
<td>.11</td>
<td>6.00</td>
<td>1</td>
<td>.01</td>
<td>.76</td>
</tr>
<tr>
<td>Constant</td>
<td>2.88</td>
<td>1.04</td>
<td>7.59</td>
<td>1</td>
<td>.01</td>
<td>17.78</td>
</tr>
</tbody>
</table>
The removal of rule breaks and task success rating resulted in the remaining five variables making a significant contribution at the $p \leq 0.05$ level. The classification accuracy of the new regression model can be seen in Table 13. The overall accuracy of the model remained fairly similar, changing only from 79.2 per cent in the first model to 79.4 per cent in the current model. Therefore, the new logistic regression model containing five MET-SV variables is more parsimonious without compromising the overall classification accuracy.

Table 13: Classification accuracy of the optimal logistic regression model

<table>
<thead>
<tr>
<th>Participants' 'true' group</th>
<th>ABI</th>
<th>Malingerer</th>
<th>Percentage Correct</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABI</td>
<td>42</td>
<td>8</td>
<td>84.0% (42/50)</td>
</tr>
<tr>
<td>Malingerer</td>
<td>12</td>
<td>35</td>
<td>74.5% (35/47)</td>
</tr>
</tbody>
</table>

77.8% 81.4% 79.2% (76/97)

Negative  Positive  Overall
predicted  predicted  percentage  correct

Receiver Operating Characteristic (ROC)

The area under the ROC curve, which ranges from zero to one, was also calculated to assess the model's level of discrimination. The greater the area under the curve (AUC), the greater the overall diagnostic power of the model. An AUC score of 0.5 has no discriminatory power (no better than chance) and values greater than 0.5 reflect increasing levels of discriminatory power. All AUC of 0.7 to <0.8 are classed as acceptable, 0.8 to <0.9 are classed as excellent and values $\geq 0.9$ are considered to be outstanding (Hosmer & Lemeshow, 2000).
ROC analysis was carried out using all the possible predicted values from the logistic model (Figure 7). The ROC curve is a plot of true positive rates (sensitivity) against false positive rates (the complement of specificity rates). The AUC based on probability values resulting from the final logistic regression model reported earlier is 0.87 (p < .001, 95% Confidence Interval .80 to .94) indicating excellent discrimination (Hosmer & Lemeshow, 2000). A score of 0.87 indicates that in almost 88 per cent of all possible pairs of participants in which one is a simulating malingerer and one is a genuine ABI patient, the logistic regression model will assign a higher probability of being a malingerer to the correct case than to an incorrect case.

Figure 7: ROC curve graph for logistic regression model

As explained earlier, the logistic regression equation has a default probability cut-off of 0.5. Therefore, participants with probability values at or below the 0.5 cut-off are considered by the model not to be malingering and those with a probability above the cut-off are classed
by the model as being malingerers. In most tests of effort, high specificity rates, around the 90 per cent mark, are desirable in order to minimise the occurrence of false-positive errors (i.e. misdiagnosing a genuine non-malingering brain injury individual as being a malingerer) (Larrabee & Berry, 2007). However, the consequence of choosing a cut-off that produces high specificity is that sensitivity becomes lower. In order to reach a specificity of 90 percent, the various coordinates of the ROC curve were inspected (Table 14).

Table 14: Co-ordinates of the ROC curve

<table>
<thead>
<tr>
<th>Logistic regression probability cut-off value</th>
<th>Sensitivity</th>
<th>1 – Specificity (false positive rate)</th>
</tr>
</thead>
<tbody>
<tr>
<td>.502</td>
<td>.745</td>
<td>.160</td>
</tr>
<tr>
<td>.520</td>
<td>.745</td>
<td>.140</td>
</tr>
<tr>
<td>.551</td>
<td>.723</td>
<td>.140</td>
</tr>
<tr>
<td>.571</td>
<td>.702</td>
<td>.140</td>
</tr>
<tr>
<td>.580</td>
<td>.681</td>
<td>.140</td>
</tr>
<tr>
<td>.591</td>
<td>.681</td>
<td>.120</td>
</tr>
<tr>
<td>.598</td>
<td>.681</td>
<td>.100</td>
</tr>
<tr>
<td>.600</td>
<td>.660</td>
<td>.100</td>
</tr>
<tr>
<td>.620</td>
<td>.660</td>
<td>.080</td>
</tr>
<tr>
<td>.655</td>
<td>.638</td>
<td>.080</td>
</tr>
</tbody>
</table>

Note: Extreme values for the curve were omitted for the sake of clarity

As can be seen in the above Table, a probability cut-off score of 0.598 produces a false positive rate of 10 per cent (1-specificity) and a sensitivity of 68.1 per cent (the original default 0.5 cut-off produced a false positive rate of 16 percent). This indicates that at a probability score of 0.598, 68.1 per cent of malingerers would be correctly identified by the model and only 10 per cent of genuine ABI individuals would be misclassified as malingerers.
Major Research Project – Results

Section E – Qualitative information

Simulating malingerers made unique errors not previously seen in either the control or ABI groups (see Table 15). A total of 30 unique simulating malingering errors, across the four possible error categories, were noted. These unique errors were classified using the scoring system of Alderman et al. (2003). Please refer again to Table 2 for a definition of the different error classifications.

Table 15: Unique simulating malingerers’ errors on the MET-SV

<table>
<thead>
<tr>
<th>Task failures</th>
<th>N</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recorded incorrect newspaper headline</td>
<td>11</td>
<td>23%</td>
</tr>
<tr>
<td>Purchased fabric strip instead of plasters</td>
<td>6</td>
<td>13%</td>
</tr>
<tr>
<td>Wrote down ‘Tesco’ for the number of shops selling televisions</td>
<td>4</td>
<td>9%</td>
</tr>
<tr>
<td>Purchased other confectionary items (e.g. biscuits, cookies, mints, box of chocolate) instead of chocolate bar</td>
<td>4</td>
<td>9%</td>
</tr>
<tr>
<td>Purchased teacake instead of small brown loaf</td>
<td>1</td>
<td>2%</td>
</tr>
<tr>
<td>Recorded price of potatoes instead of tomatoes</td>
<td>1</td>
<td>2%</td>
</tr>
<tr>
<td>Wrote down ‘lots/none’ for number of shops selling televisions</td>
<td>1</td>
<td>2%</td>
</tr>
</tbody>
</table>

Rule breaks – actual and social

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rushed excessively</td>
<td>5</td>
<td>11%</td>
</tr>
<tr>
<td>Agreed to a three minute nail product demonstration</td>
<td>1</td>
<td>2%</td>
</tr>
<tr>
<td>Gawped at members of the public</td>
<td>1</td>
<td>2%</td>
</tr>
<tr>
<td>Sat on shopping centre floor</td>
<td>1</td>
<td>2%</td>
</tr>
<tr>
<td>Overtly invaded member of the public’s personal space</td>
<td>1</td>
<td>2%</td>
</tr>
<tr>
<td>Left superstore through ‘no exit’ barrier</td>
<td>1</td>
<td>2%</td>
</tr>
<tr>
<td>Placed unpaid item inside bag</td>
<td>1</td>
<td>2%</td>
</tr>
<tr>
<td>Asked shop staff a maths question and left without waiting for the</td>
<td>1</td>
<td>2%</td>
</tr>
</tbody>
</table>
Major Research Project – Results

answer
Threw unpaid for food item into an open freezer  1  2%

Inefficiencies
Purchased required item twice in separate shops  10  21%
Walked away from till leaving purchase or change behind  3  6%
Left till queue to obtain another items or obtain a piece of information  3  6%
Weighed tomatoes to establish price  2  4%
Left bag in shop  1  2%
Dropped money on the floor and walked away  1  2%
Selected wrong envelope for birthday card  1  2%
Recorded several prices of tomatoes  1  2%
Recorded newspaper headline and sub headline  1  2%

