VOLUME TWO:

FOUR PROFESSIONAL PRACTICE REPORTS

By

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Introductory Chapter

At the University of Birmingham, a requirement of the Applied Educational and Child Psychology Doctorate programme is the completion of a minimum 300 days supervised professional practice within Local Authority Educational Psychology Services (EPSs). Within my placement in 'Newtown' Metropolitan Council EPS during Years Two and Three of my training, I completed four small-scale research projects, presented as four professional practice reports (PPRs). The four PPRs are presented here as Volume Two of my doctoral thesis, which, when combined with Volume One, comprise the assessed academic and research requirements of Years 2 and 3 of the doctoral programme.

Each PPR offers an account of an area of work of both interest and relevance to my daily role and my developing professional practice over the last three years
The aim of this introductory chapter is to:

1. outline the context in which the projects were conducted;

2. summarise contextual and professional influences upon the selection, conceptualisation and implementation of work; and

3. provide synopses of the four PPRs.

Educational Psychology Service Context

The PPRs were carried out in Newtown[1] Local Authority, during my second and third year of doctoral training. Newtown is a large metropolitan borough in the West Midlands. During my time working for Newtown EPS, I contributed to educational psychology service delivery for six schools in the West area of the borough; including one high school and five primary schools. I received regular supervision from a Specialist Senior EP for the Local Authority.

Newtown has been ranked as the 12th most deprived Local Authority (LA) out of a total of 354 (Department for Communities and Local Government, 2010) in England. The area in which I worked was within one of the most deprived areas in the LA, falling within the lower 10% of the most deprived areas in England (DCLG, 2010).

During the early part of my first year of supervised practice within Newtown, (my second tear as a TEP), announcements of Government budget cuts led to the implementation of changes by Newtown Council. The changes involved saving money, leading to restructuring of the EPS; as a result, the staffing of the EP team was cut by 10% by the end of my first year of employment.

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[1] Pseudonyms have been used to preserve the anonymity of the Local Authorities

The start of the second year of my placement in Newtown saw the announcement of further cuts to the LA budget. As a result, the model of service delivery to schools was revised and a time allocation model was implemented, with schools placed in bandings relating to a range of factors calculated to determine their expected level of need.

Overall, this has been a challenging time to be a trainee EP in Newtown and an interesting time to conduct research within this context. Through my research, I have aimed to raise the profile, breadth and depth of work offered by EPs and contribute to an understanding by commissioners and service users, of the skill set of EPs and how these might be applied across a range of settings.

Trainee EP role

As a TEP in Newtown, I worked as part of a "school delivery team," which consisted of a Special Educational Needs Advisory Teacher (SENAT) for learning, a SENAT for behaviour, and me. Our service delivery was planned at the start of each academic year in Service Agreement Planning (SAP) meetings in schools. The SAP meetings were attended by the school delivery team, the school's special educational needs coordinator and often other key members of staff such as behaviour coordinators, learning coordinators and members of senior management such as the head teacher or deputy head teacher of the school.

As previously mentioned, a time allocation model was applied to all work within schools, with schools' bandings calculated to determine their expected level of need. The time allocations were outlined as part of Service-Level Agreements (SLAs) with each school. The SLAs aimed to ensure that EPs engaged in a range of work beyond statutory expectations.

It was not possible to agree such expectations with *all* schools in Newtown due to an an increased focus on fracilitating the 'freedom' of schools from the local authority outlined in the Education White Paper (HMSO, 2011), which led to the emergence of several academies in Newtown. In such cases, Newtown had to 'sell' services to academies, relying on establishing SLAs with them in order to generate income and maintain staffing and service levels and to safeguard the entitlement of access to psychological services for children and young people attending these schools.

Newtown EPS advoctes a consultative approach to EP practice based on Egan's (2002) skilled helper model.   The model promotes an approach based on guidance through consultation; Egan explains that 'a helping model is like a map that helps you know what to do in your interactions with clients. At any given moment, it also helps you orient yourself, to understand 'where you are' with the client and what kind of intervention would be most useful' (p.7). Consultation, within Newtown EPS is viewed as an integrated, capacity-building, systemic approach to EP service delivery, and as suggested by Watkins and Hill (2000), consultation is viewed as an

appropriate model to offer new EPs, which is suitably complex and robust to match the context, and which is also reflexive in practice.

The four professional practice reports (PPRs) contained within this volume are summarised below.

PPR 1: An evaluation of multi-agency working in a special school setting for children with complex and profound learning difficulties.

PPR 1 was set within a context of an increasing national drive in England for the development of multi-agency collaboration. This study explores the effectiveness of multi-agency working within a school (The Meadows[2]) for children with complex and profound learning difficulties, by investigating how multi-agency working was organised; how multi-agency professionals perceived their own and others' roles; and how they believed that improved multi-agency working could be facilitated.

A mixed method approach was used, including questionnaires, observations and interviews, to gather information about staff experiences of working in a multi-agency way. The results from this study suggested there was a set of common approaches that all multi-agency professionals employed in their work at The Meadows, namely:

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[2] Pseudonym

applying specialist knowledge, assessing pupil progress, communicating with other professionals as well as parents, and drawing upon previous experience. When investigating how multi-agency working at The Meadows could be improved for future service delivery, staff felt that improvements could be made to the effectiveness of communication between professional groups and in addressing the role ambiguity arising from integrated working (Percy-Smith, 2005; Stewart, Petch, & Curtice, 2003).

PPR 2: Educational psychologists using dynamic assessment to assess the needs of children and young people

This study explored Dynamic Assessment (DA) and the role it could play in the work of Educational Psychologists (EPs), particularly when assessing the needs of young people in schools and developing interventions to aid their progress.

The paper addresses these aims through three parts. Part one provides a review of contemporaneous and historic evidence for using DA with young people and demonstrates some of the approach's potential strengths and limitations. Part two describes a case example, involving the application of DA to my work with a young person, highlighting its applicability and the skills required to deliver such an approach. Part three is my reflection on the development of this report and the role of DA within the domain of EP practice.

The central conclusion drawn is that DA should be incorporated as part of EPs' broader assessment framework, as a complementary approach to other forms of assessment typically used such as, observation, interview and consultation. Within a profession such as educational psychology where practitioners frequently work with young people who have complex and unique needs, DA can contribute towards the development of meaningful recommendations for educational practitioners.

PPR 3: Exploring the effects of vigorous exercise on self-stimulatory behaviours, social behaviours and learning behaviours of children with an autism spectrum disorder in a special school setting.

The aim of this study was to explore the relationship between exercise and the behaviour of pupils with ASD. A class of seven children, six male and one female, was included in this study. The group completed a four week exercise programme involving 10-15 minutes of jogging on a daily basis.

Observation schedules and teacher rating scales were used to explore the perceived relationship between exercise and self-stimulatory behaviour, such as body rocking, spinning, hand flapping, head-nodding, object-tapping, gazing at lights or mouthing, social behaviour and learning behaviour.

The results describes an observed decrease in self-stimulatory behaviour, an increase in on-task behaviour and a perceived increase in positive social interactions, during the weeks where daily exercise was being implemented. These changes were observed immediately after exercise sessions had taken place but there was no evidence for more durable effects of these changes.

PPR 4: Cognitive behavioural therapy training in educational psychologists practice

This study aimed to explore the views of four educational psychologists working within Newtown local authority relating to their experiences of undertaking Cognitive Behaviour Therapy (CBT) case work during their routine practice. A group interview was conducted using a semi-structured interview schedule and responses were analysed using thematic analysis. This led to the development of a thematic map which indicated key barriers to implementation of CBT by EPs in schools and how these might be overcome. Barriers identified by EPs interviewed include motivation and confidence to apply CBT, access to supervision, role perceptions, time and opportunities to practice CBT as part of their routine work. Implications for the educational psychology service, trainers and service users, as well as the EPs themselves were identified.

Reflections

These PPRs provide a narrow illustration of the varied work that trainee educational psychologists may experience in their practice. The PPRs also attempt to show the difficulties that can be faced when working within a Local Authority service; for example, PPR4 shows how time constraints and role expectations affect EPs' opportunities to engage in some types of work.

The opportunity to undertake research-based professional practice has allowed me to develop skills which are central to developing an evidence-based approach to practice, an orientation that can contribute to the profession's distinct professional identity in the future (Cameron, 2006). These skills will contribute to my professional practise in the future. Furthermore the reports have allowed me to strengthen specific knowledge around key psychological approaches such as CBT and multi-agency working, aspects of which are also embedded within my day-to-day practice.

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An evaluation of multi-agency working in a special school setting for children with complex and profound learning difficulties.

Abstract

Within the context of the increasing national drive in England for the development of multi-agency collaboration, this study aims to explore the effectiveness of multi-agency working within a provision for children with complex and profound learning difficulties. The study aims to explore: how multi-agency working is organised; how multi-agency professionals perceive their own and others' roles; and how improved multi-agency working could be facilitated. A mixed method approach was used, including questionnaires, observations and interviews to gather information about staff experiences of working in a multi-agency way. It was found that this particular setting functions as an operational multi-agency delivery team (Atkinson *et al.,* 2002). The results from this study suggest there is a set of common skills that all multi-agency professionals employed in their work at The Meadows, namely: specialist knowledge, assessing pupil progress, communicating with other professionals as well as parents and drawing upon previous experience. When investigating how multi-agency working at The Meadows[1] could be improved for future service delivery, staff felt that improvements could be made to the effectiveness of communication between professional groups and where there is role ambiguity arising from integrated working (Percy-Smith, 2005; Stewart, Petch, & Curtice, 2003).

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[1] Pseudonym for the Local Authority participating in this study

Introduction

There are approximately 15,000 children (aged under 18) with complex and profound learning difficulties in England (DCSF, 2008, School Census). The Department for Children, Schools and Families (DCSF) defines complex and profound leaning difficulties in the following terms:

> *In addition to very severe learning difficulties, the children will have other significant difficulties, such as physical disabilities, sensory impairment or a severe medical condition. They require a high level of adult support, for their personal care as well as for their learning needs. They are likely to need sensory stimulation and a curriculum that is broken down into very small steps. Some children with profound and multiple learning difficulties communicate by gesture, eye pointing or symbols; others communicate by using very simple language.*

> (DCSF, 2008, p.6)

For the purpose of this study, in line with the DCSF definition, pupils with complex and profound learning difficulties are defined as those who share two characteristics:

- a profound cognitive impairment or learning difficulty; and
- A complex interaction of difficulties in more than one area of functioning.

Evidence suggests that locally coordinated provision is being adopted nationwide as a person-centred approach to the needs of children with complex and profound learning difficulties (Hirst and Baldwin, 1994). However, the Further Education Funding Council for Learning Difficulties and/or Disabilities Committee (FEFC, 1996) suggests there are still advancements to be made in planning between professional groups in order to promote educational progression and social inclusion (Department of Health, 2001).

In relation to these findings, this paper describes a research study that aims to explore the effectiveness of multi-agency working within a provision for children with complex and profound learning difficulties.

Literature Review

Multi-agency working: a debate over conceptualisation

In past research, the terms inter-agency and multi-agency have been used interchangeably, making the concept of multi-agency working less clear. Some researchers, such as Carpenter (1995) have suggested that the distinction between the two is numerical, whereby 'inter-agency' refers to two professionals workings together, such as a teacher and teaching assistant, whilst 'multi-agency' working

refers to a situation when there are more than two professional groups involved, such as a primary school teacher, physiotherapist and learning support teacher. However, it could be argued that this definition is overly simplistic by failing to take into account the complexities of such working relationships. Also, it promotes the idea that simply putting individuals from professional groups together leads to collaborative working, which research suggests is not the case (Clark, 1993; Pirrie *et al*., 1998).

Other writers suggest the difference between inter-agency and multi-agency working stems from how professional boundaries are configured. For example, inter-agency working could be seen as "like you are crossing into another space..." (Pirrie *et al*., 1998, p.213) where there are clear role definitions, whilst multi-agency working can be seen as promoting blurred boundaries between professional groups (Wilson and Pirrie, 2000). Whilst this definition takes into account some of the collaborative elements of multi-agency working, it fails to place the pupil at the centre of the approach, which Atkinson *et al*., (2002) suggest is a key component of all effective multi-agency working.

The DfES defines multi-agency working as:

> *"... different services and teams of professionals and other staff working together to provide the services that fully meet the needs of children, young people and their parents or carers."*   *(DfES, 2004, p.18).*

For the purpose of this study, multi-agency working will refer to different professionals

working together across and within boundaries on a regular basis, over a

considerable period of time at The Meadows[2] to meet the needs of the pupils who

attend.

Much of the available literature about multi-agency working describes it as an

approach where agencies come together to address a specific issue or concern.

There has been very little debate about the broad models or types of multi-agency

working. However, The National Foundation for Educational Research (Atkinson *et*

al., 2002) identified five models of multi-agency working, illustrated diagrammatically

in Table 1.

Model	Purpose
Decision-making groups	to provide a forum whereby professionals from different agencies could meet to discuss issues and to make decisions
Consultation and training	for the professionals from one agency to enhance the expertise of those of another by providing consultation and/or training for them
Centre-based delivery	to gather a range of expertise together in one place in order to deliver a more coordinated and comprehensive service
Coordinated delivery	to draw together a number of agencies involved in the delivery of services so that a more coordinated and cohesive response to need could be adopted
Operational-team delivery	for professionals from different agencies to work together on a day-to-day basis and to form a cohesive multi-agency team that delivered services directly to clients.

*Table1. Models of multi-agency working (*Atkinson *et al.*, 2002)

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[2] Pseudonym for the special school involved in the study

Legislative and historical context of multi-agency working: how current forms of multi-agency working have developed

The concept of collaboration and partnership working in children's services is central to the government's philosophy. The Children Act 2004 provides the legislative foundation on which the *Every Child Matters* (2004) *Every Child Matters: Change for Children* (2004) whole-scale reform of children's services, is based. Both The Act and the Every Child Matters (2004) agenda aim to improve and integrate children's services, promote early intervention, provide strong leadership and bring together different professionals in multi-agency teams in order achieve positive outcomes for children and young people and their families.

Every Child Matters (2004) advocates improved multi-agency working through better sharing of information; the use of a common assessment framework; and lead professionals. It proposes that services should be delivered through multi-agency teams and commissioned through multi-agency children's trusts. Furthermore, The Children's Plan (DCFS, 2007) demands the shaping of services around childhood need and not professional boundaries.

In order to provide a historical context, Table 2, is a timeline to illustrate how current multi-agency working has developed over time and key factors, including influential policy and research, which has influenced these developments.

Timeline	Influencing factors
1999: Health, education and social services are encouraged to work in partnership. Provisions are made for all three services to pool budgetary and management resources. 60 Sure Start programmes are launched to reduce social exclusion for the most deprived families in England by intervening early in childhood.	• Health Act (1999) • Sure Start is influenced by US Head Start programme launched in 1965.
2000: The framework for the assessment of children in need and their families is developed, drawing on the wealth of research and accumulated practice and clearly advocates a multi-agency approach when assessing children	• Education Act (1996) • The National Framework for the assessment of Children in Need (2000) • United Nations Convention on the Rights of the Child (1989) • Working Together to Safeguard Children (DCSF, 1999)
2001: Guidelines are on how health, educational, social services and voluntary agencies can work together to enable early intervention, focused interventions, joint planning and effective sharing of professional practice.	• The Special Educational Needs code of practice (2001)
2001-04: The Common Assessment Framework (CAF) is developed within the context of Every Child Matters (2003). The CAF suggests that assessment and intervention would need to be implemented across a range of professionals, who will need to work collaboratively.	• Every Child Matters (2003) • The Special Educational Needs code of practice (2001) • The Common Assessment Framework (CAF) Consultation (DfES, 2004) • Atkinson et al., (2002) influential study into the advantages and disadvantages of multi-agency working.
2002-04: The government's ten year childcare strategy (HM treasury, 2004) moves towards establishing children's centres, aimed at providing integrated health, childcare, learning and family support services in a single, multi-agency setting.	• The government's ten year childcare strategy (HM treasury, 2004) • Every Child Matters (2003) • Every Child Matters Next Steps (2004)

2006-08: New ways of thinking about working with families in co-located settings are explored. New practices are developed in multi-agency working. Issues of professional identity, negotiation of boundaries and responsibilities are researched.	• Leadbetter and Daniels et al., (2007) • Daniels and Leadbetter (2007)
2009 – Present: Current policy sets out how organisations and individuals should work together to safeguard and promote the welfare of children and young people in accordance with the Children Act 1989. The most recent government Green Paper advocates services working together to support families through "Joint strategic needs assessment, joint health and wellbeing strategies" (p. 12) and aims to explore ways in which to improve joint working across children's and adult health services.	• Working Together to Safeguard Children: A guide to inter-agency working to safeguard and promote the welfare of children (DCSF, 2010) • Lord Laming's report, The Protection of Children in England: A Progress Report, (2009) influences government policy. • Support and aspiration: A new approach to special educational needs and disability (DfE, 2011)

Table 2. Timeline of the development of MA working

The evidence suggests that multi-agency working in children's services is central to the government's philosophy. However, despite the rhetoric of evidence-based practice, this significant shift in public policy has been subject to very little research. Also, often, professionals have been urged to initiate multi-agency working with little training or guidance (Anning & Edwards, 1999) and this can be seen across many local authorities throughout the England.

Multi-agency working to support children with complex and profound learning difficulties: the need to coordinate services

Over time, there has been a gradual shift in the perception of individuals with complex and profound learning difficulties. The medical model, with its concentration on personal deficit, is continually evolving into a social model which highlights the impact of environmental factors, social factors and access to educational opportunities on the lives of those with complex and profound learning difficulties (World Health Organization, 2001).

The increasing focus on quality of life has highlighted the need for professional agencies to work collaboratively, if those with complex and profound learning difficulties are to lead richer lives (Mencap, 2000; Barnes, 2008). Roaf (2002) suggests that multi-agency working enables children with complex educational needs to reach their full potential, saying:

"Despite the complexity of their difficulties, in school, teachers often find that when professionals work closely together, young people reach their educational potential..." (p. 2).

Roaf (2002) also highlights how, in contrast to multi-agency working, accessing services which are fragmented can often lead to delays in families receiving support. Further research suggests that children with complex and profound needs often experience co-occurring and overlapping difficulties (Maras *et al*., 2002) which require a holistic assessment of individual needs through multi-disciplinary working.

Multi-agency working has been identified as an effective method of early identification and intervention to address complex needs (Carpenter, 2000) and the need to improve multi-agency working to support individuals with complex and profound learning difficulties was highlighted in the White Paper *Valuing People* (Department of Health, DoH 2001). The paper suggests that in order to reach the key objective that "disabled children gain maximum life-chance benefits from educational opportunities," (p. 122) it is essential that health care and social care should adopt a multi-agency, coordinated approach to support individuals, as well as their parents or carers.

The danger which can arise from the growing research base in this area is that schools and local authorities across the country could hasten to adopt this 'new style'

of working with little consideration of how to facilitate its' effectiveness, thus adopting a model which is labelled multi-agency but lacks genuine collaboration (McConkey, 2010). There is evidence to suggest that there is immense variation in the degree of collaborative working between professionals who present themselves as multi-agency organisation (Atkinson *et al.*, 2002). The next step is to consider how effective multi-agency working can be achieved.

Drawing on the evidence: factors which facilitate effective multi-agency working

Literature from an organisational psychology perspective suggests that simply putting individuals from professional groups does not necessarily lead to effective multi-agency or collaborative working (Clark, 1993; Pirrie *et al*., 1998). Instead research proposes that effective multi-agency working is dependent on a wide range of factors, such as a blurring of professional boundaries which leads to the formation of "trust, tolerance and a willingness to share responsibility" (Nolan, 1995, p. 306).

A detailed study carried out with 139 members of multi-agency teams (Atkinson *et al.,* 2002) found that the primary skills identified for successful multi-agency working across a range of settings include:

- commitment from all involved;
- understanding own and other's roles and responsibilities;

- having common aims and objectives to work towards;

- effective communication and information sharing;

- strong leadership;

- having funding or resources required; and

- good working relationships and having adequate time.

Sloper (2004) found factors at an organisational level which facilitate multi-agency working include:

- the planning, implementation and ongoing management of multi-agency services;

- clearly defined roles and responsibilities with clear lines of accountability;

- strong leadership from a multi-agency steering or management group;

- ensuring good systems of communication and information sharing at all levels; and

- an agreed timetable and incremental approach for change.

In summary, settings where effective multi-agency working has been established with a solid commitment from professionals involved has lead to better outcomes for children with complex and profound learning difficulties; however, the way in which this is achieved is not simple. Despite these findings, there still remains an immense variation in what local authorities and schools across the country consider to be multi-agency working and their effectiveness will reflect this. There appears to be a

lack of evidence-based practice across local authorities in England which adversely

affects the outcomes of MA working. For example, it is remarkable how little

research has gone into the feasibility and sustainability of multi-agency working

(McConkey, 2010) when compared to the substantive amount of government policy

and legislation developed since 1999 (See Table 2).

The Present Study

At a whole-school staff meeting, The Meadows identified a desire to explore the

effectiveness of multi-agency working centered on pupils with complex and profound

learning difficulties. At this meeting the school staff reported that they would like to

explore current multi-agency working within the school to learn about how that might

be improved for future service delivery. This was then discussed at a planning

meeting involving myself, the school SENCo (Special Educational Needs

Coordinator) and deputy head teacher. The present study is an exploratory

investigation into multi-agency working at The Meadows School.

The context for this study is The Meadows School which was established in

September 2000 following the reorganisation of provision for children with special

educational needs in Newtown[3] and is currently the only primary school within

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[3] Pseudonym for the Local Authority participating in this study.

Newtown Local Authority catering for the needs of children with complex and profound learning difficulties or disabilities.

Along with teaching and classroom support staff, the school is supported by a multi-agency team of physiotherapists, occupational therapists, speech and language therapists, a specialist teacher of the visually impaired, a specialist teacher of the hearing impaired, clinical psychologist, educational psychologist and medical staff, such as the school nurse and the consultant paediatrician.

There are currently 124 children attending The Meadows, ranging in age from 2 years to 11 years. All are described as having complex and profound learning difficulties, which include severe autism, complex medical conditions, physical and mobility difficulties, as well as severe developmental delay.

There is a high proportion of pupils from an ethnic minority background and a small number of looked after children who attend The Meadows. An OFSTED inspection in summer 2007 rated the school as being 'Good' overall with elements of outstanding. OFTSED report that "There are excellent working relationships with other providers and agencies and these have a positive effect on the development of curriculum activities."

Aims

The aim of this study is to explore the effectiveness of multi-agency working at The Meadows. This will be achieved by answering the following questions:

1. How is multi-agency working organised and structured at The Meadows?

2. How do multi-agency professionals (MAPs) at The Meadows perceive their own and others' roles?

3. How could multi-agency working at The Meadows be improved for future service delivery?

Method

Ethical Considerations

Erlandson *et al*. (1993) suggest that ethical considerations should be at the forefront of all naturalistic research. With this in mind, in order to ensure respect, competency, responsibility and integrity were upheld as fully as possible; considerations were made in reference to the British Psychological Society's Code of Ethics and Conduct (2009). An outline of how risks were addresses is included in Table 3.

BPS Guidance	Criteria met through
Respect: Psychologists value the dignity and worth of all persons, with sensitivity to the dynamics of perceived authority or influence over clients, and with particular regard to people's rights including those of privacy and self determination.	• Thanking participants for their contributions. • Introducing self clearly at every new encounter. Identify purpose and ask for consent to participate. • Use active listening in interviews. • Anonimise data, don't ask for names. • Keep data secure. • Ask for consent to participate after explaining the aims. • Make self available for questions via phone, email and in person. • Remind participants of the right to withdraw at any time. • Discuss procedure in supervision. • Ensuring participants know what data will be used for (research brief). • Plan of action if confidentiality is breached.
Competence: Statement of values – Psychologists value the continuing development and maintenance of high standards of competence in their professional work, and the importance of preserving their ability to function optimally within the recognised limits of their knowledge, skill, training, education, and experience.	• Read BPS code of ethics and conduct. Discuss in supervision if needed. • Consider ethical implications of this research by planning how to meet BPS criteria. • Using supervision to reflect on ethical considerations of the research. • Think about the purpose of each action throughout the research and justify it to self and others if necessary. • Consider the limitations of the methods I use and conclusions I draw.
Responsibility: Psychologists value their responsibilities to clients, to the general public, and to the profession and science of Psychology, including the avoidance of harm and the prevention of misuse or abuse of their contributions to society.	• Think about the consequences of actions undertaken, how my presence impacts the environment/children/staff etc. • Ensure to debrief staff, talk to them about how they feel at the end of sessions. • Keep self safe at all times, try to be aware of situations and not to intervene. • Make clear the timescales for the research to be undertaken. • Make self available for questions via phone, email and in person.

	• Use supervision to reflect on the perspectives of the participant. • Inform participants throughout of their right to withdraw. • Ensure there are no financial implications from the research and discuss if any arise with the stakeholders. • Debrief research participants at the conclusion of their participation, in order to inform them of the outcomes and discuss questions. • Take particular care when discussing outcomes with research participants, as seemingly evaluative statements may carry unintended weight.
Integrity: Psychologists value honesty, accuracy, clarity, and fairness in their interactions with all persons, and seek to promote integrity in all facets of their scientific and professional endeavours.	• Be honest and accurate in representing their professional affiliations and qualifications, including such matters as knowledge, skill, training, education, and experience. • Be honest and accurate in conveying professional conclusions, opinions, and research findings, and in acknowledging the potential limitations. Discuss this in supervision. • Avoid forming relationships that may impair professional objectivity or otherwise lead to exploitation of or conflicts of interest with a client.

Table 3. Reference to BPS Code of Ethics and Conduct

Methodology

Methodology refers to an approach to research (Kaplan, 1973). For this study, the purpose is to explore the everyday practices of a special school in order to develop key action points for improving future service delivery. The approach adopted to achieve this is an evaluative case study research design. In line with Cohen *et al.*'s (2007) description of case study methodology, this study aims to "portray, analyse and interpret the uniqueness of real individuals and situations through accessible accounts" (p. 85) and to "contribute to action and intervention" (p.85).

In order to do this, I aimed to investigate multi-agency working at The Meadows by using a mixed method approach, with the intention of developing an understanding of the individual subjective experiences of the school's staff. The research aims presented above are focussed around exploring perceptions of interactions between staff in the school and how the school structure and context affect the behaviours of the staff who work there. An interpretivist paradigm was adopted to do this. I began by interviewing and observing individuals at The Meadows and set out to understand their interpretations of the world around them and then used questionnaires to try to access their inner, subjective experiences. The theories which I developed were 'grounded' in the data generated by these research methods (Glaser and Strauss, 1967).

My beliefs regarding access to reality are in line with a critical realist epistemology (Bhaskar, 1994). Epistemology is the "understanding that can possibly be acquired through different types of inquiry and alternative methods of investigation," (Hirschheim et al., 1995:20). By adopting a critical realist perspective, I believe that what I observe during my time at The Meadows are only projections of reality and not reality itself. I was trying to build an accurate picture of 'reality' by using different measures but was aware that the ideas in my mind about the things I would see would be framed by my own previous experiences, and would be subject to my own interpretations; an alteration of what is true reality.

The data I collected would be analysed in order to abstract the expectations of participants, which may not compare a definitive portrayal of the world but would provide rich and meaningful information from which predictions can be made (Cohen *et al*., 2007) and recommendations generated to inform future practice.

In line with a critical realist methodology as set out in *Explaining Society* (Danermark *et al*., 2002), in stage one of my research, I set out to describe the phenomena of multi-agency working by exploring the historical context of MA working and how it has evolved over time. I explored the legislative framework and how this has influence practice over time; also, I compared various models of MA working as taken from the literature in this area. In stage two of my research, I used "multimodal" (Cohen *et al*., 2007, p.169) methods of ethnographic approaches such as observations, interviews and questionnaires to explore the world of staff at The

Meadows, with the aim being "to seek a description and interpretation of total phenomena" (Cohen *et al*., 2007, p.169). It was intended that each phase of data collection would add to the "thick description" (Eisenhardt, 2002) of The Meadows multi-agency working and generate theories in relation to the research questions.

Procedure

This study was conducted over a four month period from September to December, 2010. Appendix One presents a timeline which illustrates the procedure.

Measures

The overarching aim was to explore multi-agency working at The Meadows with an interest in identifying ways of developing future support for children with complex and profound learning difficulties at the school.

Based on the idea put forward by Bryman (1988) that quantitative work can be a facilitator of qualitative work, observations and questionnaires were both used consecutively. In this case, using the observations to inform the questionnaires is a means of examining the same research problem in different ways, hence, enhancing

the validity of the findings, this is what Denzin (1970) originally proposed *triangulation*[4] could be used for.

A mixed-method approach was used involving two phases. Phase one, was primarily *analytic-inductive* (Robson, 2002), employing an interpretive approach as the basis for enquiry, whereby, semi-structured interviews were conducted, pupil files were explored and observations were used to produce rich, qualitative information. Phase two was informed by the results of phase 1 and consisted of structured questionnaires used to investigate themes arising from the interview responses and explore relationships between emergent themes to produce quantitative data.

Semi-structured interviews

I visited The Meadows to conduct a semi-structured interview with the early-years coordinator, deputy head teacher and head teacher to learn about the school and how it operates as a multi-agency team. This group was interviewed because they are responsible for coordinating multi-agency working across the school and it was felt they would offer a good basis for understanding.

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[4] Triangulation refers to the application and combination of several research methodologies in the study of the same phenomenon e.g. the use of interviews and questionnaires (Bogden and Biklen, 2006).

A semi-structured approach with open-ended interview questions was used, as suggested by Cohen and Manion (1989) to allow me to be flexible throughout the questioning process, so that a free flow of information could be achieved. An interview schedule of questions was created based on themes which had emerged from a review of the literature. A description of this process can be found in Appendix Two.

A list of potential questions was written (see Appendix Two) to prompt the interviewer regarding the key points to cover and topics to address. As recommended by Robson (2002) there was flexibility over the sequencing of questions, their exact wording and the amount of time and attention given to different topics depending on the response of the interviewee.

The interviews were tape recorded which Robson (2002) suggests is good practice to provide comprehensive data for later analysis. This method also allowed me to focus on building rapport with the interviewee which is an integral part of a successful interview process (Dexter, 2006).

At the start of each interview I described the interview process, approximately how long it should last, and the general subjects to be covered. I asked the interviewee's permission to record answers and reassured confidentiality. The interviewees were asked if they had any questions before starting the interview and again at the end.

Observations

I conducted observations over two mornings and observed fifteen members of staff working across four classes including teachers, learning support practitioners, physiotherapists and speech and language therapists.

Before commencing observations, I introduced myself by referring to the information outlined in the research brief (see Appendix Three) and asking for each participant's consent to be part of the research process.

The observation technique involved studying a range of adults working with children and describing four things: the skills and knowledge staff were employing in their role, working relationships between multi-agency staff, how multi-agency working was structured or organised and what kind of support was offered by MAPs. The observations were recorded as a narrative description.

As proposed by Robson (2002), information was recorded during observations using an observation schedule (see Appendix Four for an exemplar) and additional information was added shortly after each observation period, including interpretive ideas and subjective impressions.

Questionnaires

The aim was to sample as wide a range of agencies as possible and collect data about support given to pupils at The Meadows. An explanatory letter, along with a structured questionnaire (See Appendix Five) were sent to each member of staff at The Meadows through the use of the school's internal postal system and through electronic mail also.

The questionnaire was structured into six sections. These sections were based on themes arising from the review of literature (see Appendix Six for literature linked to questionnaire sections and a description of the sections), interviews and observations conducted previously.

The questions were a mixture of open-ended questions which had no predetermined response options and required respondents to record their answers in sentences, and scaling questions which required respondents to tick a corresponding response on a five-point ordinal scale.

A pilot questionnaire was administered to four participants. Through informal questioning, respondents gave feedback which was incorporated into the final questionnaire design (see Appendix Seven for summary of feedback from pilot).

Not including the pilot, 20 questionnaires were returned (N=20) from a range of

agencies, yielding a response rate of 18%. Responses are included from:

- learning support assistants (N=3);

- educational psychologist (N=1);

- occupational therapist (N=1);

- speech and language therapists (N=2);

- physiotherapist (N=1);

- teachers (N=6);

- librarian (N=1); and

- Senior Management staff (N=5).

Results

The results will be reported in relation to the research aims below:

 1. How is multi-agency working organised and structured at The Meadows?

2. How do MAPs at The Meadows perceive their own and others' roles?

3. How could multi-agency working at The Meadows be improved for future service

delivery?

1. How is multi-agency working organised/structured at The Meadows?

Model of multi-agency service delivery used at The Meadows

As noted above, in order to gain insight into how The Meadows staff operate as a multi-agency team, observations across the school were conducted, pupil files held at Newtown Inclusion Support were explored and information was gathered through interviews with the school's early years coordinator, deputy head teacher and head teacher.

Content analysis of the data from observations and interviews (See Appendix Eight for procedure) suggests that The Meadows functions as an operational multi-agency delivery team (Atkinson *et al*., 2002). Diagrammatic representation of this type of approach is provided in Figure 1.
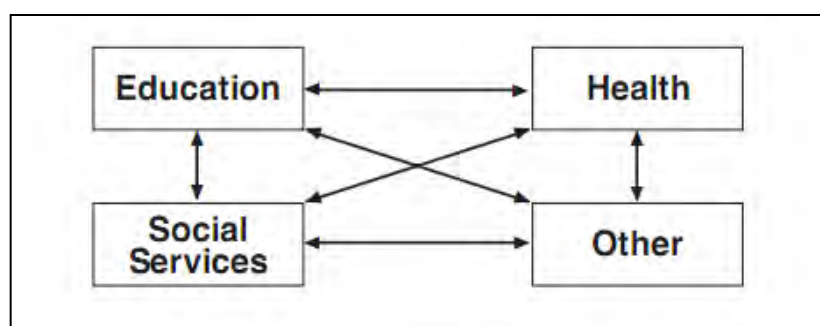
Figure 1 Operational team delivery model (Atkinson et al., 2002)

During the interviews participants (senior management) were asked to list all the

agencies that regularly work at The Meadows and describe how services are

coordinated and delivered to support pupils at the school. From their responses, it

was possible to construct a figure to show the agencies and their connectedness

(See Figure 2). When asked during interview, the head teacher described multi-

agency working at The Meadows as "a range of experts who work in close proximity

and work together to deliver support to pupils," with the overall aim being, to achieve

"a two-way exchange of knowledge, ideas and skills" between all those involved (as

indicated in Figure 2).
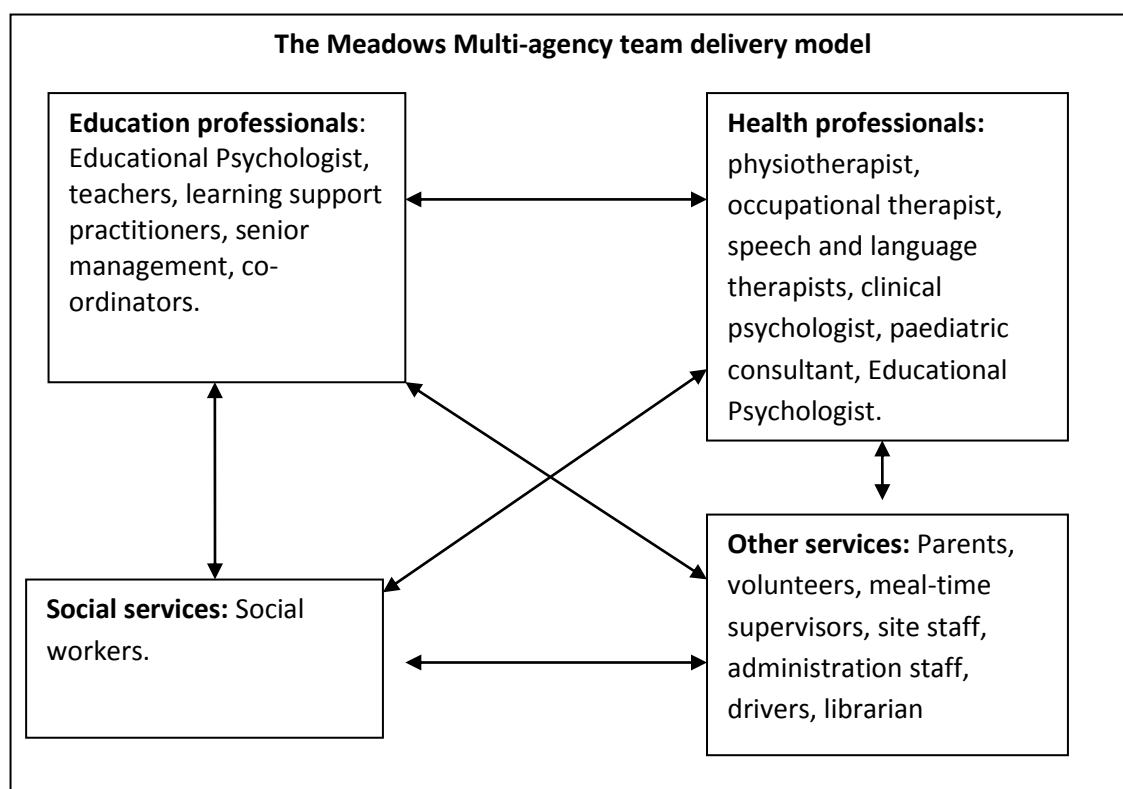
Figure 2. The Meadows's multi-agency delivery model.

<u>Comparison to other Models of multi-agency working</u>

In contrast to other models of multi-agency working (as described in Table 1), the aim of the operational delivery team is for professionals from different agencies to work together on a day-to-day basis, to communicate and share information across agencies and to form a cohesive multi-agency team that delivers a person-centered service directly to pupils who attend The Meadows.

The operational delivery model differs from the decision-making model (see Figure 3 for diagrammatic representation) because it is based on continual working together over a period of time and sharing information between agencies.
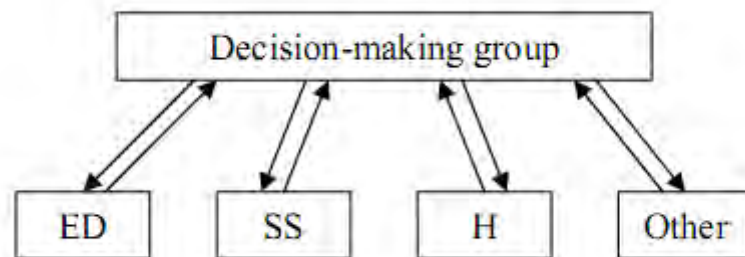
Key: ED = education agency, SS = Social Services, H = Health and other = all others

Figure 3. Decision making model of multi-agency working (Atkinson *et al.,* 2002)

The operational delivery model differs from the consultation and training model (see Figure 4 for diagrammatic representation) because it is a collaborative approach.
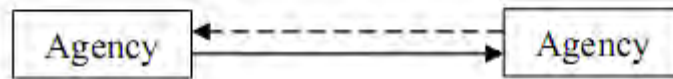
Figure 4: Consultation and training model of multi-agency working (Atkinson *et al.,* 2002)

The operational delivery model differs from the centre-based model (see Figure 5 for diagrammatic representation) because professionals are not permanently based at The Meadows and often work from multiple bases.
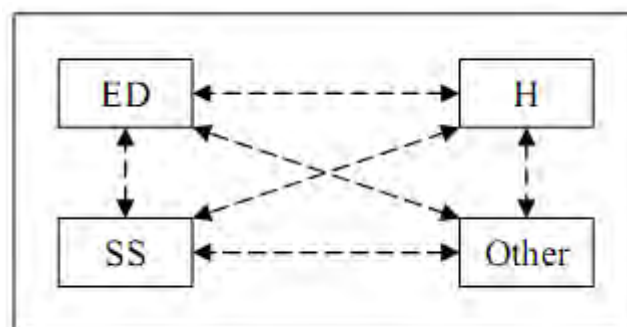
Figure 5. Centre-based model of multi-agency working (Atkinson *et al.,* 2002)

The operational delivery model differs from coordinated delivery (see Figure 6 for diagrammatic representation) because multi-agency professionals at The Meadows are not strategically coordinated by one lead professional with communication being primarily directed through the coordinator.
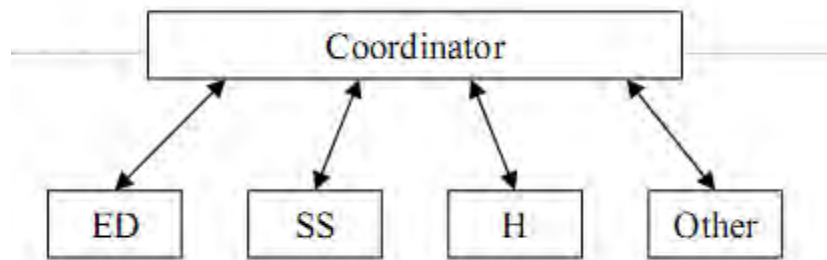
Key: ED = education agency, SS = Social Services, H = Health and other = all others

Figure 6. coordinated delivery model of multi-agency working (Atkinson *et al.,* 2002)

By using the operational delivery model, senior management at The Meadows reported that they hoped to provide a "seamless service for parents" (deputy head teacher) which offers a wide breadth of expertise, skills and experience and hope this approach encourages "joined up thinking" (head teacher) between agencies, "an efficient free flow of information" and would encourage "more creativity" (head teacher).

MAPs views on the organisation of multi-agency working at The Meadows

Through questionnaires, MAPs (Multi-Agency Professionals) who work at The Meadows were asked to rate their knowledge and understanding of various structural and organisational elements of multi-agency working at The Meadows such as the staffing structure and the organisation of the curriculum. Respondents were asked to rate the extent to which they were involved in shaping these elements and how they impacted on their involvement in multi-agency working. Chart 1 below represents the

average questionnaire response from staff (larger sized chart available in Appendix Nine).

Chart 1. Average rating of aspects of the way multi-agency working is organised and structured at The Meadows.
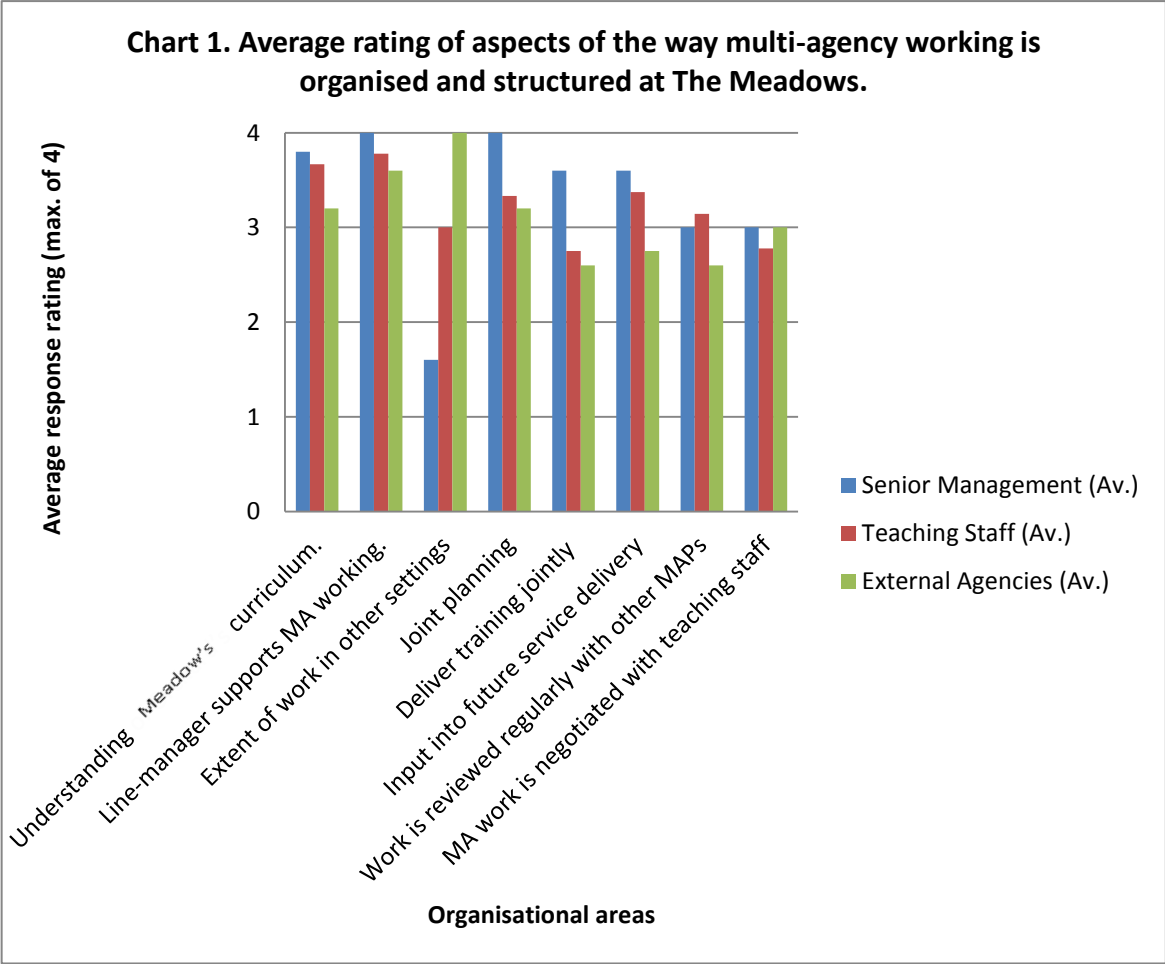
The responses were divided into three groups: senior management, teaching staff (including learning support practitioners) and professionals who are employed by external agencies such as speech and language therapists, occupational therapists, physiotherapists and psychologists. This was done to see whether there were differences between groups.

Although ratings across all areas were high for all groups, it was found that senior management rated their knowledge of the structure of The Meadows and involvement in shaping service delivery as highest across most categories. Teaching staff rated second highest across the same areas and external agencies rated lowest across these areas. This suggests that external agencies perceive they have the least understanding of The Meadows's curriculum, the least opportunities for joint planning and training delivery and the least input into future service delivery. Qualitative responses on the questionnaires from professionals employed by external agencies, suggest that time constraints are the main reason for the lack of involvement in joint planning and training.

Additionally, during interviews the head teacher reported that she felt some MAPs do not have a clear understanding of The Meadows's thematic curriculum, which leads to them to suggest additional targets which are ill-fitting with the curriculum targets already in place. The deputy head teacher agreed with this and felt this often puts increasing demands on teaching staff that are responsible for implementing targets suggested by external agencies.

2. How MAPs at The Meadows perceive their own and others' roles

A Description of key skills and knowledge MAPs perceive they and others bring to their roles

Through questionnaires MAPs were asked to list the key skills and knowledge they considered that they implemented in their role at The Meadows. This information was triangulated with data from observations and individual pupil files. Figure illustrates the key skills and knowledge used by multi-agency staff at The Meadows in their day-to-day working.

Speech and Language Therapists:

- knowledge of communication development and swallowing difficulties; and
- sign language and alternative forms of communication.

Physiotherapists:

- expertise in fine and gross motor development; and
- positioning and seating options.

Common Skills & Knowledge

- specialist knowledge;
- assessing pupil progress;
- communicating with other professionals & parents; and
- experience.

Teaching Staff (including learning support practitioners):
- communicating with parent & a wide range of profession
- experience of working with c with a wide range of need; and
- plan, teach & assess pupil progre

Educational Psychologist:

- advice on behaviour management principles;
- advice on accessing the curriculum; and
- support pupil's academic development.

Figure 7. Diagrammatic representation of key skills and knowledge

The central circle in Figure 7, entitled 'Common Skills and Knowledge', identifies a set of common skills that all MAPs employed in their work at The Meadows. The qualitative responses from questionnaires suggested that some MAPs felt that there was some "role overlap" and "lack of clarity" regarding the key responsibilities of some professionals they worked with, which at times lead to repetition in the work carried out by different individuals, particularly when assessing pupil progress. This will be explored further in the *Discussion* section of this paper.

How MAPS perceive their own roles

The next step was to explore how staff at The Meadows perceived their own roles. Through questionnaires staff were asked to rate statements relating to their role and the roles of other MAPs. Results are presented in Chart 2 (larger sized chart available in Appendix Nine).

Chart 2. Average ratings (maximum of 4) on perception of own roles
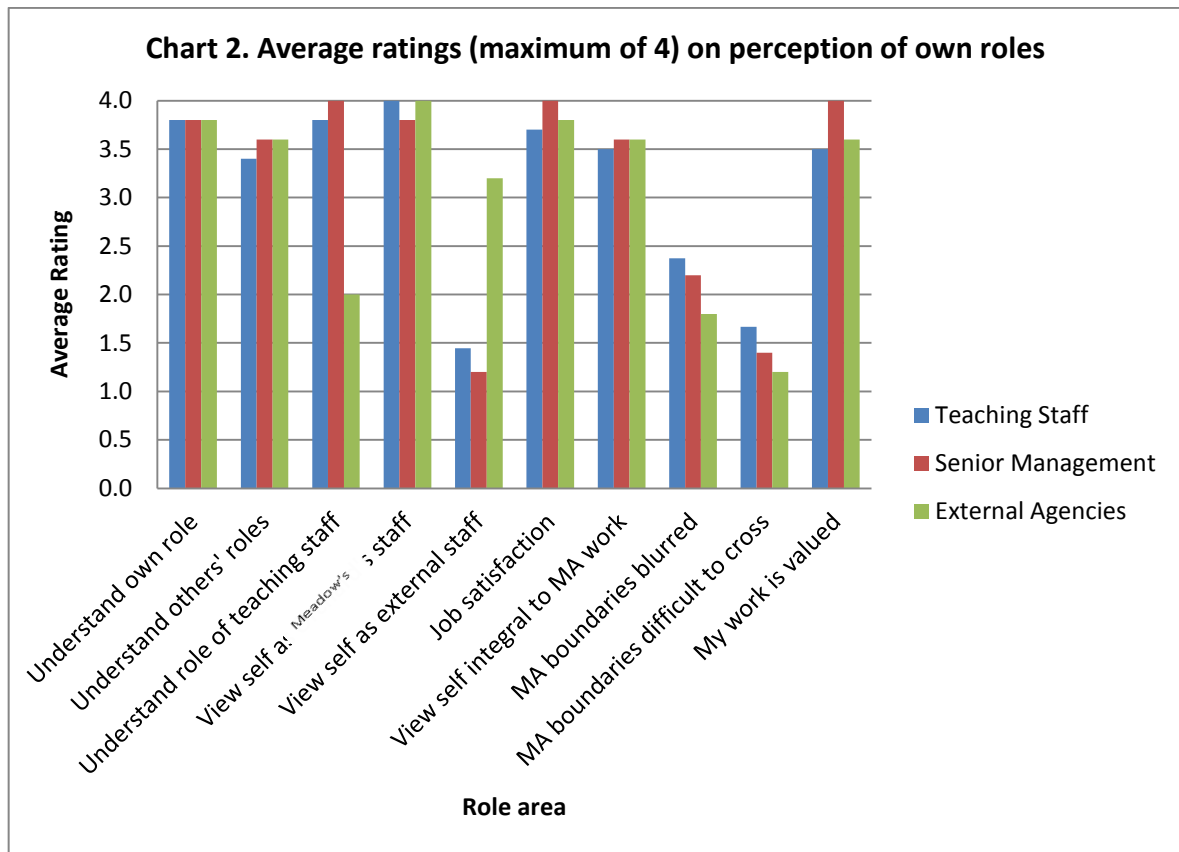
The majority of MAPs felt that they had a very good understanding of their own role and others' roles. All staff members viewed themselves primarily as a member of The Meadows staff team. Those who are employed by an external agency viewed themselves as primarily members of The Meadows staff team and also view themselves as part of an external agency. Qualitative responses from this group suggest that some individuals found that belonging to two organisations can be "difficult to manage at times," can sometimes be "frustrating" and can at times "lead to conflict." Overall, respondents felt that professional boundaries were not difficult to cross and they perceived that professional boundaries were slightly blurred.

Through questionnaires, staff were asked to rate the degree to which they understood the roles of other professionals who worked at The Meadows and how frequently they had contact with them. The results are presented in Chart 3 (larger sized chart available in Appendix Nine).

Chart 3. Level of understanding of each multi-agency professional's role (max. 4) and level of contact with each (max. 4).
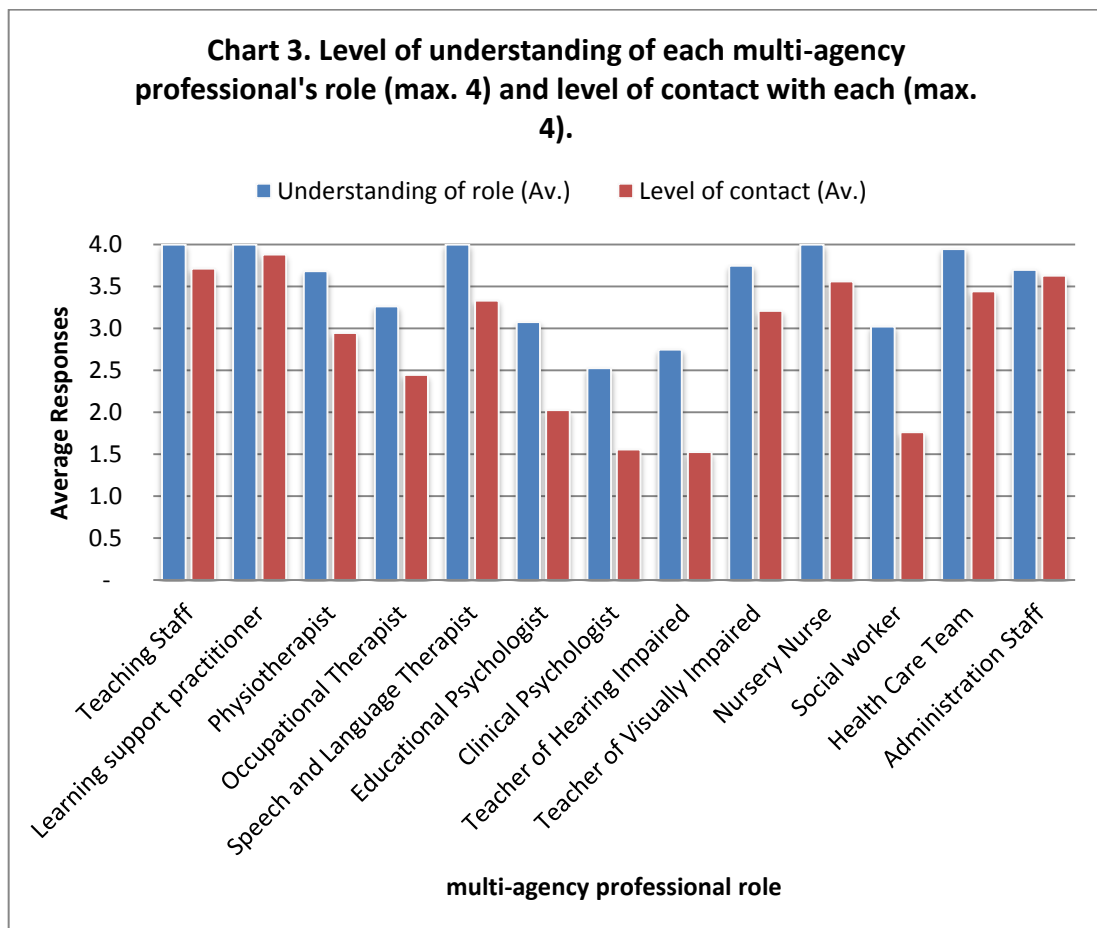
The results show that there are variations in the level of understanding of some professional roles and in the level of contact with some professional groups. From the average overall responses it is suggested that most respondents felt they had the clearest understanding of the roles of: teaching staff, learning support practitioners, speech and language therapists, the teacher of the visually impaired, nursery nurses, the health care team and administration staff. These groups were also rated as having the highest level of contact, which suggests that high contact can lead to better understanding of others' roles.

There was least contact with the clinical psychologist, the teacher of the hearing impaired, social workers and the educational psychologist. Qualitative responses from the questionnaire suggested that time restrictions affect contact with some professional groups, especially those with only one member such as the clinical psychologist, the teacher of the hearing impaired, social workers and the educational psychologist, which adversely impacted other workers' understanding of the role.

3. How could multi-agency working at The Meadows be improved for future service delivery?

In general, respondents believed that multi-agency working at The Meadows was effective and well-organised. However, qualitative responses suggested some areas

for potential improvement were: time constraints, lack of communication and role ambiguity.

Through qualitative responses on questionnaires it was suggested that communication between MAPs was an area which could be addressed to improve future service delivery at The Meadows.

Improving Communication

Seven key elements to improve communication were identified, these were:

- systems in place to allow confidential exchange of information between agencies: for example, through secure network servers;
- opportunities for multi-agency meetings at regular intervals and available on a 'as needed' basis;
- opportunities to meet as a whole staff with all MAPs who work at The Meadows to build better working relationships;
- a reliable point of contact to refer to for information and guidance when MAPs are not in school or not readily available;

- a shared area on the school's intranet where MAPs can share information, programmes and how to implement recommendations;

- ensure administration staff have a clear understanding of the responsibilities of MAPs who visit the school and are notified of when they are due to visit; and

- ensuring communication with parents presents a "clear and cohesive picture," (senior management) especially when many professional agencies are involved and there is potential for conflicting advice.

Improving understanding of other's roles

Suggestions for improving the understanding of other multi-agency professionals' roles were contributed as a way of improving future service delivery at The Meadows. Five perceived key elements to improve understanding were identified. These were:

- a profile of each multi-agency professional who operates at The Meadows that other school staff can refer to, for information about their roles and responsibilities;

- more contact with MAPs. Classroom-based staff suggested it would be helpful if MAPs spent more time in class (if possible) and had more opportunities to work directly with teaching staff, children and parents;

- more opportunities created for joint planning between MAPs and classroom-based staff.

- more staff meetings to define roles and build professional relationships; and

- more multi-agency involvement in the school's "visioning days" where future service delivery is discussed.

Trustworthiness and rigour of findings

It is agreed that *validity*, the level of confidence we have that our results are accurate, *reliability*, the level of stability over time, and *generalisability*, the view that theories generated may be useful for understanding other similar situations, are an important key to effective research (Robson, 2002). Rolfe (2006) argues that, because of the absence of a unified qualitative paradigm, attempts to judge the validity of qualitative research are inappropriate. Instead, he argues, it is the relationship between knowledge and practice that provides the key to judging research. Therefore, what I will discuss in this section is how confident I am that what I have described in this study accurately explores and reflects multi-agency working at The Meadows.

In reference to this, it is important to note some of the limitations of this particular study. One such limitation is that the findings are specific to one particular setting and limited to the moment in time the study was conducted. It cannot be assumed that results can be generalised to other cases and circumstances.

The approach used in this study does have the potential to yield conceptually rich, psychological accounts of complex phenomena (Turner, 1992).The design of this study was developed based on discussions with school staff and my own reflections, making it likely that biases exist within the findings. For example, the measures used and the research design were determined by my perceptions of what the school would find beneficial and important.

Another potential limitation is that sampling was across a number of agencies in this study, however, there are other agencies which were not involved that would have been useful to include, the most notable being social workers. Further it would have been helpful to explore parents' perspectives. The selection of agencies and interviewees may have led to the results being skewed.

In terms of data collection measures used, there are a number of strengths and limitations to each which are summarised below.

Semi-structured Interviews: This approach allows some degree of flexibility and provides a wealth of rich and illuminating verbal and non-verbal information (Robson, 2002). However, this approach lacks standardization (Robson, 2002), particularly if someone chose to replicate this study. Also, the flexibility of this approach increases the likelihood of interviewer bias.

Observations: The observation data provided rich, qualitative information embedded within the context of the setting (Robson, 2002). However, observational data are subject to interpretation by the observer and rely on what the observer chooses to attend to. Also, a lack of multiple observers can affect the trustworthiness of reported data.

Questionnaires: This approach allowed a range of individuals to be involved in the research which may not have been possible otherwise, due to time constraints. Questionnaire response rate (18%) may have been increased if the questionnaire could have been shortened or conducted at a more convenient time. Since content analysis was carried out by one researcher this may also have led to researcher bias. Overall, it is important to note that by triangulating the findings from several methods of data collection; it is possible to improve trustworthiness and confidence (Robson, 2002). Here, research methods act as filters through which projections of reality are selectively experienced and by using several measures we can increase confidence in the data generated. Also, it was found that through tentative feedback of results to participants, their corroboration of findings added to the trustworthiness of what has been reported.

Discussion and conclusions

The purpose of this study was to explore the effectiveness of multi-agency working within a provision for children with complex and profound learning difficulties by answering the following questions:

1. How is multi-agency working organised and structured at The Meadows?

2. How do MAPs at The Meadows perceive their own and others' roles?

3. How could multi-agency working at The Meadows be improved for future service delivery?

When addressing the first question, it was noted that The Meadows functions as an operational multi-agency delivery team. This approach relies heavily on effective communication and a high level of commitment from all agencies involved (Atkinson *et al.,* 2002). It relies on the effective sharing of information and resources as well as the need to find time to build good working relationships between agencies (Atkinson *et al.,* 2002; Roaf and Lloyd, 1995). When working within this model of service delivery, it is important to build knowledge and understanding of each other's roles, responsibilities and priorities in order to promote cooperation between agencies (Atkinson et al., 2002; Easen, 1998; McConkey, 2010).

When compared to staff who were permanently based at The Meadows, such as teaching staff and senior management at the school, agencies which are employed by external organisations, had the least understanding of The Meadows's curriculum and rated their involvement in joint planning and staff training as lowest. Qualitative data supported the view that these areas were a potential weakness in multi-agency working at The Meadows and that by addressing the limitations in these areas, future service delivery may be perceived as being more effective.

In particular, it was suggested that MAPs should have a clear understanding of the unique curriculum The Meadows provides for each individual pupil. Pupils work on a "thematic curriculum based on opportunity" (senior management), which includes elements of the National Curriculum and is also individually tailored to provide opportunities to develop skills and experiences in areas such as personal and social education, communication, independence and play relevant to each child.

Rushmer and Pallis (2002) suggest that for an organisation to achieve its goals and objectives, the work of individual team members must be linked into a coherent pattern of activities and relationships. The results from this study suggest there is a set of common skills that all MAPs employed in their work at The Meadows, namely: specialist knowledge, assessing pupil progress, communicating with other professionals as well as parents and drawing upon previous experience. In relation to these findings, other research suggests that blurred professional boundaries and lack of clarity around roles and responsibilities can constitute a barrier to integrated

working (Cameron and Lart, 2003). In contrast, other research has shown that joint-working *relies* upon the merging of the skill, experience and knowledge of each professional to produce positive outcomes that only working together can achieve (Rushmer and Pallis, 2002).

When investigating how multi-agency working at The Meadows could be improved for future service delivery, staff felt that improvements could be made to the effectiveness of communication between professional groups and to address role ambiguity arising from integrated working (Percy-Smith, 2005; Stewart, Petch, & Curtice, 2003): there is ambiguity around the different roles and responsibilities of professional agencies who work at the school. As mentioned previously, there is research to suggest that the merging of role boundaries is conducive to effective multi-agency working; however, staff at The Meadows feel that they would benefit from improved knowledge of the core skills and components of each MAP's role. One teacher suggested there could be a central database on the school intranet which staff could use to find out which MAP would be best to refer to for guidance on a particular issue or case, Table 2 may be an example of a starting point for this.

The results of this study are supported by findings from previous research on multi-agency working which suggest that time is a key hindrance to effective multi-agency working (Hudson, 2003; Lloyd-Bennett & Melvin, 2002; Stead et al., 2004; Walker, 2003). This study indicates that The Meadows could further develop communication and understanding. This could be encouraged through increased joint working and

opportunities for contact through meetings and training; better knowledge of each others' roles would also help individuals work together effectively. Encouragingly, professionals at The Meadows are generally finding joint working a beneficial and positive experience and are keen for it to develop.

Through a mixed-method approach this study captures the opinions and reflections of a group of professionals who have developed successful collaboration to support children with complex and profound learning difficulties who attend The Meadows and has explored ways in which this success can be built upon for future practice.

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Appendices

Appendix One: Research Procedure

Time	Action
September	On an informal visit to the setting, The Meadows staff mentioned a need for research to be conducted within the school. They felt research could help the school develop future service delivery. I suggested a discussion is held with school staff to identify some potential research areas.
Early October	I met with school SENCo to discuss potential research areas. The evaluation of multi-agency working is agreed. I was asked to conduct the research.
Mid October	I met with the SENCo, early years coordinator and deputy head teacher to discuss research questions and aims to be investigated.
End October	A research brief was emailed (See Appendix Four) outlining the aims of the research, research objectives, approach, methodology, timings and contact details, including why information will be collected and how it would be used. Staff were asked to provide feedback on research brief.
Early November	I visited The Meadows to conduct a semi-structured interview with the early years coordinator, deputy head teacher and head teacher to learn about the school and how multi-agency working functions.
Mid November	I conducted observations over two mornings (approximately seven hours) to collect data. The purpose was to describing four things: the skills and knowledge staff were employing in their role, working relationships between multi-agency staff, how multi-agency working was structured or organised and what kind of support was offered by MAPs.
End November	I explored pupil files for information. The purpose was to explore the skills and knowledge MAPs were employing in their role and how multi-agency working was structured.
December	Data was collected through the use of questionnaires.

Appendix Two: Semi-structured Interview Questions and links to Literature

Review

Questions for semi-structured interviews	Dimensions from the literature	Citation
1. Could you list the MA professionals which currently work at The Meadows?	An essential part of all research is to identify the target population so that a sample can be obtained.	Cohen *at al*., (2007)
2. Approximately what percentage of work at The Meadows involves a multi-agency element? _____	Research has highlighted the need for professional agencies to work collaboratively. Research suggests multi-agency working has increased.	Carpenter, (2000) Barnes (2008) McConkey, (2001)
3. Can you describe the past, present and future picture of MA working at The Meadows?	Research suggests there has been a gradual shift in the perception of multi-agency working, with it being a higher priority in recent times.	Atkinson *et al*., (2002).
4. What are the aims of MA working at The Meadows?	Research suggests that having common aims and objectives to work towards which are clearly understood and agreed by all involved is essential for effective multi-agency working.	(Atkinson *et al.,* 2002) Wilson and Pirrie, 2000
5. How would you describe working relationships between MAPs at The Meadows	Having good working relationships is highlighted in several pieces of research as being a facilitator to effective multi-agency working.	(Atkinson *et al.,* 2002) Wilson and Pirrie, (2000)
6. How is MA working at The Meadows structured/organised? 7. How is multi-agency work at The Meadows planned? What factors facilitate/hinder this process? 8. How is multi-agency	Research at an organisational level found that factors which facilitate multi-agency working include: the planning, implementation and ongoing management of multi-agency services; clear and realistic aims and objectives that are easily understood and accepted; clearly defined roles and responsibilities with clear lines of accountability.	Sloper (2004) Wilson and Pirrie, (2000)

work at The Meadows monitored/reviewed? What factors facilitate/hinder this process?	56	
9. In your view is MA working at The Meadows valued? By whom?	Motivation, commitment and willingness are identified as key skills for effective multi-agency working.	Hymans (2008) (Atkinson *et al.,* 2002)
10. What are some of the difficulties faced when working collaboratively at The Meadows 11. In your view, how could multi-agency working be improved at The Meadows?	Literature from an organisational psychology perspective suggests that simply putting individuals from professional groups together does not necessarily lead to effective multi-agency or collaborative working and that each organisation will face unique obstacles to this which need to be addressed.	Clark (1993) Pirrie *et al*., (1998).

Research Brief

1. Background

The present study is a small-scale investigation to explore multi-agency working at The Meadows School, specialist provision for children aged 2-11 years old, with complex and profound learning difficulties.

This project will involve gathering information about how the school functions as a multi-agency team and factors which facilitate or hinder multi-agency working in light of improving future practice.

The researcher is an Educational Psychologist in Doctoral training, currently employed by Newtown Inclusion Service.

2. Research Objectives

The aim of this research is to answer three broad questions:

1. How is multi-agency working organised and structured at The Meadows?

2. How do multi-agency professionals (MAPs) at The Meadows perceive their own and others' roles?

3. How could multi-agency working at The Meadows be improved for future service delivery?

The answers to these questions will provide information relevant to The Meadows School, which could be used to inform future multi-agency working.

3. Approach & Methodology

The researcher will hold a semi-structured interview with the school SENCo.

Following this the researcher will visit The Meadows to informally observe classes and talk to staff, as a means of learning about the Unit, its pupils and staff, how it functions as a multi-agency organisation.

Data will be gathered through the use of questionnaires from a range of multi-agency professionals exploring the research questions outlined above.

Data will also be collected from pupils files held at Newtown Inclusion Service, Statements of SEN and IEPs, in order to gain information about how multi-agency professionals at The Meadows work collaboratively.

4. Timings

A period of eight weeks commencing Tuesday, October 19th has been allocated for this project.

5. Contact Details

Further information or questions regarding the project can be made via the contact details provided below:

Sabreen Athwal (*Trainee Educational Psychologist)*

████████████████████
████████████████
██████

Appendix Four:
Observation Schedule exemplar

Skills and Knowledge (describe some of the key skills observed, what kind of specialist and non-specialist knowledge is applied? What tasks do MAPs engage in?)

Working relationships (describe interaction with other MAPS, teaching staff and non teaching staff. Describe the types - e.g. info sharing - of interactions observed between MAPs? Comment on proximity)

Structure and organisational factors (describe who work is coordinated, opportunities for join planning, links to curriculum etc. Which MAPs communicate with each other?)

Support (comment on the level support is offered at e.g. professional/personal/child-centred/group-centred/staff centred)

Appendix Five: Cover Letter and Questionnaire

Dear Colleague,

The present study is a small-scale investigation of multi-agency working at █████████ █████, a special school catering for children aged 2-11 years old, with complex and profound learning difficulties.

This project will involve gathering information about multi-agency collaboration and factors which facilitate or hinder multi-agency working within the school. I hope your responses can then be collated, fed back to you and built upon to inform future development of practice at The Meadows.

I am a trainee Educational Psychologist in my second year of training at █████████ █████████ and am currently employed by Sandwell Inclusion Service. I am asking you to take approximately 10 minutes to complete the enclosed questionnaire.

All responses will be treated confidentially. You are free to withdraw from the study at any time and to refrain from providing information you would prefer not to share.

For further information or questions regarding the project, contact details are provided below:

Sabreen Athwal (*Trainee Educational Psychologist*)
█████████████████
████████

Telephone number: ████████
 E-mail: ████████████████

Questionnaire[5]

Section 1: Background Information

Your role at The Meadows_____ Number of years worked at The
Meadows _____

Section 2: Communication between multi-agency professionals.

**Please tick the corresponding box in response to each statement. Try to choose the
response that summarises the majority of your experience of multi-agency work at The
Meadows to-date.**

	1 = not true	2 = sometimes true	3 = mostly true	4 = certainly true	Don't know
I regularly communicate with other multi-agency professionals at the Meadows.					
I am able to freely share and request information from other multi-agency professionals at The Meadows.					
I think there are opportunities for informal discussions between multi-agency professionals.					
I think multi-agency working at The Meadows provides a cohesive service for parents.					

**In your opinion, in what ways could any of the above be changed to improve future multi-
agency working at The Meadows?**

6
_____

*Section 3: Understanding of own and other multi-agency professional's roles at The
Meadows.*

3a. Try to briefly summarise how you would describe your own role within The Meadows.

_____

---

[5] Please note that the questionnaire was 4 sides of A4 paper, in this appendices it has been altered to meet
thesis requirements for presentation and appears longer in length
[6] Space for writing responses has been condensed for the purpose of the appendices

3b. Try to briefly highlighting the distinctive knowledge and skills which you bring to your work in The Meadows.

_____

3c. Try to briefly highlight the key tasks or activities you fulfil in your work at The Meadows.

_____

3d. In column 2, indicate how fully you feel you understand each staff member's role and the knowledge and skill set they bring to their work. 4 = high; 3 = moderate; 2 = a little; 1= almost none.

Use column 3 to rate how closely / frequently, you typically work with each member of staff. 4 = very frequent; 3 = moderately ; 2 = little; 1= almost none.

1. Staff member	2. Knowledge and understanding of their role and skills (rate 1-4)	3. Level of working contact (Rate 1-4)	1. Staff member	2. Knowledge and understanding of their role and skills (rate 1-4)	3. Level of working contact (Rate 1-4)
Teaching staff			Teacher of Hearing Impaired children		
Learning Support Practitioner			Teacher of Visually impaired children		
Physiotherapist			Nursery Nurses		
Occupational therapist			Social Worker		
Speech and Language Therapist			Health Care Team		
Educational Psychologist			Administration Staff		
Clinical Psychologist			Other (please specify)		

3e. For each section, please tick the corresponding box in response to each statement.

	1 = not true	2 = sometimes true	3 = mostly true	4 = certainly true	Don't know
I have a clear understanding of my role within the multi-agency team.					
I have a clear understanding of other professionals' roles within the multi-agency team.					
I view my professional role primarily as a member of The Meadows's staff team.					
I have a good understanding of the roles and responsibilities of teaching staff.					
I view myself primarily as a member of an external agency.					
I get job satisfaction from my work.					
I view myself as an integral part of multi-agency working at The Meadows.					
I find professional boundaries between multi-agency staff at The Meadows are blurred.					
I think professional boundaries between multi-agency professionals at The Meadows are difficult to cross.					
I feel my work at The Meadows is valued.					

In your opinion, in what ways could any of the above be changed to improve future multi-agency working at The Meadows?

_____

Section 4: Organisation and structure of The Meadows

	1 = not true	2 = sometimes true	3 = mostly true	4 = certainly true	Don't know
I have a good understanding of The Meadows's curriculum.					
My line-manager supports multi-agency working.					
I work in, and have professional allegiances to other settings, as well as The Meadows.					
I plan work jointly with other professionals at The Meadows.					
I deliver training jointly with other professionals at The Meadows.					
I have given input into the planning of future service delivery at The Meadows.					
My work is reviewed regularly with other multi-agency professionals at The Meadows					
Multi-agency work is negotiated with teaching staff.					

In your opinion, in what ways could any of the above be changed to improve future multi-agency working at The Meadows?

_____

Section 5: Environmental factors.

	1 = not true	2 = sometimes true	3 = mostly true	4 = certainly true	Don't know
I think The Meadows provides a good base for multi-agency work.					
The Meadows provides an environment which facilitates multi-agency working.					

In your opinion, in what ways could any of the above be changed to improve future multi-agency working at The Meadows?

_____

_____

Section 6: Other Factors influencing multi-agency working

Are there any factors, not included in this questionnaire, which you feel facilitate or hinder multi-agency working at The Meadows?

_____

_____

Appendix Six: Questionnaire Questions and

Reference to Literature Review

Questionnaire Section	Dimensions from the Literature	Citation
1.　background information, which explored the respondents' role and time worked at The Meadows;	Start questionnaire with simple questions about self and role.	Robson (2002)
2.　communication between MAPs including: teaching staff; physiotherapists; occupational therapists; speech and language therapists; a specialist teacher of the visually impaired; a specialist teacher of the hearing impaired; clinical psychologist; and educational psychologist.	Effective communication and information sharing is an essential part of MA working.	Atkinson *et al., (*2002) Sloper (2004) Roaf (2002)
3.　understanding of own and other multi-agency professional's roles at The Meadows;	Clearly defined roles and responsibilities with clear lines of accountability are essential part of MA working.	Sloper (2004) Hymans (2008)
4.　perspectives on organisation and structure of multi-agency working at The Meadows as these facilitated or inhibited each respondent's own work and overall multi-agency working within the school; 5.　environmental factors which may affect multi-agency working; and 6.　Other Factors influencing multi-agency working.	The following are essential part of MA working: planning, implementation and ongoing management of multi-agency services; clear and realistic aims and objectives that are easily understood and accepted; clearly defined roles and responsibilities with clear lines of accountability; strong leadership from a multi-agency steering or management group; ensuring good systems of communication and information sharing at all levels; and an agreed timetable and incremental approach for change.	Sloper (2004) Atkinson *et al.,(* 2002)

Appendix Seven:
Pilot Feedback Summary

Pilot feedback summary

Through informal discussion, language unit staff were asked to briefly evaluate the pilot questionnaire (See Appendix Five) after completing it.

The overall feedback was that, the style and the wording of the accompanying letter was clear and they appreciated having contact details provided for further information or questions about the project.

Respondent felt that the instructions for completing the questions were simple and easy to understand.

Respondents felt that a 'don't know' category should be added to the response options for questions in section 2, 3d, 3e, 4 and 5. This column was added.

Some wanted a bit more space to report qualitative information on the form, so another two lines were added.

Respondents were generally pleased with the length of the questionnaire and said they would be 'put off' if it were any longer than two A4 sides. Also, they felt there was a good balance of open and closed questions and thought there was a good variety of question styles overall.

After the interviews were complete, through informal discussion, participants were asked to reflect on the interview process. From feedback, it was found that respondents felt they had been able to answer questions in their own time and in their own way. Participants said they felt relaxed and liked my interview style, as it was informal and "put them at ease."

Finally, they felt that all of the questions asked were relevant, there was not very much repetition and there were no suggestions for removing any of the other items used.

Appendix Eight:
Content analysis of data from observations and interviews, based on the procedure outlined by Cohen and Manion (2007).

Step 1: The research question

How is multi-agency working organised and structured at The Meadows?

In particular, I want to find out which model of multi-agency working staff at The Meadows work towards. There are a number of models proposed by Atkinson *et al*., (2005); do any of these fit with how MAPs at The Meadows operate?

To answer this, I need to know:

- which MAPs communicate with each other regularly?; and
- what type of information is shared between MAPs?

Step 2: Define the population.

I want to learn about at the working relationships between all multi-agency professionals who work at/with The Meadows:

This could include: teaching staff; teaching assistants; physiotherapists; speech and language therapists; occupational therapists; clinical psychologists; educational psychologists; senior management staff, coordinators; parents; driver; administration staff; social workers; pupils; medical professionals such as paediatricians; meal-time supervisors; administration staff; and social workers.

Step 3: Define the sample.

Based on convenience sampling, which is sampling based on access (Cohen *et al*., 2007)

- I can interview: senior management staff; coordinators head teacher and deputy head teacher.

- I can observe: teaching staff; teaching assistants; physiotherapists; and speech and language therapists.

Based on systematic sampling (Cohen *et al*., 2007), 3 pupil files from each key stage will be looked at.

Step 4: The generation of material.

Narrative observation schedules will be used to record observation data.

I will observe an hour in four classes. The purpose is to describing four things: the skills and knowledge staff were employing in their role, working relationships

between multi-agency staff, how multi-agency working was structured or organised and what kind of support was offered by MAPs.

I will hold Interviews and record them on a tape-recorder. Interview questions will be generated from the literature review (see Appendix Two)

Step 5: Define the units of analysis.

 I will be reading the text written down during observations.

I will listen to the interviews.

The units of analysis will be phrases from the data that will be assigned codes for analysis.

S*tep 6: Codes for analysis.*

I will use descriptive codes (Cohen and Manion, 2007) to code interactions between MAPs.

Whilst reading the data collected from observations, I will highlight:

- when a MAP directly interacts with another MAP. This will be mapped to show which maps interacted with each other during my observations;
 - observed skills and knowledge staff were employing in their role; and
- how multi-agency working was structured or organised;

The codes themselves will come from the data responsively. I will go through the data and ascribe codes.

Step 8: Coding

I read the observation data, and listened to the interview data and highlighted:

- MAPs observed (MAP);
- when MAPs generally <u>spoke</u> to each other (GSL);
- when MAPs spoke about a pupil (PSL);
- when MAPs <u>shared information</u> (ISL);
- when MAPs <u>worked in the same classroom </u>(WC);
- when MAPs displayed use <u>skills or knowledge</u> (S&K); and
- when a MAP worked in <u>isolation</u> (ISO);

Step 9: Analysis

I summarised the patterns and relationships which emerged and created a diagram to represent what I found (see below).

- MAPs observed (MAP);

This included: physiotherapists, speech and language therapists, teachers and teaching assistants.

- when MAPs generally <u>spoke</u> to each other (GSL); when MAPs spoke about a pupil (PSL); and when MAPs <u>shared information</u> (ISL).

- There was a two way exchange of information between the MAPs observed. The health professionals shared information with educational professionals and vice versa.
- Educational professionals shared information with each other.
- Health professionals were not observed sharing information with each other. The information exchange was usually centred on a pupil or a number of pupils. There was very little conversation outside of this.

I will need to look at files to see which other MAPs communicate with each other and what this communication looks like to get a broader picture.

- when MAPs <u>worked in the same classroom</u> (WC); when a MAP worked in <u>isolation</u> (ISO).

- Majority of work (approximately 95%) by external agencies was outside of the classroom e.g. physiotherapy in another room with equipment.
- Educational staff worked in the same room for approximately 75% of the time, with some work outside of the classroom e.g. in sensory room.
- Most work (approximately 95%) with pupils was done in isolation with little collaboration between MAPs.

I will need to look at files to see which other MAPs work with each other and what this collaboration looks like to get a broader picture. Explore in more depth in questionnaire.

- when MAPs displayed use <u>skills or knowledge</u> (S&K)

- Skills/knowledge displayed by Speech and Language Therapists: knowledge of communication development and swallowing difficulties; and sign language and alternative forms of communication.
- Skills/knowledge displayed by Physiotherapists: expertise in fine and gross motor development; and positioning and seating options.
- Skills/knowledge displayed by teaching Staff (including learning support practitioners): communicating with parents & a wide range of professionals; experience of working with children with a wide range of need; and- plan, teach & assess pupil progress.

I will need to look at files to see what other skills and knowledge MAPs bring to their roles. This could be a question on the questionnaire also.

Appendix Nine:
Tables

Chart 1. Average rating of organisational and structural factors at The Meadows
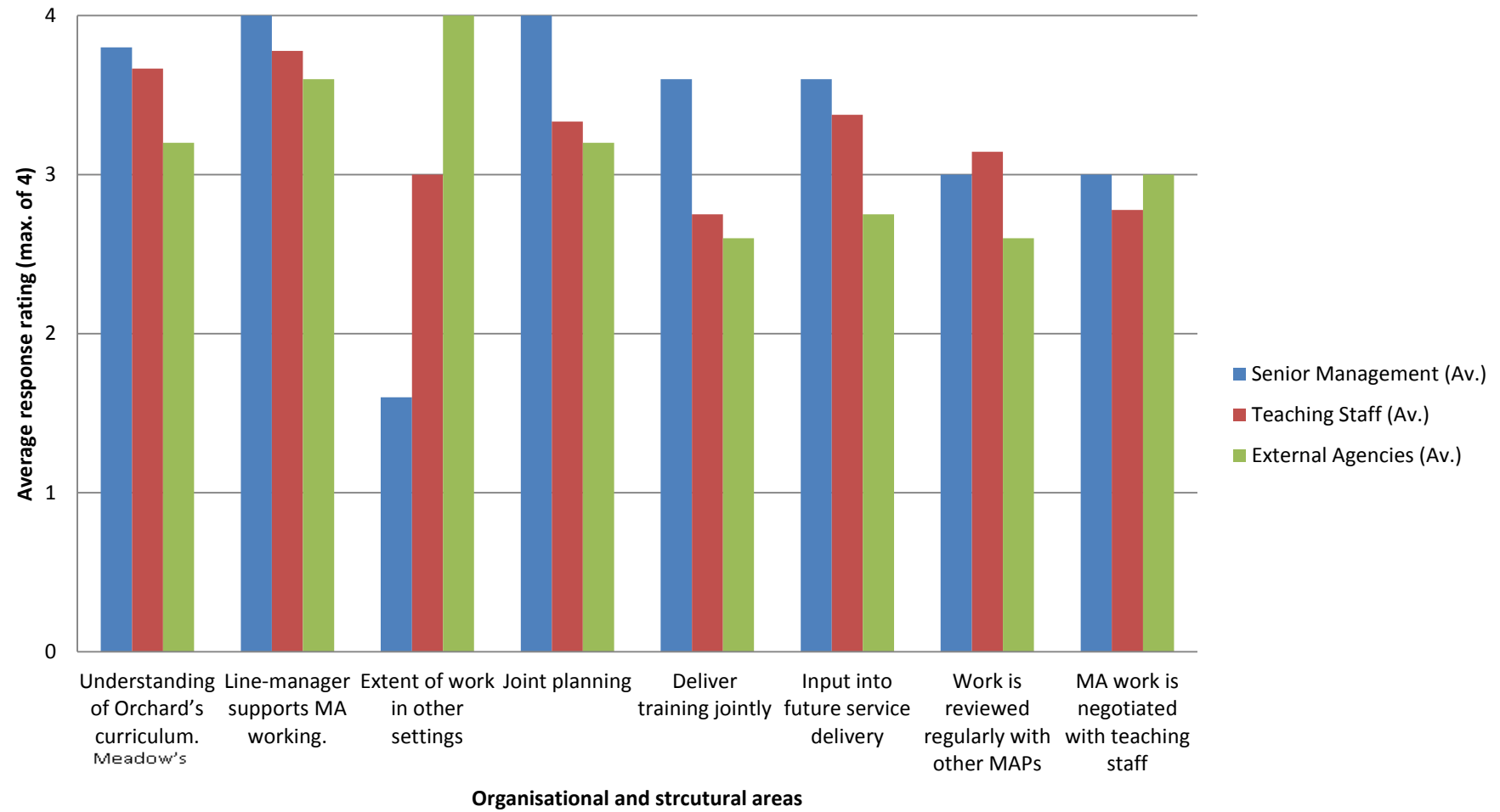
Chart 2. Average ratings (maximum of 4) on perception of own roles
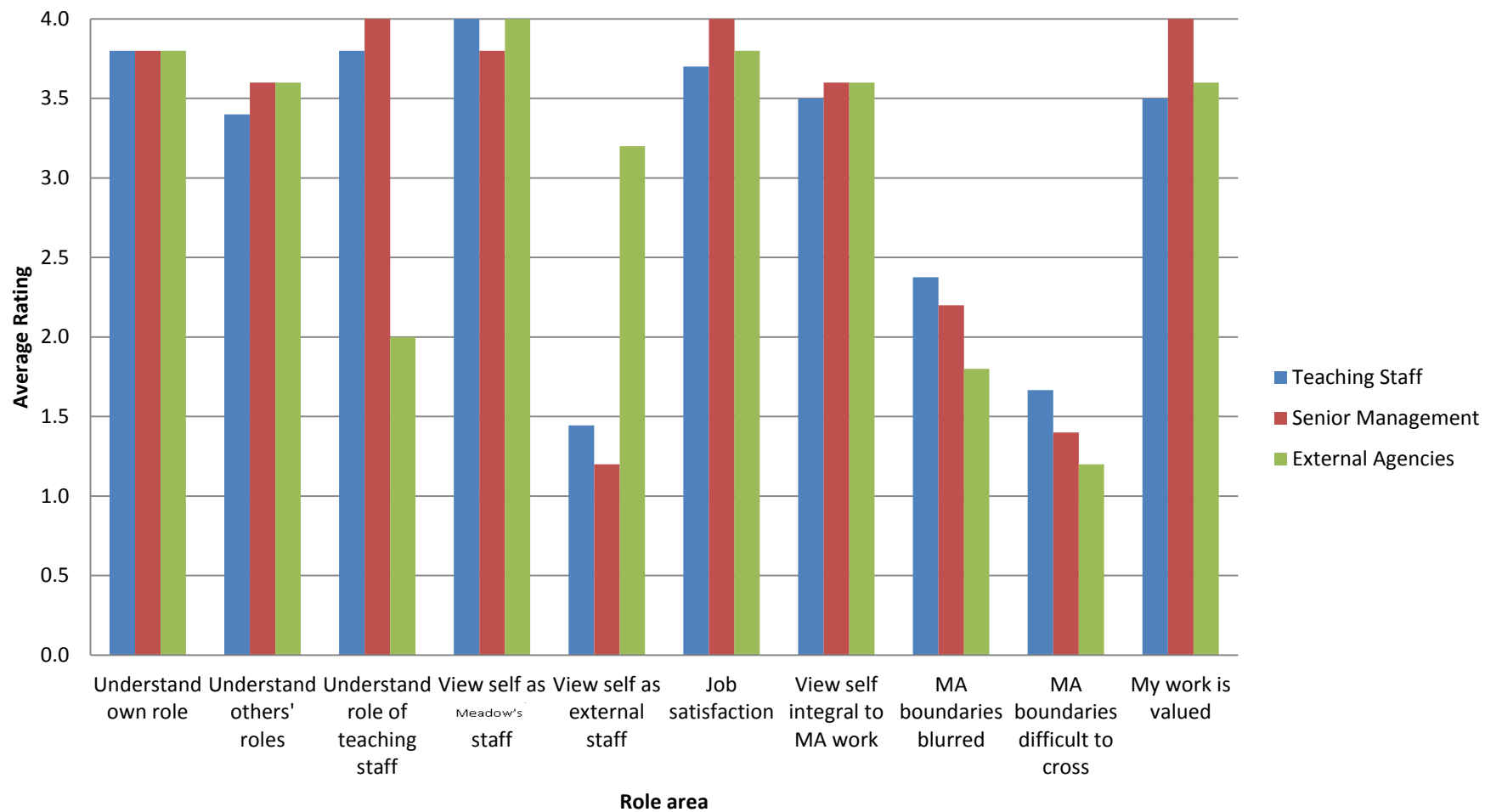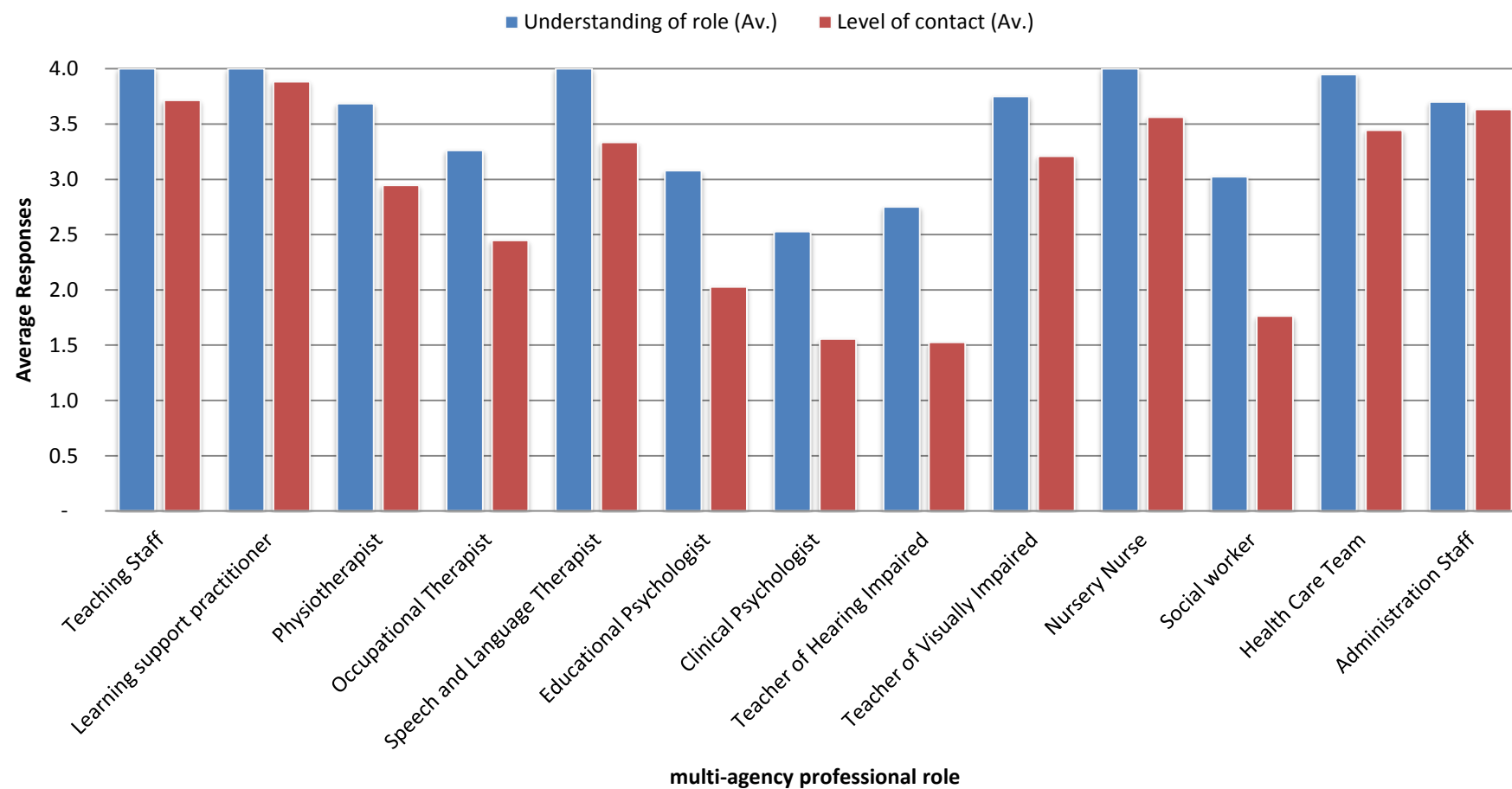
Chart 3. Level of understanding of each multi-agency professional's role (max. 4) and level of contact with each (max. 4).