Interpretation failures
Believed necessary to finish task under clock  2  4%
Recorded two library closing times  2  4%
Wrote down opening time of the library instead of closing time  1  2%
Recorded number of TVs for sale instead of number of shops selling TVs  1  2%

Simulating malingerers were asked at the end of the task which strategies they had used to feign cognitive deficits on the MET-SV. A table summarising this information is presented below. As can be seen in Table 16, the information provided by participants can be grouped into two categories: feigned symptoms of brain injury and specific task-related feigning strategies.
Table 16: Simulating malingerers’ feigning strategies

<table>
<thead>
<tr>
<th>Feigned symptoms of brain injury</th>
<th>Frequency in simulating malingering sample (N=47)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distractibility/poor concentration</td>
<td>17 (36%)</td>
</tr>
<tr>
<td>Memory difficulties</td>
<td>16 (34%)</td>
</tr>
<tr>
<td>Impulsivity</td>
<td>13 (28%)</td>
</tr>
<tr>
<td>Disorientation/confusion</td>
<td>13 (28%)</td>
</tr>
<tr>
<td>Poor planning/organisational abilities</td>
<td>12 (26%)</td>
</tr>
<tr>
<td>Slowness</td>
<td>10 (21%)</td>
</tr>
<tr>
<td>Poor social skills/disinhibition</td>
<td>6 (13%)</td>
</tr>
<tr>
<td>Poor decision-making</td>
<td>6 (13%)</td>
</tr>
<tr>
<td>Tiredness</td>
<td>6 (13%)</td>
</tr>
<tr>
<td>Concrete thinking</td>
<td>4 (9%)</td>
</tr>
<tr>
<td>Asking for help/accepting help</td>
<td>4 (9%)</td>
</tr>
<tr>
<td>Poor multitasking</td>
<td>4 (9%)</td>
</tr>
<tr>
<td>Poor self-monitoring/perseveration</td>
<td>3 (6%)</td>
</tr>
<tr>
<td>Emotionality/annoyance</td>
<td>3 (6%)</td>
</tr>
<tr>
<td>Visual difficulties</td>
<td>1 (2%)</td>
</tr>
<tr>
<td>Catastrophic thinking</td>
<td>1 (2%)</td>
</tr>
<tr>
<td>Poor motivation</td>
<td>1 (2%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Specific task-related feigning strategies</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Spoiling tasks</td>
<td>31 (70%)</td>
</tr>
<tr>
<td>Breaking rules</td>
<td>26 (55%)</td>
</tr>
<tr>
<td>Not monitoring time</td>
<td>15 (32%)</td>
</tr>
<tr>
<td>Not monitoring money</td>
<td>15 (32%)</td>
</tr>
<tr>
<td>Trying to malinger subtly</td>
<td>10 (21%)</td>
</tr>
<tr>
<td>Not completing tasks</td>
<td>10 (21%)</td>
</tr>
<tr>
<td>Ignoring environmental cues (e.g. signs)</td>
<td>6 (13%)</td>
</tr>
<tr>
<td>Using inefficient strategies</td>
<td>4 (9%)</td>
</tr>
</tbody>
</table>
Discussion

Several ‘free-standing’ measures of effort are currently available to help clinicians detect feigned or exaggerated cognitive impairment. However, given the evidence that some solicitors may coach their clients (Essig et al., 2001) and the availability of information on the internet that compromises test security (Bauer & McCaffrey, 2006), the utility of standard measures of effort may be seriously compromised. It is therefore crucial that research continues ‘to develop novel and creative methods for capturing suspect effort and non-credible symptoms’ (Boone & Lu, 2007, p.40).

Most tests developed with the specific aim of detecting insufficient effort have focused on feigned memory impairment. However, malingerers may feign cognitive deficits in areas other than memory functioning. Indeed, Greve and Bianchini (2007) argue that one area that malingerers may wish to appear impaired is executive functioning. Executive functioning difficulties can lead to serious functional disability. In litigation contexts, where greater disability equals greater financial compensation, executive functioning difficulties are thus likely to attract significant ‘pay-outs’ (Greve and Bianchini, 2007). Most research relating to the detection of feigned dysexecutive functioning has focused on the WCST, but due to the limitations associated with the WCST formulae there is still a clear need to develop new and valid methods of assessing feigned executive functioning impairment. The current study was unique in that it evaluated the utility of an ecologically-valid test of executive functioning in the assessment of feigned cognitive deficits. As far as the author knows, no other study has taken the assessment of feigned cognitive impairment outside the laboratory or clinical room.
Research has indicated that malingerers may choose not to mangle on all tests. For instance, Greve et al. (2002) reported that a third of their ‘probable’ malingerers performed validly on the WCST. It has been suggested that whether someone mangles on a particular test depends on their beliefs about the effects of brain injury on cognition and what the individual thinks the test measures (Greve et al., 2009). Because the MET-SV is a real-life shopping task, one could reasonably argue that malingerers may be tempted to feign cognitive symptoms on this test to ‘demonstrate’ how their alleged cognitive difficulties have affected their everyday life. For this reason, the MET-SV might possibly avoid the issue of what the potential malingerer thinks the test actually measures. Furthermore, the MET-SV is a complex task in that even controls normally make some errors (i.e. it does not suffer from floor effects). Malingerers may reasonably expect that someone with a brain injury would demonstrate difficulties on the MET-SV, therefore raising the probability that potential malingerers would be motivated to feign difficulties on this test.

Quantitative differences in MET-SV performance

Based on the general malingering literature, it was predicted that simulating malingerers would perform worse on the MET-SV than the ABI individuals. However, this hypothesis was not confirmed; simulating malingerers were successful in replicating a similar level of impairment on the MET-SV compared to the brain injury group. This is evidenced by the fact that there were no significant differences between simulating malingerers and brain injury individuals with regard to the total number of errors made on the MET-SV. Indeed, both groups had a median total error score of 19. Using the cut-off of 12 total errors or more, as proposed by Alderman et al. (2003), 82 per cent of brain injured individuals’ and 81 per cent of simulators’ scored in the clinical range.
Rogers (2007) broadly divides malingering detection strategies into unlikely presentations and excessive impairment. Excessive impairment refers to a level of impairment which is significantly lower than expected from genuine brain injured individuals. Several studies have reported that simulated malingerers and 'probable malingerers' often overestimate the magnitude of deficits arising from brain injury and consequently feign test performances which are more severe than those obtained from actual patients (e.g. van Gorp et al., 1999). However, this general pattern of malingerers 'aiming too low' was not replicated in the current study. Indeed only two simulators, representing 4 per cent of the simulating malingerers, exceeded the highest score observed in the brain injury group. The simulating participants were professionals working in brain injury rehabilitation. Their specialised knowledge may account for the difference between the findings of the current study and the general malingering research. Thus the present findings suggest that individuals who are well informed about the nature and impact of brain injury may be able to replicate a realistic degree of cognitive impairment on neuropsychological tests.

Most simulation studies have relied on participants who are naive about the deficits likely to result from head injury, such as college students. The simulating malingering sample used in the current study was unique because of its professional experience of brain injury. Furthermore, the results of the NART revealed that, as a whole, the sample was of higher intellectual ability than the control group (the sample included mainly 'qualified' members of staff educated to degree level). One could argue that, in real life, sophisticated malingerers will be those individuals who are intelligent and confident in their ability to deceive a highly trained neuropsychologist. Rogers (1997) suggested that a key factor that influences the potential malingering's decision to feign or exaggerate deficits is the individual's confidence in being able to avoid detection.
Research has generally paid little attention to what individual variables impact on the ability to feign credible cognitive difficulties. One important question is whether highly educated and intelligent individuals make better malingerers (Schwartz et al., 1998). Schwartz et al. (1998) investigated this issue and reported that although simulating malingerers as whole over-exaggerated cognitive deficits beyond a realistic level, the performance of the highly educated simulators was significantly better than that of the moderately educated simulators. The authors suggested that this finding provides tentative support for the idea that better-educated individuals may be better able to credibly portray cognitive difficulties in neuropsychological measures.

Few studies have recruited simulating malingerers who are professionals in the field of brain injury. One exception was a study carried out by Haywood et al. (1987) who recruited study nurses working in brain injury to simulate cognitive deficits during neuropsychological testing. However, the results indicated that professional knowledge was of no benefit since the nurses had a more impaired testing performance that did the patients they working with. Erdal (2004) suggested that knowledge of neuropsychology may not be sufficient, or even desirable, when attempting to feign cognitive deficits. She argued that professionals working in brain injury may actually know too much: 'they may draw from salient experiences with moderate-severely brain injured patients' behaviour and neuropsychological test performance when asked to duplicate head-injured behaviour, consequently exaggerating their portrayal of the impact of a head injury' (Erdal, 2004, p.76).
Despite the findings of previous research indicating that professional knowledge does not aid successful feigning (Haywood et al., 1987) and the existence of only tentative support for the idea that education may improve successful feigning (Schwartz et al., 1998), the professional simulators who took part in the current study were able to perform at a level that resembled the brain-injury sample. Due to the limited research available, it is not possible to ascertain whether simulators' realistic performance was due to their general good level of education or specialised professional knowledge, or an interaction of both. A further possibility is that the nature of the ABI sample used in this study facilitated the successful performance of malingerers. The patient sample used in this study was mainly composed of individuals with severe head-injuries. This is likely to have raised the threshold of impairment on the MET-SV, therefore making it less likely that simulators would demonstrate a level of impairment greater than that of the ABI group.

Although simulating malingerers replicated a realistic level of impairment in their total MET-SV score, the results indicated significant differences between the two groups in some of the MET-SV sub-variables. For instance, the simulating malingerers committed significantly more inefficiencies and interpretation failures than the two other groups. Therefore, although simulators produced a realistic number of total errors on the MET-SV, they inflated their inefficiencies and interpretation failures beyond a level consistent with genuine cognitive impairment. As such simulating malingerers had a wider spread of error types compared to the brain injury sample. Whilst only 6 per cent of the brain injured made errors across the four possible error categories (task failures, rule breaks, inefficiencies and interpretation failures), 34 per cent of simulators did so. The most common pattern for the ABI group was to make errors which fell into two error categories; however the most common pattern for the simulating
malingerers was to make errors across three different error categories. Therefore, the second hypothesis of the study, predicting a different pattern of performance between simulated malingerers and ABI patients was confirmed.

The reason why ABI individuals and controls generally commit few inefficiencies and interpretation failures relates to the structure and design of the MET-SV. In the process of developing a simplified version of the MET for use in general clinical practice, Alderman et al. (2003) made three key changes to the original MET: (1) provision of more concrete rules to enhance task clarity, (2) simplification of task demands, and (3) the provision of an exercise sheet explicitly requesting participants to record information. In simplifying the MET in this manner, Alderman et al. (2003) noted that both controls and brain injured participants made infrequent interpretation failures and inefficiencies. Therefore, higher rates of inefficiencies and interpretation failures, and consequently a wider spread of errors across the error categories, represent an atypical pattern of performance on the MET-SV suggestive of non-credible impairment.

During the administration of the tests, the examiner records the number of times participants request help, either from a member of staff or a member of the public. Although seeking help was common amongst controls, with over half of controls doing so, this strategy was far more common amongst brain injured individuals, who made on average nearly five times more requests for help than controls. An interesting finding was that simulators failed to replicate this pattern of help seeking during the MET-SV. Indeed, only 4 per cent of simulating malingerers identified asking for and/or accepting help as a malingering strategy. Consequently, the number of requests for help made by
simulators was more similar to the controls than it was to the brain injured individuals.

Another significant difference between simulating malingerers and brain injury individuals relates to their subjective rating of shopping efficiency. When asked how highly they would rate their shopping efficiency, controls and individuals with brain injury did not differ from one another (both groups had a median score of 7 with ‘0’ being ‘hopeless’ and ‘10’ being ‘excellent’). However, the median rating for the simulating malingerers was ‘4’. Given that the brain injury group performed significantly worse on the MET-SV than controls, their high rating of shopping efficiency is likely to reflect a lack of insight regarding their level of ability. However, simulators did not account for the fact that someone with a brain injury may lack insight and consequently rated as being significantly less efficient in their shopping abilities compared to the brain injured individuals.

Qualitative differences in MET-SV performance

The last hypothesis predicted that simulating malingerers would demonstrate a qualitatively different pattern of performance compared to the ABI participants. Schwartz et al. (1998) stated that qualitative information regarding the performance of malingerers can be useful in distinguishing their performance from that of genuine brain injured individuals, although these factors can be difficult to quantify. A qualitative analysis of the errors produced by the simulating malingerers indicated that they made a total of 30 new errors not previously observed in either the control or brain injured groups. These new errors were spread across all four error categories. For instance, 23 per cent of simulating malingerers recorded the incorrect newspaper headline. Brain injured individuals either completed the task correctly, or
partially wrote the correct headline or did not complete the task at all. Importantly, none of the ABI participants recorded an incorrect newspaper headline. Some of the unique simulating malingering errors involved spoiling the task in a way that it constituted a 'near-miss'. For instance, 13 per cent of simulating malingerers purchased fabric strip instead of plasters, 9 per cent wrote down 'Tesco' for the number of shops selling televisions and 9 per cent purchased other confectionary items instead of the required bar of chocolate. This pattern of feigning bears a resemblance to Ganser's syndrome. This syndrome is more commonly associated with psychological factitious disorders and it involves giving approximate answers to simple questions (Ford, 2004). For instance, when asked to add 'two plus two', a patient with Ganser syndrome may answer 'three' or 'five' (Merckelbach et al., 2006). Perhaps this near-miss malingering strategy on the MET-SV was due to simulating malingerers wish not to appear too obvious as they were warned against this in the malingering instructions.

From a clinical point of view, observing these errors in individuals claiming to have cognitive difficulties may raise concerns about suboptimal effort. However, these new errors do not have diagnostic power and can only be interpreted qualitatively. This is due to the fact that research has not identified an exhaustive list of all the possible errors on the MET-SV associated with genuine brain injury. Indeed it remains possible that a larger or different brain injured sample from the one reported by Alderman et al. (2003) may produce the errors which are reported here as being characteristic of malingering. Further research would be needed to clarify this issue. Therefore clinicians will have to exercise caution when drawing conclusions regarding suboptimal effort based on these new errors alone.
At the end of the task, simulating malingerers were asked what strategies they had used to feign cognitive impairments on the MET-SV. Participants' responses could be divided into two overall categories: feigned brain injury symptoms and task-related feigning strategies. Participants mostly reported a mix of both types of strategies but the most commonly endorsed feigning strategies were task-related. Specifically, 70 per cent of malingerers reported that they purposefully spoiled some of the MET-SV tasks (e.g. recording answers) and 55 per cent reported that they purposively broke test rules. In essence, malingerers appeared clear about what they had to do to spoil their performance: fail some tasks and break some rules. The most common feigned symptoms were distractibility and memory difficulties, endorsed by 36 per cent and 34 per cent of participants respectively. Iverson (1995) also collected test-taking strategies which included ‘poor co-operation, aggravation and frustration, slow response times and frequent hesitations, and general confusion’ (p.37), which is not too dissimilar from some of the feigned head-injury symptoms endorsed by the simulating malingerers in this study. Collecting this information was not only useful in terms of ensuring participants had complied with the malingering instructions but it also adds insight into how malingerers went about feigning deficits on the MET-SV.