■ Understanding of role (Av.)   ■ Level of contact (Av.)

Average Responses

multi-agency professional role

Educational Psychologists using Dynamic Assessment to assess the needs of Children and Young People

Abstract

The aim of this study is to investigate the current profile of Dynamic Assessment (DA) and explore the role it could play in the work of Educational Psychologists (EPs), particularly when assessing the needs of young people in schools and developing interventions to aid their progress. This paper addresses these aims through three parts. Part one is a review of contemporaneous and historic evidence for using DA with young people and demonstrates some of the approach's potential strengths and limitations. Part two describes a case example, involving the application of DA to my work with a young person, highlighting its applicability and the skills required to deliver such an approach. Part three is my reflection on the development of this report and the role of DA within the domain of EP practice. The central conclusion drawn is that DA should be incorporated as part of EPs broader assessment framework, as a complementary approach to other forms of assessment typically used such as, observation, interview and consultation. Within a profession such as educational psychology where practitioners frequently work with young people who have complex and unique needs, DA can contribute towards the development of meaningful recommendations for educational practitioners.

Introduction

The assessment of young people: a brief historical context

A core component of the Educational psychologists' (EPs') practice is to provide ideas for supporting young people's learning in schools (Hick et al., 2009). As a result, individual assessment of young people has historically been viewed as synonymous with the role of EPs and remains an area of continuing interest (Freeman and Miller, 2001; MacKay, 2007), particularly, the assessment methods EPs use, their purposes, benefits and limitations.

Historically, the role of EPs has been viewed as rooted in a *medical model*, with a notable bias towards individual psychometric testing approaches (Freeman and Miller, 2001). As a result, EPs have been criticised for attributing learning difficulties to individual child deficit (Hick et al., 2009) and for underestimating the impact that school, family and the environment could have on a learner's progress as well as the contribution these systems could make towards prevention and intervention (Farrell, 2009).

Over the past two decades there have been significant changes in the way EPs approach assessment. *The reconstruction of the profession* throughout the 1970s

and 1980s encouraged EPs to move away from individual testing towards an approach to assessment and intervention which aimed to facilitate systemic change in schools (MacKay, 2007) by focussing on context, as well as the learner and learning outputs (Jensen et al., 2002).

Recent evidence suggests that individual testing still form a central part of EPs' assessment approach (Farrell, 2009); however, it now usually forms only one part of a broader assessment framework. For example, the Association of Educational Psychologists (2004) guidance on statutory psychological assessment highlights the importance of consultation with, and observation of, the child or young person and adults who know or work with them. This has led to a systemic way of working which integrates a range of assessment methods.

A study by Woods and Farrell (2006), involving questionnaire responses from 142 EPs, found that they report using a wide array of assessment tools as part of their routine work, such as:

- interviews with children, staff and parents;

- observations of learners in different contexts;

- review meetings;

- complementary psychological assessment approaches incorporating cognitive, behavioural, affective, meta-cognitive and curriculum-based methods;

- in some cases EPs may ask school staff to conduct assessments, for example, where children have suspected dyslexia; and

- consultation, whereby, EPs work collaboratively with parents, teachers and other key adults, drawing on their expert formulations about the child or young person's learning or behaviour.

Within the same study, factors reported to influence choice of psychological assessment were cited as, availability of time; expectations from school or local authority to complete cognitive assessment; availability of opportunities for joint working and the EPs own theoretical approach to assessment.

In summary, EPs operate a broad assessment framework. Individual EPs are likely to adopt different assessment methods, often in combination, to suit different purposes, with a central aim being to conduct a holistic and child-centred assessment of the learner's needs. Evidence suggests that the 'most common' ways of achieving this are, interview and observation methods; standardized attainment tests; problem solving facilitation and joint review of progress (Woods and Farrell, 2006). However, EPs may experience conflicting pressures from academia, policy development and custom-and-practice that affect their decisions about which

4

assessment approaches to use, for example, these factors are often cited as influencing whether or not psychometric cognitive assessments are used (Woods and Farrell, 2006).

Aims of the report

The aim of this study is to investigate the role that DA has as part of EPs broad assessment framework. This aim will be addressed through three parts.

In Part One, I will review historic and contemporaneous evidence for the use of DA with young people. I particularly intend to demonstrate some of the strengths and limitations of DA and consider the implications for EP practice.

In Part Two, through illustrating a case example, I aim to provide a detailed overview of the application of DA during my work with a young person. Through reflection, I also aim to demonstrate the skills required to deliver such an approach.

In Part Three, through reflection, I plan to consider the potential role DA could play within EP practice.

Therefore, the aim of this study is to answer the following questions:

1. What are some of the potential benefits of using DA to assess the learning needs of young people?

2. What are some of the potential limitations of using DA to assess the learning needs of young people?

3. In relation to the evidence presented in this report, what are the potential implications for the practice of EPs?

Part One: Literature Review and Critique

What is dynamic assessment?

DA is an interactive method of assessment that examines the cognitive functions

(see Figure 1 for a list of cognitive functions commonly associated with DA) of a

learner, by employing a test-teach-test format and suggests ways of improving

functioning in these areas (Feuerstein et al., 1979). As a result of this broad

definition, DA is often viewed as an "umbrella term used to describe a heterogeneous

range of approaches" (Elliott, 2003, p. 16). Rather than a specific approach, it is a

conceptual system in psychology and education, whose intention is to blend

assessment and teaching.

Theoretical framework of DA

DA is based on the view that the measurement of an individual's potential for learning

is *just* as important as measuring the actual level of learning itself (Vygotsky, 1978).

Researchers such as Feuerstein et al., (1979) developed this idea further and

introduced the theory of Structural Cognitive Modifiability (SCM). The approach to

DA discussed in this paper is based on Feuerstein's theory of SCM

(Feuerstein, 1990).

SCM suggests that intelligence should be examined from a biological and socio-cultural perspective and should be viewed as open, flexible and amenable to change through a Mediated Learning Experience (MLE). MLE describes the interaction between a learner and a mediator (see Figure 2 for an illustration of MLE).

Figure 2: Representation of Feuerstein's Mediated Learning Experiences (Source: Feuerstein and Feuerstain, 1991)
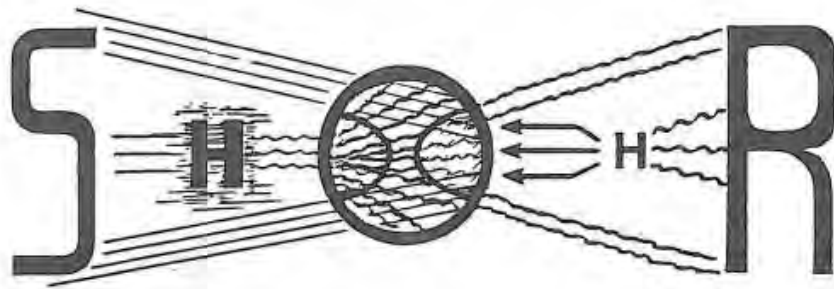

Figure 2, shows how the inclusion of a mediator may change the situation of direct learning into mediated learning. The mediator ("H" in the diagram) intervenes in the learning process by placing themselves between the learner and the stimulus ("S" in the diagram) and between the learner and the response ("R" in the diagram).

Figure 1 : list of cognitive functions commonly associated with DA (Source: Lomofsky and Young, 2010).

COGNITIVE FUNCTIONS

INPUT PHASE GATHERING INFORMATION		ELABORATION PHASE PROCESSING OR USING INFORMATION		OUTPUT PHASE EXPRESSING THE CONCLUSION	
Cognitive Function	Deficient Cognitive Function	Cognitive Function	Deficient Cognitive Function	Cognitive Function	Deficient Cognitive Function
1. Clear Perception	Blurred and Sweeping Perception	1. Accurate Definition of the Problem	Inadequacy in Recognizing and/or Defining the Problem	1. Using Clear and Precise Language	Egocentric Communications
2. Systematic Exploration	Impulsive Exploratory Behavior	2. Selection of Relevant Cues	Inability to Select Relevant vs. Irrelevant Information	2. Thinking Things Through Before Responding	Trial and Error Behavior
3. Precise and Accurate Labeling	Lack of Appropriate Labels	3. Internalization of Information	Lack of, or Impaired, Internalization	3. Waiting Before Responding	Impulsivity
4. Well-developed Orientation in Time and Space	Lack of, or Impaired, Temporal and/or Spatial Orientation	4. Planning Behavior	Lack of, or Impaired, Planning Behavior	4. Staying Calm	Blocking
5. Conservation of Constancies	Lack of, or Impaired, Ability to Conserve Constancies	5. Broad Mental Field-Remembering	Narrowness of the Mental Field	5. Precision and Accuracy in Communicating Data and Information	Lack of Precision and Accuracy in Communicating Data and Information
6. Capacity to Consider More Than One Source of Information	Inability to Use Two or More Sources of Information at Once	6. Recognizing and Understanding Relationships	Lack of a Need for Establishing Relationships *EPISODIC GRASP OF REALITY	6. Clear Visual Transport	Deficiency in Visual Transport
7. Need for Precision, Accuracy, and Completeness in Data Gathering	Lack of Precision, Accuracy, and Completeness in Data Gathering	7. Spontaneous Comparative Behavior	Lack of Spontaneous Comparative Behavior	7. Adequate Verbal Tools	Inadequate Verbal Tools
		8. Categorizing	Inability to Categorize	8. Projection of Virtual Relationships	Difficulty in Projecting Virtual Relationships
		9. Inferential-Hypothetical Thinking	Lack of, or Impaired, Inferential-Hypothetical Thinking		
		10. Using Logic to Arrive at and Defend Conclusions	Lack of a need for Pursuing Logical Evidence		
		11. Spontaneous Summative Behavior	Lack of a Need for Summative Behavior		
		12. Adequate Verbal Tools	Inadequate Verbal Tools (for elaboration)		

* This deficiency can be related to several cognitive functions.

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Wood, Scott, Taddeo, 2000
Adapted from Organization of Dots p. 20 and other versions of Cognitive Functions and Deficient Functions published by Reuven Feuerstein.

The mediator selects, changes and interprets both the stimuli that come to the learner and the learner's responses. Feuerstein (1990) proposed that the mediator should offer support based on: **Intentionality**, **Reciprocity**, **Transcendence**, and **Meaning** (defined below) with the central aim being that MLEs may improve cognitive deficiency and encourage the learner to be independent and self-regulating.

I**ntentionality** is when the mediator is trying to focus a child's attention to facilitate more efficient registration of information (Input Phase), adequate processing (Elaboration Phase), and accurate responding (Output Phase, Tzuriel and Shamir, 2007).

Reciprocity is the learner's response to the mediator's behaviour (Tzuriel and Shamir, 2007). This enables the mediator to adjust their mediation and continue the process efficiently. Intentionality and Reciprocity are observed, for example, when a mediator intentionally focuses the child's attention on an object and the child responds overtly to that behaviour.

Transcendence in DA is when the mediator goes beyond the concrete context or the immediate needs of the child and tries to reach out for general goals that are not bound to the ''here and now'' (Tzuriel and Shamir, 2007). For example, the mediator might teach rules and principles that govern a problem or a learned subject and show how they are generalized to other school subjects or daily life situations.

Meaning in DA, is where the mediator tries to help the learner understand the relevance or functions of different skills. For example, mediation may be carried out in different ways, such as "arranging, organising and sorting out stimuli, giving them meaning and expansion so they can be absorbed and assimilated by the child" (Tzuriel and Shamir, 2007, p.145).

Feuerstein (2003) also suggested that effective learning should include **intersubjectivity** and **scaffolding** (defined below).

Intersubjectivity refers to a process whereby two learning partners negotiate a mutual understanding of a task and how to proceed with its solution (Newson and Newson, 1975). In a DA situation, for example, the examiner may point out to the child the links between a new task and a familiar one that the child already knows.

Scaffolding refers to a process by which an experienced partner changes the degree and quality of support provided to the less skilled partner as they become more proficient (Bruner, 1983; Wood, 1989; Wood, at al., 1976). For example, in DA when the child has little notion of how to proceed in solving a problem, the assessor might break the task into manageable units and call the child's attention to specific parts. As the child's competency grows, the assessor withdraws their support gradually and encourages the child to take independent steps toward mastery and self-regulation.

Feuerstein's model of DA incorporates a tripartite learning model (see Figure 3).

Figure 3: Feuerstein's Tripartite Learning Model (Feuerstein, 1990)
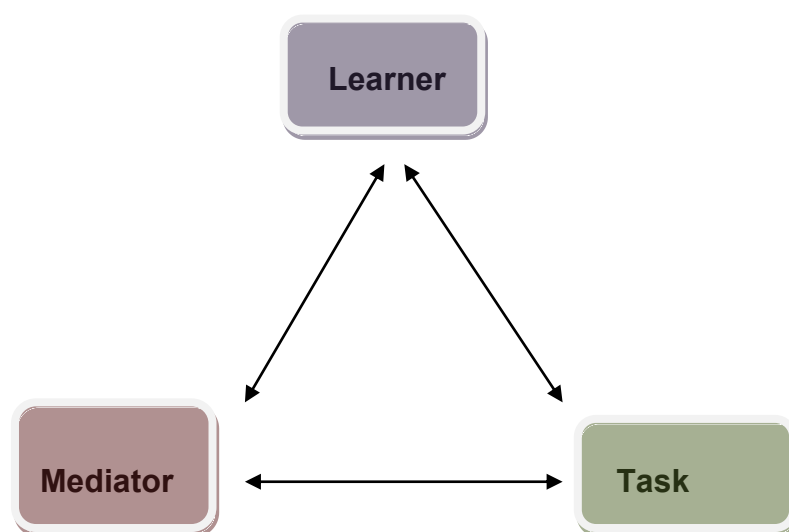
According to the tripartite learning model, in order to bring about cognitive changes in the learner, changes in all three elements (task, learner and mediator) are necessary.

In summary, Feuerstein's model of DA is a non-standardised approach to assessment which operates a test-teach-test process. The examiner mediates the rules and strategies for solving a specific problem; assesses the learner's level of internalisation of these rules and strategies; and assesses how well the learner can adapt and apply these to other problems of increased levels of complexity, so that, an individual's learning propensity, or capacity for change in the direction of higher levels of intelligence (Feuerstein, 1990), can be measured (Haywood and Tzuriel,1992).

A number of DA tests have been devised which apply the principles of Feuerstein's model of DA. Some examples and descriptions of DA tests are provided in Appendix One.

Strengths of DA: how could educational psychologists benefit

EP assessment has an important impact on the lives of many young people, therefore, it is agreed that *validity*, the level of confidence EPs have that their assessment results are accurate, and *reliability*, the level of stability over time, are important factors in effective EP assessment (Messick, 1989). For EPs working with learners who have complex difficulties, it is important to use a broad range of assessment approaches which will yield valid, reliable and useful information, so that meaningful and appropriate interventions can be designed. This paper will now highlight some of the benefits of using DA as part of EPs' assessment framework.

DA with children from culturally and linguistically diverse (CLD) backgrounds

Research suggests that DA is useful when there are doubts about a child's "real" intelligence level because of CLD or disadvantaged educational history (Resing, 1997; Moore-Brown et al., 2006). Findings suggest that, as part of an EP's assessment procedure, an analysis of a child's response to mediation, through a

test-teach-test format can give valuable insights into a child's learning potential without a reliance on language skills or culturally specific experiences (Moore-Brown, et al., 2006), both of which are often cited as barriers to performance in many forms of assessment (Moore-Brown et al., 2006). For example, Camilleri and Law (2007) found that when assessing a group of children who had English as an additional language (EAL), the British Picture Vocabulary Scale suggested this group had significantly below average ability levels; however, the use of DA approaches showed that the same group had learning propensity and with mediation, they were able to perform at a level which was age-appropriate.

Researchers in this area recognise that CLD factors need to be addresses for a valid assessment of learning needs to take place, but DA is not yet widely considered within EPs' assessment framework (Guthke, 1997; Deutsch and Reynolds, 2000; Woods and Farrell, 2007). However, with a strong commitment to reliable approaches to child assessment and intervention, the evidence base in this area suggests that EPs may benefit from adding DA to their routine assessment portfolio (Battle, 2002; Laing and Kamhi, 2003; Woods and Farrell, 2007).

DA with children and young people who have speech, language and communication difficulties (SLCDs)

The identification of children with SLCDs has steadily increased over the past decade. SLCDs arise for many different reasons such as, deafness; autism; shyness; and limited attention, and they pose major challenges for the education system in terms of devising valid and reliable assessment outcomes and useful interventions (Bercow 2008).

Camilleri and Law (2007) suggest that DA is a valuable yet under-used assessment tool for use with SLCD populations. For example, Donaldson and Olswang (2007) highlight the value of using DA with children who have Autism. They argue that control of the assessment context is *key* to successful performance for this group. Specifically, they found that environmental variables such as activity choice and linguistic prompting appeared significantly to influence performance for children with Autism. In addition, Alony and Kozulin (2007) found that even minimal mediation in the form of "focusing" improves the receptive language performance of children with Autism. Additionally, DA procedures are useful with deaf children because through mediation, practitioners can overcome some of the barriers to performance caused by deafness and identify more accurate levels of learning potential (Tzuriel, 2000).

In summary, DA has been proposed as a complementary means for assessing children's language needs. However, some researchers have noted that the test-teach-test basis of DA could lead to practice effects which may impact the trustworthiness of test outcomes (Hasson and Botting, 2010). The counter-argument to this could be that the ability of a child to benefit from practice on a test, in itself, illustrates a potential to learn which may be overlooked in other assessment procedures.

Critique of dynamic assessment

EP assessments provide data for the development of causal models of learning behaviour, for the design of intervention programs, for the prediction of future behaviour, and for the evaluation of interventions. Due to this, there is an increased focus on the reliability and validity of assessment devices (Garb et al., 2001). It is argued that before using an assessment tool, EPs should investigate and understand the adequacy of its reliability and validity (Garb et al., 2001).

According to the *Handbook of Psychological Assessment* (Groth-Marnat, 2009), in relation to EP assessment, reliability can be shown through stability over time (test-retest reliability); stability across different forms (alternate forms reliability); consistency between items in a test (split-half reliability); and consistency between assessors (inter-scorer reliability). Validity can be shown by the assessment clearly

defining and measuring the variable it is intended to measure (construct validity); the content being relevant to what is being measure (content validity); and how well an assessment can predict performance on criterion measures (predictive validity).

DA has repeatedly been criticised for being difficult to appraise in terms of reliability and validity of results. For example, DA is criticised for procedural inconsistency (Jitendra and Kameenui, 1993); there is no standardised procedure for conducting DA, making it problematic to measure test-retest reliability or inter-rater reliability and difficult to compare to other forms of assessment. Tzuriel (2001) states that "more research is needed to verify the reliability and validity of judgments made with dynamic assessment procedures" (p. 214).

Criticism of DA is often related to its validity (Grigorenko and Sternberg, 1998). In psychological assessment, validity often depends on how precisely the construct being measured by an instrument is defined and the degree to which "experts" agree about the domain and facets of the construct (Groth-Marnat, 2009). Validity in this sense, is particularly challenging for constructs with unclear definitional boundaries or inconsistent definitions (Murphy and Davidshofer, 1994). The validity of DA is often questioned due to its *construct fuzziness* (Jitendra and Kameenui, 1993). Carlson and Wiedl (2000) suggest there is ambiguity and lack of consensus regarding the definition of the constructs DA is based upon, such as intelligence, motivation and learning potential. They argue that these factors make it difficult to draw conclusions which are comparable between assessments and makes DA difficult to evaluate.

The validity of dynamic assessment procedures is much more complex than that of static procedures, as dynamic assessment claims to have a broader scope of goals. These include the assessment of initial performance, deficient cognitive functions, type and amount of mediation, non-intellective factors, as well as different parameters of modifiability (Tzuriel, 2001, p. 215). There is also a difficulty in the interpretability of a difference score as its reliability is inversely related to the correlation between pre-and post-test scores (Taylor, 1994).

However, researchers have demonstrated that DA can identify students who will respond to instruction (Bain & Olswang, 1995; Budoff et al., 1971); accurately predict changes in rates of learning (Bain and Olswang, 1995); distinguish between minority students with and without language disorders (Peña et al., 1992); predict achievement consistently (Byrne et al., 2000; Meijer, 1993; Resing, 1993); and predict future educational placement (Samuels et al., 1992). Researchers in several studies have reported that DA can contribute to the prediction of achievement (Byrne et al., 2000; Meijer, 1993; Resing, 1993) and is useful in the prediction of future achievement, especially when used in conjunction with other forms of assessment (Caffrey et al., 2008).

Concluding synthesis

DA is becoming of increasing interest within the EP domain. However, it is evident that the potential of DA "as a tool for everyday practice has yet to be realized" (Elliot, 2000, p. 713). Tzuriel (2001) advocates that DA has much to offer EPs who want to understand what is limiting a learner's performance and what may help facilitate improved levels of performance. In relation to this, Stringer et al., (1996) suggest that DA presents an assessment approach capable of empowering EPs to add to their distinctive repertoire as applied psychologists.

In summary, DA can be a powerful complementary tool for evaluating an individual's cognitive processing and determining the breadth and intensity of intervention necessary to bring about improved learning (Smit, 2010). A number of potential benefits of DA include its wide applicability and the level of insight it can offer on the learning potential of individuals. However, despite the potential value of DA, it still remains relatively little used within the EP profession. A number of persistent limitations prevent DA from being more widely used, such as, construct fuzziness, procedural issues and the labour insensitivity of the approach (Jitendra & Kameenui, 1993). Until these criticisms are addressed through further research, DA will remain an under-valued and under-used tool.

What can the critical realist offer here

My motivation for engaging in the on-going quantitative versus qualitative "paradigm wars" (Oakley, 2000) debate is that it has enormous practical consequences for the type of research produced, and its association to both education policy and EP practice.

I feel by adopting a critical realist perspective towards assessment, I have been able to contribute to a critique of what currently counts as 'evidence-based practice' in this area, while at the same time not abandoning the idea of evidence altogether. In this paper, I suggest EPs take full consideration of the types of assessment that are available to them and consider the applicability of DA when formulating their assessment procedure.

In line with a critical realist perspective on research I believe that if *standardisation* were already a property of the world, the effort of attempting to produce standardised tests through experimentation would not be necessary, (p. 420, Clegg, 2005). My argument here is that we do not live in a standardised or static world and the clientele of EPs are not often the typically developing population: therefore criticisms of the DA approach which cite its lack of standardisation as a weakness should not prevent or hinder EPs from considering it as a valuable assessment tool.

In summary, a critical realist approach would define evidence as work that can give insight and that can help us understand the world of experience (Pawson, 2002). As a critical realist, I think DA can provide an insight into the world and experiences of young people, in a way that other forms of assessment cannot. Thus, I think future education policy and practice should be looking towards promoting a more equal balance between the gathering of qualitative and quantitative information by combining the static with the dynamic in assessment approaches.

Part Two: A Case Example

By illustrating a case example from my work, I aim to provide a detailed overview of an application of DA when working with a young person. I also aim to demonstrate the skills required to deliver such an approach.

Pen Portrait

Joe[1] is a White, British Male with English as a first language. Joe is in Year 6 in primary school. He is aged 11 years and 2 months. The request for support came from school through a central referral system. The referral was prompted by concerns regarding lack of progress across all curriculum areas, with particular focus on literacy and the display of learning avoidance behaviours in class.

Case Formulation

The purpose of assessment was to provide further information about the nature and extent of Joe's difficulties and to make recommendations for future action. As part of my assessment process, I conducted narrative observations of Joe in class and during one-to-one work with a Learning Support Practitioner (LSP) in order to gather

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[1] Pseudonym

information about his learning behaviours in different contexts. I held a consultation

meeting with Joe's class teacher and support staff who work with Joe, Joe himself

and his parents. The consultation was based on the local authority's consultancy

procedure (See Figure 4 for consultation summary). I completed the consultation for,

clarification of the nature of Joe's needs; consideration of ways forward; and for a

systematic and thorough exploration of concerns in relation to Joe.

Figure 4: Consultation summary sheet

Strengths in the situation? (Positive achievements/skills)

- Joe has a good relationship with his LSP
- Joe is able to learn new skills and apply these in a 1-to-1 situation
- Joe is eager to learn and do well in 1-1 situations
- LSP feels that Joe was "very bright"

Statement of concerns

- Joe 'forgets' what he learns in 1:1 and can't apply this to the whole class situation
- Joe engages in 'silly' behaviour and distracts peers
- Joe puts his hand up and gives answers, without listening to the full question and his answer sometimes sounds nonsensical or unrelated to the question.
- in contrast in 1:1 settings, Joe appears to be unmotivated in class, he often fidgets with things which gets him in trouble.

What has been effective?

- 1:1 work
- Sound discovery, and programmes which involves small chunks of information, repeated and supported over time
- breaking down information, or repeating instructions to Joe
- prompting and praising Joe

What improvements would indicate a successful outcome? (How will we know this consultation has been helpful?)

- Joe concentrated more on questions/instructions so that he understands what is being asked of him
- Joe does not continually distract his peers
- Joe produces work in class which reflects his true ability, the ability he shows 1:1
- Joe retains what is learnt in 1:1 and applies it to his work in class

Pupil's view? (if appropriate)

- Joe wants to do well in class
- Joe enjoys 1:1 working and feels he has made good progress
- Joe is sometimes tired in class
- Joe is not sure what he needs to do, in order to progress further in literacy and numeracy

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The consultation procedure and my observations led me to devise a hypothesis

regarding Joe's learning (see Figure 5).

Figure 5: Hypothesis development

Hypothesis discussion/advice given:

Based on consultation with staff, parents and Joe, and observations of Joe in class and in 1:1 settings, a possible hypothesis for his lack of progress is: Joe has difficulty in some areas of his cognitive functioning.

Specifically, the following are areas of concern:
- Joe engages in impulsive behaviour in class
- Joe often does not gather all of the information required to answer questions and complete work accurately
- Joe often misses relevant cues in class
- Joe struggles to internalise information necessary to learn
- Joe has difficulty planning his learning
- perhaps Joe lacks verbal skills/tools to communicate his needs and thoughts
- Joe engages in trial and error behaviour rather than thinking through his responses
- Joe is impulsive in many learning situations, seen a lot, in whole-class settings.

I would like to use DA with Joe to explore these areas of cognitive functioning in more detail, in order to support or refute the above hypothesis and to help devise interventions/recommendations to support Joe's learning.

The Wechsler Individual Achievement Test (WIAT-II, Wechsler, 2005) had been used

previously. The WIAT-II had provided a comprehensive summary of Joe's

functioning in the following areas: reading, math, written language and oral language. However, it did not give me or the school enough information about *why* Joe was continually performing poorly across all areas of learning, despite provision of targeted support to develop his literacy and numeracy skills and did not offer enough insight into how we could move Joe forward with his learning. I felt it would be useful to use DA in this situation based on the evidence and information gathered.

Based on discussions with the LSP, my observations of Joe and outcomes of the consultation process, I chose to use The Rey-Osterrith Complex Figure Drawing Test (Rey, 1941; Osterrith, 1944) to explore aspects of Joe's memory, visual perception, accuracy and impulsivity, which are areas of cognitive functioning commonly associated with DA (see Figure 1, page 6). I chose to use The Children's Inferential Thinking Modifiability Battery (CITM, Tzuriel, 1989; Tzuriel and Eran 1990) to explore Joe's sequential thinking, his ability to solve problems through inferential thinking and his ability to plan and generalise his skills to other contexts.

Assessment was carried out using two DA tests and over two sessions of individual work. Assessment was conducted in a quiet room in school. Both sessions lasted approximately 90 minutes in length.

Assessment

Assessment One: The Complex Figure Drawing

According to Rey (1941) and Osterrith (1944) this test aims to give insight into cognitive functions such as precision and accuracy, labelling, and non-intelligence factors such as impulsivity, persistence and flexibility.

Figure 6.1 shows the complex figure, as it is presented to the learner.

Figure 6.1 the complex figure drawing.
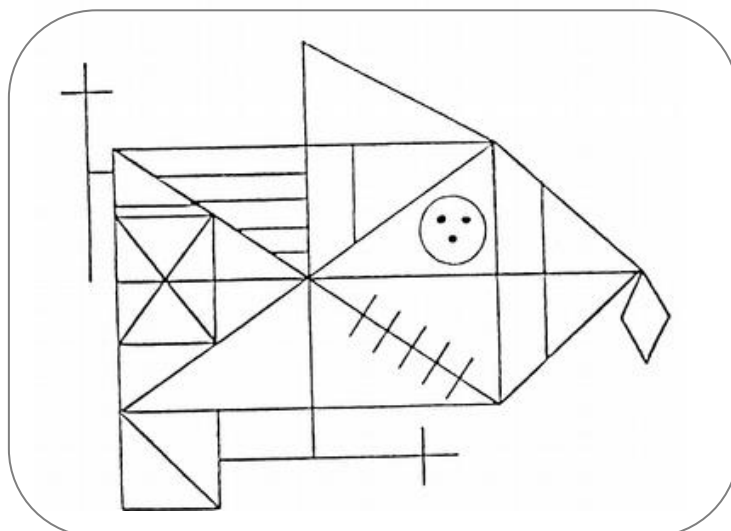
The test is composed of six Phases (See Appendix Two for a description of all Phases). For Phase 1 In this test, Joe was presented with a complex geometric figure (see Figure 6.1), which he was asked to copy. Figure 6.2 shows Joe's reproduction of the complex figure.

Figure 6.2 Phase one: First reproduction (no mediation)
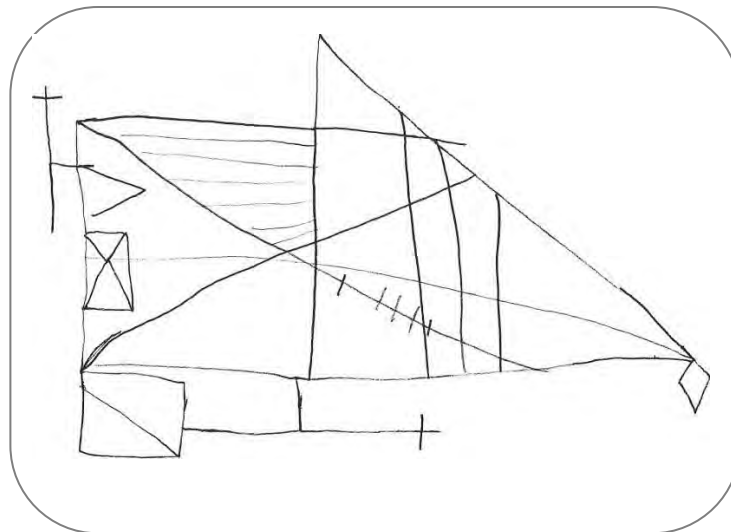
Joe started at the bottom of the figure and worked around the outline. Accuracy was high, however, some parts were omitted. In this Phase, Joe showed little systematic search, precision or accuracy.

For Phase 2, Joe was asked to draw the figure from memory (See Figure 6.3 for Joe's response). Joe took the same approach as Phase 1, he stopped several times and said he had forgotten it. When told to take his time, he started drawing again and added several parts before stopping and saying he was finished.

Figure 6.3 Phase two: first drawing from memory (no mediation)
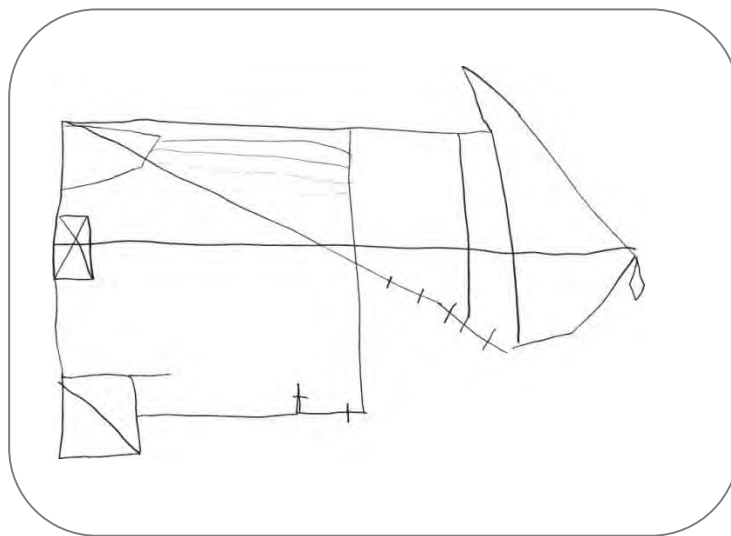
Phase Three

For Phase 3, (mediation Phase) Joe was offered mediation at a minimal level, using verbal means alone (see Figure 6.4 for descriptors of levels of mediation).

We discussed making a plan in order to help accuracy, such as drawing the central lines first and then secondary lines, going in clockwise order, and to pay attention to precision, proportions, and the quality of lines. I deliberately asked questions using words such as "first", "second", "then..." to encourage Joe to sequence his thoughts in a logical order.

Figure 6.4 levels of mediation

Levels of mediation (low to high mediation).

Previous mediation internalised and is fully self regulating

 Student applies previous strategies and rules with increasing flexibility

Teaching how to choose appropriate strategies, using previous input from mediation

Asking for further applications of strategies used previously; using previously produced change

Pointing out general characteristics (but not specifically related to the task)

Modelling the task using specific examples of rules, concepts and strategies

Modelling with initial guidance which is then withdrawn

Hand over hand guidance

<u>Phase Four</u>

Here, Joe was asked to copy the figure again, see Figure 6.5.

Figure 6.5 second reproduction (after mediation)
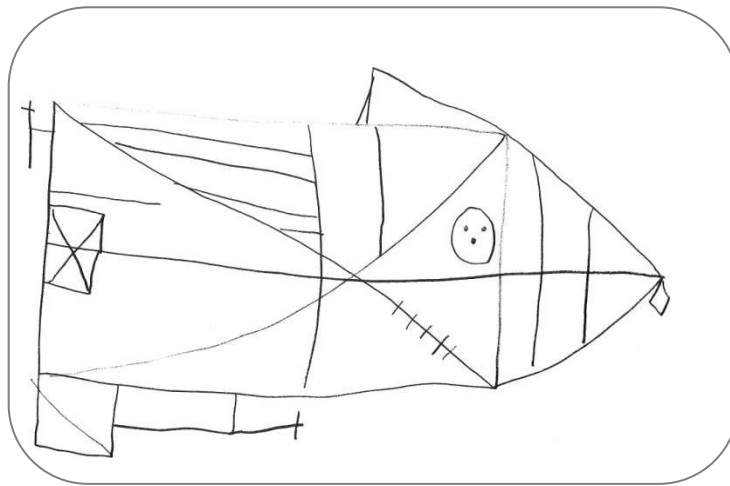
This time, systematic and checking behaviour were much more evident. Joe added more detail after he scanned the figure and took a whole-part, systematic approach, starting with the central rectangle of the figure first, which led to improved accuracy.

<u>Phase Five</u>

For Phase 5, Joe was asked to reproduce the figure from memory (see Figure 6.6).

Figure 6.6 Second drawing from memory
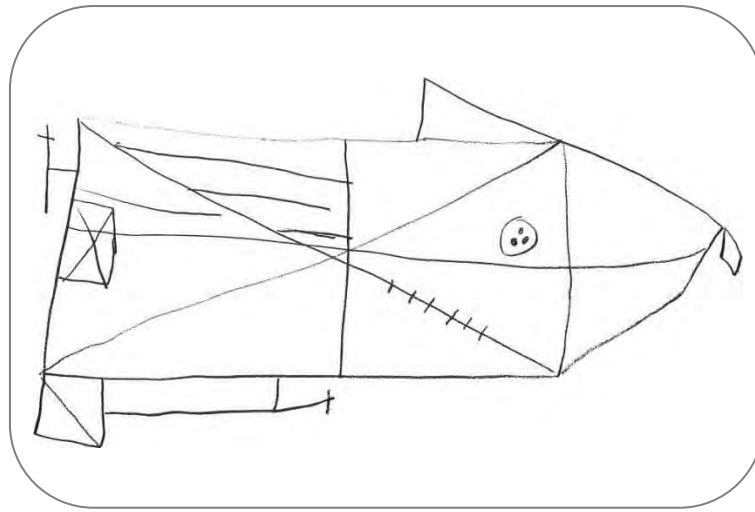
Joe worked systematically and took a whole-part approach, by starting with the central rectangle, then working from the bottom left corner of the figure, around the outside of the rectangle then finally completing the parts in the middle of the rectangle.

Phase 6

At the end, we compared the drawings and discussed them. The purpose of discussion was to elicit insight into Joe's completion of the task and to examine whether Joe could reflect on his performance. He was asked to compare and rate his drawings on a scale. The one he rated highest was the final drawing (second drawing from memory). He gave the reason that "drawing the box first really helped."

I emphasised that thinking about doing things 'first, second, third...' in a planned order, seemed to improve his accuracy. When asked when he could use these skills in class and which lessons would these skills be helpful in. He was not able to make clear links to classroom performance, saying "he wasn't sure."

Summary

A comparison of the copy and memory Phases, before and after teaching, provided information about the cognitive modifiability of Joe's performance. The Complex Figure task showed difficulties in cognitive functioning in relation to systematic search, precision and accuracy. Verbal mediation was sufficient to improve his performance and helped Joe to use his cognitive functions more effectively. Initially, Joe demonstrated minimal persistence but when cognitive functions were employed more effectively, he persisted to completion. He showed some insight into the skills he used: for example, he was able to explain he had memorised The Complex Figure Drawing, but he found it difficult to extend or generalise his skills to classroom performance.

Assessment Two: the Children's Inferential Thinking Modifiability Battery (CITM)

The objectives of the CITM are to assess young children's ability to solve problems that require inferential thinking, as well as their ability to modify their performance following mediation (Tzuriel, 1989; Tzuriel & Eran 1990).

Phase One: CITM classification task

A description of this task is provided in Appendix Nine.

I gave Joe instructions for how to complete the example problem. He looked confused at first. When I asked if he wanted the instructions to be repeated, he nodded. After I repeated the instructions he was able to start the task and complete it with ease. This sequence of interactions happened several times during the overall assessment sessions.

Joe was able to sort picture cards into categories and gave logical justifications for his groupings. Mediation prior to the task was given in the form of telling him that there were four cards (of 24) in each category. He was able to give category labels for all categories.

Phase Two: CITM

In this test, the learner is presented with visual representation of inferential problems. The learner is asked to analyse a set of statements in order to infer the location of objects.

The cognitive functions examined specifically by this test are (Tzuriel, 1989; Tzuriel and Eran 1990):

- systematic exploration;

- comparative behaviour;

- planning; and

- logical and inferential reasoning.

Initially, Joe was able to complete the first few tasks correctly, without mediation. As the tasks became more complex, Joe did not adapt the rules he was applying to solve the problems and began to make errors. He became increasingly impulsive and unfocussed, for example, he would only look at the first part of the task and give an answer, he began to talk about the pictures on the page in a way unrelated to the task and he stopped using the picture cards to help him work out the answers.

At this time, I used low level mediation, which included:

- covering up the page and showing Joe one part of the task at a time;

- talking through how I would do one of the problems using words such as "first", "second" and "then" to illustrate sequencing and logical thought; and

- asking questions such as: What could help you get this right? Do you think using the cards could help you to stop getting confused? Are you sure that is the answer? How do you know that is the answer? Can you double-check?

By talking through the problems together and asking for further applications of strategies used previously, Joe began to work more systematically. As the tasks became more complex he could apply rules with little mediation, just the occasional verbal prompt to slow down, such as "let's just double check that" or "OK, let's look at that one line at a time" as speed led to errors. When asked to explain how he solved problems, Joe was able to do this, however, if he lost his train of thought, was interrupted or distracted, he had to begin his explanation again or would ask me to repeat the question.

Summary

Based on his performance on the DA tests, I felt Joe was quite impulsive and needed mediation to help him be more focussed on the sequence of completing tasks. With low level mediation Joe was able to engage in logical and inferential thought. He was able to work systematically and apply a rule, with minimal mediation. Joe did not ask for help but found it difficult to define the problem and internalise information given, in a complete way, this was resolved with low-level mediation.

Interpretation of results from both assessments

Outcomes from DA showed that Joe had some cognitive functions that should assist his curriculum access, in particular, his ability to engage in logical and inferential thought was a strength.

The CITM uses logical and inferential thinking, which are higher order abstract cognitive functions. Joe's use of this level of thinking was aided by concrete and visual materials. He was able to apply rules and strategies in order to solve problems and could transfer his skills when the problem context was altered.

Mediation principally focussed on concentration, encouraging planning behaviours, logical thought and internalisation, as Joe's strengths were sometimes masked by his impulsivity and his poor internalisation of information. Joe demonstrated poor receptive and expressive verbal tools, particularly in relation to understanding instructions, asking for help and expressing his thoughts in a clear and precise, especially if he was distracted.

<u>Recommendations for school</u>

Joe's target areas for action include:

- improved generalisation and adaptation of skills;

- an emphasis on receptive and expressive language acceleration; and

- mediation to develop systematic exploration, precision, accuracy and the restraint of impulsivity.

I will now address each area and offer recommendations.

Generalisation and adaptation of skills

I found Joe's problem solving was supported by asking:

- where else could you use this approach?

- how could this (skill) help you in Numeracy or Literacy?

- do you remember you got stuck yesterday on _____ how could this (skill) help you next time you get stuck?

I found that encouraging him to make links between skills used in different tasks, helped Joe to complete tasks accurately during DA.

This approach can be used in one-to-one sessions, for example where Joe shows some fluency using a technique, skill or approach, he should be encouraged to make links with whole-class learning, other activities and lessons.

An emphasis on receptive and expressive language acceleration

During DA I found I had to monitor Joe's facial expressions and ask him if he needed help when he looked confused. In class, Joe should be encouraged to seek help if he does not understand a task, either form an adult or a peer. A peer mentoring or

'buddying' approach could be used where students are paired up to share their skills and knowledge. Alternatively, Joe could have a signal he could use when he needs help but does not want to ask.

Mediation to develop systematic exploration, precision, accuracy and the restraint of impulsivity

During DA, Joe responded well when I modeled completing a problem using sequencing. Joe may benefit from support in class by an adult modeling how to approach a task systematically, for example, by carrying out a task with him and verbalising their thoughts, particularly emphasizing order by saying 'first I will…' or 'then I can …'

Joe would benefit from sorting and categorising activities which provide opportunities for discussion about strategies applied and how things can be grouped in different ways. This may help Joe develop his vocabulary and also consider alternative view points.