The diagnostic validity of the MET-SV

Although theoretically interesting, differences in group medians tells us little about the diagnostic validity of the MET-SV. Diagnostic validity is the test’s ability to differentiate participants with and without the condition of interest, in this case malingering. A logistic regression was carried out in order to determine which variables could reliably distinguish the two groups. The optimal model, containing five out of the seven MET-SV variables (task failures, inefficiencies, interpretation failures, requests for help and shopping efficiency rating), was able to
correctly classify 79.4 per cent of brain injured and simulating malingering participants. According to the model, the probability of being a simulating malingerer increases with fewer task failures, greater number of inefficiencies, greater number of interpretation failures, fewer requests for help and lower rating of shopping efficiency. Using the default probability cut-off of 0.5, the logistic regression model assigns a positive score (indicating the presence of malingering) to 74.5 per cent of simulating malingerers and a negative a negative score (indicating the absence of malingering) to 84 per cent of brain injured individuals. The model produced a false positive rate of 16 percent.

One of the main considerations in malingering diagnostic research is to minimise the false-positive rate of a test or indicator, even if the trade-off is lower sensitivity to malingering. It can be argued that it is ethically more desirable for a test to miss a malingerer (false negative error) than to misclassify a brain injury person applying full effort as being a malingerer (false positive error). Donders (1999) suggests that a malingering formula that produces a false positive rate of 10 per cent has clinical utility. In order to achieve this requirement, the probability cut-off score for the logistic regression model was raised to 0.598. At this value, the logistic regression produces a false positive rate of 10 per cent and a sensitivity of 68.1 percent.

The landmark study of Heaton et al. (1978) demonstrated that experienced clinicians could not reliably distinguish between simulating malingerers and patients with severe brain injuries by analysing the participants’ scores on standard neuropsychological batteries. However, discriminant function analysis, a statistical technique similar to logistic regression, was able to reliably identify simulating malingerers from the genuine TBI patients. The results of the study
carried out by Heaton et al. (1978) indicated that (a) clinicians cannot reliably detect malingering from examining test results alone and (b) statistical formulae can help to identify atypical response patterns that deviate from the performance patterns characteristic of genuine brain injury. The results of the current study also support this finding. Based on the MET-SV score alone, it would be very difficult for clinicians to distinguish between simulating malingerers and TBI individuals given that both groups obtained similar total error scores. However, a logistic regression applied to the data produced a predictive model of simulating malingering that correctly classified 79.4 per cent of participants across the two groups.

Clinical implications

The logistic regression model produced in the current study can be used in clinical and forensic practice to help clinicians determine whether their patients’ performance on the MET-SV is more representative of the brain injured group or the simulating malingering group. This would involve the following steps:

a) Multiplying the client’s score by their respective regression coefficient (reported in Table 12) and adding these together:

\[ (B_{\text{task failures}} \times \text{patient score}) + (B_{\text{inefficiencies}} \times \text{patient score}) + (B_{\text{interpretation failures}} \times \text{patient score}) + (B_{\text{requests for help}} \times \text{patient score}) + (B_{\text{shopping efficiency rating}} \times \text{patient score}) \]

b) Adding the above score to the constant coefficient (found in Table 12) to achieve the linear composite (or logit);
c) The linear composite (or logit) is then exponentiated in the following way in order to yield the probability that an individual may be applying suboptimal effort:

$$\frac{e^{\text{logit}}}{1 + e^{\text{logit}}}$$

Probability (malingering) = $\frac{e^{\text{logit}}}{1 + e^{\text{logit}}}$

The $e$ in the above formula represents the mathematical constant $e$ and has a value of 2.719 (Millis, 2008). The formula results in a probability score ranging from 0 to 1. The score is then multiplied by 100 in order to obtain the percentage probability that an individual is applying suboptimal effort. Arguably, the above mathematical process could deter some clinicians from using the findings of the present study in their clinical practice or in future research. One way of circumventing this difficulty would be to create a spreadsheet containing the formula that would allow clinicians to calculate their client's probability of malingering by simply entering the patient's scores into the designated cells.

Millis (2008) argues that one of the key advantages of using logistic regression models to identify suboptimal effort is that it frees the clinician from all or nothing thinking. Rather than yielding dichotomous judgements regarding the participant's level of effort (i.e. normal effort versus suboptimal effort), logistic regression models generate a probability of suboptimal effort. The information resulting from logistic regression models is richer and more informative. As pointed out by Millis (2008) a probability of 51 per cent will have a different weight than a probability of 91 percent. In addition, Millis (2008) notes that logistic regression models give the clinician the flexibility to raise or lower the probability threshold of malingering depending on associated consequences of making a false positive versus a false negative error. Millis (2008) also states that multivariable effort composites derived
from standard neuropsychological tests, such as the one produced in the current study, may be more resistant to coaching. It could be argued that it is easier for a potential malingering to be coached on how to evade detection on a symptom validity test than a multi-variable effort composite. Therefore, multivariable effort indices are less sensitive to some of the key limitations associated with SVTs, such as transparency and greater vulnerability to coaching. However, the fact that the MET-SV takes approximately 45 minutes to administer, costs potentially up to ten pounds per participant and requires the examiner to travel to a shopping centre with the examinee may deter some neuropsychologists from using this measure more regularly.

Critical evaluation

As mentioned earlier, malingering research can be divided into two broad strands: simulation studies and known-group studies. The simulation design relies on neurologically healthy individuals feigning cognitive impairment, whilst the known-groups design uses ‘real-life’ clinical patients, typically from forensic contexts, who have been deemed to be probable malingerers. Probable malingerers are typically diagnosed using multiple criteria, such as neuropsychological and personality testing, clinical presentation, and history (Demakis, 2004). The Slick et al. (1999) criterion has also been widely used to diagnose malingering in known-group studies. However, one can never be 100 per cent confident that individuals classed as ‘probable malingerers’ are indeed malingering, thus known-group designs may raise concerns about internal validity. On the other hand, since simulating malingerers may not be representative of real-life malingerers, simulation designs have been criticised for their potential poor external validity. For instance, simulating malingerers lack the substantive external reinforcements normally associated with real-life malingering. Simulation studies also suffer from the malingering-simulator paradox,
that is, ‘asking participants to comply with instructions to fake in order to study participants who fake when asked to comply’ (Roger & Cavanaugh, 1983, p.447). Therefore, issues of compliance with the examination process are reversed across simulators and clinical malingerers. Like the vast majority of malingering research, the current study is based on a simulating design. Therefore, the extent to which the results of the present study extend to real malingering cannot be ascertained.