During DA I found I had to cover a task and reveal a small part of it at a time to reduce Joe's impulsivity, which improved his accuracy. In class, Joe may benefit from tasks being broken down into small parts; for example, in reading

comprehension he could be given small parts of a text at a time to encourage precision and accuracy when reading, or in numeracy, he could be given small parts of a problem to consider at a time before looking at the whole problem, thus reducing impulsivity and encouraging accuracy.

Joe may require a slower pace of working than peers in order to encourage quality (or precision) over quantity. This could be achieved through differentiated individual learning objectives for Joe. For example, a target such as "to get 6 correct in a row" rather than "complete 15 sums" would be more appropriate to encourage accuracy for Joe. Also, encouraging Joe to set personal targets for himself could improve his motivation to achieve.

Reflections

Throughout the assessment process I was surprised by the autonomy and flexibility that DA advocates. At first I was slightly apprehensive, I felt under-prepared without clear guidelines for the assessment procedure. I was concerned that I would make 'mistakes' without the support of a script to base the assessment procedure on. However, after reminding myself of the underlying principles of DA and through peer supervision, which highlighted the notion that 'mistakes' are highly improbable using this approach, I was able to gain confidence with the material.

On reflection, the assessment process felt fluid, as I did not have to refer to practitioner guidelines regarding procedures. I strongly felt the approach was 'child-friendly.' Joe seemed happy throughout our time together, I asked him several times if he was enjoying himself or if he wanted to stop and the feedback was positive. Perhaps because I felt more relaxed throughout the procedure, so did Joe. I did not feel the guilt of doing something *to* a child, which is sometimes the case with other assessment procedures: instead, I felt as though we were working more collaboratively.

Through reflection on the mediation I used during DA and discussion during supervision, I could see how to form recommendations which could be applied in school. However, I felt supervision was very important to help me reflect on the overall process.

The outcome of the DA was that I had gathered information which was complementary to the information from the WIAT-II. The information was meaningful and straightforward to interpret and from it I was able to provide the school staff with relevant individual targets and recommendations.

The feedback from Joe's LSP was that she felt "relieved" that I was able to give her some "fresh new ideas" to use with Joe. Through explaining the DA approach and my observations, she said she was able to see the value of the recommendations I

had made and how they were directly linked to Joe and "the way he is". She felt that I really understood him and was enthusiastic about what effects the recommendations could have on his progress.

Validity and reliability of findings

As mentioned previously, DA is often criticised for being difficult to appraise in terms of its validity and reliability. DA differs greatly from other forms of testing in terms of the nature of the assessor-learner relationship. By reflecting on my work with Joe, I feel that outcomes of any DA will be closely linked to the relationship formed between the learner and the assessor during the process. This makes DA incredibly problematic to appraise in terms of reliability and validity of results. For example, due to lack of standardisation, if someone were to replicate my case example, it is unlikely that they would find the same outcomes as I did. Also, if I were to re-assess Joe, I feel that the outcomes would be different, for example, they may improve with practice.

 However, despite these criticisms I feel that the results from using DA with Joe have offered something unique and useful for the staff who work with him. For example, the feedback from Joe's LSP was that she felt "relieved" that I was able to give her some "fresh new ideas" to use with Joe. Through explaining the DA approach and my observations, she said she was able to see the value of the recommendations I

had made and how they were directly linked to Joe and "the way he is". She felt that I really understood him and was enthusiastic about what effects the recommendations could have on his progress. The response from the LSP in relation to the feedback given, indicates some degree of validity, in this case DA appears to have measured what it was supposed to and yielded results which the LSP felt provided an accurate reflection of Joe's learning behaviour.

Part Three: future directions for the use of DA in EP practice

Throughout history, it has often been the case that advocates of one assessment approach over another present their views in ways which offer little middle ground. Consequently, some of the rhetoric surrounding dynamic assessment (DA) and more traditional forms of assessment has the potential to perpetuate a further dichotomy in the EP profession. It is not the intention of this paper to add to the divide by advocating one approach over another; instead, this study is based on the understanding that EPs should be utilising a wide range of approaches and realising the value and unique contribution each can offer to the process of designing interventions for young people with learning needs (Willis and Dumont, 2006). Owing to the reported value of DA from the growing research base in this area (see Deutsch and Reynolds, 2000; Elliot, 2003; Yeomans, 2008), it is recommended that DA be incorporated as a complementary approach to assessment not *instead of* static forms of assessment, but in addition to them.

Overall, research (Deutsch and Reynolds, 2000) suggest that EPs perceive DA to be a particularly positive approach to use with children. They feel DA can offer practical advice for teachers, that it is rich in information and more culturally fair when considered in relation to psychometric tests. Generally, EPs value the interactive nature of DA and the flexibility it offers. However, this generally positive feedback continually raises the question: *why is DA not more widely used?*

Some reasons for this were discussed earlier in this paper; for example, research conducted by Jitendra and Kameenui (1993) offered construct fuzziness, procedural inconsistency and labour insensitivity as potential limitations of DA. Furthermore, in a study by Deutsch and Reynolds (2000), EPs indicated that central limitations to their use of DA are:

- time restrictions and labour insensitivity;
- DA is too subjective in nature and they perceive it difficult to link DA to classroom practice; and
- EPs felt they were under pressure from the Local Authority to use approaches which were more widely accepted.

In summary, Deutsch and Reynolds (2000) found that EP responses highlighted the potential, value and usefulness of DA, but drew attention to challenges EPs face regarding its implementation in practice. However, upon reviewing the literature, there are suggested ways to overcome these perceived barriers to DA practice. These are discussed in more detail in the next section of this paper.

Recommendations for EP Practice: where can we go from here?

In order to consider the future role DA could play within EP practice, it is vital to reiterate that DA itself it is not a *total* framework for meeting children's needs. There is no evidence that suggests replacing all other forms of assessment with DA is

recommended. For example, Haywood and Tzuriel (1992), Haywood (2008), Lidz (1987), Tzuriel (1992) and Missiuna & Samuels (1988), all recommend DA as a complementary form of assessment whose use should be selective. Based on the information presented in this paper, I would argue, that DA offers a distinctly different paradigm of assessment which is worth being studied, understood and practised.

The first recommendation to consider is the training needs associated with the use of DA. Deutsch and Reynolds (2000) found that the majority of EPs who followed a 3-day course did report practising DA; however, they also indicated an overall lack of confidence when selecting, implementing and interpreting DA materials. Furthermore, training opportunities are limited in the UK and on-going supervision for the approach is required, which is also limited due to time constraints. This might be addressed if training providers consider the extent to which dynamic assessment is incorporated into EP training programmes throughout the UK. Also, institutions and DA practitioners need to work in partnership and pool resources to find ways to ensure that networks and interest or support groups are established. Through the literature and the research findings, it is clear that DA is relevant to the practice of EPs, therefore, training needs and supervision opportunities need to be more accessible and widely available to interested professionals.

The second recommendation is centred around how widely accepted the use of DA is. For example, a number of EPs indicated that the outcomes of a DA can often be difficult to communicate to teachers, parents or local authority representatives, due to the unfamiliarity of the language used and the approach itself (Deutsch and

Reynolds, 2000). This might contrast, for example, with a situation where the outcomes of a curriculum-based assessment or ability test are being communicated, where EPs, parents and other professionals can find some 'common ground' to work together. A way in which this can be overcome is by sharing common assessment and intervention goals prior to assessment, which Yeomans (2008) suggests is an integral part of DA. For example, through a process of pre-assessment consultation EPs could determine the appropriateness of applying DA and where this is the case they could explain the process and associated language, in order to promote a shared understanding and ensure follow-up post-assessment.

In summary, although the literature denotes a paradigm shift in EP practices over the past few years, many EPs indicated that one of the reasons why DA is not being translated into practice may be related to the fact that it is not part of "mainstream thinking" across the education sector (Deutsch and Reynolds, 2000). However, this could be addressed through increased input on teacher training courses, through pre-assessment consultations with parents and school staff and through other local forms of information sharing such as central training and community-based awareness raising sessions.

Final Conclusions and reflections

DA is a process of assessment, intervention and feedback and based on the evidence presented in this paper, it is deserving of wider incorporation into EP

practice, however, the widespread realisation of the potential of DA is dependent on the next steps taken.

On a theoretical level, more needs to be done in terms of research, especially in developing theories that are relevant to the current UK educational context. On a practical level, more needs to be done in terms of marketing and promoting DA to raise professionals' awareness of it, also training and support for the application of DA needs to be more widely accessible to interested professionals (Deutsch and Reynolds, 2000).

Finally, there needs to be a profession-wide interest in DA for it to be recognised as a complementary form of assessment that, together with standardised psychometric measures, is able to provide a more holistic and accurate picture of an individual's functioning.

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Appendices

Appendix One: Example DA tests

Test	Aim	Description
The Cognitive Modifiability Battery (CMB)	The CMB is aimed at diagnosing and improving deficient cognitive functions, various cognitive operations, and problem-solving strategies.	The instrument has been developed primarily for students in Key Stage 1, but it can be used also with older children who have learning difficulties. The CMB is composed of 4 plates and 64 wooden blocks (in red, green, blue, and yellow). Each of the four plates contains nine "Windows" (arranged in a 3 3pattern) and small removable wooden squares that cover the "Windows," thereby creating different patterns of open "Windows" as required for the different CMB tasks. The CMB is composed of five subtests, each tapping a different area of cognitive functioning: Seriation, Reproduction of Patterns, Analogies, and Sequences, and Memory.
The Complex Figure	The Complex Figure test was used as an outcome measure in several cognitive education programs.	The test, is composed of 5 Phases: See Appendix Two for a description of Phases.
The Children's Seriational Thinking Modifiability test (CSTM)	The CSTM allows the assessment of cognitive modifiability in a domain considered to be prerequisite for further mathematical skills and transitive relations.	Designed for 3- to 5-year-old children. The CSTM is composed of unique problems that require both an arrangement of stimuli (e.g. cylinders) on a certain continuum and the controlling for one or more dimensions that are embedded within the same set of stimuli. In several of the items, for example, the examinee is required first to order the set according to one dimension (e.g., size) while trying to avoid interference of other dimensions within the given set. After mastering one dimension the child is asked to reorder by a different dimension, and the same mediation procedure is repeated whenever necessary. In general, the child's ability to shift from one order to another and to control for irrelevant information when focusing on the target dimension indicates an inclination for

		flexibility and self-regulation of behaviour.
The Children's Inferential Thinking Modifiability (CITM)	The objectives are to assess children's ability to solve problems that require inferential thinking as well as their ability to modify their performance following a process of mediation.	See Appendix Three for further description
The Children's Analogical Thinking Modifiability test (CATM)	The purpose of the CATM is to test cognitive modifiability and their use of higher-order concepts and operations.	The CATM test is composed of 14 items for each Phase of administration (pre-teaching, teaching, and post-teaching), and 18 coloured blocks that are used to present and solve the analogies. The CATM items, graduated in level of difficulty, require a relatively higher level of abstraction and various cognitive functions. During the Teaching Phase, the child is mediated to (a) search for relevant dimensions required for the analogical solution, (b) understand transformational rules and analogical principles, (c) search systematically for correct blocks, and (d) improve efficiency of performance.
The Children's Conceptual and Perceptual Analogies Modifiability (CCPAM)	The CCPAM is composed of two sets of analogical problems, conceptual and perceptual.	Each set is comprised of 32 items, 16 for the Pre-Teaching and 16 for the Post-Teaching Phases of the test. Each problem is formatted in a 2 x 2 matrix (A : B :C:D) and presented in a pictorial coloured modality at the top of the page. At the bottom of the page there are 4 alternative answers, only one is correct. The child is required to think about the relationship between the first pair of pictures in the problem, apply to the second pair, and choose the right answer.

Appendix Two: The Complex Figure Drawing Test

In this test, the learner is presented with a complex geometric figure, which is copied and then reproduced from memory. The cognitive functions assessed by this test are:

- Precision and accuracy (looking carefully);
- Comparative behaviour (checking);
- Systematic behaviour (in the case of this test, whether the child uses the main features of the diagram in order to structure the reproduction);
- Labelling; and
- Non-intellective factors such as impulsivity, persistence and flexibility.

The test is administered in six Phases:

Phase One: The learner is asked to copy the figure, with no assistance or mediation.
Phase Two: The learner is asked to draw the figure from memory, with no assistance or mediation.
Phase Three: Mediation is given, in response to the learner's performance in Phases one and two.
Phase Four: The learner is again asked to copy the figure.
Phase Five: The learner is asked to draw the figure from memory.
Phase Six: The drawings produced in Phases one and three are compared and discussed with the learner. The purpose of this Phase is to elicit the learner's view of any improvements after mediation and to discuss whether what has been learned can be applied to classroom learning.

There is a period of elapsed time between Phases one and two and between Phases four and five.

A copy of the Complex Figure is shown below.
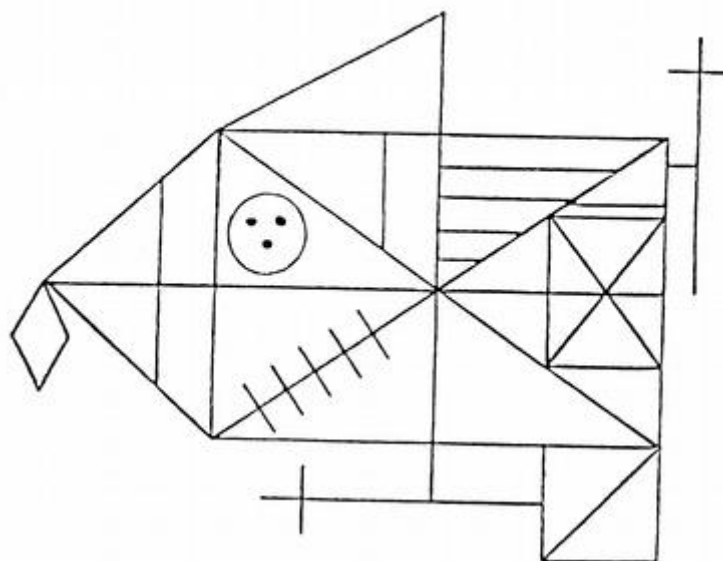
<u>Appendix Three: The Children's Inferential Thinking Modifiability Test (CITM)</u>

CITM Classification Task

In this Phase, the learner is given 24 picture cards. The cards can be sorted into the following categories: animals, clothes, furniture, shape, transport and plants. The learner is asked to sort the cards and give reasons for his or her grouping of the pictures. The purpose of this task is to find out whether the learner is able to categorise. This skill is important for helping individuals to organise information; the ability to categorise provides a mental 'filing cabinet' for processing new information.
CITM
In this test, the learner is presented with visual representation of inferential problems. The learner is asked to analyse a set of statements in order to infer the location of objects. The learner is given picture cards of the objects in order that s/he can manipulate the pictures in reaching a solution. The cognitive functions examined specifically by this test are:

- Systematic exploration
- Comparative behaviour
- Planning
- Logical and inferential reasoning.

In this test, the learner is presented with visual inferential problems.

The learner is asked to analyse a set of pictoral statements in order to infer the location of objects.

The learner is given picture cards of the objects to use when finding the solution.

An illustration is given below.
The problem solving rule is that objects on the left can only enter houses that are shaded with diagonal lines. The learner has to apply this rule in order to determine which object goes into each house at the top of the page.
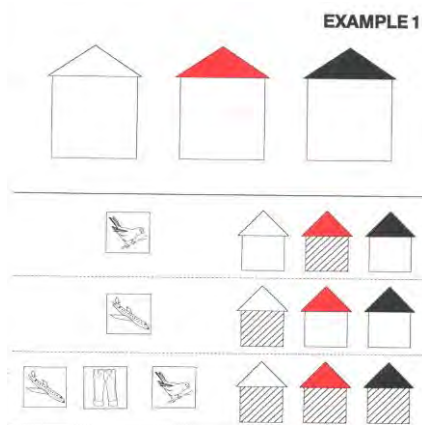
There is also a set of transfer problems, where the problem solving rule is reversed (objects on the left cannot enter shaded houses).

Exploring the effects of vigorous exercise on self-stimulatory behaviours, social behaviours and learning behaviours of children with an autism spectrum disorder in a special school setting.

Abstract

The number of children known to have an autism spectrum disorder (ASD) in the UK has increased steadily since the 1980s (Ministry of Education, 2006). Individuals with ASD often exhibit self-stimulatory behaviours such as body rocking, spinning, hand flapping, head-nodding, object-tapping, gazing at lights or mouthing (Lovaas et al., 1987). Research to date has shown that these self-stimulatory behaviours significantly interfere with both the performance of positive social behaviours and with learning (Sugai and White, 1986). A systematic review of eighteen studies into the use of physical exercise with individuals who have ASD was conducted by Lang et al., (2010) and found that the introduction of regular vigorous exercise can lead to improved social behaviours, decreased self-stimulatory behaviours and higher on-task behaviour (Pitetti et al., 2007; Rosenthal-Malek, 1997; Lang 2010; Whitaker and Saleem, 1994). Furthermore, a wealth of research suggests exercise leads to improved health benefits for children with ASD (Pan, 2010) as is the case for the wider population (Smith, et al., 2010). To further explore the relationship between exercise and the behaviour of pupils with ASD, a class of seven children, six male and one female, was included in this study. The group completed a four week exercise programme involving 10-15 minutes of jogging on a daily basis.

Observation schedules and teacher rating scales were used to explore the perceived relationship between exercise and self-stimulatory behaviour, social behaviour and learning behaviour. The results describe an observed decrease in self-stimulatory behaviour, an increase in on-task behaviour and a perceived increase in positive social interactions, during the weeks where daily exercise was being implemented. These changes were observed immediately after exercise sessions had taken place but there was no evidence for the lasting effects of these changes.

<u>Introduction</u>

The term Autism Spectrum Disorder (ASD) refers to a range of neurodevelopment conditions (Sturney and Fitzer, 2007). Diagnostic characteristics typically include:

- limited spontaneous language and play;
- difficulty processing social communication and cues which promote socially appropriate behaviours;
- significantly delayed or limited development of communication skills; and
- restrictive patterns of behaviour.

(American Psychiatric Association [DSM-IV], 2000).

Individuals with ASD are often exhibit self-stimulatory behaviours such as body rocking, spinning, hand flapping, head-nodding, object-tapping, gazing at lights or mouthing (Lovaas at al., 1987). Research has shown that these self-stimulatory behaviours greatly impede both the performance of positive social behaviours and learning (Sugai and White, 1986). The nature of these behaviours presents a challenge, not only to the individuals with ASD, but to the education professionals and parents working with this group to foster positive social interactions, to encourage communication and aid learning.

The number of children known to have ASD, in the UK has increased steadily since the 1980s (Ministry of Education, 2006) for a number of reasons including changes in diagnostic practice, raised awareness and changes in societal perception. It is estimated that ASD now affects approximately one in one hundred children and there are around 100,000 children with identified ASD in the UK (Office of National Statistics, 2005). Despite this growing figure, it is estimated that 40% of ASD cases go undiagnosed (Cohen, et al., 2009) due to factors such as regional variations in diagnostic procedure. With a growing increase in number, practitioners should be working towards identifying a wider range of interventions to address the needs of this group (Pan, 2010), including for example, the use of recreational and physical activity.

A systematic review of eighteen studies into the use of physical exercise with individuals with ASD conducted by Lang et al., (2010) found that increasing regular

physical activity amongst individuals with ASD is likely to be beneficial to physical health, could decrease maladaptive behaviour, including persistent self-stimulation and could increase adaptive behaviour, such as on-task classroom behaviour. However, this review also describes the existing evidence base in this area as "best described as limited" (p. 569).

On the one hand, among the core characteristics of individuals with ASD are difficulties in social interaction, communication and learning behaviour (American Psychiatric Association, 2000), on the other hand, interventions using physical activity are under-used (Pan, 2010) and there remains a limited evidence base (Lang et al., 2010). Thus, the aim of this study is to explore and describe the relationship between exercise and self-stimulatory behaviours, social behaviours and learning behaviours of children with ASD. If exercise does have an impact on these behaviours then an argument could be made for the inclusion of exercise components in the daily educational routine of these individuals.

<u>Literature Review: drawing on the evidence, psychological theory and research</u>

Physical activity and children with ASD

Physical activity is a vital part of a healthy lifestyle for all people (United States Department of Health and Human Service, 1996). The majority of children without difficulties attain most of their physical activity through play (Fox and Riddoch, 2000); however, due to impaired social interaction, communication and restrictive patterns of behaviour commonly associated with children who have ASD, research suggests that this group of individuals have limited opportunities to participate in the same type and level of physical activity as 'typically developing' children (Rosser-Sandt and Frey, 2005). For example, Pan and Frey (2006) found that children with ASD are less active during the school day in comparison to peers without disabilities. Also, Pan (2008) found that children with ASD do not typically achieve the recommended daily sixty minutes of moderate-to-vigorous physical activity as suggested by the U.S. Department of Health and Human Service (USDHHS, 2004).

Additionally, evidence suggests that many children with ASD have gross motor difficulties (Berkley et al., 2001), such as difficulties with balance, postural stability, gait, joint flexibility and movement speed (Jansiewics et al., 2006; Minshew et al., 2004) and that increasing exercise may improve functioning in these areas (Lang et al., 2010). In support, research suggests that for individuals with ASD, when exercise is increased and undertaken regularly, significant improvements have been

reported in physical health, intellectual functioning, perception, balance, posture, behaviour and personality (Gabler-Halle and Chung, 1993).

Mild versus vigorous exercise

Numerous studies have outlined the importance of exercise and highlighted the positive influence it can have on certain behaviours in children with ASD. Following this, there have also been suggestions that certain types and amounts of exercise may be more beneficial than others (Allen, 1980; Kern et al., 1984; Levinson and Reid, 1993).

The results from these studies indicate that significant reductions in self-stimulatory behaviours occur as a function of *vigorous* exercise only. Overall it was found that 10-15 minutes of jogging (Allen, 1980; Kern et al., 1984; Levinson and Reid, 1993) is most effective in reducing deficient behaviours; however, the research also suggests that the duration of these reductions may be brief (Allen, 1980), lasting approximately ninenty minutes (Levinson and Reid, 1993) before returning to pre-exercise levels. Taking this into consideration, it is still felt that employing a vigorous exercise programme can be a practical and successful method of temporarily reducing self-stimulatory behaviours and promoting a more positive approach to learning amongst children with ASD.

Exercise and self-stimulatory behaviours

Children with ASD frequently display a high rate of self-stimulatory behaviours (Rosenthal-Malek and Mitchell, 1997) such as hand flapping, body rocking and mouthing. Due to the negative effects of these behaviours on social interaction and learning (Bass, 1985; Kern et al., 1984, 1982), there have been many studies investigating how they might be reduced.

Recently there has been an increased emphasis on the use of antecedent measures such as exercise, rather than reactive strategies to address these behaviours(e.g. Baumeister and Forehand, 1973; Luiselli, 1981). Rosenthal-Malek and Mitchell (1997) explored the effects of aerobic exercise on the self-stimulatory behaviours of children with ASD and found significant decreases directly after exercise sessions were completed. Furthermore, researchers such as Pan (2010) and Yilmaz et al., (2004) found that water-based exercise programmes produced an effective reduction of self-stimulatory movements. Critics of this approach have expressed concerns that a reduction in self-stimulatory behaviour may be due to fatigue. However, subsequent studies have shown that although self-stimulatory behaviour is reduced after exercise, there is no decrease in academic performance (Powers et al., 1992) and in some cases there is an increase in appropriate responding during learning activities (Rosenthal-Malek and Mitchell, 1997) rendering the 'fatigue hypothesis' improbable.

Exercise and on/off task behaviour and appropriate responding

To address whether a decrease in maladaptive behaviour was due to participant fatigue after undergoing strenuous exercise, researchers have investigated the effects of exercise on attention and appropriate responding in learning situations. Studies found that whilst vigorous exercise directly decreases self-stimulatory behaviour of individuals with ASD, it also increases positive behaviours (Rosenthal-Malek and Mitchell, 1997).

Structured aerobic exercise, in particular, has been shown to improve attention span (McGimsey and Favell, 1988; Rosenthal-Malek and Mitchell, 1997). Pan (2010) found a significant effect of exercise on academic behaviour as an outcome of a ten-week swimming programme. Rosenthal-Malek and Mitchell (1997) found that levels of correct responding significantly increased following aerobic exercise, as did the number of tasks completed. A number of other studies (Diesfeldt and Diesfeldt-Groenendijk, 1977; Dodson and Mullens, 1969; Kern et al*.,* 1982) show increased on-task behaviour following jogging sessions. Studies by Watter and Watters (1980), Kern et al., (1982) and Rosenthal-Malek and Mitchell (1997) concluded that mildly strenuous aerobic exercise increases levels of academic performance.

Exercise and social interaction

ASD is characterised by severe and persistent difficulties in reciprocal social interaction and communication skills. Often present too are difficult behaviours such as aggression, hyperactivity, inattention, and impulsivity (Shea et al., 2004). These behaviours may be disruptive to both school and home life for these individuals and can interfere with the progress and well-being of the child as well as the adults who work with them (Shea et al., 2004). A number of studies since the 1960s have suggested that improved behaviour in children with ASD can be promoted through the use of pharmalogical interventions, specifically the use of antipsychotic medication such as Haloperidol or Risperidone. However, data on the safety, side-effects and efficacy of antipsychotic medication in children are limited (Cracken et al., 2002) and controversial (Shea et al., 2004). For example, Risperidone is being increasingly used to treat behavioural symptoms of children with ASD, including aggression in 5-12 year olds; however, children on Risperidone have been observed to experience rapid weight gain, increased blood pressure and severe sleepiness (Shea et al., 2004).

With the long-term effects of drugs such as Risperidone still under investigation it is appropriate to explore alternative strategies for addressing behavioural and social difficulties in children with ASD. Studies such as Pan (2010) found a significant effect of a ten-week swimming programme on all antisocial behaviours they measured, including hostility, irritability, aggression, defiance and disruption. Pan

(2010) accounted for the decrease in antisocial behaviour by suggesting this may be due to favourable responses and positive feedback given by the instructor to the participants, which could have increased motivation and enhanced perceived competence (Vallerand and Reid, 1984). With these findings as a basis, further research should be conducted into the effects of exercise on social behaviours of children with ASD in order to establish whether this could be incorporated into intervention programmes as a complementary or alternative approach to medication.

Concluding Synthesis

To inform the development of programmes for individuals with ASD, a number of points have emerged from a systematic review of the literature (See Table 1.). Firstly exercise can lead to improved social behaviours, decreased self-stimulatory behaviours and higher on-task behaviour (Pitetti et al., 2007; Rosenthal-Malek, 1997; Lang 2010; Whitaker and Saleem, 1994). Secondly, it appears that vigorous exercise has a more pronounced effect than milder exercise (Celiberti et al, 1997; Kern et al., 1984; Levinson and Reid 1993). Finally, exercise leads to improved health benefits for children with ASD (Pan, 2010).

Three criteria were set for inclusion of studies in the literature review (Table 1).

1. The study had to include participants with an ASD.
2. Exercise had to be an independent or dependent variable.

3. It was desirable that the studies used children under 18.

The study by Lang et al., (2010) was an exception to these criteria: this report comprises a literature review which offers valuable contextual information. The objective of this review is to describe the characteristics of exercise interventions of previous studies involving children with ASD in order to guide and inform the present study and other practitioners as they develop exercise programmes for individuals with ASD.

The Present study

Context

The context for this study is The Meadows Special School[1] which was established in September 2000 following the reorganisation of provision for children with special educational needs in Newtown,[2] and is currently the only primary school within Newtown Local Authority catering for the needs of children with complex and profound learning difficulties or disabilities, which include: severe ASD, complex medical conditions, physical and mobility difficulties, as well as severe developmental delay. There are currently 124 children attending The Meadows, ranging in age from 2 years to 11 years.

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[1] Pseudonym for the school participating in this study.
[2] Pseudonym for the Local Authority participating in this study.

Citation	Sample (all with ASD)	Design	Exercise procedure	Outcomes
Best and Jones (1974)	4 children. 2-4 years old. 3 males.	Pre and post test design.	Swimming and water aerobics for 30 mins.	Improvements on: - Purdue Motor survey (Roach and Kephart, 1966); - Peabody Picture Vocabulary Test (Dunn, 1969); - Merrill Palmer Mental Test (Stutsman, 1948); and - Fels Behavior Rating Scale (Champney, 1941).
Celiberti et al., (1997)	1 male, 5 years old.	ABCBC design. (A) baseline, (B) jogging, (C) walking.	Jog or walk for 6 mins on field.	Self-stimulatory behaviours decreased 31% after jogging condition. No such reduction for walking condition. Disruptive behaviour decreased across approximately 50% of observed sessions after the jogging condition. Reductions in these behaviours gradually increased and did not return to baseline levels over a 40 min period
Gordon et al., (1986)	1 male, 7 years old.	ABACB design. (A) baseline, (B) contingent exercise and (C) antecedent exercise.	Jogging for quarter of a mile, before class, with a teacher.	In stage C, out of seat behaviour decreased by approximately 95%. Contingent jogging caused a significant decline in frequency of out-of-seat behaviour.
Kern et al., (1984)	3 children, aged 7-11 years old.	Simultaneous-treatment design, sessions of vigorous and mild exercise were alternated.	Jogging for 15 mins (vigorous exercise). Playing catch for 15 mins (mild exercise).	After jogging, self-stimulatory behaviours decreased below baseline, sometimes up to 50%. Levels remained the same after ball playing.
Kern et al., (1982)	7 children, 4-14 years old. 2 female.	A repeated reversal design. Reversals between pre and post jogging conditions.	Jog for 20 mins.	On-task behaviour increased, self-stimulatory behaviour decreased, on average, immediately after jogging, correct responses to academic demands increased.

[3] Lang et al., 2010	64 individuals. 3-41 years old.	Literature Review	N/A	Exercise leads to improvements in on-task behaviour, academic responding and decrease in self-stimulatory behaviours and aggression.
Levinson and Reid (1993)	2 males, 1 female. 11 years old.	ABCA design. (A) no exercise, (B), mild exercise, (C) vigorous exercise.	Jog or walk for 15 mins.	Following vigorous exercise, self-stimulatory behaviour decreased for up to 90 mins post-exercise. Mild exercise had no effect.
Pan (2010)	16 males. Aged 6-9.	Repeated measures design with pre and post test measures.	90 min swimming twice weekly. 10 week programme.	Following swimming programme there was significantly higher scores on academic behaviour (t=6.86, p<0.01) and social competence (t=6.24, p<0.01) lower scores on antisocial behaviours (t=-4.4, p<0.01).
Pitetti et al., 2007	6 male, 4 females. Aged 14-18.	Pre and post-measures of BMI for control and experimental group	Treadmill walking 30 mins, 3 times per week.	Significant decrease in BMI for treadmill/experimental group (t = 3.23, p<0.05).
Powers et al., (1992)	1 male, 8 years old	ABAB design. (A) baseline, (B) roller skating.	Roller skating for 10 mins prior to a structured play session.	This antecedent activity resulted in a decrease in the subject's self-stimulatory behaviour (decrease by approximately 40% on average) and a corresponding increase in on-task performance (increased by approximately 35% on average).

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[3] This was an exception to the inclusion criteria, this study comprises a literature review which offers valuable contextual information.

Prupas and Reis (2001)	4 children, 5-9 years old.	ABACA design. (A) no exercise, (B) 1 daily exercise session, (C) 3 daily exercise sessions.	Jog for 10 mins.	When exercise sessions were once daily, self-stimulatory behaviour decreased by 51.6 %, when held 3 times daily the decrease was 58.9%.
Yilmaz et al., (2004)	1 child, 9 years old.	Pre and post test design.	Hydrotherapy, 3 times weekly for 60 mins, for ten weeks.	Improvements in strength, flexibility and balance. Decrease of approximately 30-50% in self-stimulatory behaviour.

Table 1. *Literature review.*

Procedure

This study was conducted over a four month period from March to June, 2011.

Table 2. presents a timeline which illustrates the procedure of this project.

Aims

Reviewing the evidence from the studies summarised in Table 1., three aims were identified, outlined below. See Appendix Seven, for a description of evidence contributing to the formulation of each of the aims.

1.   To explore the relationship between aerobic exercise and self-stimulatory behaviour of a group of young people with ASD.

2.   To explore the relationship between aerobic exercise and the social behaviour of a group of young people with ASD.

3.   To explore the relationship between aerobic exercise and the learning behaviour of a group of young people with ASD.

Time	Action
Early March	On an informal visit to the setting, the SENCo mentioned a desire for research to be conducted within the school. She felt research could help the school develop future provision. I suggested a discussion be held with school staff to identify some potential areas of interest across the school.
Mid March	I met with school SENCo to discuss potential research areas. Exploration into the value of exercise was suggested during a discussion with the school staff. The Meadows has historically tried to encourage regular physical activity amongst its pupils and the staff as a whole were interested to explore the value of doing this systematically as part of the curriculum. The SENCo and I discussed how to refine and develop this idea further by discussing types of exercise and groups of children who may particularly benefit from increased exercise as part of their daily routine. I agreed to review literature into the use of exercise with groups of children with complex and profound difficulties and feed back findings to the SENCo to help refine the research proposal further.
End March	I met with the SENCo and presented her with Table 1., a literature review into the use of exercise with children who have ASD. The SENCo discussed the research idea further with school staff and identified a group of children with ASD who could potentially take part in this study. I met with the SENCo and class teacher of these potential participants. The class teacher expressed a strong interested in taking part in the project. I then created a research brief outlining the potential research objectives, methodology and timings (see Appendix One).
Early April	After obtaining consent from parents for children to take part in this study (see Appendix Two for consent letter), I visited the class of seven children who would potentially be taking part in the research and conduct informal observations. I reviewed the research brief with the class teacher and teaching assistants. They provided feedback, (see Appendix Three), which was incorporated into the final research brief.
Early May	I conducted observations over two mornings (approximately seven hours) to collect data. The purpose was to produce a list of self-stimulatory behaviours displayed by the group. I discussed my observations with the class teacher and we looked at behaviour plans to add more behaviours to the list (See Appendix Four for a list of observed behaviours).

Mid May	I completed a pilot of observation schedules with a teaching assistant to check inter-rater reliability and manageability of the questionnaire (see Appendix Five for feedback). I also completed a pilot of the teacher questionnaire (see Appendix Six for feedback). Also, see method section for further explanation of this process.
May to June	Data were collected through the use of observation schedules and teacher questionnaires over a six week period.

Table 2. *Project timeline.*

Method

Methodology

Methodology refers to an approach to research (Kaplan, 1973). The intention of this research is to explore the perceived value of incorporating exercise in the daily curriculum of a group of pupils with ASD at The Meadows.

The approach adopted to achieve this is an exploratatory, case study research design. In line with Cohen et al.'s (2007) description of case study methodology, this study aims to "portray, analyse and interpret the uniqueness of real individuals and situations through accessible accounts" (p. 85) and to "contribute to action and intervention" (p.85).

Within the 'paradigm wars,' if qualitative and quantitative research methods are seen as competing methods, then this could significantly limit our understanding of phenomena (Gage, 1989). Critical realism can be seen as a powerful middle ground for gaining knowledge through complementary research methods, which, when used in combination can come closer to achieving a systematic understanding of the relationships, structures and mechanisms of the social world. In an attempt to embrace this philosophy, I chose to use a mixed-method approach, with the intention of producing rich information that the staff at The Meadows would find meaningful,

useful and informative. I was not interested in "scientific experimentation" involving "restricting, simplifying and controlling variables" (Robson, p. 19) of which the findings would be of little relevance and consequence to the staff of The Meadows. Instead, to address the research aims presented above, I wanted to explore the worth of exercise by looking at the research situation in a variety of different ways.

In an attempt try to access inner, subjective experiences and staff perceptions regarding the value of exercise, I chose to use scaling techniques. I felt this was a vital part of the research process because, if the teacher perceived that exercise had a positive impact on classroom behaviour and learning, there would be motivation and value for her to use exercise with this group in future.

In an attempt to further understand the complexities of the research context I also chose to use observation methods in hopes of promoting "understanding that can possibly be acquired through different types of inquiry and alternative methods of investigation," (Hirschheim et al., 1995:20).

By adopting a critical realist perspective, I felt I was able to build a picture of 'reality' by using different measures that the staff at The Meadows would value. Throughout, the process I was aware that the ideas in my mind about the things I would see would be framed by my own previous experiences, and would be subject to my own interpretations. However, my aim was that the data would not create a definitive

portrayal of the world but would provide rich and meaningful information from which predictions can be made (Cohen et al., 2007) and recommendations could be generated to inform future practice.

In line with a critical realist methodology as set out in *Explaining Society* (Danermark et al., 2002), in stage one of my research, I set out to describe the use of exercise with children with ASD by exploring historical and more contemporaneous research in the area. In stage two of my research, I used "multimodal" (Cohen et al., 2007, p.169) methods of data collection such as observations, discussion and scaling techniques to explore the experiences of staff at The Meadows, with the aim "to seek a description and interpretation of total phenomena" (Cohen et al., 2007, p.169). It was intended that each phase of data collection would add to the "thick description" (Eisenhardt, 1989) of the relationship between exercise and the behaviours of children with ASD and generate theories in relation to the research questions.

Ethical Considerations

Erlandson et al. (1993) suggest that ethical considerations should be at the forefront of all naturalistic research. With this in mind, in order to ensure respect, competency, responsibility and integrity were upheld as fully as possible; considerations were made in reference to the British Psychological Society's Code of Ethics and Conduct (2009). An outline of how risks were addresses is included in Table 3.

BPS Guidance	Criteria met through
Respect: Psychologists value the dignity and worth of all persons, with sensitivity to the dynamics of perceived authority or influence over clients, and with particular regard to people's rights including those of privacy and self determination.	- Introducing self clearly at every new encounter. - Identifying purpose and asking for consent to participate. - Ask for parental consent for children to participate after explaining the aims. - Thanking staff and pupils for their contributions. - Anonimise data, don't ask for names. - Keep data secure. - Make self available for questions via phone, email and in person. - Remind parents and staff of the right to withdraw at any time. - Discuss research process in supervision. - Ensuring participants know what data will be used for (see research brief, Appendix One). - Plan of action if confidentiality is breached.
Competence: Statement of values – Psychologists value the continuing development and maintenance of high standards of competence in their professional work, and the importance of preserving their ability to function optimally within the recognised limits of their knowledge, skill, training, education, and experience.	- Consider ethical implications of this research by planning how to meet BPS criteria. - Read BPS code of ethics and conduct. - Reflection in supervision and discussion. - Using supervision to reflect on ethical considerations of the research. - Think about the purpose of each action throughout the research and justify it to self and others if necessary. - Consider the limitations of the methods I use and conclusions I draw. - Rendering explicit my epistemology.

Responsibility: _Psychologists value their responsibilities to clients, to the general public, and to the profession and science of Psychology, including the avoidance of harm and the prevention of misuse or abuse of their contributions to society._	- Think about the consequences of actions undertaken, how my presence impacts the environment, children and staff. - Ensure to debrief staff, talk to them about how they feel at the end of sessions. - Keep self safe at all times, try to be aware of situations and not to intervene unless a child/staff member is at risk of harm. - Make clear the timescales for the research to be undertaken. - Make self available for questions via phone, email and in person. - Use supervision to reflect on the perspectives of the participant. - Inform participants throughout of their right to withdraw. - Ensure there are no financial implications from the research and discuss if any arise with the stakeholders. - Debrief research participants at the conclusion of their participation, in order to inform them of the outcomes and discuss questions. - Take particular care when discussing outcomes with research participants, as seemingly evaluative statements may carry unintended weight.
Integrity: _Psychologists value honesty, accuracy, clarity, and fairness in their interactions with all persons, and seek to promote integrity in all facets of their scientific and professional endeavours._	- Be honest and accurate in representing their professional affiliations and qualifications, including such matters as knowledge, skill, training, education, and experience. - Be honest and accurate in conveying professional conclusions, opinions, and research findings, and in acknowledging the potential limitations. Discuss this in supervision. - Avoid forming relationships that may impair professional objectivity or otherwise lead to exploitation of or conflicts of interest with a client.

Table 3. _Reference to BPS Code of Ethics and Conduct._

Participants

There were seven children in the class, six male and one female. Children were aged between 9 years and 11 years old. See Appendix Eight for a pen portrait of each child. Three children had a diagnosis of ASD and four children were not formally diagnosed with ASD but typically displayed diagnostic characteristics associated with ASD, such as:

- limited spontaneous language and play;

- difficulty processing social communication and cues which promote socially appropriate behaviours;

- significantly delayed or limited development of communication skills; and

- restrictive patterns of behaviour.

(DSM-IV, 2000)

All children attended The Meadows Special School for children with complex and profound learning difficulties.

Design

The project took place over a six week time period and an ABA design was employed. (A) Week one involved collecting baseline measures, (B) Weeks 2-5 involved a four week exercise programme alongside ongoing measures and (A) Week 6 involved a return to baseline measures.

Four Week Exercise Programme

The exercise was conducted in the gym and consisted of warm-up stretches and 10 – 15 minutes of mildly vigorous jogging, as the research base (see Table 1) indicates this to be the optimal length and type of exercise to use.

To be considered vigorous jogging, teaching staff were advised that the pupils needed to show increased breathing rate and mildly flushed faces but not show observable signs of discomfort such as appearing out of breath. All of the subjects jogged independently with adults alongside, to maintain direction.

The exercise programme was introduced at the beginning of a new term to minimise distress being caused by a sudden change in routine. Exercise took place every day

(between 9:10am to 9:30am) and was followed by an academic activity. The total number of exercise sessions was twenty, one per day, over four weeks.

Measures

A mixed-method approach was used. Observations and a teacher rating scale were used to describe the relationship between exercise and (a) self-stimulatory behaviour; (b) academic behaviour; and (c) social behaviour.

Observations

Two observation schedules were devised based on the premise that if we know in advance what we wish to observe, then it is more efficient to go into a situation with a prepared observation schedule (Robson, 2000). See Appendix Nine for observation schedules.

I drew on suggestions from Robson (2000) to aid the design of the observation process. Robson suggest that the researcher needs to consider four areas in order to ensure 'fitness for purpose' these being:

 1. the foci of observation;

2. the frequency of observation;

3. the length of observation period; and

4. the coding system.

I addressed each area in turn, to present the basis for my approach (see Appendix Ten for a detailed description).

I observed the group of children using both observation schedules (see Appendix Nine) every Monday at 9:30am for 30 minutes and at 1:30pm for 30 minutes over a six week period. See Appendix Eleven for a visual timetable of when measures were used, for ease of reference.

Teacher rating scale

Academic behaviours, social behaviours and self-stimulatory behaviours were measured using a teacher rating scale (See Appendix Twelve). One scale was completed for each child before and after the exercise programme was introduced.

Appendix Thirteen describes the process for developing the teacher rating scale.

I completed a pilot of the rating scale with the class teacher for a child not included in the study and she was able to comment on the appropriateness of the items. This feedback was included in the final rating scale design (see Appendix Six for teacher feedback on the first draft rating scale).

Outcomes

The outcomes of data collection will be discussed and presented in relation to each of the research aims.

Research aim one: To explore the relationship between aerobic exercise and self-stimulatory behaviour of a group of young people with ASD.

Graphs 1 and 2 describe the frequency of self-stimulatory behaviours observed during the morning (9:30) and afternoon (1:30) over the six week period. Both Graphs indicate that on average, self-stimulatory behaviour appears to be lower during the mornings of weeks 3, 4 and 5, in contrast to weeks 1 and 6, when vigorous exercise was not undertaken by the group. Pupils also undertook exercise during week 2 but the Graph shows a slight increase in self-stimulatory behaviour for this week.

Graphs 1 and 2 show that on average, the frequency of self-stimulatory behaviours observed during afternoons varies and provides no evidence for a lasting impact of exercise on self-stimulatory behaviour.

According to teacher rating scale outcomes regarding self-stimulatory for individual children (see Graphs 6 to 13) there are some notable changes over time. However, these vary greatly for each child. For example, according to the outcomes of the teacher rating scales, the teacher perceived a reduction across a range of self-stimulatory behaviour for SS and JG. Whilst for some children it was perceived that whilst some self-stimulatory behaviours decreased, others increased, as appears to be the case for AA, CF, JM, KJ and KS.

Research aim two: To explore the relationship between vigorous exercise and the social behaviour of a group of young people with ASD.

Graph 5 illustrates the average results across a range of self-stimulatory behaviours according to the teacher rating scale outcomes for the whole group, before and after the exercise programme was introduced. The Graph indicates that according to the teacher's views, some undesirable behaviours slightly decreased over the four week period when children were exercising daily. For example, throughout the group there appears to be less defiant behaviour and less aimless wandering around the room.

Also, sharing appears to have increased. However, there appears to be a slight increase in some negative behaviours such as shouting out and physical aggression towards peers.

Looking at social behaviour as rated by the teacher for individual children (see Graphs 6 to 13) there are some noteworthy changes over time. It appears that for some children there is a marked decrease across a range of undesirable social behaviours, for example see results for CF and AA. For most children there appears to be a perceived decrease in some undesirable behaviours and an increase in others, see KJ, JG, SS, KS, JM and CF.

Research aim three: To explore the relationship between aerobic exercise and the learning behaviour of a group of young people with ASD.

With regards to learning behaviour, Graphs 3 and 4 indicate that on-average, on-task behaviour was higher during the mornings of weeks 2, 4 and 5, the weeks that pupils had undertaken 10-15 minutes of vigorous exercise in the morning, in comparison to weeks 1 and 6, when the vigorous exercise was not undertaken by the group.