Despite the above concerns, Demakis (2004) demonstrated that simulation designs may not necessarily lack external validity. In the study carried by Demakis (2004), malingering cut-offs, originally derived from known-group studies, for two standard neuropsychological batteries were applied to a sample of simulating malingerers. The results indicated that, compared to clinically-identified malingerers, the classification accuracies for the simulator participants were only slightly lower. Based on these findings, Demakis (2004) argued that ‘cut-offs derived from clinically-based comparisons are more ‘portable’ to experimental settings than commonly assumed’ (p.225). Demakis (2004) acknowledged that research still needs to establish whether this conclusion remains once the opposite direction is examined (i.e. whether cut-offs or indices derived from simulation studies are accurate when applied to clinical/forensic populations). However, a small study carried out by Mittenberg et al. (1995) produced some promising results with regard to this. In their study, malingering cut-offs derived from a simulator study were applied to six clinically-identified malingerers. All six malingerers were correctly classified using the malingering cut-offs. Taken together, the above studies indicate that simulating malingerers and real-life malingerers may feign deficits similarly on well-known standard neuropsychological tests (Demakis, 2004). A study carried out by Brennan and Gouvier (2006) also provided some support for the usefulness of simulator designs. In their
study, the performance of real-life suspect malingerers on three malingering tests (the TOMM, the Rey 15 Item Test and the Dot Counting Test) was compared to those of simulating malingerers. They reported that although simulating malingerers performed worse than suspect malingerers, this difference was not sufficient to influence the clinical interpretation of the test results (i.e. both groups would have been classified the same way in clinical practice).

Ideally research from both types of studies should be carried out in order fully establish the utility of a new cut-off or indices of malingering. However when this is not feasible, the alternative is to minimise the limitations of the design used. Rogers (1997) proposes several strategies for minimising the limitation of simulator designs. For instance, he recommends that examiners should carry out post-test checks on compliance of participants with their malingering instructions. This was carried out in the present study by debriefing the participants at the end of their performance and through enquiring about the strategy participants used to simulate malingering. Rogers (1997) also recommends that researchers should provide simulating malingerers with specific scenarios for believable feigning and with coaching information likely to be available to real-world malingerers. This was adhered to through the provision of a malingering scenario for participants, which included information regarding the common symptoms associated with brain injury and a warning to avoid obvious feigning of symptoms.

Due to financial constraints, the simulating malingerers were not given a financial incentive to take part in the current study. One of the key factors that differentiates simulating malingerers from real-life malingerers in the absence of a significant financial motivation to feign cognitive deficits. Rogers (1997) suggests that offering incentives for
successful feigning can make the experimental situation more comparable to real-world malingering. Therefore, this might be a key limitation of the current study. However, a study by Bernard (1990) indicated that offering simulating malingerers a large incentive to successfully fake deficits is of little benefit since the simulators who received financial incentive differed only slightly from those with no incentive.

Another limitation of the present study is that simulating malingerers were not given time to prepare or plan a malingering strategy. Tan et al. (2002) reported that when given at least a day to prepare, simulator students accessed a range of sources of information such as books and the internet. This is likely to reflect the type of research activity a potential malinger may also pursue. Indeed it is likely that motivated potential malingerers would invest a significant amount of time and effort researching how best to feign cognitive deficits. One factor that may lessen the impact of this limitation is that the sample used in the current study was already knowledgeable about brain injury and associated cognitive deficits. Furthermore, the malingering instructions given to simulating malingerers provided them with common symptoms and difficulties associated with brain injury. Importantly, the participants were instructed not to over-portray their difficulties and not to appear too obvious. This could be the most important piece of information that a motivated malingerer would need to know to successfully feign deficits given the common finding that malingerers often over-exaggerate symptoms.

As reported earlier, in order to avoid false positive results using the logistic regression model, the specificity was set at 90 percent. Setting specificity so high decreases sensitivity; at this higher specificity level the formula only identifies 68 per cent of malingerers, missing the
remaining 32 percent. A common difficulty in malingering detection research is that 'at cut-offs associated with high specificity but low sensitivity, tests of symptom validity are good at providing information that can rule in malingering but poor at providing information to rule it out' (Larrabee & Berry, 2007, p. 19). However, Larrabee and Berry (2007) argue that this general limitation of malingering research, which also applies to the current study, can be overcome by using multiple diagnostic indicators of suboptimal effort that are not highly correlated. Using multiple indicators increases sensitivity without significantly altering specificity (Larrabee, 2003). Boone (2007) argues that a diagnosis of non-credible performance should be based on several freestanding effort tests as well as on insufficient effort indices of standard cognitive tests. Specifically, he recommends that the criteria for definite non-credible performance should be based on failure of at least three effort measures or indices with minimal shared variance. Boone (2007) explains that if the false-positive rate of effort indices is set at 10 per cent and the tests are uncorrelated, then the chance of an individual having three abnormal scores by chance alone is one in 1,000. Therefore the MET-SV formula of suboptimal effort may have a contribution to make towards the assessment of suboptimal effort within the context of a multi-method and multi-test approach. Indeed, the current best practice is to administer several effort indices throughout the neuropsychological examination to continuously monitor effort (Bush et al., 2005). However, further research would have to determine whether the current formula is or is not correlated with other indices or tests of malingering.

Bianchini et al. (2001) urged that clinicians should exercise caution when applying formulae or indices of suboptimal effort that have been derived from simulating studies, like the present one. Larrabee (2007) states that although Bianchini et al.'s concern is a valid one, the problem arising from such formulae is likely to be one of false negative
identification (failing to identify true malingerers), rather than false positive identification. Therefore the likely limitation of formulae derived from simulation studies is that they might miss ‘real’ malingerers. However, because simulation studies include non-malingering TBI patients as a comparison group to rule out clinically valid patterns of performance, these formulae are less likely to misclassify genuine non-malingering brain injured patients as being malingerers. Larrabee (2007) concludes that simulators generally tend to overplay deficits, therefore a positive result in a simulator-derived formula yields confidence in non-credible performance but a negative result does not necessarily exclude the possibility of malingering. However, as the WCST literature has demonstrated, this conclusion only applies to TBI individuals who have the same characteristics as the sample from which the formula was derived from (e.g. Greve & Bianchini, 2002).

A further limitation of the study is that the examiner was not blind to the participants' status. Ideally the examiner should be blind to the examinee's status in order to replicate real-world clinical practice since clinicians generally do not know whether the individual they are testing is feigning cognitive deficits or not. However, this was not possible due to the design of the study (i.e. the examiner only collected data for the simulating malingerers). It would also have been more desirable to have equal proportion of males and females across the ABI and simulating malingerers and this is another possible limitation of the study. Finally, it might have useful to compare the utility of the MET-SV in the detection of suboptimal effort with a well-established measure of malingering, such as the TOMM. This would have given direct comparison information regarding the classification accuracies of both measures when using a sample of knowledgeable simulators.
Diversity

The results of the current study only extend to the population from which the samples were derived. The ABI sample used in the study was composed mainly of individuals with very severe head injuries. Often malingering may be observed in individuals who have experienced and recovered from a mild head injury, but who decide to perform during the neuropsychological assessment as if the deficits were still present (Rogers, 1997). Unfortunately, no firm conclusions can be made regarding the generalisability of the current findings to individuals claiming to have mild head injuries. Although less common, malingering has also been observed in patients with more severe head injuries, who deliberately attempt to appear more impaired while involved in litigation (Bianchini et al, 2003). The results of the current study are likely to be more reflective of these individuals.

In common with the majority of malingering research, the current study focused on adults of working age with genuine or feigned acquired brain injuries. The results of this study may not generalise to individuals where English is not their first-language or individuals from ethnic minority populations. Similarly malingering research has little to say about feigning in individuals with learning disabilities or in children. These are significant gaps in the malingering research that need to be addressed through future research.

Future research

The present study used performance pattern analysis to identify simulating malingering on the MET-SV using logistic regression. The aim of logistic regression is to differentiate the test scores performance profiles produced by neurologically healthy individuals instructed to
simulate malingering from those produced by genuine non-malingering ABI participants. At this stage we only know how good the proposed logistic regression model is in relation to the current sample. In order to establish the generalisability of these findings the current formula would have to be replicated in other research studies. Furthermore, the WCST literature demonstrated that malingerers can adopt different approaches to feigning. It is therefore possible that future studies might identify other patterns of feigned performance on the MET-SV.

Rogers (1997) recommends that research on a particular test or indicator of malingering should be validated using both simulating and known-group studies. As reported earlier simulation studies raise concerns about external validity. Future research comparing the performance of simulating malingerers with individuals suspected of malingering would provide an estimate of the generalisability of the current findings to forensic populations (Brennan & Gouvier, 2006).

Another possible avenue to further establish the validity of the current formula would be to carry out specificity-only studies. This would involve applying the current formula of the MET-SV to other groups of non-malingering brain injured patients. If the formula is valid and useful it should produce a false positive rate no higher than 10 percent. The patient sample used in the current study was constituted mainly of individuals with very severe brain injuries. Therefore it would be interesting to replicate the current study using individuals with less severe neurological conditions.

Finally, the simulating sample used in the current study was unique insofar as the members of the samples had a certain degree of professional knowledge relating to brain injury. It is unclear whether this
knowledge may have resulted in a more sophisticated malingering performance. It would be interesting to compare their malingering performance to less knowledgeable individuals to further clarify this issue.

Dissemination of findings

The results of the current study were presented at the Thirty Years of Neurobehavioural Rehabilitation Conference on the 9th June 2009 (Castiel, 2009). This paper will also be submitted in a condensed form to a neuropsychology peer reviewed journal for publication.

Final comments

The present study contributed to the body of research focused on identifying patterns of performance indicative of feigned cognitive impairment in standard neuropsychological measures. The need to identify indices of poor effort across all of the standard cognitive measures has been clearly articulated in the malingering literature (Sweet & Nelson, 2007). With the exception of the WCST, malingering research has largely ignored standard measures of executive functioning. The main aim of the present study was to investigate the utility of the MET-SV in the detection of feigned executive functioning impairment. A logistic regression model was able to correctly classify 79 per cent of simulating malingerers and ABI patients. Embedded measures, like the one developed in this study, will be important in allowing clinicians to adopt a multi-method, and multi-test, approach to the assessment of non-credible impairment (Larrabee, 2007). Additional research will be required to further validate the usefulness of the present model. Despite this, the researcher believes that the present study represents a worthy initial step in identifying non-credible performance in an ecologically-valid test of executive functioning.
References


Appendix 1: Participant Information Sheet

INFORMATION SHEET

An investigation of the Utility of the Simplified Version of the Multiple Errands Test in the Detection of Insufficient Effort

You may contact Marcia Castiel  MCastiel@surrey.ac.uk  Tel. number was provided

What is the purpose of the study?

There is growing evidence that there is an element of malingering in many cases where individuals are in litigation and claiming brain injury and there is a clear need to develop measures that allow clinicians to detect malingering and symptom exaggeration. I am carrying out this research to investigate the utility of the Multiple Errands Test (simplified version) to detect malingering.

What will be involved if you choose to take part in the study

If you agree to participate in this research, you will be asked to carry out a shopping test whilst pretending that you are claiming for compensation and exaggerating your symptoms. In addition, you will be asked to complete a short reading test. The tests are not unpleasant to perform. You will not be asked to do anything that causes you either pain or discomfort, or puts you at a risk greater than you would face in your everyday life. If you agree to help me, you will be seen once for about an hour.

What will happen to the information that you provide

The information collected will be kept under lock and key and treated with the usual degree of confidentiality under the data protection act, in other words the information will be used solely for the purposes of this research and will not be shared with outside agencies. If the research findings are eventually published, I will ensure that you remain anonymous by not revealing any details by which you may be identified.

Your rights as a participant

You should understand that you are under no obligation to take part in this research, no-one will mind if you chose not to take part, and you do not have to offer an explanation. Equally, you may withdraw from the study at any time you wish, and you may do so without justifying your decision.

If you have any further questions, please feel free to ask me.

Thank you, Marcia Castiel.
## Appendix 2: NART

### National Adult Reading Test (NART)

#### SECOND EDITION

**Answer/Record Sheet**

<table>
<thead>
<tr>
<th>Name:</th>
<th>Date of test:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Error</th>
<th>Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHORD</td>
<td>SUPERFLUOUS</td>
</tr>
<tr>
<td>AMEL</td>
<td>SIMPLE</td>
</tr>
<tr>
<td>BLOAT</td>
<td>SMILE</td>
</tr>
<tr>
<td>BROAD</td>
<td>BIBAL</td>
</tr>
<tr>
<td>CHORD</td>
<td>QUADRIPED</td>
</tr>
<tr>
<td>DEAN</td>
<td>CELLIST</td>
</tr>
<tr>
<td>PEAU</td>
<td>FACADE</td>
</tr>
<tr>
<td>ACID</td>
<td>ZEALOT</td>
</tr>
<tr>
<td>FARCH</td>
<td>DRAMM</td>
</tr>
<tr>
<td>NAUSEA</td>
<td>AEDON</td>
</tr>
<tr>
<td>CULT</td>
<td>PLACER</td>
</tr>
<tr>
<td>COURTESY</td>
<td>AGITATIOUS</td>
</tr>
<tr>
<td>RAIN</td>
<td>EXTEND</td>
</tr>
<tr>
<td>RUNDUCA</td>
<td>IDYL</td>
</tr>
<tr>
<td>NAME</td>
<td>PUBLER</td>
</tr>
<tr>
<td>CATACOMB</td>
<td>AVER</td>
</tr>
<tr>
<td>OAKY</td>
<td>CAUCHE</td>
</tr>
<tr>
<td>THYME</td>
<td>TOPIARY</td>
</tr>
<tr>
<td>HERI</td>
<td>LETHAN</td>
</tr>
<tr>
<td>RAGS</td>
<td>BEATIFY</td>
</tr>
<tr>
<td>ASSAINT</td>
<td>PRIMATE</td>
</tr>
<tr>
<td>AMOS</td>
<td>GODIDA</td>
</tr>
<tr>
<td>SCINT</td>
<td>CYNSE</td>
</tr>
<tr>
<td>PRODGEATE</td>
<td>SCOPE</td>
</tr>
<tr>
<td>SST</td>
<td>LABLE</td>
</tr>
<tr>
<td>DOUGE</td>
<td>CAMPAN</td>
</tr>
</tbody>
</table>

*Illegal photocopying is theft and may result in prosecution.*

229
CONSENT FORM

An investigation of the Utility of the Simplified Version of the Multiple Errands Test in the Detection of Insufficient Effort

Principle Investigator Marcia Castiel

This form should be read in conjunction with the Information Sheet, Dated.............

• I agree to take part in the above study as described in the Information Sheet.

• I understand that I am under no obligation to take part in this research, and that I may withdraw from the study at any time without having to justify my decision

• I have read the patient information leaflet on the above study and have had the opportunity to discuss the details with Marcia Castiel and to ask any questions or raise any concerns. The nature and purpose of the tests to be undertaken have been explained to me and I understand what will be required if I take part in the study.

Signature of participant ...............................Date ..........................
(Name in BLOCK LETTERS) ................................................

I confirm that I have explained the nature of the tests, as detailed in the Information Sheet, in terms which in my judgement have been understood by the participant.

Signature of Investigator ...............................Date ..........................
(Name in BLOCK LETTERS) ................................................
Appendix 4: Self-rating scales for the MET-SV

MULTIPLE ERRANDS TASK – RATINGS

Participant’s Number:____________________

Date of Assessment:____________________

Before leaving for the shopping centre obtain two ratings from the participant:

How efficient would you say you were with tasks like shopping?