On-task behaviour across afternoon sessions seems to vary slightly, with less on-task behaviour in week 6 (post-intervention).

Graph 5 indicates that there are some differences in the teacher's perception of academic behaviours, self-stimulatory behaviours and social behaviours before and after the exercise programme is complete. Certain behaviours are perceived to have improved, such as: completes tasks; appropriate responding; and sharing, whilst others seem to have decreased, for example: forgetting things; hand-flapping; defiant behaviour; damaging peers' property; and wandering around.

According to teacher rating scale outcomes regarding academic behaviour for individual children (see Graphs 6 to 13), there are some interesting changes over time. There appears to a mixture of some increased desirable and undesirable academic behaviours for KS, KJ, JG, JM, AA and CF. There appears to be an overall rise in desirable academic behaviour for SS.

The outcomes of this study will be considered in more detail in the *Discussion* section of this report.
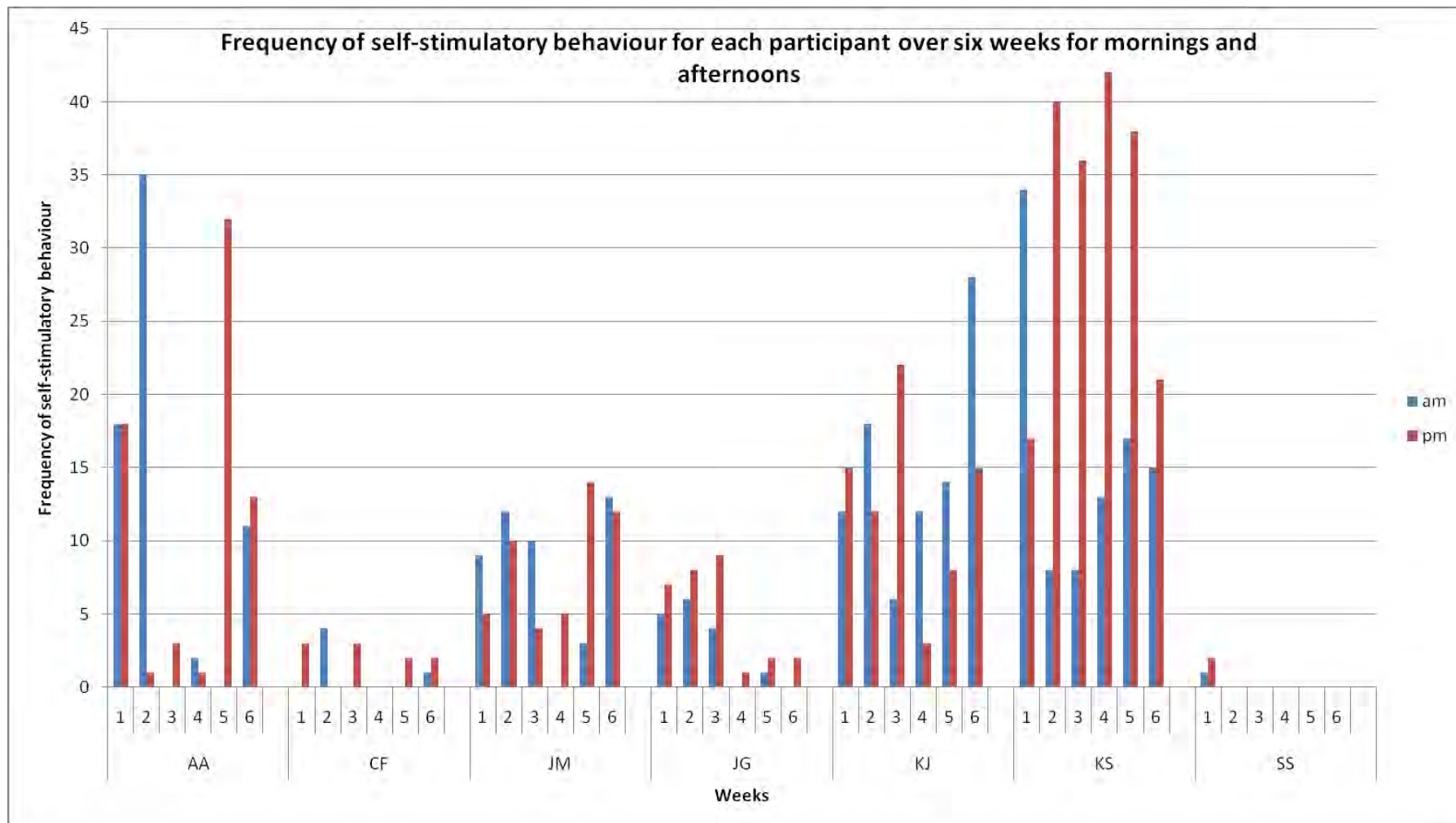
Graph 1. Observed frequency of self-stimulatory behaviours for each child
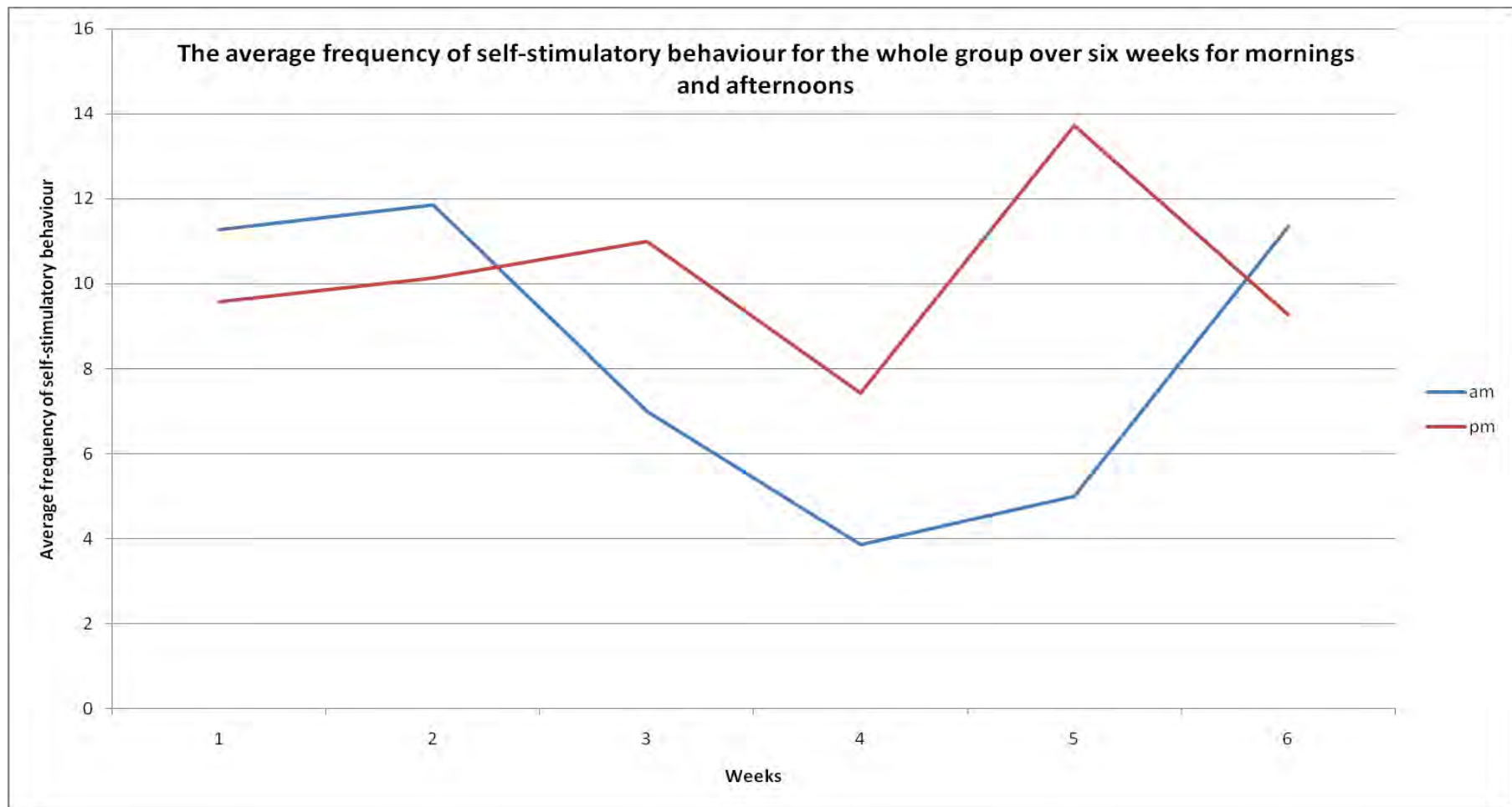
Graph 2. Average observed frequency of self-stimulatory behaviours for the whole group
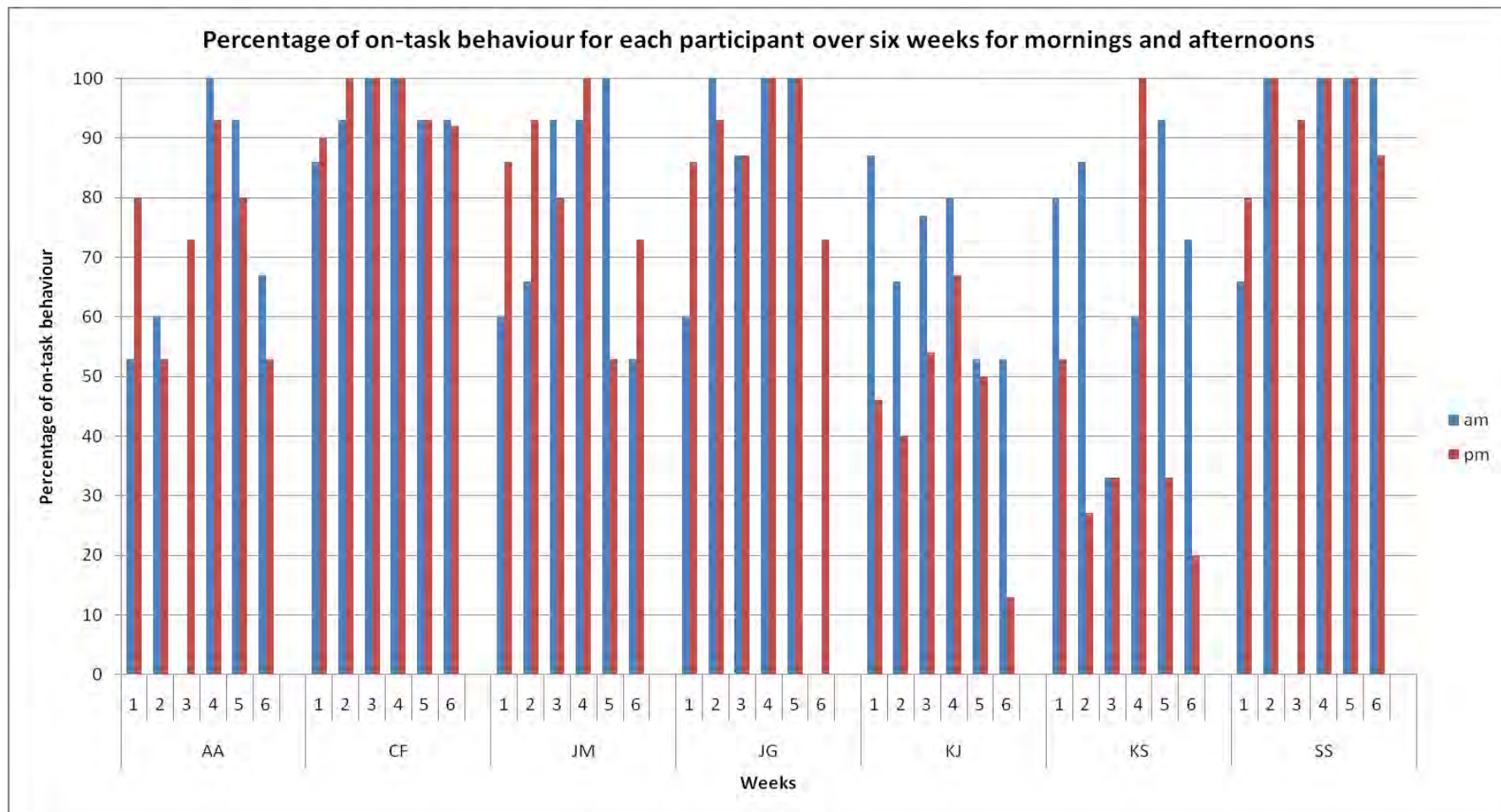
Graph 3. Percentage of observed on-task behaviour for each child
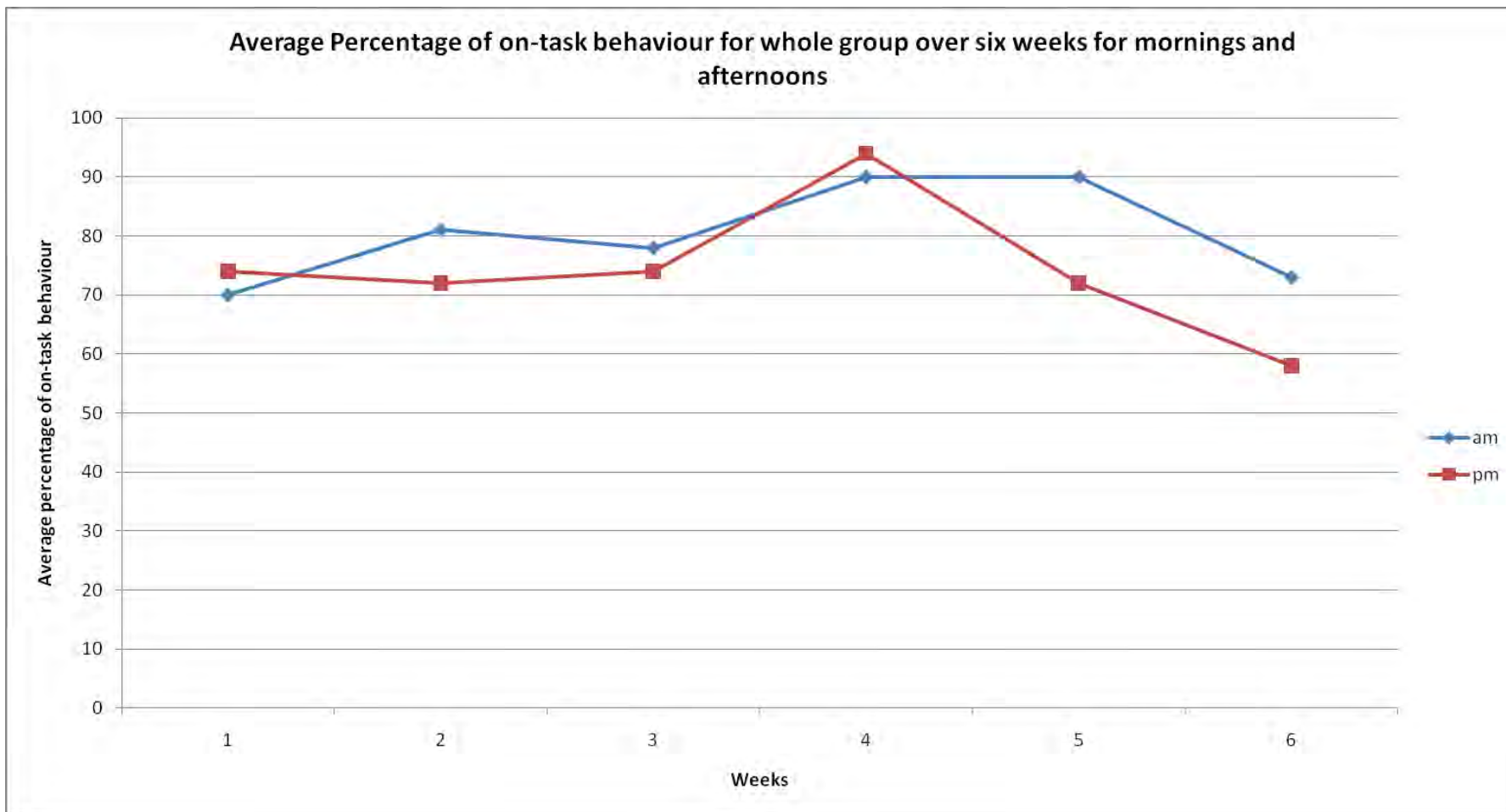
Graph 4. Average percentage of observed on-task behaviour for the whole group
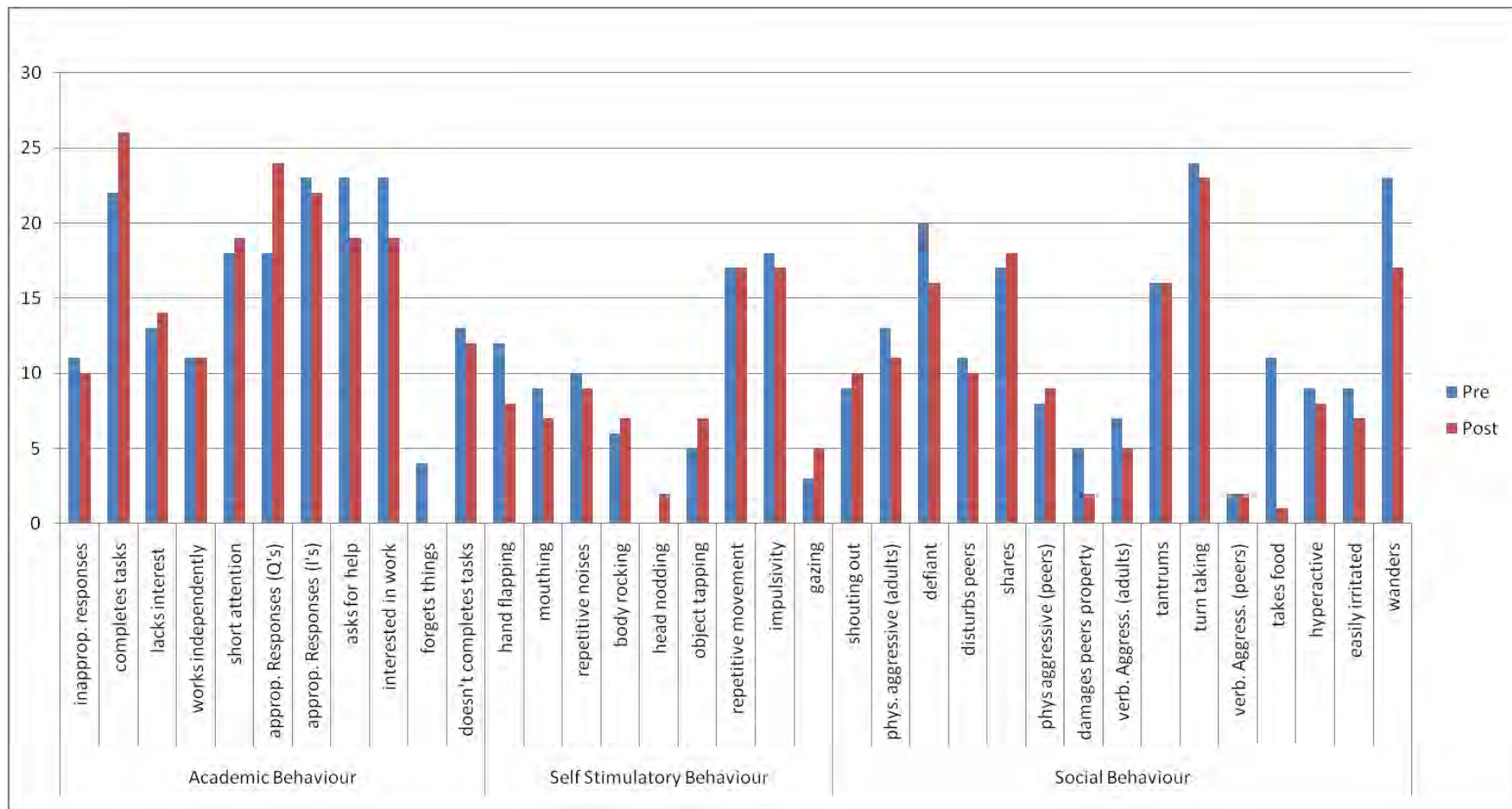
Graph 5 Average teacher rating scale results for the whole group pre and post exercise programme
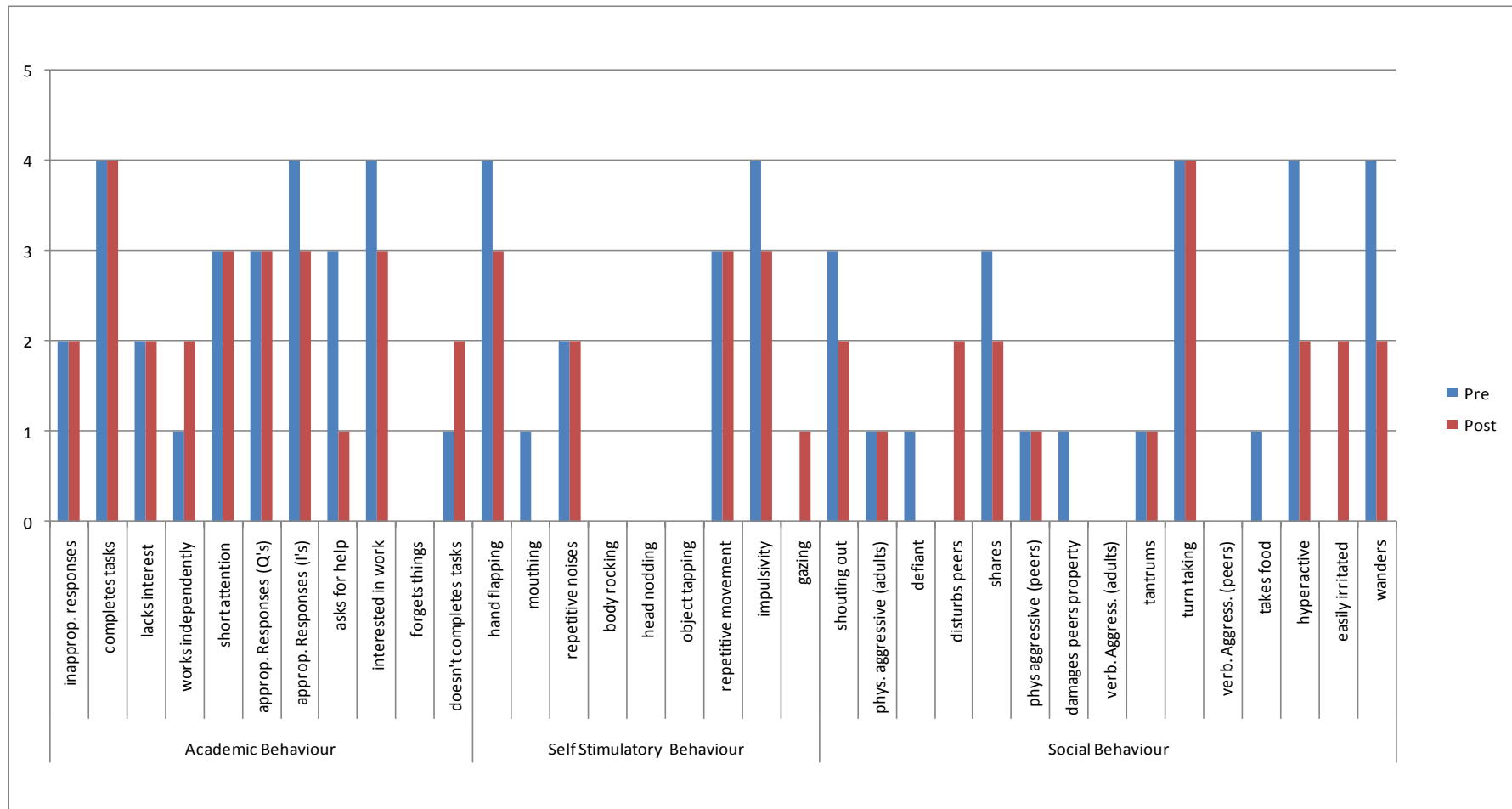
Graph 6: Teacher rating scale outcomes for AA
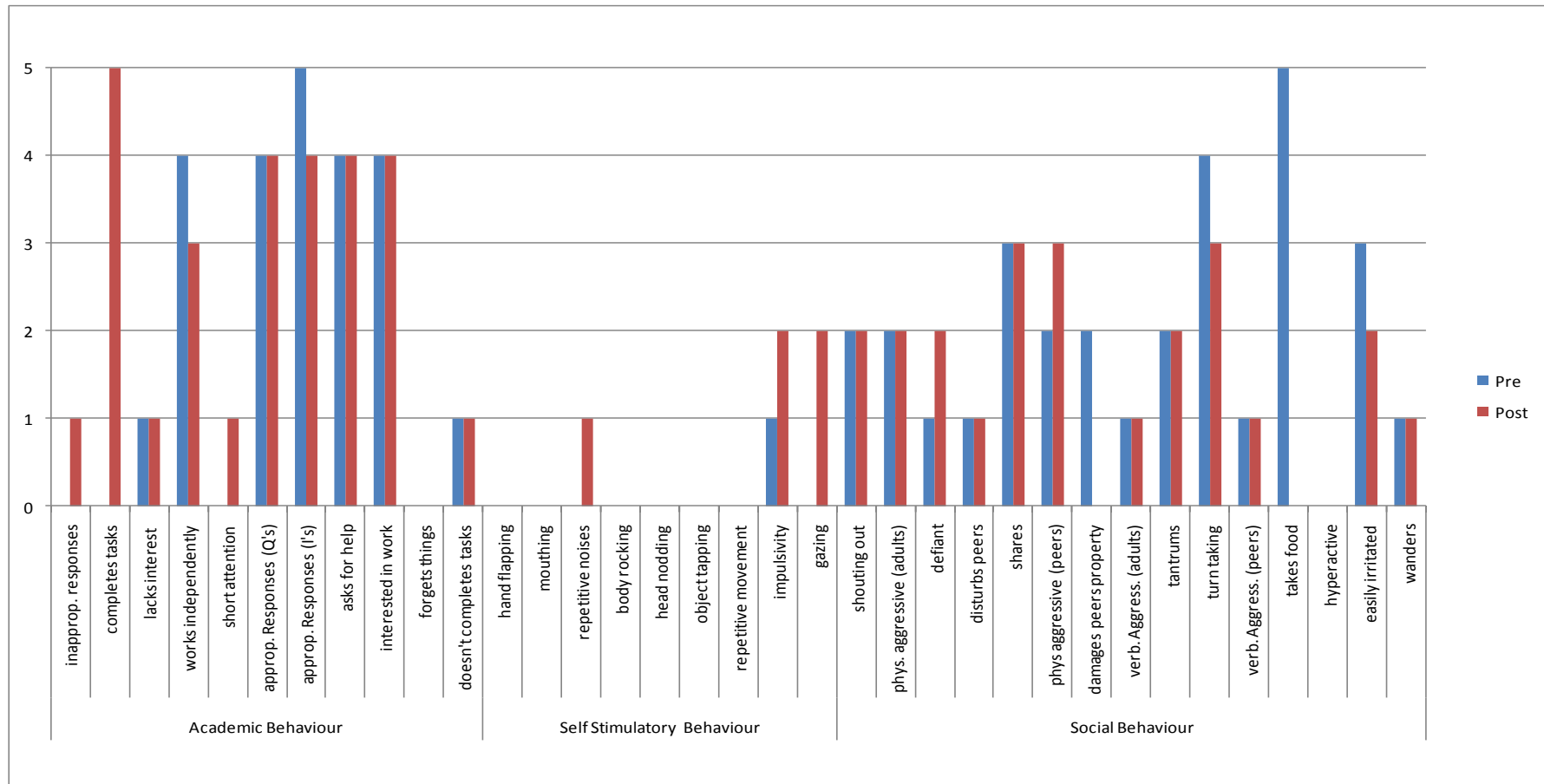
Graph 7. Teacher rating scale outcomes for CF
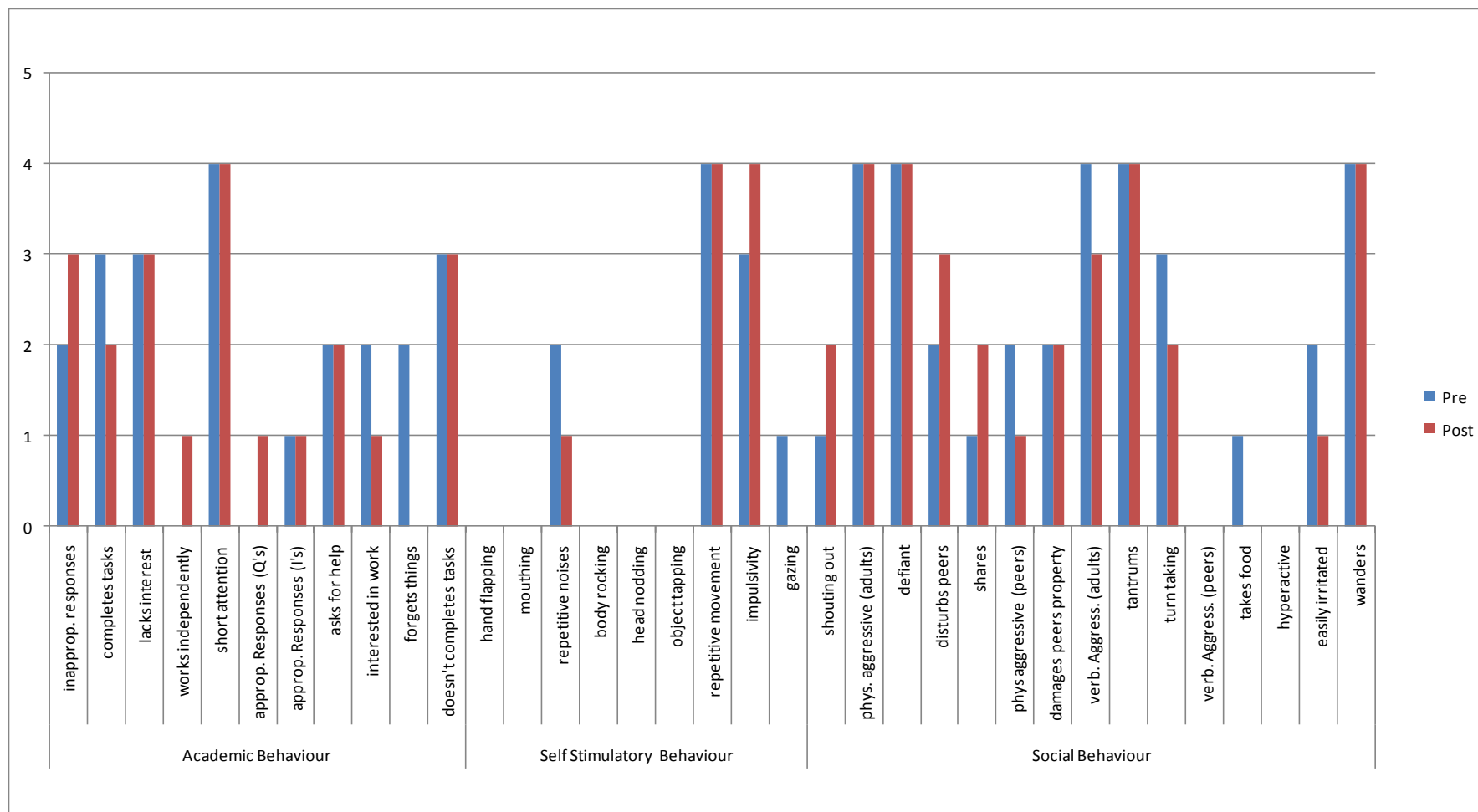
Graph 8. Teacher rating scale outcomes for JM
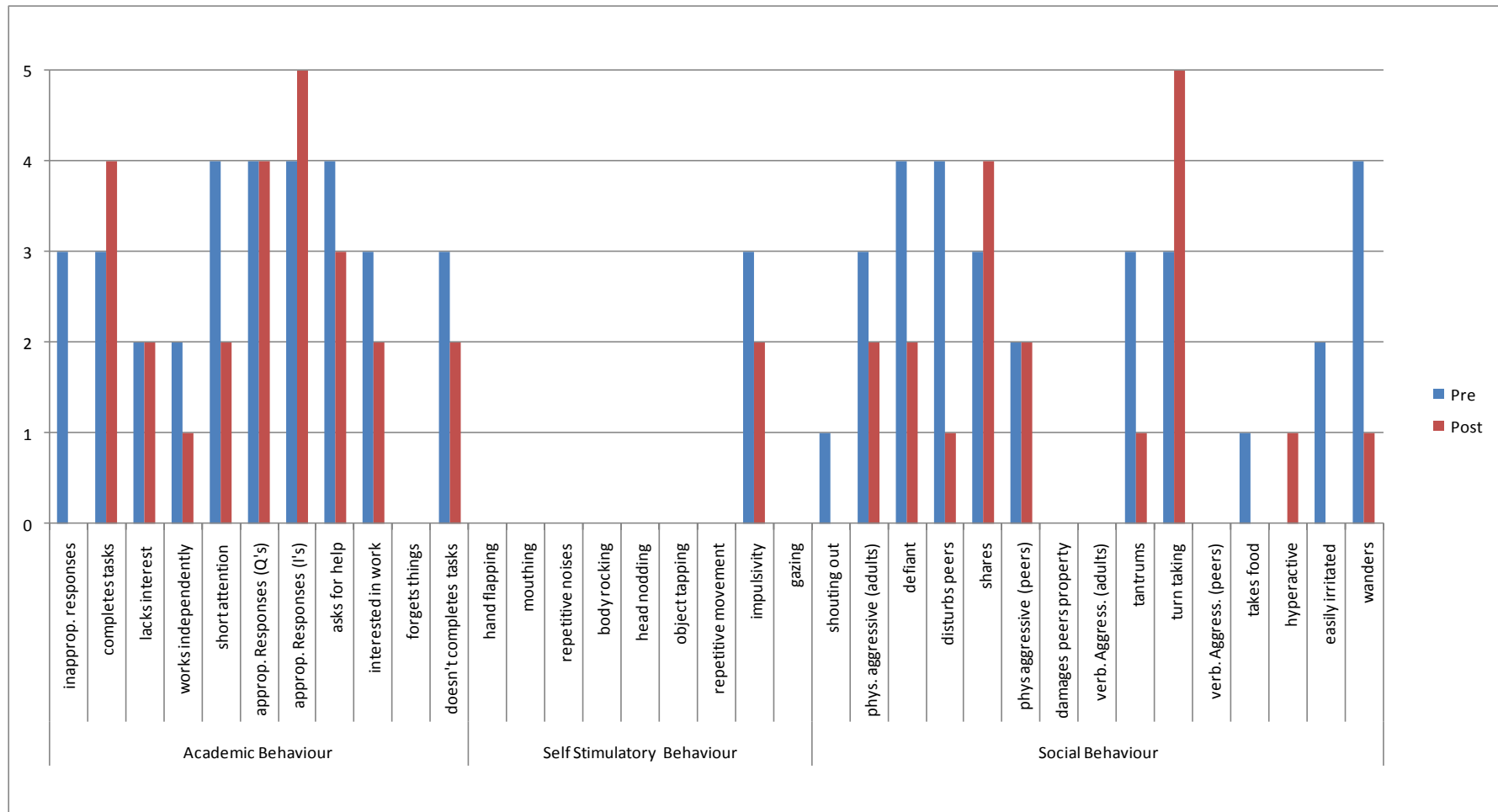
Graph 9. Teacher rating scale outcomes for JG
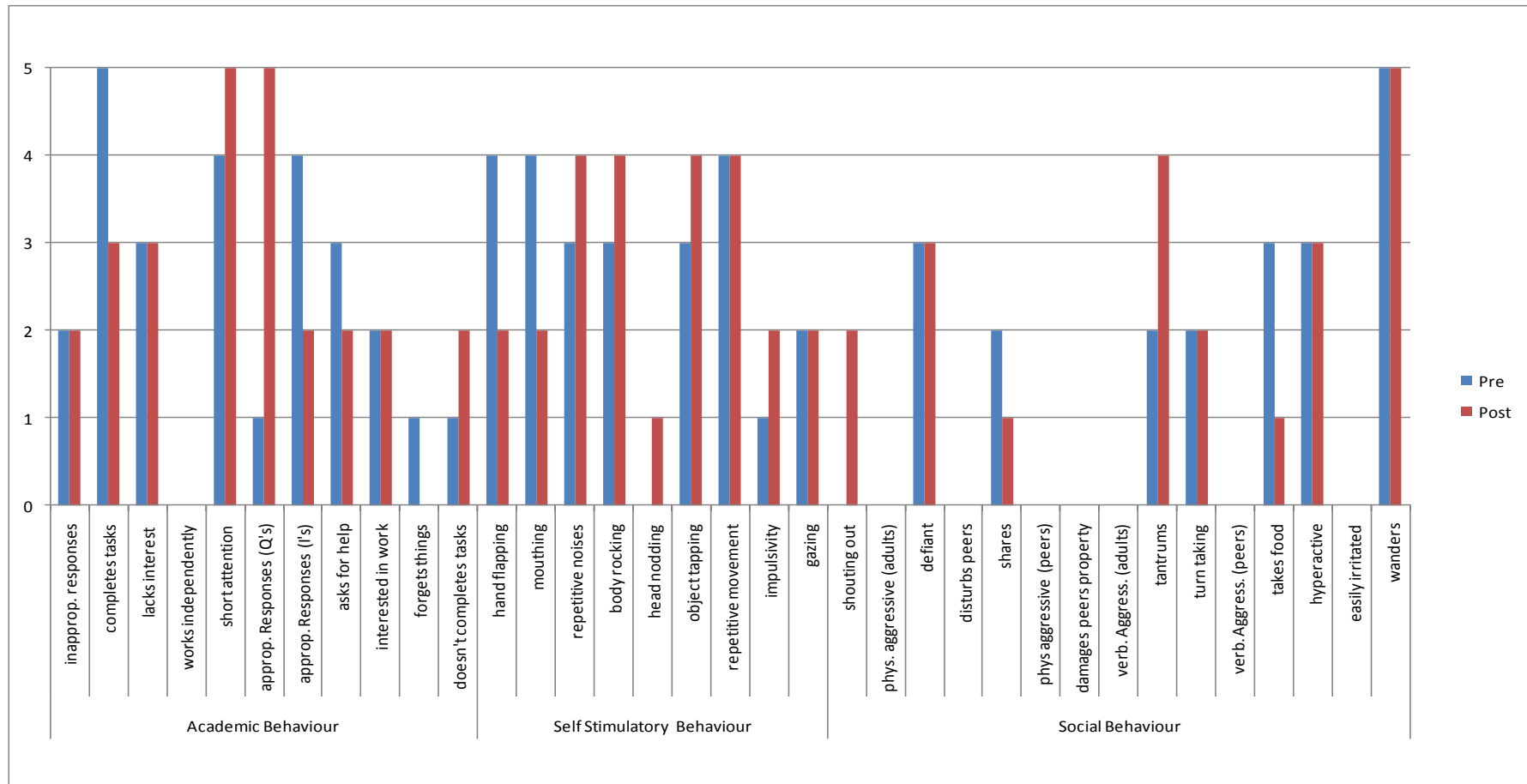
Graph 10. Teacher rating scale outcomes for KJ
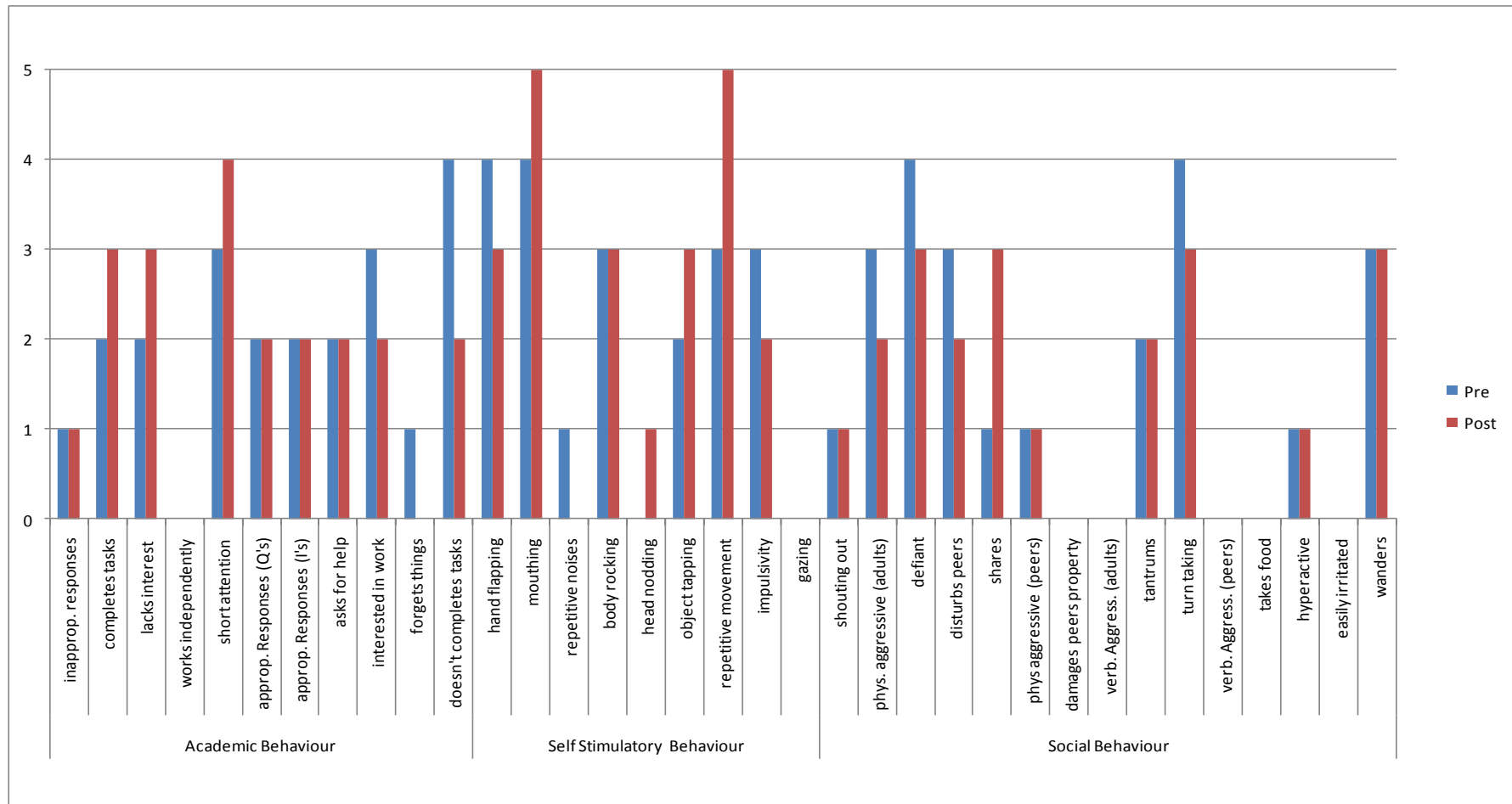
Graph 11. Teacher rating scale outcomes for KS
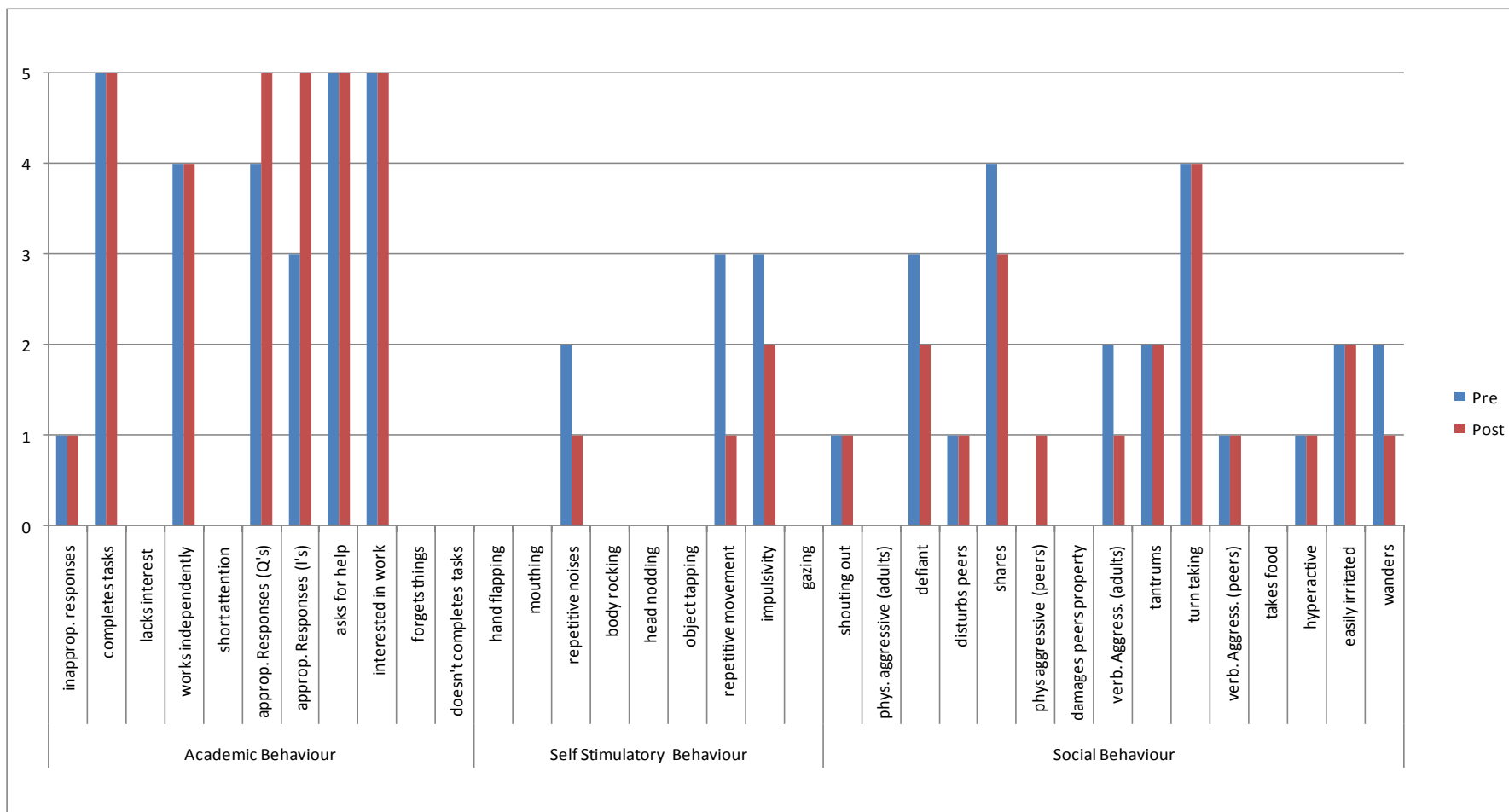
Graph 12. Teacher rating scale outcomes for SS

Trustworthiness of findings

It is agreed that *validity*, the level of confidence we have that our results are accurate, *reliability*, the level of stability over time and *generalisability*, the view that theories generated may be useful for understanding other similar situations, are important in effective research (Robson, 2002). Rolfe (2006) argues that, because of the absence of a unified qualitative paradigm, attempts to judge the validity of qualitative research are inappropriate. Instead, he argues, it is the relationship between knowledge and practice that provides the key to judging research. Therefore, what I will discuss in this section is how confident I am that what I have described in this study accurately explores and reflects the relationship between exercise and behaviour for a group of children with ASD at The Meadows.