1--------2------3-------4--------5-------6--------7--------8--------9--------10

Hopeless Excellent

How often do you visit the Weston Favell Shopping Centre?

0------------------1------------------2--------  3

Never Visited once Visit Visit Visited or twice occasionally regularly

On return to the unit obtain the following rating from the participant:

How well do you think you did with the shopping task?

1--------2------3-------4--------5-------6--------7--------8--------9--------10

Hopeless Excellent

How did you approach the task of malingering whilst completing the MET-SV? What strategies do you use? With hindsight would you have done anything differently?
EXERCISE SHEET

In this exercise you should complete the following three tasks:

1. You should buy the following items:
   - small brown loaf
   - bar of chocolate
   - packet of plasters
   - single light bulb
   - birthday card
   - key ring

2. You should obtain the following information and write it down in the spaces below:
   - What is the headline from either today's 'Daily Mail', 'Daily Mirror' or 'The Sun' newspaper?
   - What is the closing time of the library on Saturday?
   - What time is the price of 1 pound or kilogram of tomatoes?
   - How many shops sell televisions?

3. You must meet me under the clock 20 minutes after you have started the task and tell me the time.

Tell the person observing you when you have completed the exercise.

Whilst carrying out this exercise you must obey the following rules:

- You must carry out all these tasks but may do so in any order.
- You spend no more than £6.50.
- You should stay within the limits of the upper floor of the shopping centre.
- No shop should be entered other than to buy something.
- You should not go back to a shop you have already been in.
- You should not buy any items from the stalls.
- You should buy no more than 2 items in Tesco.
- Take as little time to complete the exercise as possible, but without rushing excessively.
- Do not speak to the person observing you unless this is part of the exercise.
Appendix 6: MET-SV Instructions

EXERCISE INSTRUCTIONS

This test makes use of the following items:

- Pen/pencil
- Instructions on a clipboard for the participant
- Carrier bag
- £10 pound note
- Assessor to have stopwatch, pad and pen to record observations of the participant

Ensure that the participant is wearing a watch before leaving to the shopping centre.

**Before leaving, obtain ratings for shopping efficiency and familiarity with the Weston Favell Shopping Centre (see separate sheet).**

**On completion of the test, obtain the ratings for how well the participant felt they had executed the task (see separate sheet).**

Once on the upper floor of the Weston Favell shopping Centre proceed to the clock. Give subject the clipboard, pen/pencil, carrier bag and £10 note. Read the following instructions to the participant:

"In this exercise I want you to complete three tasks. The tasks are: to buy six items listed on this sheet (assessor to indicate and describe items on the exercise sheet); to obtain and write down four pieces of information (assessor to indicate and describe items on the exercise sheet); and to meet me here under this clock 20 minutes after I have said "……begin the exercise" and tell me the time.

However, whilst completing this exercise you must obey the rules listed on your instruction sheet (examiner to indicate and describe the rules on the exercise sheet).

You must carry out all the tasks but you may do so in any order. You should spend no more than £6.50: although I have given you £10 you should spend no more than six fifty. You should stay within the limits of the upper floor of the shopping centre."
That means you must not leave by the doors at either end, use any lifts, stairs or escalators. No shop should be entered other than to buy something, so if you go into a shop it should be with the intention of buying something. You should not go back into a shop you have already been in, so if you have been into a particular shop you should not go back into it again. You should not buy any items from the stalls: these are the stalls (show/gesture to participant) you must only buy items from shops. You should buy no more than two items from Tesco. Take as little time as possible to complete this exercise without rushing excessively.

During this exercise I shall be following you from a distance and observing what you are doing. Please do not speak to me unless this is part of the exercise.

Finally, approach me and tell me when you have completed the exercise. Is that clear, have you any questions? (clarify any questions the participant has.) Now tell me what you must do. (Ensure participant is clear about what they must do.)

"Begin the exercise" (assessor to start timing at this point).
Appendix 7: NHS Research Ethics Committee letter

Leicestershire, Northamptonshire & Rutland Research Ethics Committee 2
Research Ethics Office
Derwent Shared Services
Laura House
Colyer Street
DERBY
DE1 1LJ

27 September 2006

Miss Marcia Castiel
Assistant Psychologist
St Andrew’s Hospital
Billing Road
Northampton
NN1 5GD

Dear Miss Castiel

Full title of study: An Investigation of the Utility of the Multiple Errands Test-
Simplified Version in the Assessment of Insufficient Effort.

The Research Ethics Committee reviewed the above application at the meeting held on 21
September 2006.

The committee were concerned that early dementia in staff members may be identified by this test.
Mr Jenkins clarified that this was very unlikely as people are asked to score badly on the tests.

The committee were unclear on how the results of this were going to be used.
Keith clarified these were to be used to disseminate knowledge in professional journals which
may help professionals in distinguishing lack of effort as this covers an area not yet looked at;
executive ability.

Mr Jenkins clarified that the stats were calculated by Dr Nick Alderman and they opted for 46
participants to match the size of other test groups.

Ethical opinion

The members of the Committee present gave a favourable ethical opinion of the above research
on the basis described in the application form, protocol and supporting documentation.

Ethical review of research sites

The favourable opinion applies to the research sites listed on the attached form.

Conditions of approval

The favourable opinion is given provided that you comply with the conditions set out in the
attached document. You are advised to study the conditions carefully.

Approved documents

The documents reviewed and approved at the meeting were:

<table>
<thead>
<tr>
<th>Document</th>
<th>Version</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application</td>
<td>Version 1</td>
<td>14 August 2006</td>
</tr>
</tbody>
</table>

An advisory committee to Leicestershire, Northamptonshire and Rutland Strategic Health Authority
**Leicestershire, Northamptonshire & Rutland Research Ethics Committee 2**

**LIST OF SITES WITH A FAVOURABLE ETHICAL OPINION**

For all studies requiring site-specific assessment, this form is issued by the main REC to the Chief Investigator and sponsor with the favourable opinion letter and following subsequent notifications from site assessors. For issue 2 onwards, all sites with a favourable opinion are listed, adding the new sites approved.

<table>
<thead>
<tr>
<th>REC reference number:</th>
<th>09/Q2502/77</th>
<th>Issue number:</th>
<th>1</th>
<th>Date of issue:</th>
<th>27 September 2006</th>
</tr>
</thead>
</table>

**Chief Investigator:** Miss Marcia Castiel

**Full title of study:** An Investigation of the Utility of the Multiple Errands Test- Simplified Version in the Assessment of Insufficient Effort.

This study was given a favourable ethical opinion by Leicestershire, Northamptonshire & Rutland Research Ethics Committee 2 on 21 September 2006. The favourable opinion is extended to each of the sites listed below. The research may commence at each NHS site when management approval from the relevant NHS care organisation has been confirmed.

<table>
<thead>
<tr>
<th>Principal Investigator</th>
<th>Post</th>
<th>Research site</th>
<th>Site assessor</th>
<th>Date of favourable opinion for this site</th>
<th>Notes (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Miss Marcia Castiel</td>
<td></td>
<td>St Andrew's Hospital</td>
<td>Leicestershire, Northamptonshire &amp; Rutland Research Ethics Committee 2</td>
<td>27/09/2006</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Billing Road Northampton</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Approved by the Chair on behalf of the REC:

(Delete as applicable) (Signature of Chair/Administrator)

(Delete as applicable) (Name)

---

(1) The notes column may be used by the main REC to record the early closure or withdrawal of a site (where notified by the Chief Investigator or sponsor), the suspension of termination of the favourable opinion for an individual site, or any other relevant development. The date should be recorded.
Appendix 8: Surrey Research Ethics Committee letter

Dr Kate Davidson  
Chair: SHS Ethics Committee  
University of Surrey  

Marcia Castel  
Department of Psychology + PsychD  
University of Surrey  

7 June 2007

Dear Marcia

Reference: 135-PSY-07
An investigation of the utility of the multiple errands test: simplified version in the assessment of insufficient effort

Thank you for your submission of the above proposal.

The School of Human Sciences Ethics Committee has given a favourable ethical opinion.

If there are any significant changes to this proposal you may need to consider requesting scrutiny by the School Ethics Committee.

Yours sincerely

Kate Davidson

Dr Kate Davidson
MATERIAL REDACTED AT REQUEST OF UNIVERSITY
Errors demonstrated by healthy neurological controls (note any errors made by the ABI participants are not included in this table and were assigned a score of 3)

<table>
<thead>
<tr>
<th>Task Failures</th>
<th>Total participants who made error</th>
<th>Percent</th>
<th>Weighted error score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Failed to inform examiners had finished test</td>
<td>13</td>
<td>28.3</td>
<td>1</td>
</tr>
<tr>
<td>Failed to meet examiner under clock</td>
<td>12</td>
<td>26.1</td>
<td>1</td>
</tr>
<tr>
<td>Met examiner under clock too early (&lt;19 minutes)</td>
<td>11</td>
<td>23.9</td>
<td>1</td>
</tr>
<tr>
<td>Incorrect number of shops selling TVs recorded</td>
<td>11</td>
<td>23.9</td>
<td>1</td>
</tr>
<tr>
<td>Failed to inform examiner of time when under clock at correct time</td>
<td>6</td>
<td>13.0</td>
<td>1</td>
</tr>
<tr>
<td>Purchased non-birthday card</td>
<td>3</td>
<td>6.5</td>
<td>1</td>
</tr>
<tr>
<td>Failed to write down price of tomatoes</td>
<td>2</td>
<td>4.3</td>
<td>2</td>
</tr>
<tr>
<td>Purchased white loaf</td>
<td>2</td>
<td>4.3</td>
<td>2</td>
</tr>
<tr>
<td>Met examiners under clock too late (&gt;21 minutes)</td>
<td>1</td>
<td>2.2</td>
<td>2</td>
</tr>
<tr>
<td>Purchased cream instead of plasters</td>
<td>1</td>
<td>2.2</td>
<td>2</td>
</tr>
<tr>
<td>Failed to purchase chocolate bar</td>
<td>1</td>
<td>2.2</td>
<td>2</td>
</tr>
<tr>
<td>Failed to write down newspaper headline</td>
<td>1</td>
<td>2.2</td>
<td>2</td>
</tr>
<tr>
<td>Failed to purchase bread</td>
<td>1</td>
<td>2.2</td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Inefficiencies</th>
<th>Total participants who made error</th>
<th>Percent</th>
<th>Weighted error score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entered library (opening/closing times displayed outside)</td>
<td>11</td>
<td>23.9</td>
<td>1</td>
</tr>
<tr>
<td>Purchased multiple single items (e.g., 2 lightbulbs)</td>
<td>4</td>
<td>8.7</td>
<td>1</td>
</tr>
<tr>
<td>Purchased tomatoes to determine price per pound/kilo</td>
<td>1</td>
<td>2.2</td>
<td>2</td>
</tr>
<tr>
<td>Purchased medium brown loaf</td>
<td>1</td>
<td>2.2</td>
<td>2</td>
</tr>
<tr>
<td>Went to cafe for coffee</td>
<td>1</td>
<td>2.2</td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rule Breaks-actual</th>
<th>Total participants who made error</th>
<th>Percent</th>
<th>Weighted error score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entered shop and left without making a purchase</td>
<td>20</td>
<td>43.5</td>
<td>1</td>
</tr>
<tr>
<td>Spoke to examiner</td>
<td>16</td>
<td>34.8</td>
<td>1</td>
</tr>
<tr>
<td>Spent over £5.00</td>
<td>10</td>
<td>21.7</td>
<td>1</td>
</tr>
<tr>
<td>Re-entered shop previously visited</td>
<td>1</td>
<td>2.2</td>
<td>2</td>
</tr>
<tr>
<td>Purchased items from the ‘stalls’</td>
<td>1</td>
<td>2.2</td>
<td>2</td>
</tr>
<tr>
<td>Purchased more than two items in superstore</td>
<td>1</td>
<td>2.2</td>
<td>2</td>
</tr>
<tr>
<td>Posted own (private) letter</td>
<td>1</td>
<td>2.2</td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rule Breaks-social</th>
<th>Total participants who made error</th>
<th>Percent</th>
<th>Weighted error score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asked staff in superstore to bake bread</td>
<td>1</td>
<td>2.2</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Inefficiencies</th>
<th>Total participants who made error</th>
<th>Percent</th>
<th>Weighted error score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wrote down purchase code of birthday card</td>
<td>4</td>
<td>8.7</td>
<td>1</td>
</tr>
<tr>
<td>Believed necessary to complete entire test within 20 minutes</td>
<td>3</td>
<td>6.5</td>
<td>1</td>
</tr>
<tr>
<td>Wrote down price of tomatoes in both pounds and kilos</td>
<td>1</td>
<td>2.2</td>
<td>2</td>
</tr>
</tbody>
</table>
Errors unique to the ABI participants (Note: all errors made by ABI participants were automatically assigned a score of 3)

<table>
<thead>
<tr>
<th></th>
<th>Total participants who made error</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Task Failures</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Failed to purchase lightbulb</td>
<td>19</td>
<td>38</td>
</tr>
<tr>
<td>Failed to purchase birthday card</td>
<td>9</td>
<td>18</td>
</tr>
<tr>
<td>Failed to purchase keyring</td>
<td>17</td>
<td>34</td>
</tr>
<tr>
<td>Failed to purchase plasters</td>
<td>9</td>
<td>18</td>
</tr>
<tr>
<td>Purchased large brown loaf</td>
<td>6</td>
<td>12</td>
</tr>
<tr>
<td>Failed to write down closing time of library</td>
<td>27</td>
<td>54</td>
</tr>
<tr>
<td>Failed to write down number of shops selling TVs</td>
<td>19</td>
<td>38</td>
</tr>
<tr>
<td>Failed to complete writing down all of newspaper headline</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Incorrect closing time of library recorded</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Incorrect price of tomatoes recorded</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td><strong>Inefficiencies</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Left clipboard in shop</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Left bag in shop</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Ate chocolate prior to finishing test</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Wrote down both opening and closing times of library</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Wrote down closing time and telephone number of library</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Wrote down two newspaper headlines</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Purchased newspaper to obtain headline</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Purchased items bought in same shop separately</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Obtained and used shopping trolley</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Ran out of money necessitating examiner intervention</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td><strong>Rule Breaks-actual</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Left the designated boundaries of the shopping center</td>
<td>6</td>
<td>12</td>
</tr>
<tr>
<td><strong>Rule Breaks-social</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overtly interrupted shop staff interaction</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Shouted question to shop staff from outside shop</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Shouted question to shop staff</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Jumped queue at payment point</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Swore loudly</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Removed shoes</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Blocked library stairs</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Bumped into another person</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Threw clipboard</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Purchased pornographic magazine</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Overtly invaded shop staff’s personal space</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td><strong>Interpretation Failures</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Purchased item not on list</td>
<td>2</td>
<td>4</td>
</tr>
</tbody>
</table>