To help judge the trustworthiness for the data derived from the observation schedules I devised, I used pilot procedures. Two observers, myself and a teaching assistant, independently recorded the occurrence of self-stimulatory behaviours during one session (see Appendix Five for feedback). The average percentage agreement across a thirty minute period was 92% (range 62-100%). The same procedure was used to measure the reliability of the on-task observation schedule, the average percentage agreement for recording on-task behaviour over a 30 minute period was 94% (range 71% - 100%). Thus, I felt assured that the observations recorded using these measures, could be used to inform future practice.

Pilot procedures were also used to gauge the trustworthiness of the teacher rating scale. I asked the class teacher and a TA to complete the rating scale separately, and upon comparing responses there was a high level of agreement (89%, see Appendix Six for TA feedback on the pilot rating scale).

Upon reflection, I am aware that the process I have used is open to observer bias and that my judgments and perceptions will have been affected by my increasing familiarity with the group of participants over time and my continual decision-making regarding which behaviours I attend to. I tried to minimise the latter bias by using a time-sampling approach, attending to one child's behaviours at a time, however, there still remains the possibility, due to human error, that some behaviours could have been overlooked at times.

Also, I am aware that this study may be criticised for my decision not to control other variables which may affect the behaviours being observed, such as, defining the tasks children undertook during my observations, ensuring these were similar on each occasion. My argument here is that we do not live in a controlled or predictable world therefore trying to create this artificially seems illogical and would offer a very narrow view of reality, which may be ill-fitting with what actually occurs.

Finally, one characteristic of this study is that the findings are specific to one particular setting and limited to the moment in time the study was conducted and it

cannot be assumed that results can be generalised to other cases and circumstances.

Discussion

The primary purpose of this study was to explore the effects of vigorous exercise on self-stimulatory behaviours, social behaviours and learning behaviours of children with ASD in a special school setting.

In relation to research aim one: *To explore the relationship between aerobic exercise and self-stimulatory behaviour of a group of young people with ASD.* The results show that vigorous exercise, in this case jogging, can reduce self-stimulatory behaviour immediately after exercise has taken place (See Graphs 1 and 2). However, there is no evidence for the lasting impact of exercise on self-stimulatory behaviour. These findings are in line with previous research which assessed the effects of aerobic exercise on the self-stimulatory behaviours of children with ASD and found significant decreases directly after exercise sessions were completed (Rosenthal-Malek and Mitchell, 1997; Pan, 2010; and Yilmaz et al.) but levels returned to those observed pre-exercise after approximately 90 minutes.

Pupils also undertook exercise during week 2 but there appears to be a slight increase in self-stimulatory behaviour during this week. This could be a reaction to

the change in timetable incorporating exercise into the new daily routine. Also, this was the week immediately after Easter holidays, so there could have been some 'settling in time' needed. For example, O'Connor (2000) suggests that implementing exercise and group activities into the routine of an individual with ASD can lead to some anxiety and it will take time for individuals to get used to this.

One suggested reason for a reduction in self-stimulatory behaviour after exercise is the possibility that the physical stimulation obtained through exercise is similar to that obtained through self-stimulation, whereby, both produce a pleasant internal consequence, or automatic reinforcement for the individual (Rapp et al., 2004). The idea of using an approach which reduces self-stimulation by eliminating or abolishing the child's motivation to engage in the behaviour has been investigated in some intervention studies (e.g. Lang et al., 2010; McComas et al., 2003). It has been found that if an individual has unrestricted access to a 'reinforcer', then the reinforcing value may be reduced for a short period of time. Based on this rationale, if a child engages in vigorous exercise, replicating the effects of self-stimulation, then self-stimulation may lose its reinforcing value for a short period of time so that the child is no longer motivated to engage in self-stimulation. If such a relationship between exercise and self-stimulatory behaviours does exist, then interventions used with children with ASD could incorporate exercise which matches the self-stimulatory behaviours they display (Lang et al., 2010).

One consideration to be noted here is that the changes observed in self-stimulatory behaviour varied greatly for each child. This suggests that future research could explore the relationship between exercise and various types of self-stimulatory behaviour, it would be useful to ask the questions: *are some self-stimulatory behaviours more affected than others? If children have high levels of self-stimulatory behaviour to begin with, does exercise have a greater impact?*

In relation to research aim two: *To explore the relationship between vigorous exercise and the social behaviour of a group of young people with ASD.* Graph 5 indicates that according to the teacher's views, some undesirable social behaviours slightly decreased over the four week period that children were exercising daily. For example, there appears to be a decrease in defiant behaviour and less aimless wandering around the room. This is consistent with Todd's (2009) findings that the use of aerobic exercise with students from an array of special populations, including ASD, has been shown to reduce unproductive, aggressive, stereotypical, self-injurious and disruptive behaviour, as well as purposeless wandering. However, in contrast to the decreased undesirable social behaviours, there also appears to be a slight increase in perceived shouting out and physical aggression towards peers. This could be because the children are trying to communicate their excitement to take part in tasks (O'Connor, 2000) following increased stimulation from exercise.

According to teacher views, positive social behaviour such as sharing and turn taking seems to have improved for some children over the four week exercise period. This

could be due to the theory that exercise raises serotonin levels in the brain, which positively effects mood and reduces stress (Salmon, 2001).

In relation to research aim three: *To explore the relationship between aerobic exercise and the learning behaviour of a group of young people with ASD.* Graphs 3 and 4 indicate that on average, on-task behaviour increased directly after exercise. However, there is no evidence for a lasting effect of exercise on-task behaviour.

In line with past research, structured aerobic exercise has been shown to improve attention span, on-task behaviour, and increasing endurance which is associated with improved work performance amongst pupils with ASD (O'Connor 2000). These findings may be because it is known that exercise increases oxygen and blood flow to the brain which could improve memory functioning and attention (Radak et al., 2001).

In relation to the outcomes of this study, it is important to note that for each area explored, there were fluctuating levels of both desirable and undesirable behaviours for each participant involved in this study. This is not surprising when we look at each child's portrait (see Appendix Eight) and refer to initial teacher rating scale outcomes (See Graph 5), whereby, it soon becomes apparent that although this group of children share some similarities, such as complex communication difficulties and global developmental delay, their individual needs are unique. There can be no

singular intervention that will meet all of their needs and yield positive results across all areas, and there is undoubtedly going to be variation in each child's response to any intervention introduced. However, a reassuring finding from this study is that exercise seems to have an overall positive impact on at least some aspect of behaviour for each child, whether it is their social, learning or self-stimulatory behaviours.

<u>Conclusions and Future Directions</u>

A central purpose of this paper was to guide and inform practitioners at The Meadows as they develop school programmes for children with an ASD. The findings highlight a positive relationship between exercise and the reduction of undesirable behaviours. However, these effects may only last between 40 and 90 minutes (Celibert et al., 1997 and Levinson and Reid, 1993). This suggests that in some cases multiple exercise sessions per-day may be useful for promoting lasting positive behaviour amongst some children. For practitioners who wish to incorporate exercise into the teaching programmes for pupils with ASD, further strategies may be considered. For example, a review of studies suggests that embedding exercise into ability-appropriate activities and games or into areas of specific interest may increase motivation to engage in exercise, requiring less prompting (e.g. Best and Jones, 1974; Prupas and Reid, 2001).

Exercise is a cost-effective activity, which requires little expertise, to promote improved health (Rosenthal an Mitchell, 1997) and improved behaviour amongst

individuals with ASD. With the long-term effects of drugs such as Risperidone still

under investigation (McCracken et al., 2002), it is appropriate to explore alternative

strategies for addressing behavioural and social difficulties in children with ASD.

Through a review of the literature, there appears to be mounting evidence for the

positive effects of exercise on learning and health, whereby, research suggests that

individuals with ASD may be living "dangerously sedentary lifestyles" (Draheim et al.,

2002) which can lead to poor educational outcomes as well as increased prevalence

of cardiovascular disease, insulin resistance syndrome and obesity-related difficulties

within this group. There appears no consistent evidence in the literature showing

that exercise has any detrimental effects. However, the extent to which exercise is

embedded within teaching programmes when working with pupils with ASD, is solely

at the discretion of educational professionals and should be considered in relation to

the individual needs of each child taking part, it should also be implemented within a

framework which incorporates systematic monitoring and review to ensure that both

staff and children are benefitting from the outcomes.

Also, it is important to consider that no singular intervention should be used in

isolation but should form part of a range of complementary approaches which

consider individual as well as environmental factors. For example, a number of

evidence-based interventions for building essential social, communication and

learning skills amongst those with ASD have been developed including:

- a structured teaching model known as Treatment and Education of Autistic and Related Communication-Handicapped Children (TEACCH: Blubaugh and Kohlmann, 2006);

- an augmentative and alternative communication programme known as the Picture Exchange Communication System (PECS: Bondy and Frost, 1994);

- the design of environments to encourage spontaneous communication and foster independence (Prendeville *et al*., 2006);

- the Lovaas technique of applied behaviour analysis and intensive behavioural interaction (Lovaas, 1987); and

- various education programmes such as the Higashi programme of systematic education through group dynamics and the combination of technology, art, music and physical education; and the use of social stories (Gray, 1994, 2000).

None of these approaches may yield desired outcomes when used in isolation but if implemented as part of a broader multi-modal approach they may offer some distinct contribution.

In terms of future research in this area, it appears that some gaps in the current literature exist. For example, most studies involve participants mostly diagnosed with Autism, whilst other ASD populations such as those with Asperger's syndrome seem to be under-represented. Future research exploring the relationship between exercise across the whole spectrum of ASDs would be beneficial. Also, research

identifying the mechanisms by which exercise influences behaviours would be useful to further assist practitioners in the development of more efficient programmes for individuals with ASD.

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Appendices

Research Brief

1. Background

The present study is a small-scale research project to investigate the impact of vigorous daily exercise on pupil's behaviour.

One key stage two class from The Orchard School, a specialist provision which caters for children with complex and profound learning difficulties, will be involved.

This project will involve gathering staff's views of children's classroom behaviour and attitudes towards learning before, during and after a four-week daily structured exercise programme has been implemented.

The researcher is an Educational Psychologist in Doctoral training, currently employed by Sandwell Inclusion Service.

2. Research Objectives

The aim of this research is to gather staff perceptions on the impact of exercise on children with complex and profound learning difficulties.

Specific research questions include:

1. To explore the relationship between aerobic exercise and self-stimulatory behaviour of a group of young people with ASD.
2. To explore the relationship between aerobic exercise and the social behaviour of a group of young people with ASD.
3. To explore the relationship between aerobic exercise and the learning behaviour of a group of young people with ASD.

The answers to these questions will provide information relevant to The Orchard School, which could be used in future planning and programme delivery.

4. Approach and Methodology

One class of children will be involved in the project.

The researcher will conduct a structured observation before the exercise programme is implemented.

Their class teacher will complete a teacher rating scale as a baseline measure for all children at the start of data collection (week beginning 26.04.11).

The group will be subject to a daily 15 minute structured exercise programme over a four week period. Each pupil's on-task and off-task behaviour will be measured for an hour a day over the four week period by a teaching assistant.

The class teacher will then complete the teacher rating scale as a measure for all children after the four week exercise programme has been completed (06.06.11).

The researcher will interview the class teacher regarding their perception of the impact the exercise programme has had on pupil's behaviour and learning.

The researcher will conclude by conducting a structured observation after the exercise programme is completed.

5. Timings

A period of eight weeks commencing May, 2011 has been allocated for this project.

6. Contact Details

Further information or questions regarding the project can be made via the contact details provided below:

Sabreen Athwal (*Trainee Educational Psychologist)*

<u>Appendix Two: Consent Letter</u>

(School Heading)   Date

Dear Parents,

The school has been provided with the exciting opportunity to take part in a research project on the impact of exercise on pupil's behaviour and learning. We think this would be a valuable project for our school, so that we can continue to improve our teaching practices and support children's developing skills.

The project involves running a daily, 15 minute exercise programme, over a four-week period and collecting data regarding pupil's behaviour throughout this duration.

The project will be introduced and monitored by Educational Psychologist in training, Sabreen Athwal, currently operating at Sandwell Inclusion Service. Individual pupil information will not be shared with any outside agency, results will be anonymous and treated with confidentiality.

If you are happy for your child to take part in this please indicate below and return to the school.

Sincerely,

For further information please contact:

School contact?

Return slip

Student's name _____

Parent's name_____
signed:_____

Please tick one of the following:

☐   We are happy for our child to take part in this research.

☐   We would prefer if our child did not take part in this research.

Appendix Three: Feedback on research brief from teaching staff

Feedback on the research brief from class teacher, SENCo and teaching assistants

- A 4 week intervention is more manageable and realistic than a six week programme.

- 30 minutes of data collection for staff is more manageable than 60 minutes.

- Staff are very excited to see the outcomes of this project.

Appendix Four:

A list of observed self-stimulatory behaviours

Child (AA)	1	• Waving hands in air • Repetitive noises • Head shaking • Body rocking in chair • Eating food from floor • Taking food from others • Physical aggression towards others
Child (JM)	2	• High pitched vowel phonemes • Repeating sounds • Repeating noises • Gazing (fixed, glassy-eyed look lasting more than three seconds) • Pinching (unprovoked)
Child (KS)	3	• Mouthing objects (flapping a plastic object in the mouth) • Waving hands in air • High pitched vowel phonemes • Repeating sounds • Eating food from floor • Rocking body back and forth on ground • Throwing self to the ground and rolling
Child (JG)	4	• Giggling or laughing repeatedly and inappropriately e.g. not in response to observable stimuli • Mouthing objects • Mouthing body parts e.g. elbow • Biting (unprovoked) • Pinching (unprovoked) • Eating food from floor • Taking other's food • Taking other's toys
Child (KJ)	5	• Repetitive low and loud vowel phonemes • Hitting self on head with force • Rubbing self with objects for tactile stimulation • Handling private body parts (own) at inappropriate times • Eating non-food substances e.g. play-dough or shaving foam • Running away or leaving room unsupervised • Eating food from floor • Seeking physical touch e.g. to have arms wrapped around body
Child (SS)	6	• Inappropriate touch e.g. kissing • Shouting, screaming, crying or making loud noise inappropriately • Hand waving • Dropping to the ground • Aggressive towards peers hitting or shouting in close proximity • Out-of-context laughing

Child (CF)	7	• Throwing equipment aggressively • Handling private body parts (own) at inappropriate times • Eating food from floor • Running away or leaving room unsupervised • High pitched vowel phonemes or screaming • Physical aggression towards others

Appendix Five: Feedback on pilot observation schedules

In order to determine the frequency of observation, I conducted a pilot observation with a teaching assistant and discussed the procedure.

We agreed on the following points:

Observation sheet one: Tally of self-stimulatory behaviours:

- where behaviours were quite frequent, a minute was a reasonable amount of time to count behaviours before recording, without losing count.
- It then took up to 5 seconds to re-set the stopwatch and record the frequency
- We observed each child for ten minutes but found that a 70-75 minute observation led a fluctuation in attentiveness due to fatigue near the end of the observation period. Also, this yielded a large amount of data.
- five minutes provided a more reasonable and manageable amount of time to observe for.
- We found that keeping a continuous record e.g. a tally, led to me missing some behaviours and time was wasted.
- We found that by counting behaviours in our head and recording these at the end of each 1 minute period, we were able to capture more information.

Observation sheet two: on-task behaviour

- We observed each child every two minutes over a 60 minute period. This was too long and we thought 30 minutes would be much more manageable.
- At first we recorded a range of behaviours: on-task, hindering others, wandering around, off-task and being disruptive. This became quite complicated and when we reflected on the research aim – to observe on-task behaviour, we were able to make the decision to only record on-task and off-task behaviour, as this is what we were most interested in.

Appendix Six: Feedback on teacher rating scale

Original Scale

1 = never 5 = frequently

School Checklist

School Work		1	2	3	4	5
Makes appropriate transitions between activities						
Can work independently						
Follows instructions when able to						
Asks for help						
Completes tasks to best of ability						
Shows an interesting school work						
Stereotypic behaviours						
Engages in hand-flapping						
Avoids eye-contact						
Engages in repetitive movements						
Makes repetitive noises						
Mouths objects						
Antisocial Behaviour						
Is aggressive towards peers						
Is aggressive towards staff						
Is aggressive towards self						
Disrupts ongoing activities						
Has tantrums or temper outbursts						
Is difficult to control						
Attention						
Is easily distracted						
Can attend fully for short periods of time						
Can attend to activity of own choice						
Can attend to activity of adult's choice						
Listens to instructions						
Positive Behaviour						
Communicates positively with peers or staff						
Shows an interest in others						
Can take turns						
Can share with others						

Feedback from The Meadows Educational Psychologist and The Local Authority's ASD Specialist on the rating scale

- Add in a 0 option to the scale to gain a fuller answer
- Attention could be combined with school work to create, *Academic Behaviour*
- Antisocial and Positive behaviour could be combined to create *Social Behaviour*
- Change the term self-stimulatory to self-stimulatory, this is more familiar to staff at The Meadows
- Clearly define the scale for the teacher to complete accurately
- In the instructions outline over what period of time you want them to comment on e.g. 4 weeks
- The phrase can attend 'fully' needs to be re-examined. Can they attend fully? Is that an appropriate expectation?
- Add a bit more detail to the items to ensure clear understanding.
- Simplify the terminology to make it more user-friendly
- Clear and concise statements are needed

Feedback from teacher regarding Teacher rating scale

- Define the scale more clearly e.g. give an option for frequency (never, seldom, occasionally...) so that responses to some items is more clear.

Academic Behaviour

- *Makes appropriate transitions between activities*, this is too advanced for this group of children.
- Change 'to best of ability' to 'appropriate to ability'
- Add in a statement about 'finishing tasks'

Self-stimulatory behaviour

- Add in body rocking and head nodding
- Add in gazing
- Add in impulsivity

Social Behaviour

- Add in physical aggression towards adults as well as peers
- Remove 'shows an interest in others' – this is too ambiguous

Appendix Seven: Evidence base for research aims

1.	What are the effects of aerobic exercise, such as jogging, on the self-stimulatory behaviours of a class of young people with autism?	- Studies by Allen, 1980; Kern et al., 1984; Levinson and Reid, 1993 advocate vigorous as opposed to mild exercise. 10-15 minutes of jogging is most effective in reducing self-stimulatory behaviours. - Bass, 1985; Kern et al., 1984, 1982: self-stimulatory behaviour can have negative consequences for social interaction and learning. - Rosenthal-Malek and Mitchell (1997), Pan (2010) and Yilmaz et al., (2004): assessed the effects of aerobic exercise on the self-stimulatory behaviours of children with ASD and found significant decreases directly after exercise sessions were completed. - Lang et al., (2010) exercise may replicate the reinforcing effects of self-stimulatory behaviour.
2.	What are the effects of aerobic exercise on the social behaviours of a class of young people with autism?	Pan (2010) found a significant effect of a ten-week swimming programme on all antisocial behaviours they measured, including hostility, irritability, aggression, defiance and disruption; however Pan did not find increased positive social behaviours.
3.	What are the effects of aerobic exercise on the learning behaviours of a class of young people with autism?	- Rosenthal-Malek and Mitchell, (1997) appropriate responding during learning activities improves directly after vigorous exercise. Also, the fatigue-hypothesis is disproved. - Structured aerobic exercise has been shown to improve attention span (McGimsey and Favell, 1988; Rosenthal-Malek and Mitchell, 1997). - A number of other studies (Diesfeldt and Diesfeldt-Groenendijk, 1977; Dodson and Mullens, 1969; Kern et al.,, 1982) show increased on-ask behaviour following jogging sessions.

Pen Portrait: AA

D.O.B	10/06/01
Age:	10:1
Sex:	Male
Key Stage and Year Group:	Key stage 2
Extra info e.g. cultural/ethnic etc.	Ethnicity: Somali Language spoken at home: Arabic (main language), Somali and English.
Stage on SEN Register:	Statemented. Attends special school.
Other agencies involved:	Paediatrics, Speech and Language Therapy Service, Children and Young People with Disabilities Team

Summary of difficulties

A Multi-Agency Assessment of AA's needs was conducted on 01/12/08. The panel concluded that AA has an Autistic Spectrum Disorder.

The report from the panel states that AA has significant learning difficulties, that he can develop limited skills in the areas of learning, interaction and communication through direct and intensive teaching and that he pursues physical and sensory experiences to the exclusion of other activities.

AA typically displays the following behaviours:

- uses a small number of words to get his needs met;
- will kick and bite if he does not get his own way;
- is obsessed with cleaning products and toiletries;
- will run off from the classroom if unsupervised;
- is not able to access the lessons in a mainstream classroom; and
- has been diagnosed with classic autism and learning difficulties.
AA needs a high level of specialist support due to the difficulties that he has been identified as experiencing with: language; social communication; social awareness; understanding and interaction; flexibility of thinking; learning; sensory processing; and emotional understanding.

D.O.B	9.4.02
Age:	9.3
Sex:	Male
Key Stage and Year Group:	Key stage 2
Extra info e.g. cultural/ethnic etc.	Ethnicity: White and black Caribbean
Stage on SEN Register:	Statemented. Attends special school.
Other agencies involved:	Paediatrics, Child protection planning and proceedings team

Summary of difficulties

CF suffers from epilepsy. CF does not yet consistently use spoken language.

Concerns were raised by school staff, because of CF's outbursts of physical aggression in class. These behaviours became so severe, that from November 2010 CF has been taught on his own for large parts of the school day. Behaviours have included throwing chairs and equipment across the room and pulling adults by the hair.

CF follows a tightly structured programme of adult-led work tasks, followed by physical activity and is then allowed choose time if he has co-operated with the previous activity. This has worked well and his behaviour is now a lot calmer. Staff are seeking ways to re-introduce CF to working as a member of the class. He joins the other children for play-time outside and eats in the canteen at lunchtime. He also joins the class at the end of the day for a singing activity, if he has co-operated during the day.

CF does not have a diagnosis of ASD but typically displays some diagnostic characteristics associated with ASD, including:

limited spontaneous language and play; difficulty processing social communication and cues which promote socially appropriate behaviours; significantly delayed or limited development of communication skills; and restrictive patterns of behaviour DSM-IV (2000)

Pen Portrait: JM	

D.O.B	21.04.02
Age:	9.3
Sex:	Male
Key Stage and Year Group:	Key stage 2
Extra info e.g. cultural/ethnic etc.	Ethnicity: White British
Stage on SEN Register:	Statemented. Attends special school.
Other agencies involved:	Paediatrics, Speech and Lang. Therapy, Ophthalmologist

Summary of difficulties

JM does not have a diagnosis of ASD but typically displays some diagnostic characteristics associated with ASD, including:

limited spontaneous language and play;

difficulty processing social communication and cues which promote socially appropriate behaviours;

significantly delayed or limited development of communication skills; and

 restrictive patterns of behaviour.

DSM-IV (2000)

JM typically displays the following characteristics:

- he has a squint in both eyes;

- he does not like walking anywhere and when they go out they have to take him in the car;

- tendency to get out of his seat and wander around;

- is aware of other children who are around him and he will sometimes appear to watch them, with no interaction;

- pinching and pulling hair;

- mouths objects and will lick and suck objects;

- tends to stare as if he is not always aware of what is happening in class;

- very stubborn and unco-operative and demonstrate non-compliant challenging behaviour;

- vocalises some sounds although during my observations no actual words were heard;

- cognitive development is significantly delayed;

- has learning difficulties which are severe and complex;

- severe delay with speech and language and cognitive development and this contributes to his difficulties with his social development; and

- dependent on adults for aspects of his care such as toileting and dressing

D.O.B	04.05.01
Age:	10.2
Sex:	Male
Key Stage and Year Group:	Key stage 2
Extra info e.g. cultural/ethnic etc.	Ethnicity: White British
Stage on SEN Register:	Statemented. Attends special school.
Other agencies involved:	Paediatrics, Speech and Lang. Therapy, Physiotherapist, occupational therapist.

Summary of difficulties

JG does not have a diagnosis of ASD but typically displays some diagnostic characteristics associated with ASD, including:

- limited spontaneous language and play;

- difficulty processing social communication and cues which promote socially appropriate behaviours;

- significantly delayed or limited development of communication skills; and

- restrictive patterns of behaviour.

<div align="right">DSM-IV (2000)</div>

JG's speech and language is significantly delayed, he communicates largely by gesture and 'verbalisations.'

JG has Global developmental delay.

JG typically displays the following characteristics:

- can be physically aggressive towards peers;

- inappropriate touching;

- mouths objects;

- can refuse to comply with requests;

- can run away from adults;

- avoids touching people and new objects; and

- has some physical difficulties particularly with his gross and fine motor skills

D.O.B	04.09.99
Age:	11.10
Sex:	Male
Key Stage and Year Group:	Key stage 2
Extra info e.g. cultural/ethnic etc.	Ethnicity: Pakistani Home languages: Urdu and English
Stage on SEN Register:	Statemented. Attends special school.
Other agencies involved:	Paediatrics, Speech and Lang. Therapy, Physiotherapist, occupational therapist.

Summary of difficulties

KG has a diagnosis of ASD. KG typically displays the following characteristics:

- experiences a range of sensory integration difficulties including sensitivity to noise;

- seeks stimulation through taste;

- further stereotypical behaviours from KG involve humming and vocalisations, rocking and moving around his environment;

- KG is non-verbal with some vocalisations;

- can only maintain attention for very short periods;

- requires a high level of adult direction, prompting and modelling;

- does not interact with his peers;

- he does approach adults for physical contact (e.g., hugs). It was not clear if these 'hugs' were social in nature or a means to seek tactile sensation and stimulation; and

- often withdraws from learning situations where demands were made of him; he is not toilet trained.

D.O.B	31/7/00
Age:	10.11
Sex:	Male
Key Stage and Year Group:	Key stage 2
Extra info e.g. cultural/ethnic etc.	Ethnicity: Indian Home languages: Punjabi
Stage on SEN Register:	Statemented. Attends special school.
Other agencies involved:	Paediatrics, Speech and Lang. Therapy, Physiotherapist, Teacher for children with visual impairment, Opthmologist.

Summary of difficulties

KS has a diagnosis of Lowe's syndrome, which is a rare genetic condition that causes physical difficulties, delayed mental development, and medical problems. As a result, KS has had previous removal of cataracts, renal tuberous acidosis, and global developmental delay.

KS does not have a diagnosis of ASD but typically displays some diagnostic characteristics associated with ASD, including:

- limited spontaneous language and play;

- difficulty processing social communication and cues which promote socially appropriate behaviours;

- significantly delayed or limited development of communication skills; and

- restrictive patterns of behaviour.

DSM-IV (2000)

KS typically displays the following characteristics:

- engages in lots of flapping;

- speech and language is significantly delayed. He communicates largely by gesture and 'verbalisations';

- engages is smearing;

- makes inappropriate noises, disrupts peers and general classroom activities;

- can be physically aggressive towards peers at times;

- can be defiant at times;

- can engage is task avoidance strategies; and

- avoids touching people or unfamiliar objects.

D.O.B	1.4.01
Age:	10.3
Sex:	Female
Key Stage and Year Group:	Key stage 2
Extra info e.g. cultural/ethnic etc.	Ethnicity: British Home languages: English
Stage on SEN Register:	Statemented. Attends special school.
Other agencies involved:	Paediatrics, Speech and Lang. Therapy,

Summary of difficulties

SS has a diagnosis of ASD.

Her receptive and expressive language skills are delayed, however, she does use some spoken language in context.

SS responds well to alternative modes of communication such as PECS and Makaton.

SS typically displays the following characteristics:

- play is largely solitary;

- presented with some behaviour challenges;

- can be defiant, refuses to comply with requests;

- task avoidance;

- can have tantrums;

- engages in inappropriate touching at times; and

- shouts out and disrupts learning

Appendix Nine: Observation Schedules

Observation Record sheet of self-stimulatory behaviours   (Tally)

	Time intervals (minutes)				
Child's Name	**1**	**2**	**3**	**4**	**5**

Observation Record sheet of on-task behaviour

Key: ✓ = on-task   x = not on-task

Child's Name	Time intervals (minutes)														
	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30

This sheet is to be completed on the same day each week at 9:30 (post exercise) and 1:30. At every two minutes, record each child's behaviour on the sheet using the key.

Appendix Ten: The development of observation schedules explained

Devising the observation schedules

I drew on Robson (2000) to aid the design of the observation process. Robson suggest that the researcher needs to consider four areas in order to ensure 'fitness for purpose,' these being: 1. The foci of observation, 2. The frequency of observation 3. The length of observation period 4. The coding system. I will address each in turn to present the basis for my approach.

Observation Schedule for self-stimulatory behaviours

1. The foci of observation

The foci of observation in this case was (i) self-stimulatory behaviours (appendix 2). This was based on the research aims and the rationale for devising these (see Appendix Seven)

I chose to explore self-stimulatory behaviour because (as Table 1 and Appendix Seven indicates) previous research has shown that self-stimulatory behaviour is significantly affected by the implementation of an exercise programme. I was interested to see whether there appeared to be any difference in self-stimulatory behaviours for this group with the introduction of exercise. I based my approach to defining self-stimulatory behaviour on the work conducted by Kern et al., (1982). In line with their approach, before devising a measure of self-stimulatory behaviour, I observed the group during a morning and afternoon session, to devise a list of observed types of self-stimulatory behaviours (See Appendix Four), I then shared these with the class teacher who was asked to contribute any others that were not observed.

2. The frequency of observation

In order to determine the frequency of observation for the self-stimulatory observation schedule, I conducted a pilot observation with the group with a teaching assistant. We completed one schedule each and discussed the process. We found that where behaviours were quite frequent, a minute was a reasonable amount of time to count behaviours before recording, without losing count. It then took up to 5 seconds to re-set the stopwatch and record the frequency, I then added on another 5 seconds to complete the on-task behaviour observation schedule (described below in more detail). So recording time was 10 seconds, timed using a stopwatch.

3. The length of observation period

We observed each child for ten minutes but found that a 70-75 minute observation led a fluctuation in attentiveness due to fatigue near the end of the observation period. Also, this yielded a large amount of data. I found that the average frequency of behaviours over a ten minute period was almost double that of a five minute period so five minutes provided an accurate reflection of frequency of behaviour.

4. The coding system

In order to develop the coding or recording system for the self-stimulatory behaviours observation schedule, through my pilot, I found that keeping a continuous record e.g. a tally, led to me missing some behaviours and time was wasted. I found that by counting behaviours in my head and recording these at the end of each 1 minute period, I was able to capture more information. Also, Celiberti et al., (1997) found that Self-stimulatory behaviours decreased after exercise and remained lower for up to 40 minutes, thus, I wanted to ensure all children were observed during the 40 minutes immediately after exercise.

The observation schedule was devised for me to record the frequency of self-stimulatory behaviours (listed in Appendix Four) over a five minute period for each child. Each child was observed in turn from 9:30 onwards, and 1:30 onwards in the same order each time. Each child was observed for 5 minutes for each child in each 5 minute period, data was recorded in 1 minute intervals, with 5 seconds after each interval to record frequency. All timings were made using a stopwatch. Data was recorded on a prepared data sheet every session (see Appendix Nine).

Observation Schedule for On-task behaviour

1. The foci of observation

The foci of observation in this case was on-task behaviour. This was based on the research aims and the rationale for devising these (see Appendix Seven)

I chose to observe on-task behaviour because a number of other studies (Diesfeldt and Diesfeldt-Groenendijk, 1977; Dodson and Mullens, 1969; Kern et al., 1982, See Table 1 and Appendix Seven) have shown increased on-task behaviour following jogging sessions. In line with the studies by Watter and Watters (1980) and Kern et al. (1982), I wanted to explore whether there appeared to be a difference in on-task behaviour for this particular group with the implementation of an exercise programme. For the purpose of this study, on-task was defined as concentrating or focusing on what is to be done (Lang et al., 2010), for example, through demonstrating appropriate eye-contact, or seating position (i.e., feet on the floor and hands engaged with learning material.

2. The frequency of observation

In order to determine the frequency of observation for the on-task observation schedule, I conducted a pilot observation with the group with a teaching assistant. We completed one schedule each and discussed the process. We found that observing each child every two minutes was manageable and provided a detailed amount of data over the observation period.

3. The length of observation period

Through reflection on the pilot process, we found that 60 minutes was too long and half of this would be more manageable.

4. The coding system

At first we recorded a range of behaviours: on-task, hindering others, wandering around, off-task and being disruptive. This became quite complicated and when we reflected on the research aim – to observe on-task behaviour, we were able to make the decision to only record on-task and off-task behaviour, as this is what we were most interested in. This seemed to be a far more manageable approach.

Appendix 11. Timetable of measures

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
Description	No exercise	Exercise daily for 10-15 minutes, between 9:10 and 9:30 a.m	Exercise daily for 10-15 minutes, between 9:10 and 9:30 a.m	Exercise daily for 10-15 minutes, between 9:10 and 9:30 a.m	Exercise daily for 10-15 minutes, between 9:10 and 9:30 a.m	No exercise
Measures used	Teacher rating scale completed. Class observed using both schedules (see appendix Nine) at 9:30 am and 1:30 pm.	Class observed using both schedules (see appendix Nine) at 9:30 am and 1:30 pm.	Class observed using both schedules (see appendix Nine) at 9:30 am and 1:30 pm.	Class observed using both schedules (see appendix Nine) at 9:30 am and 1:30 pm.	Class observed using both schedules (see appendix Nine) at 9:30 am and 1:30 pm.	Teacher rating scale completed. Class observed using both schedules (see appendix Nine) at 9:30 am and 1:30 pm.

The group was observed at 9:30am because this was directly after the group had completed their daily exercise session and they were observed at 1:30 pm because this was when the group had started afternoon activities and observations were conducted to note whether there were any lasting effects of exercise. I wanted to explore whether there were lasting effects because research indicated that self-stimulatory behaviour is reduced by exercise for up to 40 minutes (Celiberti et al., 1997) but there is little evidence to explore the lasting effects of exercise beyond this time (Lang et al., 2010).

Appendix Twelve: Teacher rating scale

Teacher questionnaire

Child's Name: _____   **Gender:** _____

_____

Teacher's Name: _____   **Date:** _____

_____

Instructions: Below are a number of common problems that children have in school. Please rate each item according to how much of a problem it has been in the last month. Tick the best answer for each one.

0 = not at all true/never, 1 = very slightly true/seldom, 2 = a little true/occasionally, 3 = Pretty much true/ often, 4 = Very true/very often, 5 = absolutely true/all of the time.

Academic Behaviour							
Item	**Statement**	**0**	**1**	**2**	**3**	**4**	**5**
1	Makes inappropriate responses when the teacher is talking						
2	Completes tasks appropriate to ability						
3	Lacks interest in school work						
4	Can work independently						
5	Has a short attention span						
6	Responds correctly to questions						
7	Responds appropriately to instructions						
8	Asks for help when appropriate						
9	Shows an interest in school work						
10	Forgets things he/she has learnt easily						
11	Fails to finish things he/she starts						

Self-stimulatory Behaviour							
Item	**Statement**	**0**	**1**	**2**	**3**	**4**	**5**
1	Engages in hand flapping						
2	Mouths objects						
3	Makes repetitive noises						
4	Engages in repetitive body rocking						
5	Engages in repetitive head-nodding						
6	Engages in persistent object-tapping						
7	Engages in other repetitive movements						
8	Is excitable or impulsive						
9	Gazes at objects for long periods of time						

Child's Name: _____

Social Behaviour		0	1	2	3	4	5
Item	**Statement**	**0**	**1**	**2**	**3**	**4**	**5**
1	Calls/shouts out across the classroom						
2	Is physically aggressive towards adults						
3	Is defiant						
4	Pesters/disturbs other children						
5	Can share with others						
6	Is physically aggressive towards peers						
7	Damage's other pupil's property						
8	Is verbally aggressive towards adults						
9	Has tantrums or behaviour outbursts						
10	Can take turns with other's						
11	Is verbally aggressive towards peers						
12	Takes food from other pupils						
13	Is hyperactive						
14	Is easily irritated by peers						
15	Wanders about the classroom						

Appendix Thirteen: The development of the teacher rating scale explained

Devising Teacher Rating Scale

In order to develop the items for this rating scale, I first looked at the research base in the area of exercise and children with ASD (See Table 1.). An article by Pan (2010) describes a teacher questionnaire the researchers used to explore academic behaviour and social behaviour in a group of children with ASD. The scale they used was School Social Behaviour Scales (SSBS-2: Merrell, 2002). I acquired a sample copy of this scale and began to select items I thought were relevant to my research aims, I adapted some of these items and began to create a list of potential items to include in my teacher rating scale (see Appendix Six).

I then consulted with the educational psychologist for The Meadows and the LA's ASD specialist. I shared the scales and list I had created with them and asked them for feedback regarding the applicability of the scale to this group of children (see Appendix Six for feedback). We were able to adapt many of the items e.g. by simplifying the complexity of the behaviour and create our own items to address academic and social behaviour. For example, item 3 from SSBS-2 is: Completes schoolwork without being reminded. We adapted this to become: completes tasks appropriate to ability (item 2 of the scale used here, See appendix Twelve).

The teacher questionnaire also has a section for teachers to comment on self-stimulatory behaviour of the group. The items for this section were created, based on the observations of the group carried out prior to research commencing. I observed the group during a morning and afternoon session, to devise a list of observed types of self-stimulatory behaviours (See Appendix Four), I then shared these with the class teacher who was asked to contribute any others that were not observed also the class teacher shared her behaviour plans which further highlighted some self-stimulatory behaviours which were not observed but children had frequently exhibited.

The teacher questionnaire was based on a 5-point Likert-type (named after Likert, 1932) scale of observed behaviour, through retrospective reflection over a four week period. The Likert-type scale is the most widely used scale in survey research, they afford the researcher with the freedom to fuse measurement with opinion, quantity and quality (Robson, 2000). When responding to a Likert questionnaire item, respondents specify their level of agreement or disagreement on a symmetric agree-disagree scale for a series of statements. I felt this type of scale was ideal for capturing the intensity of the teacher's opinions and feelings in response to the item.

Cognitive Behavioural Therapy Training in

Educational Psychologists' Practice

Abstract

At the national level there has been a call for more therapeutic interventions and Cognitive Behavioural Therapy (CBT) has been identified as one approach that can be used. The training of educational psychologists (EPs) has been extended to three years and this provides an opportunity to increase the depth of knowledge of particular therapeutic models and their supervised use in educational settings. This paper details an evaluation of four educational psychologists' (EPs') experiences of applying CBT to case-work during their routine practice within an educational psychology service. A group interview was conducted using a semi-structured interview schedule, the data were transcribed and then responses were coded using thematic analysis. This led to the development of a thematic map that gives an overview of the main barriers and facilitators to implementing CBT interventions with children and young people in schools, for this group of EPs. There are implications for the educational psychology service, trainers and service users as well as the EPs themselves.

Introduction

Mental health: everyone's business

Mental Health refers to a broad array of activities directly or indirectly related to the mental well-being component included in the World Health Organisation's definition of health: "A state of complete physical, mental and social well-being and not merely the absence of disease" (WHO, 1946 p. 24). The definition of mental health used throughout this paper refers not just to the absence of mental disorder but "a state of well-being in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community" (WHO, 2006 p. 13). In relation to this definition, mental health promotion involves building an individual's capacity to manage their feelings and related behaviours, the development of autonomy and ability to cope effectively with stress (Manderscheid *et al.*, 2010 p. 1). Thus mental health is an umbrella term which encompasses a range of factors such as health, behaviour, communication, as well as, social and emotional well-being.

UK policy is clear that the identification and promotion of the mental health of children and young people throughout the country is "everybody's business" and no longer the sole responsibility of Health Services (DfES, 2001). All adults who work with

children and young people have the responsibility for indentifying potential difficulties in areas of mental health and ensuring that targeted support is in place as early as possible (DfES, 2001). In 2004 The Children's National Service Framework clearly stated that the UK government wanted to see "an improvement in the mental health of all children and young people" (DoH, 2004, Standard 9). However, a report published by UNICEF (2007) found that when ranking children's well-being across 21 industrialised countries, the UK had the lowest average ranking position for all six dimensions measured, which included:

- material well-being;

- health and safety;

- educational well-being;

- family and peer relationships;

- behaviours and risks; and

- subjective well-being.

These six dimensions are considered to be factors which could contribute to a mental health disorder or according to the WHO definition (1946;2006), they are factors which, in the absence of a disorder, could inhibit an individual from coping with the stressors of everyday life or from making a contribution to their community.

Statistical evidence portrays a concerning picture of mental health for children and young people in the UK; for example:

- it is estimated that 1 in 10 young people aged 5 – 16 years of age suffer from a diagnosable mental health disorder, which equates to approximately three children in every class (Green *et al.*, 2005);

- between 1 in 12 and 1 in 15 young people deliberately self-harm (Mental Health Foundation, 2006). Around 25,000 young people a year are admitted to hospital due to the severity of injuries sustained (Fox and Hawton, 2004);

- more than half of all adults with mental health problems were diagnosed in childhood, however, less than half were treated at the time (Kim *et al.*, 2003);

- over 8,000 under 10-years-olds suffer from severe depression (Office for National Statistics (2004); and

- 45% of children in care have a mental health disorder (Meltzer *et al.*, 2003).

These statistics have led to an increase in collaborative working between health and educational professionals, across a range of settings in order to promote early identification, assessment and intervention. In particular, the value of work in schools to address the mental health needs of young people has been emphasised (Meltzer *et al.*, 2000; Shucksmith *et al.*, 2007). Given the amount of time young people spend in school, its familiarity to families and its accessibility to professionals, schools are in a good position to facilitate early intervention and provide a context for ongoing support for helping young people with mental health difficulties (Greig, 2007; Graham, 2005; Stallard, 2002). In support, two recent systematic reviews by Adi *et al.*, (2007) and Shuckersmith *et al.*, (2007) found evidence to suggest that school-based interventions have positive effects upon emotional well-being. In 2008, the DCSF launched the Targeted Mental Health in Schools (TaMHS) project to transform

the way that mental health support was delivered to children aged 5 to 13, to promote

mental wellbeing and tackle problems more quickly. They created a model of

delivery of mental health promotion which was aimed at being delivered in schools by

all professionals who worked with children and young people (see Figure 1)
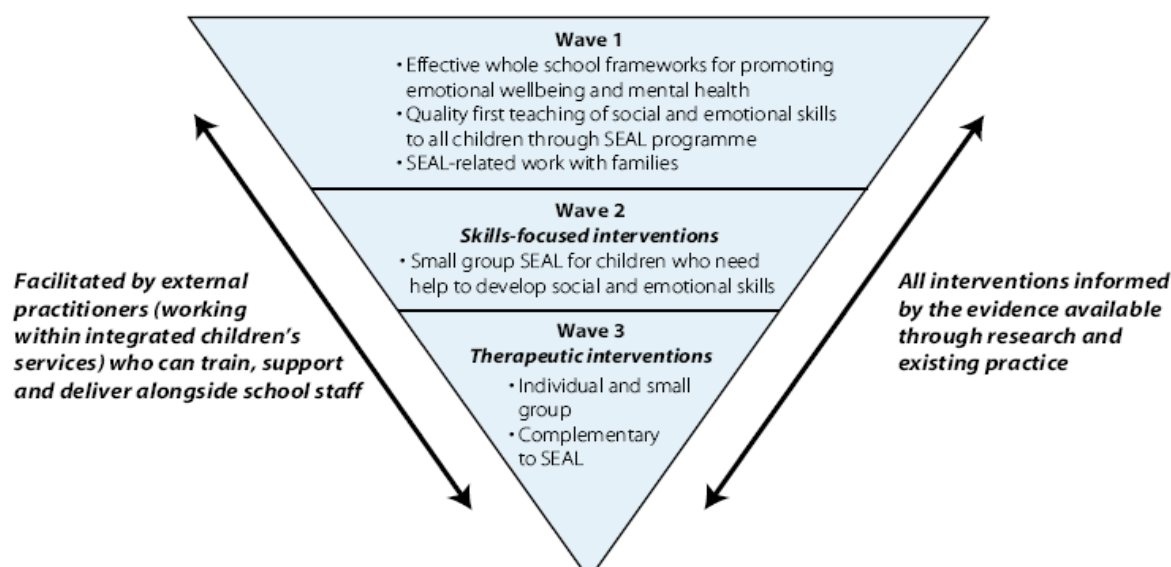
Figure 1: Model of mental health promotion (DCSF 2008. pg 5)

When considering the evidence regarding the mental health of children and young

people in the UK today, there has been growing interest in seeking ways to meet

their emotional needs and promote mental well-being so that they can develop into

functioning members of society who can attain economic well-being, enjoy and

achieve, make a positive contribution and stay safe and be healthy (Every Child

Matters: change for children, DCSF, 2004). Evidence highlights a growing emphasis

on the use of CBT to support children and young people presenting with a wide

range of social-emotional difficulties (NICE, 2005). In a climate where there are

insufficient numbers of professionals working in mental health services to meet the growing demand (Squires, 2010), research has identified EPS as professionals who are in a good position to apply CBT to their work with young people in schools (Squires and Dunsmuir, 2011; Squires, 2010; Atkinson et al., 2011). The move towards a three year doctoral training programme has supplied opportunities for training providers to focus on therapeutic content within EP training programmes (DECPTC, 2007), furthermore, many qualified EPs are expressing an interest in CBT and seeking training in this area and finding ways to implement it in their practice (Squires, 2010). The aim of this paper is to explore how EPs view their experience of learning about CBT and their experience of trying to implement it as part of their practice.

Literature Review

What is CBT?

Cognitive behavioural therapy (CBT) is a talking therapy that developed from work with adults suffering from anxiety and depression (Beck and Emery 1979; Beck, *at al.,* 1985; Beck *et al.,* 1979). A definition proposed by Kazdin (1978) suggests "the term cognitive behaviour modification encompasses treatments that attempt to change overt behaviour by altering thoughts, interpretations, assumption and strategies for responding" (p.337). A central premise of CBT is that people display *maladaptive* or *erroneous* thinking that affects their emotions and behaviour. In

illustration, two children, Tom and Jack, hear a group of other children laughing.

Tom is attracted to the fun and joins in, but Jack thinks they are laughing at him, he

feels threatened, angry and rejected and retaliates. The central principle of CBT is

that thoughts, feelings and behaviour are co-dependent, and that intervention needs

to consider all three together, as opposed to focussing just on behaviour for example.

See Figure 2 for an illustration of this relationship.

Figure 2. The Magic Circle (from Stallard, 2002)
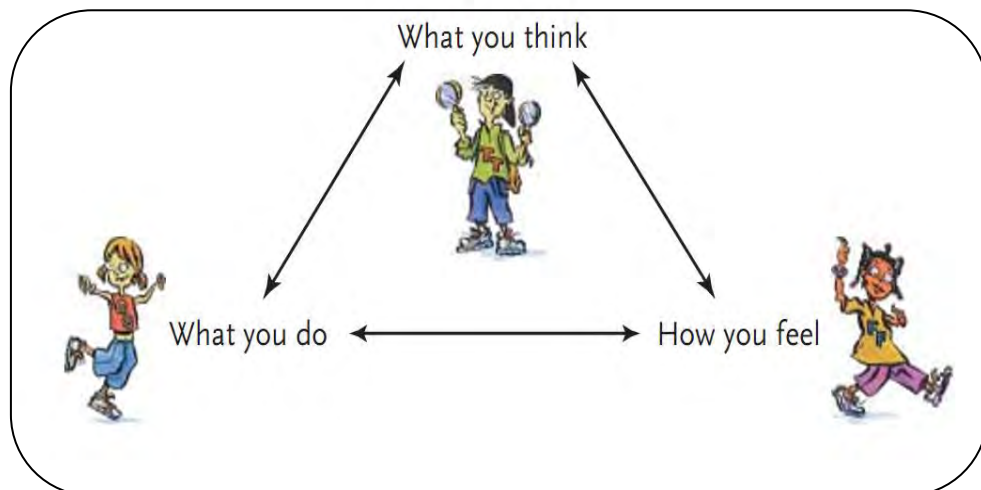
The key elements of CBT are:

- core beliefs;

- cognitive assumptions; and

- negative automatic thoughts

(Greig, 2007; Westbrook *et al.*, 2011).

Core beliefs are fixed thoughts about ourselves; often formed in earlier stages of our development, these often manifest themselves as brief statements such as, 'I am kind.' Core beliefs lead to particular ways of processing information and lead us to make assumptions that certain things will occur. For example, 'If I am kind (core belief), then other people will like me (assumption).' Core beliefs and assumptions are somewhat fixed and frequently affect cognitive functioning, for example, leading to selective attending, remembering, perceiving and problem solving. Also, according to CBT theory, core beliefs and cognitive assumptions lead to the development of automatic thoughts (Greig, 2007; Westbrook *et al.*, 2011), which provide us with a stream of consciousness about our lives. Frequently these thoughts are about ourselves, and some will be negative and critical. For example, being asked to complete your homework may trigger automatic thoughts like 'I don't know what to do.' Figure 3 illustrates how the key elements of CBT relate to each other according to the underlying theory proposed by Beck (1976).

CBT assumes that feelings and actions are the results of thoughts, and that feelings and actions can become *maladaptive* as a result of continued errors in thought processes. Consequently, interventions based on changing thought processes, such as CBT, can result in changes in feelings and behaviour (Beck, 1976).

In use with children, the adult model of CBT has been adapted to meet the communication needs of young people. Theory of mind research has suggested that children as young as three are able to understand differences between their own

thoughts, intentions, feelings and resulting actions and those of others (Bartsch and Wellman, 1989). It is thought that success with young people depends on the use of developmentally appropriate methods for engaging young children: a child can learn anything that is presented in a developmentally appropriate way and a young child's difficulties with memory, attention and language should not be seen as a barrier to intervention.

The CBT processes is structured, with many prepared resources and manuals widely available (Barrett *et al.*, 2000; Stallard et al, 2007). The process is usually time-limited; generally no more than 16 sessions are recommended (Greig, 2007; Westbrook *et al.*, 2011). CBT is intended to be practical, featuring mini-experiments for participants to carry out, and involves collecting evidence (Stallard, 2002). It is also designed to be collaborative, facilitating a processes of self-discovery in clients though experimentation and the knowledge of different patterns of behaviour and thought processes (Westbrook *et al.*, 2011).

A standard CBT assessment and case formulation framework is depicted in Figure 4. The process involves four central procedures: basic assessment approaches; cognitive-behavioural formulation; psycho-education; and the therapeutic process (Greig 2007).
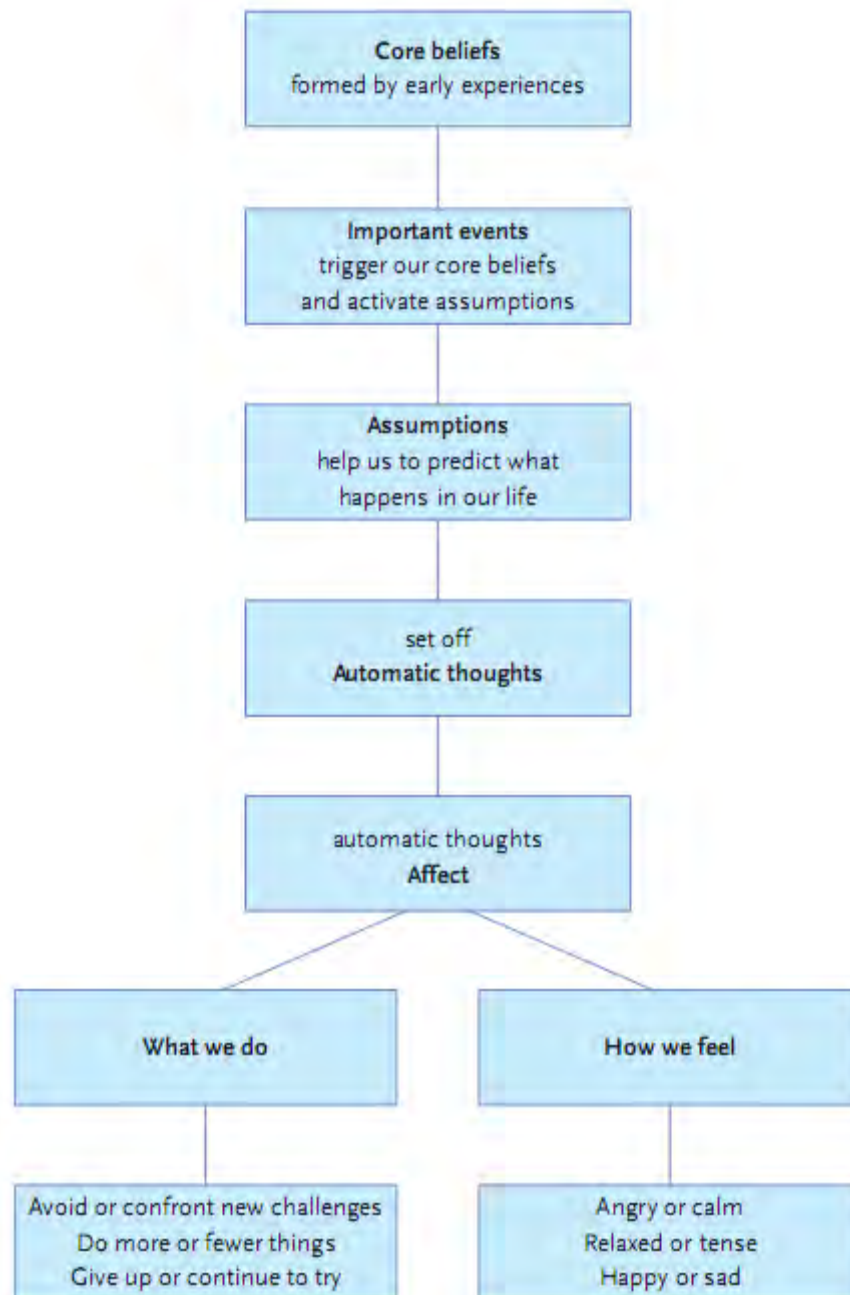
Figure 3 Key elements of CBT (from Stallard, 2002)

Assessment approaches

Behavioural Interview Observation Self Others Body

– initial stage
– when/extent
– predisposition
– detailed behaviour analysis
– contexts
– modulation
– maintenance
– avoidance
– beliefs
– engagement
– mood/mental state
– life events/ difficulties
– referral history
– coping
– previous treatment/response
– medication

direct/role play

monitor/report

interview/monitor

signs/symptoms

Preliminary formulation

See also Hawton et al. (Eds.) (1989)

Cognitive-behavioural formulation

based on objective hypotheses tested via treatment plan and homework;
– modified during treatment sessions and ABC functional analysis

Parallel assessment and formulation and treatment plan

Psycho-education

– self-help
– problem solving skills
– collaboration
– home work
– everyday practice
– making suggestions and new strategies

– structure of treatments (how many/when/how long)
– learning about the psychological model: internal/external variables situations, cognitions, body, behaviour

Increased agreement about expectations

Therapeutic process

– containing/clarifying problems
– finding manageable chunks
– symptom patterns
– possibility of change
– setting goal limits
– feelings are not all or none
– feelings are predictable and controllable
– non-judgemental sympathy
– establishing risks

Figure 4. CBT framework for assessment and case formulation

11

Strengths and difficulties of CBT

CBT is one of the most comprehensively researched forms of psychotherapy; by 2005 alone there were over 325 published outcome studies on CBT interventions (Butler *et al.,* 2005). In Butler *et al.,*'s (2005) review of meta-analyses on CBT outcomes, 16 'methodologically rigorous' meta-analyses were reviewed, providing overwhelming support for the efficacy of CBT. A number of other meta-analyses have also established similar findings (Dobson & Craig, 1996; Dush *et al.,* 1983; Elliott *et al.*, 2009). Meta-analysis is recognised as a useful way to evaluate intervention efficacy and has certain advantages as well as limitations as a review method (Cooper & Hedges, 1994; Wilkinson, 1999) which will now be discussed in more detail.

The proposed strength of meta-analysis is the use of a standardised to compare and contrast outcomes from studies that use different measures. However, the way in which meta-analysis has been used to deduce the effectiveness of CBT has lead to numerous criticisms regarding the reliability and validity of findings (Beutler, 2002; Chambless, 2002; Howard *et al.,* 1997). In particular, the methodological practice of merging the outcomes for all treatments across all disorders within a single meta-analysis potentially conceals real differences between specific treatments for specific disorders. Furthermore, reservations exist regarding the long-term effectiveness of CBT; very few studies have taken a longitudinal perspective evaluating the extent to which intervention effects persist following the end of treatment (Butler *et al.*, 2005; Hoffman & Otto, 2008). Another suggested limitation of meta-analysis is inattention

to possible moderator variables such as gender differences and attention to differences between studies, leading to the significance of certain successes and failures may therefore be overlooked (Stefan, 2008). Such successes and failures may be important for guiding future theoretical development and empirical study, and professional practice/clinical decisions.

In relation to using CBT within the sphere of EP work, there is evidence to support its efficacy with a range of difficulties, as illustrated in Table 1.

Difficulty	Research evidence to support use of CBT
Evidence for CBT efficacy with school refusal	King *et al.*, (1998)
A wide range of child mental health problems	Kaplan *et al.*, (1995) Kazdin & Weisz, (1998) Kendall & Panichelli-Mindel,(1995) Roth & Fonagy, (1996) Olsen *et al.*, (2009)
Efficacy for sexual abuse-related post-traumatic stress disorder	Cohen *et al.,* (2004)
Promising results for groups of children with an autism spectrum disorder	Bauminger, (2002) Fitzpatrick, (2004) Greig & MacKay (2005) Sofronoff *et al.*, (2005)
Positive effects have been reported for chronic fatigue	Chalder *et al.*, (2002)
CBT has been found to be effective in treating generalized anxiety disorders	Silverman *et al.*, (1999) Olsen *et al.*, (2009) Silverman *et al.*, (2008)
CBT has been found to be effective in treating depressive disorders	David-Ferdon & Kaslow, (2008) Harrington, *et al.*, (1998) Olsen *et al.*, (2009)
Social difficulties	Spence & Donovan, (1998) Spence *et al*., (2000) Andrews *et al.*, (2011)
Phobia	Silverman *et al.*, (1999)
School refusal	King *et al.*, (1998) Beidas *et al.*, (2010)
Sexual abuse	Cohen & Mannarino, (1996)

	Spinhoven *et al.,* (2009)
Eating disorders	Schmidt, (1998)
	Fairburn *et al.*, (2009)
Post-traumatic stress	March *et al.,* (1998)
	Smith *et al.*, (1999)
	Bisson, (2007)
Obsessive compulsive disorders	March, (1995)
	March *et al.*, (1994)
	Rucklidge, (2009)

Table 1. Evidence supporting the efficacy of CBT with various difficulties

The development of theory-based, testable models is often referred to as a strength of CBT approaches, providing the underlying principles for the intervention, which is that affect and behaviour are largely determined by cognitions, so that the focus and nature of the intervention is to challenge cognitive distortions (Fennel, 1989). In support, there is evidence to suggest that cognitive distortions are associated with mental distress experienced by young people; for example, children with anxiety disorders display a tendency to misperceive ambiguous events as threatening, are overly hypercritical and report increased levels of self-talk and negative expectations (Kendall *et al.*, 1992; Kendall & Panichelli-Mindel, 1995). Similarly aggressive children perceive more aggressive intent in ambiguous situations and selectively attend to fewer cues when making decisions about the intent of others' behaviour (Dodge, 1985). Depressed children have been found to make more negative attributions than non-depressed children, to have distorted perceptions of their own performance, and attend selectively to negative features (Rehm & Carter, 1990; David-Ferdon & Kaslow, 2008; Olsen *et al.*, 2009).

However, the role of cognitive distortions in the start and continuation of these conditions less understood. Harrington *et al.*, (1998), for example, highlight that

whilst depressed adolescents have more negative cognitions than non-depressed adolescents, there is little evidence to support their role in causing depression. Similarly, whilst adolescents with depressive symptoms have been found to report more negative cognitions, dysfunctional assumptions were reported more often by non-depressed adolescents (Hobbs *et al.*, 2000). Thus, although such research begins to query whether the predicted relationship described in theoretical models developed for adults between depressive symptoms, negative cognitions and dysfunctional assumptions can be appropriately applied to children, further research in this area is required.

In summary, while mounting evidence suggests that CBT is an effective intervention for a range of mild to moderate mental health difficulties for both adults and young people, Stallard (2010) suggests there are a number of limitations, questioning the strength of the conclusions that can be drawn. For example, there are comparatively few well controlled studies; little research has been undertaken in the UK; sample sizes in a number of studies are small; diversity in outcome measures used means that comparisons between programmes are restricted; the content and length of programmes varies; there is little systematic evaluation of factors such as mediating variables, which affect sustainability and long-term outcomes of CBT. Thus, further robust research is required to address these issues.

What is the role of EPs in the provision of CBT?

Ellis (2003) suggests that the future of CBT lies within the field of education, with the classroom as a base for preventing mental health difficulties. Therefore, schools and EPs need to be fully and collaboratively engaging in supporting young people's mental health within the school setting. However, research suggests that this is not a priority for many local authorities across the UK. For example, Weare & Gray (2003) examined the way in which five Local Education Authorities in the UK supported the development of children's emotional and social competence and well-being and found that only one had prioritised this area of work.

CBT for children and young people is growing in popularity; however, the capacity of children's mental health services to respond to the potential demand has been questioned (Stallard 2007; Stallard *et al.,* 2007). A demand for more CBT-based psychotherapy to be available to children has been made (Stallard 2007). In relation to this, Squires (2010) argues that EPs are highly skilled professionals with the ability to implement many of the basic competences most commonly associated with CBT (see Figure 4 for a map of basic competences most commonly associated with CBT). They are often tasked with taking mental health topics and adapting them to meet the requirements of educationalists working within the constraints of national and local agendas (Department for Children, Schools and Families 2008; Department for Education and Skills 2001, 2004).
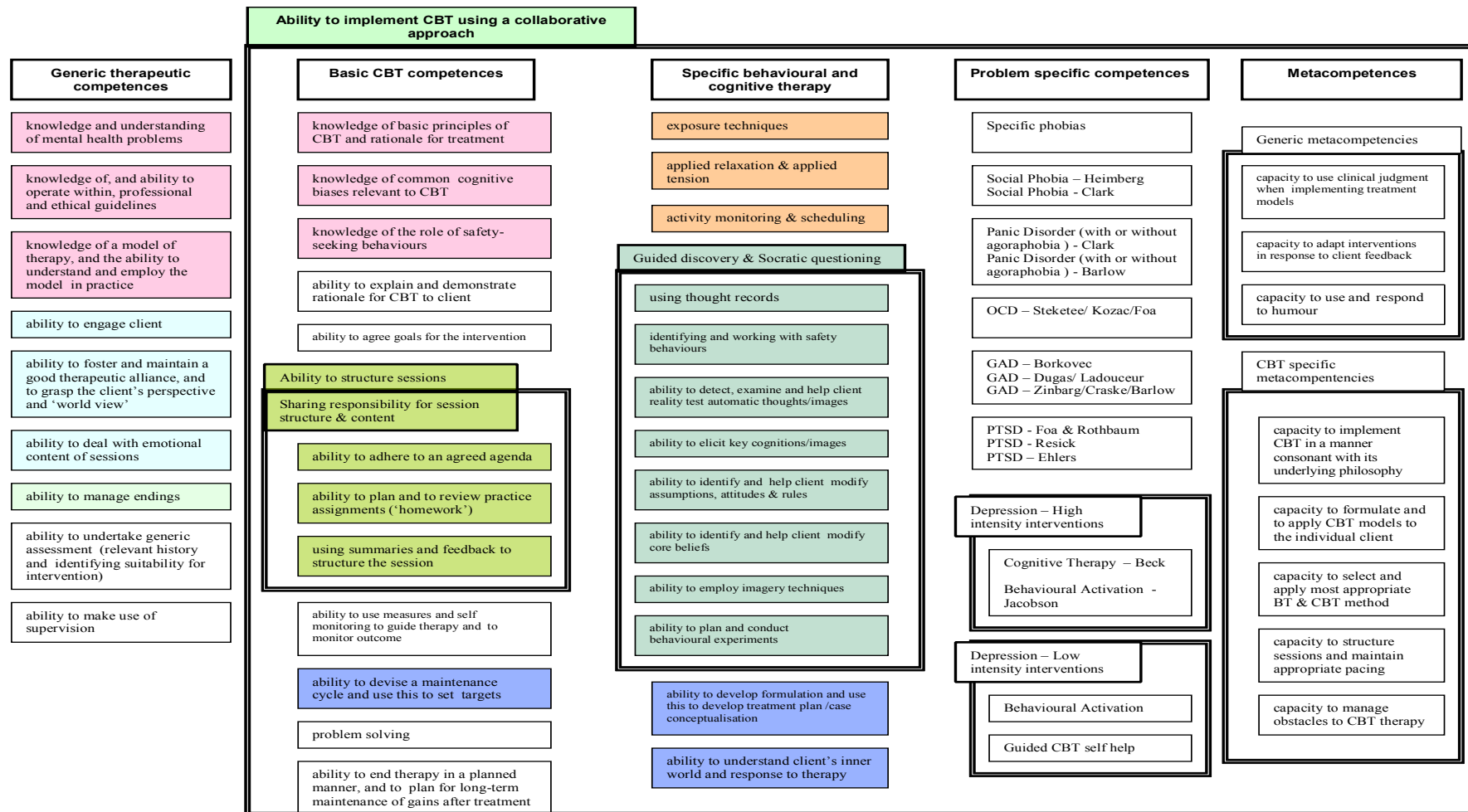
Figure 5 The map of CBT competences (from Roth and Pilling, 2008 p.4)

In relation to the competency map, it is argued that many of the generic therapeutic competences are familiar to graduate psychologists (Squires, 2010; Squire and Dunsmuir, 2011; Atkinson, 2011). Furthermore, the basic CBT competences are currently being taught in many EP training courses throughout the UK (Squires and Dunsmuir, 2011). As a result, qualified EPs will have covered most of the basic principles and specific techniques of CBT in their professional training, including:

- client-centred consultation;

- Socratic questioning;

- collaborative problem solving; and

- the idea of teaching specific skills.

Also, it is argued that many of the CBT techniques such as:

- data collection;

- promoting meta-cognitive strategies;

- target setting; behavioural experiments;

- monitoring performance;

- rehearsing new skills; and

- cognitive restructuring

could be seen as 'bread and butter work' for many EPs in designing school-based interventions for behaviour (Rait et al., 2010).

The amount of specialist training in CBT received by different professionals working in CAMHS settings was surveyed in 2004 (Stallard, 2004). It was found that a fifth of workers who responded had received specialist postgraduate training in CBT, while two thirds had more basic training in Socratic questioning, identifying and working with cognitions, and case formulations. Despite the overall basic level of training and lack of specialist supervision, CBT has been found to be used effectively with large numbers of children. EPs have an equivalent training and experience base but they also have the added benefit of not relying solely on CBT and can draw upon other supportive interventions to adapt to individual needs, where needed. Furthermore, EPs have a sound knowledge of child development and understand the differences in cognitive and linguistic skills of children of different ages and with a diverse range of needs, providing a basis for creatively adapting the adult models used in CBT to make them applicable to children. This is an integral part in the successful applicability of CBT to work with young people (Squires, 2010).

The role of EPs is very broad and they are in a good position to utilise the theory and approaches of CBT models as part of their on-going work in supporting children, schools and families (Rait *et al*., 2010). All EPs have entered the profession after completing a degree in psychology (or undertaking equivalent accredited study), and the move towards establishing three-year professional doctoral training for EPs in the UK has led to an increased focus on therapeutic content within the core curriculum; for example, one of the required learning outcomes is to "apply, review and evaluate a range of professionally appropriate counselling and therapeutic skills in work with children, their families and other professionals" (DECPTC, 2007, p.8). EPs are well-

placed to play a key therapeutic role in schools (Squires, 2010), and in relation to this, EPs are now also expressing a desire to restore a balance between systemic-consultative work and direct therapeutic work with children, schools and families (Greig, 2007).

Why aren't EPs using CBT more?

'Reconstructing educational psychology' (Gillham, 1978) has been cited as a catalyst in the historic transformation of educational psychology, an essential element in this reconstruction was the move away from the EP as an individual caseworker to "being an agent for systemic change in schools and other systems, using models drawn from organisational psychology and other disciplines" (MacKay, 2007, p. 9). Whilst there were many benefits of the reconstruction of educational psychology, the rejection of a medical model of working and movement away from within-child deficits led to a paradigm shift towards a more consultative model of working (Kirkaldy, 1997).

Increasing demarcation of professional boundaries has been cited as a reason EPs do not engage in more CBT. Increasing distinctions are being made between areas of applied psychology, for example, in the areas of 'educational' and 'clinical' psychology, whereas in the past there were opportunities for psychologists to move between these areas. With the passage of time, changes in training routes and in an increasingly competitive economic climate, these areas have become increasingly demarcated (MacKay, 2007). Whilst there are benefits to the division of psychology

(see MacKay, 2007), some uncertainties arise regarding aspects of professional

practice, such as therapy. As a result, EP's confidence and competence in delivering

CBT and therapy more generally, has declined over time (Greig, 2007; MacKay,

2007).

Legislation has also had its impact on the professional practice of EPs. From the

beginning of the 1980's when legislation for young people with additional educational

needs evolved in complexity, EPs were given their statutory duty in relation to the

Statement of Needs. In summary, the impact of this legislation was that the

profession's resources depleted and the contribution of EPs became narrowed

(Boxer *et al.*, 1998; Farrell *et al.*, 2006; MacKay, 2000). The balance of work shifted

towards statutory assessment and report writing at the expense of individual

casework and therapy: a trend that has remained over the past two to three decades.

Concluding Synthesis

EPs are a key resource in promoting emotional well-being and positive mental health

amongst young people in educational contexts. A number of studies have reported

positive outcomes for children and young people seen in school settings by EPs

using CBT (Bernstein *et al.*,, 2005; Gregor, 2005; Greig, 2007; Humphrey & Brooks,

2006; Squires, 2001a, 2001b, 2002, 2006). EPs are the professionals competent to

deliver therapy, and are most embedded in educational systems and have the widest

training in child and adolescent psychology (Squires, 2010; Squire and Dunsmuir,

2011; Atkinson, 2011). Thus, EPs need to be fully and collaboratively engaged in

supporting young people's emotional health within the school setting. In support, Farrell *et al.,*'s (2006) review of EP work in England and Wales found that most participants highly value contact with EPs but "would have welcomed more, particularly in the area of therapy and intervention" (p.13). Given this context, more recently, EPs are giving more consideration to using therapeutic approaches, particularly CBT approaches in their work (Dunsmuir and Iyadurai, 2007). As a result, more EPs are undertaking training in the application of CBT (Pugh, 2010). In consideration of this increase in CBT training, in the present study, I would like to explore the views of EPs in relation to the training they have received in order to consider the impact that training has on their role.

A number of studies have reported positive outcomes for children seen in school settings by EPs using CBT (Bernstein, Layne, Egan, & Tennison, 2005; Gregor, 2005; Greig, 2007; Humphrey & Brooks, 2006; McNamara, 1998; Squires, 2001a, 2001b, 2002, 2006), however, a review by Farrell et al. (2006) on the functions and contribution of educational psychologists notes that although a limited amount of time (about 2%) is currently spent on one-to-one therapy, such as CBT, there is potential to broaden the scope of work in this area. In relation to these findings, in the current study, I aim to explore the factors which hinder EPs' delivery of CBT in schools. For example, previous research in this area has identified factors such as increasing demarcation of professional boundaries has been cited as a reason EPs do not engage in more CBT (MacKay, 2007). It has been suggested that EP's confidence and competence in delivering CBT and therapy more generally, has declined over time (Greig, 2007; MacKay, 200). Also, the impact of this legislation was that the

profession's resources depleted and the contribution of EPs became narrowed (Boxer *et al.*, 1998; Farrell *et al.*, 2006; MacKay, 2000), leading the balance of work to shift towards statutory assessment and report writing. As well as identifying potential barriers to EPs practising CBT, I aim to identify what is needed to overcome these barriers in hopes of informing future practice in this area, within this local authority.

Aims

The aim of the study described in the remainder of this paper is to explore how EPs in one local authority view their experience of learning about CBT and trying to implement this in practice. It seeks to address the questions below:

1. What factors hinder EPs delivery of CBT in school settings?
2. What are the views of EPs about the impact of training in the CBT model?
3. What is needed to overcome barriers to applying CBT to EP practice?

Methodology

Epistemological position

Methodology refers to an approach to research (Kaplan, 1973). The epistemological position a researcher adopts influences all decisions regarding research, including selecting data collection strategies, methods and forms of analyses, and adds

context to an entire piece of research (Darlaston-Jones, 2007). Approaches to research are based on differing perspectives on how we understand reality and develop knowledge about it.

A critical realist stance was adopted in the present study. Critical realism views reality as stratified, where there is strata which we can experience and observe and that which we cannot (Bhaskar, 1998; Bergin *et al*. 2008). CR proposes an ontology which presumes that a reality exists which is beyond the realm of observers, and that this reality is stratified and differentiated (Bhaskar, 1998). I chose to adopt a critical realist perspective because it allowed me to form an explanation of reality, which can inform future investigations, and by allowing multiple descriptions of reality and considering the research context; it acknowledges the affects of socio-cultural factors in data collection and analyses.

Ethical Considerations

Erlandson *et al.,* (1993) suggest that ethical considerations should be at the forefront of all naturalistic research. With this in mind, in order to ensure respect, competency, responsibility and integrity were upheld as fully as possible, considerations were made in reference to the British Psychological Society's Code of Ethics and Conduct (2009). An outline of how risks were addresses is included in Table 2.

BPS Guidance	Criteria met through
Respect: Psychologists value the dignity and worth of all persons, with sensitivity to the dynamics of perceived authority or influence over clients, and with particular regard to people's rights including those of privacy and self determination.	- Used a research brief (see Appendix One) to outline the research purpose and asked for consent to participate. - Thanked staff for their contributions. - Anonimise data, don't ask for names. - Keep data secure. - Make self available for questions via phone, email and in person. - Remind staff of the right to withdraw at any time.
Competence: Statement of values – Psychologists value the continuing development and maintenance of high standards of competence in their professional work, and the importance of preserving their ability to function optimally within the recognised limits of their knowledge, skill, training, education, and experience.	- Consider ethical implications of this research by planning how to meet BPS criteria. - Read BPS code of ethics and conduct. - Reflection in supervision and discussion. - Using supervision to reflect on ethical considerations of the research. - Consider the limitations of the methods I use and conclusions I draw. - Rendering explicit my epistemology.
Responsibility: Psychologists value their responsibilities to clients, to the general public, and to the profession and science of Psychology, including the avoidance of harm and the prevention of misuse or abuse of their contributions to society.	- Think about the consequences of actions undertaken, how my presence impacts the staff interviewed. - Ensure to debrief staff. - Make self available for questions via phone, email and in person. - Use supervision to reflect on the perspectives of the participant. - Inform participants throughout of their right to withdraw. - Debrief research participants at the conclusion of their participation, in order to inform them of the outcomes and discuss questions.
Integrity: Psychologists value honesty, accuracy, clarity, and fairness in their interactions with all persons, and seek to promote integrity in all facets of their scientific and professional endeavours.	- Be honest and accurate in representing their professional affiliations and qualifications, including such matters as knowledge, skill, training, education, and experience. - Be honest and accurate in conveying professional conclusions, opinions, and research findings, and in acknowledging the potential limitations. Discuss this in supervision.

Table 2. Outline of risks addressed in relation to BPS Code of Ethics and Conduct (2009)

Method

I wanted to adopt a method which was concerned with EPs' descriptions of their experiences. The shared experience of having attended CBT training, albeit differing forms of training, and working within a shared context, provided a common focus on which to base interview questions. I decided to use a group interview approach for exploring participants' knowledge and experiences of CBT training.

Kitzinger and Barbour (1999) initially defined group interviews as 'group discussions exploring a specific set of issues' that are 'focused' because the process involves 'some kind of collective activity' (p.4) which can be used to examine not only what people think but how they think and why they think that way. I decided to use a group interview to capitalise on communication between participants in order to generate data.

Typically within group interviews people are encouraged to talk to one another. I hoped that in this present study, group interviews would provide insight into the operation of CBT at Newtown[1], through participants asking each other questions, exchanging anecdotes and commenting on each others' experiences and points of view (Kitzinger, 1994). Group interview was used to ensure that priority was given to

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[1] Pseudonym

the participants' hierarchy of importance, their language and concepts, and their

frameworks for understanding the world (Kitzinger, 1994). In this sense group

interviews have been used in previous research to 'reach the parts that other

methods cannot reach' (Kitzinger, 1994, p. 109) by revealing dimensions of

understanding that can go unrecognised in one-to-one interviews or questionnaires,

at times. Interaction is the key to the method, giving it a high level of face validity

(Krueger 1994) because what participants say can be confirmed, reinforced or

contradicted within the group discussion.

A potential disadvantage of group interviews is that the group may inhibit individuals

from expressing their thoughts or opinions if they deviate from the group consensus.

However, this should not be assumed to be the case, some researchers suggest that

depending on the composition of a group, they can sometimes facilitate discussion

by allowing less inhibited members of the group to encourage and support others to

disclose their experiences (Kitzinger, 1994).

As the researcher, during the group interviews I explored differences in experience

and opinions between participants by encouraging them to reflect on each other's

experiences by asking questions. Also, I examined questions that people asked one

another in order to reveal their underlying assumption and theoretical frameworks.

Questions based around these two aims can be found on the group interview script in

Appendix Three.

Procedure

In July 2011, an email was sent to all EPs in Newtown describing my intention to conduct a small-scale project exploring EPs' experiences of CBT (see Appendix Two). I asked for those EPs who had attended training in CBT techniques to contact me via email if they were interested in taking part in this study. Four EPs responded as having had CBT training in the past. I thanked EPs for their responses and stated that I would be contacting them in September, 2011, with further details about the project so that they could make an informed decision about whether they would like to participate. During the interim, I conducted a review and critique of the literature comprising the introduction of this report. The group interview was conducted in November, 2011 with the four EPs who had initially replied to my email.

Sample

Four EPs took part in this project. I used purposive sampling to select participants with a specific purposive in mind. I selected the participants based on the criteria that they would have something to say on the topic, all participants had training in CBT, they all work for Newtown local authority and as work colleagues, they should be comfortable talking to the interviewer and each other (Richardson & Rabiee, 2001).

Selecting "good cases for small samples is a challenging endeavour" (Gerring 2007 p.9). Gerring (2007) acknowledges that, as in the current study, most case studies

aim to explicate characteristics of a wider population. Representative, rather than

extreme cases were selected to ensure that the outcomes from the study might be

more informative and applicable to other EPs in the Local Authority (LA) and

possibly, through the process of theoretical generalisation.

The four cases identified for interview are described in Table 3 below:

Pseudonym	Background information
EP1	- Male - MSc in Educational Psychology - Fully Qualified EP for 5 years - Maingrade EP - Full-time 12 schools
EP2	- Female - MSc in Educational Psychology - Fully Qualified EP for 7 years - Maingrade EP - Part-time (0.6) - Six schools
EP3	- Female - Applied Educational and Child Psychology Doctorate - Fully Qualified EP for 4 years - Maingrade EP - Part-time (0.8) 9 schools
EP4	- Female - MSc in Educational Psychology - Fully Qualified EP for 5 years - Maingrade EP - Full-time 11 schools

Design

A group interview discussion was held with four participants. A script of questions was devised in order to gain perspectives of practising EPs (see Appendix Three) on the factors which help or hinder them in the delivery of CBT in school settings. The questions I asked are presented below along with links to the research questions:

Research Question One: What factors hinder EPs delivery of CBT in school settings?

Areas for exploration (and discussion prompts):

- How easily were you able to identify a CBT case and deliver a CBT intervention? (prompts: barriers, Facilitating factors, service-level issues, challenges faced, personal views)
- How well do you think EP's are placed for delivering CBT? (prompts: usefulness as an approach for use with young people, usefulness for EP's specifically, how does CBT match up with our role? EP's skill set match up with requirements of)

Research Question Two: What are the views of EPs about the impact of training in the CBT model?

Areas for exploration (and discussion prompts):

- Tell me about the training you have had in CBT? (place taken, reason for taking, length, delivered by, type of support offered by the training provider,

how supported did you feel? 1-10, were you offered any form of

supervision? Materials and resources? How prepared you felt as a result

on a rating scale of 1-10

Research Question Three: What is needed to overcome barriers to applying CBT to

EP practice?

Areas for exploration (and discussion prompts):

- What would you say would be some of the positive features of delivering

  CBT? (prompts: If you have delivered CBT, what positive features did you

  come across? If you have not delivered CBT, what would a list of pro's look

  like?

- In your opinion, what are some of the things that need to happen to ensure

  that EP involvement in delivering CBT is facilitated as much as possible?

  (nationwide level: in terms of the whole profession e.g. training, service-

  level, individual level)

Data Analysis

Qualitative research and, in particular, group interviews generate large amounts of

data, which tend to overwhelm novice as well as experienced researchers. A one

hour interview could easily take five to six hours to transcribe in full (Rabiee, 2004),

leading to a thirty to forty page transcript. Thus, a central aim of data analysis,

according to Robson (1993), is to reduce data overload whilst continually referring to the central aims of the study. To achieve this, after the group interview, I used thematic analysis to analyse my data. Thematic analysis is a method for identifying, analysing, and reporting patterns (themes) within data (Braun and Clarke, 2006).

In this study interpretations are illustrated by extracts from the transcript in order that the reader can assess the persuasiveness and transparency of the analysis. However, I understand that this type of analysis involves a high degree of subjectivity and is shaped by my ability to reflect and analyse (Brocki and Wearden, 2006) and my own interpretive framework. As a critical realist, I am aware that attempts to describe and explain the world are bound to be fallible and my approach to research will be open to criticism; however, my aim through analysis is to bring meaning to the situation, providing meaningful data for Newtown EPs, rather than the search for 'truth.'

Braun and Clarke (2006) summarise thematic analysis as 'searching across a data set… to find repeated patterns of meaning' (p.86). The six stages of this process are outlined in Table 3.

Stage of thematic analysis	Description of my approach
i. Familiarising myself with the data	I transcribed the group interview for content only. All verbal utterances were recorded verbatim, including non-word sounds, such as 'um' and 'er' and coughing and laughing. Pauses were recorded as '...', regardless of length. Words that were unclear were recorded as 'xxx'. Also, interruptions or changes to conversation mid-word were recorded as '-' Transcription was made to word-processed electronic documents and was preceded and followed by listening to the audio transcript, to check for accuracy and to increase familiarity with the data (interview summaries, are included in Appendix Four)
ii. Generating initial codes	Once transcribed, I coded the data. Codes were applied to data extracts and related solely to verbal content (See Appendix Five).
iii. Searching for themes	Once the data was coded, I began to search for themes relating to the research questions by identifying patterns and similarities across coded extracts in the transcript using a highlighter tool (see Appendix Five, column two where initial codes are coloured in each interview). After several cycles of this process, the coded extracts from were organised into theme-areas. I built a tentative list of themes in the form of a visual thematic map (see Appendix Six) for each data set.

iv.	Reviewing themes	This phase was conducted in two parts. Part one, involved reviewing all coded extracts and initial codes. New codes were identified and linked to themes identified in phase three and codes which were not previously linked to themes in phase three were linked to a theme or discarded. Part two of this phase involved a process of revision, during which the number, names and breadth of each theme were refined and a second thematic map was created (see Appendix Seven). The aim of this phase was to achieve a collection of themes and sub-themes that represented the data.
v.	Defining and naming themes	After refining themes, I referred back to the coded data extracts for each theme and collated these under each theme heading, along with example extracts from interview transcripts (see Appendix Eight) and created a final thematic map (see Appendix Nine)
vi.	Producing the report	The findings are reported in the section entitled *Findings and Discussions.*

Table 3. Phases of Thematic analysis (Braun & Clarke, 2006)

Findings and Discussion

A number of themes have been found in relation to the research questions. These have been drawn together, discussed in more detail below and supported by sample data extracts.

Research question one: What factors hinder EPs' delivery of CBT in school settings?

This research question yielded five subthemes abstracted from the data gathered through the interview process?

Motivation and confidence in applying CBT

The EPs interviewed indicated a lack of motivation and confidence to engage in CBT after they had undertaken training, which hindered them from applying it to their casework. They questioned whether they had the skills to apply CBT and suggested that a lack of on-going support after their training, led to their confidence decreasing over time.

Sample extracts
EP1: *No motivation to continue (peer supervision) really*
EP1: *I think now it would be, I wouldn't feel confident*
EP1: *I would need to go back to some basics and I think particularly looking at formulations again, so that particular aspect of the training, how you formulate a case and whether I, whether it was still within my competencies*
EP4: *Yeah, I'd used it on a couple of cases when I'd first done the training but since then my confidence with it has dropped a little bit*

These findings are in line with previous research in the area which suggests that psychologists' motivation and confidence to apply CBT is closely linked to the quality of training and length of training received as well as depending on the provision of on-going support and supervision after training has ended (Maguire *et al.*, 2010; Atkinson et al., 2011).

Ongoing support and supervision

Participants felt that supervision was very important to support their delivery of CBT; however, they felt that adequate supervision had not been provided to them which hindered them from applying CBT to their work with young people.

Sample extracts
SA (researcher) : *And were you (EP3) offered any kind of support?*
EP3: *Not from the university but I know at XXXXX (neighbouring Local Authority) they were having regular, sort of every month, someone was coming back and they were doing, like em, supervision sessions with them as well as the training but I was*

> *only there for part of it so…*
>
> EP2: *We didn't really know what we were supposed to be doing and there was no ...erm*
>
> EP2: *But nothing from XXX (the trainer) himself*
>
> EP4: *Coz we were advised that if we were practising CBT, we should really have some kind of supervision erm…but we never got round to it, did we?*
>
> EP4: *There was not further contact (from the trainer) after the course, was there?*
>
> EP2: *I wasn't sure where to start really, I could have done with talking to XXX (the trainer) or someone again after the training to ask questions*
>
> SA: *What needs to happen to get EPs more involved in delivering CBT?*
>
> EP4: *Supervision*
>
> EP1: *Supervision*
>
> EP2: *Supervision to keep it going*

In a previous study conducted by Atkinson *et al.*, (2011) supervision was highlighted by EPs as facilitating their application of CBT and increasing their confidence. Also, supervision from a specialist or experienced CBT practitioner had been highlighted in previous research as a facilitating factor in developing practitioners' individual skills (Atkinson *et al.*, 2011; MacKay, 2007).

Time and opportunities to practice CBT

EPs suggested that their use of CBT was limited by lack of opportunities and time pressures.

Sample extracts
EP2: *I, I mean, there was definitely some enthusiasm there to go out and do it and try it but I suppose because there wasn't that supervision, erm, from someone like XXX (the trainer), then erm, and what, the opportunities as well, there wasn't always the opportunity to go and use it, then it kind of dwindled really, a little bit, I suppose …that's my experience*
EP1: *But even when you've been able to identify cases like…where I think CBT might have been useful as part of some approach, it's not been, I haven't followed that through because I don't have a term, or however many sessions, you know, to go back so…*
EP1: *The commitment to that particular case …for a school they might want you to work with lots of different children or erm…you know if you're saying you want to do CBT, you kind of, you might expect to then put in so many sessions with that child and then plan for those sessions as well which would take a big chunk of your time allocation, however that's worked out*
EP4: *...it's more identifying cases where you'd need to do 6 to 8 sessions for example, I don't feel we're in a position to do that really, which is what you were saying*
EP4: *Yeah, funding and time allocation is a big one because schools don't see it as a priority*
EP4: *... I'd agree with S that there's just, especially now, there's just not the time to do something like that and people don't expect us to do it either*
EP3: *It's not their priority either, when it's a matter of we can get funding for this child or we can do CBT for that child, the funding so that they can support them in school, always comes first*

Time-allocation models of service delivery have been previously highlighted as limiting the delivery of CBT by EPs. For example, EPs have rarely been allocated time to carry out therapeutic interventions with young people due to pressures to carry out work related to Special Educational Needs (SEN) procedures taking priority

(Atkinson *et al.*, 2011; MacKay, 2007). Such restrictions apply despite the value placed on therapeutic work within EPs' practice (Farrell *et al.*, 2006; MacKay, 2007).

Role perceptions and expectations

EPs felt that the historical view of their role persisted, based on the perception that they are employed primarily to conduct assessments relating to SEN procedures. It is suggested that schools prioritise SEN work for EPs and do not want other work to interfere with EPs providing assessment.

Sample extracts
EP1: *I think there are quite a lot of contradictions between our role and the therapeutic aspect of CBT, so I don't see our role, I don't see that our role and the systems we work within that they erm kind of erm facilitate therapeutic work really. I feel our role is around, more around, assessment and sometimes around funding and other things, although we might want to do these sort of therapeutic roles erm that there's a contradiction in that* EP4: *... I'd agree with S that there's just, especially now, there's just not the time to do something like that and people don't expect us to do it either* EP4: *It's the definition of role as well isn't it? If we're providing therapeutic input like that on a regular basis then great but, I don't think we are at the moment, but if we are then schools need to know we can offer that* EP1: *Yeah, it's not the expectation is it of schools or our main client groups have* EP3: *I don't think schools really expect us to go back and work regularly with a child do they, I think, so I always get the feeling where once I've seen the child once, they kind of like think who can you seen next? So, I think it's the whole way with work, I think.*

Also, EPS felt that they were perceived as not having the capacity to conduct CBT and they are not expected to offer that kind of work. This is in line with previous research which found that EPs felt other services were more traditionally associated with delivering therapeutic interventions and school staff were often surprised that EPs could offer and conduct this type of work (Atkinson *et al.*, 2011).

Training needs

EPs reported having training in CBT, which was identified as being valuable and interesting, but lacking sufficient depth, leaving them with a need and desire for further training and support in order to deliver CBT.

Sample extracts
EP4: *I think it was eight and the last one was somebody different*
EP4: *I though the training didn't really give us enough to get started with on our own...erm...yeah*
SA: *What needs to happen to get EPs more involved in delivering CBT?*
EP1: *I think more training, practice, rehearsal*
EP2: *refreshers*
EP1: *Regular refreshers and erm, regular opportunities to do something er where you're using those skills but then you don't become y'know what we're saying, or what I'm certainly saying which is that now if a case came up, I'd feel a little bit oh I'm not really sure if I'm comfortable and I'd have to go back, at least go back to my training notes to have a look*

Similarly, in previous research, the length of CBT training was highlighted as a critical predictor of its implementation. Time-limited training has been criticised for

minimising opportunities for reflection, not allowing the embedding of skills,

knowledge and practice in techniques (Squires & Dunsmuir, 2011).

Research question two: What are the views of EPs about the impact of training in the CBT model?

This research question yielded three subthemes arising from the data gathered

through the interview process?

The quality of training received

Although aspects of training received by EPs were outlined as barriers to its

implementation in their practice, overall, participants valued the training they had

received and appreciated the resources that they were provided with, such as

assessment materials.

Sample extracts
EP1: *Oh yeah, that was all about how you use CBT in educational…CBT for educational psychologists wasn't it?*
EP2: *They gave us lots of reading lists to refer to*
EP4: *Lots of assessment materials too, which I've used a few times*

EP4: *I think the principles were quite clear, in the sense of applying the principles of CBT I felt quite prepared for that erm, and then kind of identifying whether negative automatic thoughts and using some of the strategies erm…that was fine...*

EP4: *Just to re-emphasise really that I think that the training was really useful, having said that we haven't delivered it in the expected sense, that knowledge is still really useful in casework delivery so …I'm still glad that I did it*

It appears that EPs felt that they had a good understanding of the main principles underlying CBT at the end of their training, the theoretical input they received seemed to facilitate their interest and encouraged them to use this knowledge informally in their routine practice. A trong sense that lack of supervision structures, commissioning structures and learned or historical expectations of EP role comprise the principal barriers to the application of CBT.

Developing and acknowledging the relevance of professional skills

The findings suggest that EPs were motivated to undertake the training in CBT due to a desire to develop their professional skills, in association with a raised professional interest in CBT in this Local Authority. The training enabled EPs to identify the skills, qualities and characteristics which were consistent with the way they work. The training also highlighted the unique contribution EPs could make to the delivery of CBT, in regards to the skills they already possess and their working relationship with families and a wide range of multi-agency professionals.

Sample extracts
EP1: *It was also something that A was keen for us to do, there was this sort of we want to support this development coz they were doing a lot of it in XXXXX (neighbouring Local Authority) apparently and then XXXX (neighbouring Local Authority) decided they were going to take it up as a thing that everybody in their service was doing so there was this sort of ...and I think there was quite a lot of it around in the media as well about CBT, there was this kind of oh you know this is something we could kind of offer schools* EP2: *Some of it is skill isn't it, that you're skilling yourself up and … in a different way* EP1: *Definitely, we have all of the skills needed really* EP2: *Y'know on paper we are the right people to be doing that kind of thing* EP1: *Especially with children, I think erm, I think if we can deliver it within school settings,* EP4: *And also in our understanding of the Psychology behind it, we're in a good position*

Similarly, previous research has highlighted that by working across settings such as schools and homes, EPs develop an in-depth understanding of behavioural and emotional problems within different contexts. It has been argued by some researchers that in many ways EPs are well placed to offer therapeutic interventions (Atkinson *et al.*, 2011; MacKay, 2007). Also, as mentioned previously, in relation to the competencies outlined for CBT delivery (see Figure 5), many of the basic CBT competences are taught in EP training courses and many of the CBT techniques are seen as 'bread and butter work' for many EPs in designing school-based interventions for behaviour (Squires, 2010).

Valuing what CBT can offer

The findings suggest that the training EPs received, helped them to understand the contribution that CBT can make to their work with education professionals, families and young people themselves.

Sample extracts
EP1: *... I've kind of used a scaling technique about looking at the evidence or the students re-evaluate the evidence er, and that's a technique from the CBT training or I've left that with the schools to have a go with …*
EP4: *I think, again, it's kind of having that understanding isn't it? of where some behaviour comes from that if we're not delivering it in a therapeutic way but we are applying the principles of it, it helps with our own understanding of what might be going on* EP1: *Helps with our assessment really doesn't it?* EP4: *Yeah, also the staff working with the pupil, it might help them to understand if we're talking around…* EP2: *It helps parents as well to understand* EP3: *And helping with the staff's relationship with the pupil because if they've got a bit more understanding of maybe a bit more sort of sympathy for the child almost, rather than the behaviour is a problem, they're understanding where it's come from and why* EP2: *And also helping the young person to come to that realisation as well, y'know, understanding their own thought patterns and how their feelings affect that and vice versa. I think with the one case that I can remember working with, that young person that was definitively something that came out of that, that the young person, you could see the light bulb go on almost* EP1: *And I think it was addressed within a short period of time and erm the parents were happy with the outcomes and erm the child went back to eating and not being worried about his food*

EPs identified how CBT could be used more widely and applied generally when working with teaching staff, as well as, in a discrete time-limited way with young people themselves. The findings were in line with previous research which suggests that adopting a flexible approach to the delivery of CBT, drawing upon a variety of techniques and strategies in combination with practitioner skills and knowledge, is often considered by EPs to be more beneficial than employing a 'pure' CBT approach (Atkinson *et al.*, 2011).

Research Question: What is needed to overcome barriers to applying CBT to EP practice?

The findings relating to this research question are not presented as a separate theme but are present throughout the themes and sub-themes discussed above. The findings in relation to this research suggest that in order to apply CBT to EP practice, the following is required:

i)   time to indentify appropriate cases and plan, deliver and monitor CBT interventions;

ii)   opportunities to practise applying CBT techniques and develop own skills;

iii)   a shift in the perception of the EP role by education professionals perhaps through awareness raising of the breadth of the EP role and services they can offer; and

iv)   quality training and supervision.

These findings also form implications for EP practice which will be considered in more detail below.

Conclusions

Methodological Reflections

I will now reflect upon and consider the main limitations of this study.

The aim of this study was to explore how EPs in one Local Authority view their experience of learning about CBT and trying to implement this in practice. What I could have explored further was factors which facilitated EPs practise of CBT and how training supported them. By focussing on what hindered CBT delivery and identifying barriers to delivery, I did not fully explore positive experiences which had influenced EPs practice. To overcome this, I could have strengthened my interview design, linking interview questions more closely to my review of the literature and research aims.

Group interviews centre on the use of interaction among participants as a way of accessing data that would not emerge if other methods were used. Interaction is the

key to the method, giving the method a high level of face validity (Krueger, 1994) because what participants say can be confirmed, reinforced or contradicted within the group discussion. On retrospect the group which I based the present study on, were a group of colleagues who worked together on a daily basis, this could have affected the way in which they responded, making their responses less trustworthy (Carey, 1995). For example, there may have been underlying group tensions which led to disagreement during interview, or, members may have felt intimidated and as a result contributed very little to discussion. I could have overcome this through gathering more background information about the group and selecting my sample accordingly.

Upon reflection of the group interview process, as a researcher and trainee EP, interviewing more experienced EPs who I work alongside may have led to a perceived power imbalance on my part as the researcher. Upon reviewing the recorded data, I understand that I could have done more to facilitate discussion and I missed opportunities to probe participants further to elaborate on their responses. I may have been able to address these issues through more thorough interview design, by having a second interviewer present and through interview practice (McHugh, 1994).

During the data analysis process, it is possible that my own assumptions and beliefs may have led to certain conclusions being drawn, while alternative conclusions were over-looked (Webb & Kevern, 2000). On retrospect, I could have overcome this

difficulty by having another researcher analyse the data to establish reliability

(McDaniel 1996; Higginbottom 1998) and that the data analysis be fed back to

participants for `member checking' of its validity or plausibility as an explanation of

what was said (Higginbottom, 1998).

There is the possibility of bias inherent in the use of a small sample. For example, it

could be suggested that EPs who agreed to take part in this study held particularly

strong beliefs about their experiences of practising CBT, or had strong views

regarding training they had received. Such a selection bias may explain the largely

negative view of support they had received to-date by this sub-set of EPs. Upon

reflection, I consider this type of bias may have been overcome through more careful

sample selection procedures.

Final Comment

With an on-going emphasis on mental health and integrated working between child

and adult support services, EPs have an opportunity and responsibility 'to make a

significant contribution to this area and to include therapy in the range of services

they routinely offer' (MacKay, 2007, p. 14). Research suggests that most EPs are

finding training opportunities to become skilled in CBT and making an effort to

highlight the need to have time and opportunity to practice this branch of psychology

(Greig, 2007).

Most EPs interviewed in the present study suggest that the intensity of CBT required will vary between cases and will depend on the needs of the individual. Some children can progress in response to minimal approaches, such as directing to self-help books and guides or pastoral support in schools. Others will have their needs met through manualised approaches such as universal programmes such as, Friends for life (Barrett 1996), Promoting Alternative Thinking Strategies curriculum (Kusche and Greenberg 1993), or SEAL or through small-group support. Within educational settings there is a tiered structure to services provided for children (see Figure 1, DCSF, 2008) and it is highly likely that EPs are already providing support to schools in order to meet the needs of children at these levels within their routine practice. Some children will need more individualised and specialised CBT, which EPs are now being trained to administer as part of their professional training. Thus, all of these levels of intervention could be provided in school, either by EPs or by other staff working under the guidance of an EP.

In terms of implications for EP practice, the quality of training delivered is crucial. The timing, pace, structure and follow-up supervision can act as both a barrier, if done poorly, and facilitator, if done well, to its application in EP practice. In a climate where in the future, schools may become commissioners of services to support children and young people identified with mental health needs (CAMHS Review, 2008), there is a driving force for EPs to develop competence, experience and capacity to develop services that will meet this demand.

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Appendix One

Research Brief

1. Background

The present study is a small-scale investigation aimed at exploring the experiences of Educational Psychologists (EPs) in trying to embed Cognitive Behaviour Therapy (CBT) within their practice. The project will involve gathering information about factors which facilitate or hinder the application of CBT. The information gathered may help to inform future practice of EPs in Sandwell.

The researcher is an Educational Psychologist in Doctoral training, currently employed by Sandwell Inclusion Service.

2. Research Objectives

The aim of this paper is to explore how EPs in Sandwell view the experience of learning about CBT and trying to implement this in practice.

I intend to address the following questions:

1. What are EPs views about the impact of training in the CBT model and their attempts to integrate this in their practice with children who present social, emotional or behavioural difficulties in schools?

2. Which factors facilitate or hinder EPs delivery of CBT in school settings?

3. Approach & Methodology

I will hold a group, semi-structured interview with the EPs who have indicated they have had training in CBT.

The interview should last 30-40 minutes.

Following this, I will use thematic analysis techniques to explore the meaning that EPs attribute to their experiences when trying to implement CBT in their professional practice.

I will use the findings to create a professional practice report which will be shared with EPs in Sandwell.

3. Consent

Agreeing to take part in the group interview will indicate consent to take part in this project and an agreement with the details outlined in this section.

All participants of the group interview will be asked to read a confidentiality agreement and agree to consider the responses of other participants within the interview process as strictly confidential.

Responses, including direct quotes, will be used within the final practice report, however, these will be anonimised to maintain confidentiality.

Responses will be recorded using a Dictaphone, this will be stored in a locked drawer and only accessible to the researcher. Once the research has been published and passed (approximate date being September, 2012), written notes and tape recordings will be destroyed/deleted. Data will be stored in a safe and secure manner, in line with The Data Protection Act (1998). No personal data will be stored against tape recordings or written notes.

Participants are free to withdraw from the study up until the point of submission (20.12.11) any recordings made by those who wish to withdraw will be stored securely until deleted/destroyed.

4. Contact Details

Further information or questions regarding the project can be made via the contact details provided below:

Sabreen Athwal (*Trainee Educational Psychologist)*

Appendix Two

Email to EPs in Newtown

From: Sabreen Athwal

Sent: 13 July 2011 13:49

To: ██
██
██
████████████████████████

Hi all,

I hope you are all well and managing to 'stay afloat' as the end of term/end of the year approaches ever closer.

I (very apologetically) have a small request to make in relation to my university-based project work…

One of my mini-projects is going to be looking into the use of CBT by EPs and I need to gauge whether we have enough participants in Sandwell, in oder to make this project meaningful.

I am specifically asking for the involvement of EPs who have had some training in CBT techniques to contact me. This training does not need to be substantive and you do not have to have practiced any CBT at all. At this point if you could just reply to my email with a yes if you have had some training in CBT, that would be extremely helpful.

I will then approach you with further details about the project, depending on if it is viable, based on the number of responses had to this email.

Interview Schedule

The present study is a small-scale investigation aimed at exploring the experiences of Educational Psychologists (EPs) in trying to embed Cognitive Behaviour Therapy (CBT) within their practice. The project will involve gathering information about factors which facilitate or hinder the application of CBT. The information gathered may help to inform future practice of EPs in Sandwell. Agreeing to take part in the group interview will indicate consent to take part in the research project and an agreement with the details outlined on this page.

Responses, including direct quotes, will be used within a written report which will be submitted to the University of Birmingham and may be shared with staff at Sandwell, however, responses will be anonimised to maintain confidentiality. Participants are free to withdraw from the study up until the point of submission (20.03.11) any recordings made by those who wish to withdraw will be stored securely until deleted/destroyed.

Responses will be recorded using a Dictaphone, this will be stored in a locked drawer and only accessible to the researcher. Data will be stored in a safe and secure manner, in line with The Data Protection Act (1998).

No personal data will be stored against tape recordings or written notes. If you have any questions, you can contact me via the details at the bottom of this page.

Questions

1. **Tell me about the training you have had in CBT**

2. **How easily were you able to identify a CBT case and deliver a CBT intervention?**

3. **What would you say would be some of the positive features of delivering CBT?**

4. **How well do you think EP's are placed for delivering CBT?**

5. In your opinion, what are some of the things that need to happen to ensure that EP involvement in delivering CBT is facilitated as much as possible?

6. Are there any other points you'd like to raise?

Sabreen Athwal

Trainee Educational Psychologist

Interview Script for interviewer

Questions

5. **Tell me about the training you have had in CBT**
   - place taken,
   - reason for taking,
   - length,
   - delivered by,
   - type of support offered by the training provider
   - How supported did you feel? 1-10
   - Were you offered any form of supervision?
   - Materials and resources?
   - How prepared you felt as a result on a rating scale of 1-10

6. **How easily were you able to identify a CBT case and deliver a CBT intervention?**
   - Barriers
   - Facilitating factors
   - Any service level issues
   - Challenges faced
   - Personal views

7. **What would you say were some of the positive features of delivering CBT?**
   a. If you have delivered CBT, what positive features did you come across?
   b. If you have not delivered CBT, what would a list of pro's look like?

8. **How well do you think EP's are placed for delivering CBT?**
   a. Usefulness as an approach for use with YP
   b. Usefulness for EP's specifically, how does CBT match up with our role?
   c. EP's skill set match up with requirements of CBT

5. **In your opinion, what are some of the things that need to happen to ensure that EP involvement in delivering CBT is facilitated as much as possible?**

   - nationwide level: in terms of the whole profession e.g. training
   - service level
   - individual level

6. **Are there any other points you'd like to raise?**

Appendix Four

Interview Transcript

Speaker	Dialogue
SA	The first thing I wanted to ask you about was the training that you have all had in CBT. So, where did you all have your training?
EP2	Some of us tagged onto the training that was offered at Walsall as a service coz the whole service were having it and then we erm, it was the three of us wasn't it?
EP4	Yeah, I was gonna say, it was just the three of us
EP1	We were trained by XXX Lewis
EP2	And it was a series of-
EP1	8 days -
EP2	Yeah, I think it was 8 days
Sa	Uh huh
EP4	I think it was eight and the last one was somebody different
EP1	Oh yeah, that was all about how you use CBT in educational…CBT for educational psychologists wasn't it?
SA	And it was 8 days?
EP4, EP1	Yep
EP2	It was two lots of two, sorry, four lots of two, wasn't it?
EP4	Hmm hmm
SA	And, what about yours (EP3) was that at the university?
EP3	Yeah, I had some at the university and then when I was doing my fieldwork B in XXXXX *(neighbouring Local Authority)* they were having erm… a lot of training as a service, so I was there for some of those days, but I think they were having like a regular once a month for a year or something.
SA	So, yours was delivered by..?

EP4, EP1	XXX Lewis
SA	And the one at uni, was that the same as ours?
EP3	I can't remember, I knew I should've revised
SA	No, no, that's fine, that's alright. I'd like to know what kind of support you were offered then, after you had your training, what kind of support were you given to then actually go away and apply it?
EP2	From the service you mean?
SA	From the training provider?
EP4	There was an assignment wasn't there?
EP2	Yeah
EP4	That you had to do
EP2	It was optional, you either could or couldn't do it, or, I mean, yeah, you'd like to do it or not
SA	Were you supported with that in any way?
EP4	Erm
SA	So, were you given any resources or materials?
EP2	They gave us lots of reading lists to refer to
EP4	Lots of assessment materials too
EP2	Yeah
EP4	BECK inventories and things
EP1	Formulation guides wasn't there, yeah
EP4	Yeah
SA	And were you (EP3) offered any kind of support?
EP3	Not from the university but I know at XXXXX they were having regular, sort of every month, someone was coming back and they were doing, like em, supervision sessions with them as well as the training but I was only there for part of it so…

SA	Were the rest of you offered any supervision in CBT delivery?
EP1	We had a group back here where it was us three and another colleague
EP3	S
EP1	Yeah, and another two colleagues then?
EP2	J
EP1	Yeah, S and J wasn't it? and we had like a little CBT-
EP2	Group
EP1	Group, then sort of ran occasionally but then…petered out
SA	Oh, why was that do you think?
EP2	We didn't really know what we were supposed to be doing and there was no ...erm
EP1	No, motivation to continue really
EP2	But nothing from XXX himself
SA	Oh, Ok, so that was something you set up yourselves
EP1	Yeah, it was kinda peer supervision, we talked about getting in somebody to supervise, if we were using CBT, but we weren't
SA	Why not?
EP4	Coz we were advised that if we were practising CBT, we should really have some kind of supervision erm…but we never got round to it, did we?
SA	Ok, on a scale of 1-10, how supported would you say that you felt in delivering it when you came away from the training?
EP2	Supported by whom?
SA	By the training provider first
EP2	Right
EP4	There was not further contact after the course, was there?

EP2	No
EP4	So erm…
EP2	It would have to be a very low
EP4	Yeah
EP4, EP2, EP3	(laugh)
SA	How did that affect your applying CBT to your role?
EP2	I wasn't sure where to start really, I could have done with talking to XXX or someone again after the training to ask questions
EP4	I though the training didn't really give us enough to get started with on our won...erm...yeah
SA	Ok, and what about within the service? To deliver or apply CBT?
EP4	I think that because there were some people who were interested, like J and S, there was…I felt partly supported. But from the management I didn't feel there was any…
SA	Yeah
EP4	Particular support really, or…
EP1	Yeah, there wasn't anything set in place to ensure that we kind of got on or able to use, it was kind of like, if it comes up in casework go ahead and, y'know, it was that kind of, it's up to us as individuals to find the time to seek the supervision if we wanted it
EP4	I remember it
EP1	There was talk of us buying in a supervisor, wasn't there, to come in and do a bit of supervision for the group, if that was required and I think A (PEP) had said that he would look at that and I think he was supportive of it but again … I don't know if we…coz it never, whether we didn't do it or we never went back to him or…it wasn't required because it wasn't happening, so there was an indication that he would pay for supervision for us
EP4	Yeah

SA	So, how prepared did you feel after the training to go away and apply it?
EP2	I, I mean, there was definitely some enthusiasm there to go out and do it and try it but I suppose because there wasn't that supervision, erm, from someone like XXX, then erm, and what, the opportunities as well, there wasn't always the opportunity to go and use it, then it kind of dwindled really, a little bit, I suppose …that's my experience
EP1	I would kind of agree with that as well, yeah
EP3	I think that when they talk about something like the training at university, when they talk about it, it sounds really good and you're really keen to go out and do it, then when you're here (in service) you don't get cases presented to you and told that this is a case for you to do CBT so…you always have that problem of where your client and how your-
EP1	But even when you've been able to identify cases like…where I think CBT might have been useful as part of some approach, it's not been, I haven't followed that through because I don't have a term, or however many sessions, you know, to go back so…
SA	Yeah
EP1	The commitment to that particular case …for a school they might want you to work with lots of different children or erm…you know if you're saying you want to do CBT, you kind of, you might expect to then put in so many sessions with that child and then plan for those sessions as well which would take a big chunk of your time allocation, however that's worked out
SA	So time constraints may be a barrier? and actually that was part of the next questions which is, how easily were you able to identify a CBT case and deliver it after you came away from the training?
EP4	I think the principles were quite clear, in the sense of applying the principles of CBT I felt quite prepared for that erm, and then kind of identifying whether negative automatic thoughts and using some of the strategies erm…that was fine, it's more identifying cases where you'd need to do 6 to 8 sessions for example, I don't feel we're in a position to do that really, which is what you were saying
EP1	Yeah

EP4	There's just not the time to
SA	So, it's time constraints, what else would be a barrier?
EP1	I think now it would be, I wouldn't feel confident
EP4	Hmmmm, I don't think I would either
EP1	I would need to go back to some basics and I think particularly looking at formulations again, so that particular aspect of the training, how you formulate a case and whether I, whether it was still within my competencies
SA	Yeah…
EP1	So I'd pick out strategies now and again to use in general case work or suggest strategies that schools use erm, so, erm, sometimes I've had a couple of cases where y'know students have ripped up work and they've got a negative view of their work and we've talked about whether that's a fair and the staff have said well no that work's usually alright so I've kind of used a scaling technique about looking at the evidence or the students re-evaluate the evidence er, and that's a technique from the CBT training or I've left that with the schools to have a go with …
SA	Applying?
EP1	Yeah
SA	But there's a problem with committing yourself to the 6 to 8 weeks of individual sessions? So what was your motivation for undertaking the training?
EP4	It was offered to everyone in the service
EP1	It was also something that A was keen for us to do, there was this sort of we want to support this development coz they were doing a lot of it in XXXXX apparently and then Walsall decided they were going to take it up as a thing that everybody in their service was doing so there was this sort of ...and I think there was quite a lot of it around in the media as well about CBT, there was this kind of oh you know this is something we could kind of offer schools
SA	And general interest?

EP4	Hmmmm
EP2, EP3	Yeah
EP2	Some of it is skill isn't it, that you're skilling yourself up and … in a different way
SA	Ok, so what do you think are some of the positive features of delivering CBT? So your perceived benefits of using it? Your motivations for engaging with training? Like a list of pros for applying it to casework.
EP4	I think, again, it's kind of having that understanding isn't it? of where some behaviour comes from that if we're not delivering it in a therapeutic way but we are applying the principles of it, it helps with our own understanding of what might be going on
EP1	Helps with our assessment really doesn't it?
EP4	Yeah, also the staff working with the pupil, it might help them to understand if we're talking around…
EP2	Parents as well to understand
EP4	Yeah
EP1	Yeah, and just, the very basics of erm…thoughts, feelings, behaviours, coz people often go around just trying to address the behaviours and they might have some kind of erm…sort of lay knowledge on he's feeling angry and that's why he's kicked the door, but nobody- I don't think staff in schools don't always really think what's led to those feelings, so just getting them to y'know have those simple conversations around what are his thoughts around y'know what made him angry or her angry or whatever it was. Getting them to actually think about the thoughts
SA	So, for EPs then, it's good for assessment, facilitating discussion around thoughts, feelings and behaviours and …
EP3	And helping with the staff's relationship with the pupil because if they've got a bit more understanding of maybe a bit more sort of sympathy for the child almost, rather than the behaviour is a problem, they're understanding where it's come from and why
SA	Yeah

EP2	And also helping the young person to come to that realisation as well, y'know, understanding their own thought patterns and how their feelings affect that and vice versa. I think with the one case that I can remember working with, that young person that was definitively something that came out of that, that the young person, you could see the light bulb go on almost
SA	So, have any of the rest of you used it as a tool to change behaviour, or has it been primarily as an assessment tool?
EP1	I've used it for a case, a couple of cases
SA	And did you use it for 6 to 8 weeks?
EP1	No, three sessions and then erm between each session erm there was homework set, but then also there was a learning support practitioner who followed up the sessions in the school, so we either went over similar stuff from the sessions or reinforce some of the ideas. So I did the session with the boy and the LSP together and then she did some follow up work and then he would have done some homework and I would have gone back the next week, then I did that for three weeks.
SA	And did you find that was a useful way of working with the LSP?
EP1	His behaviour changed so I think it had a huge, it had a impact, it was anxiety around food and not eating
SA	Right
EP1	And I think it was addressed within a short period of time and erm the parents were happy with the outcomes and erm the child went back to eating and not being worried about his food
SA	Did anyone else get a chance to use it at all?
EP4	Yeah, I'd used it on a couple of cases when I'd first done the training but since then my confidence with it has dropped a little bit
SA	That's quite a key thing with it, you have to have confidence in your skills in applying CBT. The next question was how well do you think educational psychologists are placed in delivering CBT? What I mean by that is through our work with young people and by reflecting on our skill set and how well CBT matches up with our role.
EP1	I think there are quite a lot of contradictions between our role and the therapeutic aspect of CBT, so I don't see our role, I don't see that our

	role and the systems we work within that they erm kind of erm facilitate therapeutic work really. I feel our role is around, more around, assessment and sometimes around funding and other things, although we might want to do these sort of therapeutic roles erm that there's a contradiction in that
EP4	Yeah, funding and time allocation is a big one because schools don't see it as a priority
SA	Yeah, so, it's about the expectations of our work?
EP1	Not necessarily because I think that schools would be quite happy to take us up on, on using CBT erm when I've spoken to erm my PRU about erm other interventions, therapeutic interventions like solution focussed practice and motivational interviewing they've been quite keen, so I think they would be keen about using CBT and getting that individual kind of thing, but if they've got six PAP forms to do y'know or 5 statutory assessments, all of that's going to take priority over the kind of therapeutic relationship you need to build with the pupil
SA	So requirements from the local authority, impacts what you're able to do?
EP1	Yeah, I think so
EP4	There was a couple of times I used it kind of in the expected way and one of them was related to a critical incident erm, so, work related to that team, I could see that fitting in quite well actually because that's more of a therapeutic role but erm, on that I'd agree with S that there's just, especially now, there's just not the time to do something like that and people don't expect us to do it either
SA	So, time constraint is a key issue?
EP2	Hmmm
SA	So, if you were to take that away, do you think the skills that EPs have match up well with the skills that are required for CBT?
EP1, EP4, EP3, EP2	Yeah,
EP1	Definitely, we have all of the skills needed really
EP4	Absolutely

EP2	Y'know on paper we are the right people to be doing that kind of thing
EP1	Especially with children, I think erm, I think if we can deliver it within school settings, I've got a friend who's a clinical psychologist, she's working, doing a bit of private work and she says she's mainly using CBT but she gets her referrals through the GP practices and she hires a room in a GP's office erm, and she does some work with a child in there, but I think, if we're able to get into schools and do some work with the child in schools then maybe train up an LSP or a support practitioner to help the child with the homework aspects, so that homework isn't necessarily something the parent has to do, y'know, or the child can do independently, if the practitioner at school can support, y'know if you're challenging erm…thoughts or particular type of thoughts between sessions, or you're asking the child to, then that adult can then support
SA	So, we're well placed because we work in school settings and I suppose we do lots of link work between home and school as well …
EP4	And also in our understanding of the Psychology behind it, we're in a good position
SA	Yeah. Ok, in your opinion what are some of the things that need to happen to ensure or promote EPs becoming more involved in using CBT? Perhaps at a service level or professional level. What needs to happen to get EPs more involved in delivering CBT?
EP1	I think more training, practice, rehearsal
EP4	Supervision
EP1	Supervision
EP3	Supervision to keep it going
EP1	And then regular erm…
EP2	Refreshers
EP1	Regular refreshers and erm, regular opportunities to do something er where you're using those skills but then you don't become y'know what we're saying, or what I'm certainly saying which is that now if a case came up, I'd feel a little bit oh I'm not really sure if I'm comfortable and I'd have to go back, at least go back to my training notes to have a look

SA	So supervision, training is quite important. Anything else maybe at a service level?
EP4	It's the definition of role as well isn't it? If we're providing therapeutic input like that on a regular basis then great but, I don't think we are at the moment, but if we are then schools need to know we can offer that
EP1	Yeah, it's not the expectation is it of schools or our main client groups have
EP3	It's not there priority either, when it's a matter of we can get funding for this child or we can do CBT for that child, the funding so that they can support them in school, always comes first
EP1	Schools don't always see the links though, so I've got a case where I could use it, for a child who wouldn't take erm, it was around his, again it was to do with diet erm…chronic constipation, he wouldn't take his medication because that was making him…either go to the toilet at school or was making him make funny smells and he was just really scared of leaking and having accidents at school, so I said I could work with him around that, they didn't see that as the issue, they saw is beh- his challenging behaviour was something that they wanted to deal with. I felt that all of this frust – a lot of this frustrations and anxieties, it was his anxieties around having accidents at school because of his erm…bowel condition erm, that was causing a lot of his sort of behaviours in school but they didn't see that as a priority
EP3	I don't think schools really expect us to go back and work regularly with a child do they, I think, so I always get the feeling where once I've seen the child once, they kind of like think who can you seen next? So, I think it's the whole way with work, I think.
SA	The last question is, are there any other things you would like to raise in relation to CBT?
EP4	Just to re-emphasise really that I think that the training was really useful, having said that we haven't delivered it in the expected sense, that knowledge is still really useful in casework delivery so …I'm still glad that I did it
SA	Yeah

Appendix Five
Initial coding

Speaker	Dialogue	Initial Codes
SA	The first thing I wanted to ask you about was the training that you have all had in CBT. So, where did you all have your training?	
EP2	Some of us tagged onto the training that was offered at Walsall as a service coz the whole service were having it and then we erm, it was the three of us wasn't it?	Interest in CBT Service –level interest in CBT
EP4	Yeah, I was gonna say, it was just the three of us	
EP1	We were trained by XXX Lewis	
EP2	And it was a series of-	
EP1	8 days -	Short course
EP2	Yeah, I think it was 8 days	
Sa	Uh huh	
EP4	I think it was eight and the last one was somebody different	
EP1	Oh yeah, that was all about how you use CBT in educational…CBT for educational psychologists wasn't it?	Training specific to role of EPs
SA	And it was 8 days?	
EP4, EP1	Yep	
EP2	It was two lots of two, sorry, four lots of two, wasn't it?	
EP4	Hmm hmm	
SA	And, what about yours (EP3) was that at the	

	university?	
EP3	Yeah, I had some at the university and then when I was doing my fieldwork B in XXXXX they were having erm… a lot of training as a service, so I was there for some of those days, but I think they were having like a regular once a month for a year or something.	<mark>Service –level interest in CBT</mark> <mark>University expectation to deliver CBT</mark>
SA	So, yours was delivered by..?	
EP4, EP1	XXX Lewis	
SA	And the one at uni, was that the same as ours?	
EP3	I can't remember, I knew I should've revised	
SA	No, no, that's fine, that's alright. I'd like to know what kind of support you were offered then, after you had your training, what kind of support were you given to then actually go away and apply it?	
EP2	From the service you mean?	
SA	From the training provider?	
EP4	There was an assignment wasn't there?	<mark>Expectation to deliver CBT from training course</mark>
EP2	Yeah	
EP4	That you had to do	
EP2	It was optional, you either could or couldn't do it, or, I mean, yeah, you'd like to do it or not	
SA	Were you supported with that in any way?	
EP4	Erm	
SA	So, were you given any resources or materials?	
EP2	They gave us lots of reading lists to refer to	<mark>Reading lists given on training to support</mark>

		<mark style="background-color: yellow">delivery</mark>
EP4	Lots of assessment materials too	<mark style="background-color: yellow">Assessment materials given on training to support delivery</mark>
EP2	Yeah	
EP4	BECK inventories and things	<mark style="background-color: yellow">Assessment materials given on training to support delivery</mark>
EP1	Formulation guides wasn't there, yeah	<mark style="background-color: yellow">Formulation guides given on training to support delivery</mark>
EP4	Yeah	
SA	And were you (EP3) offered any kind of support?	
EP3	Not from the university but I know at XXXXX they were having regular, sort of every month, someone was coming back and they were doing, like em, supervision sessions with them as well as the training but I was only there for part of it so…	<mark style="background-color: red">No ongoing supervision offered from university CBT training course</mark>
SA	Were the rest of you offered any supervision in CBT delivery?	
EP1	We had a group back here where it was us three and another colleague	<mark style="background-color: yellow">EPs try to set up own supervision group in service</mark>
EP3	S	
EP1	Yeah, and another two colleagues then?	
EP2	J	
EP1	Yeah, S and J wasn't it? and we had like a little CBT-	
EP2	Group	

EP1	Group, then sort of ran occasionally but then…petered out	
SA	Oh, why was that do you think?	
EP2	We didn't really know what we were supposed to be doing and there was no ...erm	Lack of guidance and ongoing support from service provider
EP1	No, motivation to continue really	Motivation a barrier to continuing CBT group in service
EP2	But nothing from XXX himself	No ongoing supervision offered from CBT training course provider
SA	Oh, Ok, so that was something you set up yourselves	
EP1	Yeah, it was kinda peer supervision, we talked about getting in somebody to supervise, if we were using CBT, but we weren't	
SA	Why not?	
EP4	Coz we were advised that if we were practising CBT, we should really have some kind of supervision erm…but we never got round to it, did we?	Lack of supervision perceived as barrier to CBT delivery
SA	Ok, on a scale of 1-10, how supported would you say that you felt in delivering it when you came away from the training?	
EP2	Supported by whom?	
SA	By the training provider first	
EP2	Right	
EP4	There was not further contact after the course, was there?	Lack of ongoing support after training has completed
EP2	No	

EP4	So erm…	
EP2	It would have to be a very low	
EP4	Yeah	
EP4, EP2, EP3	(laugh)	
SA	How did that affect your applying CBT to your role?	
EP2	I wasn't sure where to start really, I could have done with talking to XXX or someone again after the training to ask questions	==Needing a point of contact after training has finished== ==Lack of ongoing support after training has completed==
EP4	I though the training didn't really give us enough to get started with on our won...erm...yeah	==Training too short, trainees left feeling not ready to implement CBT==
SA	Ok, and what about within the service? To deliver or apply CBT?	
EP4	I think that because there were some people who were interested, like J and S, there was…I felt partly supported. But from the management I didn't feel there was any…	==Lack of support from EPS affects delivery of CBT==
SA	Yeah	
EP4	Particular support really, or…	
EP1	Yeah, there wasn't anything set in place to ensure that we kind of got on or able to use, it was kind of like, if it comes up in casework go ahead and, y'know, it was that kind of, it's up to us as individuals to find the time to seek the supervision if we wanted it	==Lack of support from EPS affects delivery of CBT==

EP4	I remember it	
EP1	There was talk of us buying in a supervisor, wasn't there, to come in and do a bit of supervision for the group, if that was required and I think A (PEP) had said that he would look at that and I think he was supportive of it but again … I don't know if we…coz it never, whether we didn't do it or we never went back to him or…it wasn't required because it wasn't happening, so there was an indication that he would pay for supervision for us	Lack of support from EPS affects delivery of CBT Lack of motivation to engage in CBT
EP4	Yeah	
SA	So, how prepared did you feel after the training to go away and apply it?	
EP2	I, I mean, there was definitely some enthusiasm there to go out and do it and try it but I suppose because there wasn't that supervision, erm, from someone like XXX, then erm, and what, the opportunities as well, there wasn't always the opportunity to go and use it, then it kind of dwindled really, a little bit, I suppose …that's my experience	Lack of supervision Lack of opportunity to practice CBT
EP1	I would kind of agree with that as well, yeah	
EP3	I think that when they talk about something like the training at university, when they talk about it, it sounds really good and you're really keen to go out and do it, then when you're here (in service) you don't get cases presented to you and told that this is a case for you to do CBT so…you always have that problem of where your client and how your-	Lack of opportunity to practice CBT
EP1	But even when you've been able to identify cases like…where I think CBT might have been useful as part of some approach, it's not been, I haven't followed that through because I don't have a term, or however many sessions, you	Time limitations are a barrier to practicing CBT

	know, to go back so…	
SA	Yeah	
EP1	The commitment to that particular case …for a school they might want you to work with lots of different children or erm…you know if you're saying you want to do CBT, you kind of, you might expect to then put in so many sessions with that child and then plan for those sessions as well which would take a big chunk of your time allocation, however that's worked out	<mark>Time limitations are a barrier to practicing CBT</mark> <mark>Expectations from school restrain EPS from practicing CBT</mark>
SA	So time constraints may be a barrier? and actually that was part of the next questions which is, how easily were you able to identify a CBT case and deliver it after you came away from the training?	
EP4	I think the principles were quite clear, in the sense of applying the principles of CBT I felt quite prepared for that erm, and then kind of identifying whether negative automatic thoughts and using some of the strategies erm…that was fine, it's more identifying cases where you'd need to do 6 to 8 sessions for example, I don't feel we're in a position to do that really, which is what you were saying	<mark>Felt training gave a good understanding of core principles of CBT</mark> <mark>Time/opportunity to practice CBT is limited</mark> <mark>Expectations from school restrain EPS from practicing CBT</mark>
EP1	Yeah	
EP4	There's just not the time to	<mark>Time/opportunity to practice CBT is limited</mark>
SA	So, it's time constraints, what else would be a barrier?	
EP1	I think now it would be, I wouldn't feel confident	<mark>Confidence to practice</mark>

		CBT is low.
EP4	Hmmmm, I don't think I would either	
EP1	I would need to go back to some basics and I think particularly looking at formulations again, so that particular aspect of the training, how you formulate a case and whether I, whether it was still within my competencies	Confidence to practice CBT is low Own role perception hinders CBT delivery
SA	Yeah…	
EP1	So I'd pick out strategies now and again to use in general case work or suggest strategies that schools use erm, so, erm, sometimes I've had a couple of cases where y'know students have ripped up work and they've got a negative view of their work and we've talked about whether that's a fair and the staff have said well no that work's usually alright so I've kind of used a scaling technique about looking at the evidence or the students re-evaluate the evidence er, and that's a technique from the CBT training or I've left that with the schools to have a go with …	Own role perception hinders CBT delivery EPs are able to identify a CBT case and apply some CBT techniques EPs see value in CBT techniques
SA	Applying?	
EP1	Yeah	
SA	But there's a problem with committing yourself to the 6 to 8 weeks of individual sessions? So what was your motivation for undertaking the training?	
EP4	It was offered to everyone in the service	
EP1	It was also something that A was keen for us to do, there was this sort of we want to support this development coz they were doing a lot of it in XXXXX apparently and then Walsall decided they were going to take it up as a thing that everybody in their service was doing so there was this sort of ...and I think there was quite a	Motivation to engage in CBT training was because of raised national interest at the time

	lot of it around in the media as well about CBT, there was this kind of oh you know this is something we could kind of offer schools	
SA	And general interest?	
EP4	Hmmmm	
EP2, EP3	Yeah	
EP2	Some of it is skill isn't it, that you're skilling yourself up and … in a different way	CPD facilitated interest in CBT training
SA	Ok, so what do you think are some of the positive features of delivering CBT? So your perceived benefits of using it? Your motivations for engaging with training? Like a list of pros for applying it to casework.	
EP4	I think, again, it's kind of having that understanding isn't it? of where some behaviour comes from that if we're not delivering it in a therapeutic way but we are applying the principles of it, it helps with our own understanding of what might be going on	EPs see value in CBT techniques
EP1	Helps with our assessment really doesn't it?	EPs see value in CBT techniques for assessment
EP4	Yeah, also the staff working with the pupil, it might help them to understand if we're talking around…	EPs see value in CBT techniques for raising staff understanding of children's needs
EP2	Parents as well to understand	EPs see value in CBT techniques for helping parents understand children's needs
EP4	Yeah	
EP1	Yeah, and just, the very basics of erm…thoughts, feelings, behaviours, coz	EPs see value in CBT techniques to raise

	people often go around just trying to address the behaviours and they might have some kind of erm…sort of lay knowledge on he's feeling angry and that's why he's kicked the door, but nobody- I don't think staff in schools don't always really think what's led to those feelings, so just getting them to y'know have those simple conversations around what are his thoughts around y'know what made him angry or her angry or whatever it was. Getting them to actually think about the thoughts	awareness and understanding of children's needs
SA	So, for EPs then, it's good for assessment, facilitating discussion around thoughts, feelings and behaviours and …	
EP3	And helping with the staff's relationship with the pupil because if they've got a bit more understanding of maybe a bit more sort of sympathy for the child almost, rather than the behaviour is a problem, they're understanding where it's come from and why	EPs see value in CBT techniques for raising staff understanding of children's needs
SA	Yeah	
EP2	And also helping the young person to come to that realisation as well, y'know, understanding their own thought patterns and how their feelings affect that and vice versa. I think with the one case that I can remember working with, that young person that was definitively something that came out of that, that the young person, you could see the light bulb go on almost	EPs see value in CBT techniques for raising child's understanding of their own needs
SA	So, have any of the rest of you used it as a tool to change behaviour, or has it been primarily as an assessment tool?	
EP1	I've used it for a case, a couple of cases	
SA	And did you use it for 6 to 8 weeks?	
EP1	No, three sessions and then erm between each	Time to practice CBT is

	session erm there was homework set, but then also there was a learning support practitioner who followed up the sessions in the school, so we either went over similar stuff from the sessions or reinforce some of the ideas. So I did the session with the boy and the LSP together and then she did some follow up work and then he would have done some homework and I would have gone back the next week, then I did that for three weeks.	limited
SA	And did you find that was a useful way of working with the LSP?	
EP1	His behaviour changed so I think it had a huge, it had a impact, it was anxiety around food and not eating	EPs value the outcomes from using CBT
SA	Right	
EP1	And I think it was addressed within a short period of time and erm the parents were happy with the outcomes and erm the child went back to eating and not being worried about his food	EPs value the outcomes from using CBT
SA	Did anyone else get a chance to use it at all?	
EP4	Yeah, I'd used it on a couple of cases when I'd first done the training but since then my confidence with it has dropped a little bit	Confidence to practice CBT is low
SA	That's quite a key thing with it, you have to have confidence in your skills in applying CBT. The next question was how well do you think educational psychologists are placed in delivering CBT? What I mean by that is through our work with young people and by reflecting on our skill set and how well CBT matches up with our role.	
EP1	I think there are quite a lot of contradictions between our role and the therapeutic aspect of CBT, so I don't see our role, I don't see that our role and the systems we work within that they	Perceptions of the EP role in delivering therapeutic interventions hinder

	erm kind of erm facilitate therapeutic work really. I feel our role is around, more around, assessment and sometimes around funding and other things, although we might want to do these sort of therapeutic roles erm that there's a contradiction in that	CBT delivery Time/funding hinder CBT delivery
EP4	Yeah, funding and time allocation is a big one because schools don't see it as a priority	Time/funding hinder CBT delivery
SA	Yeah, so, it's about the expectations of our work?	
EP1	Not necessarily because I think that schools would be quite happy to take us up on, on using CBT erm when I've spoken to erm my PRU about erm other interventions, therapeutic interventions like solution focussed practice and motivational interviewing they've been quite keen, so I think they would be keen about using CBT and getting that individual kind of thing, but if they've got six PAP forms to do y'know or 5 statutory assessments, all of that's going to take priority over the kind of therapeutic relationship you need to build with the pupil	Time/funding hinder CBT delivery Schools' perceptions of EP role hinder CBT delivery
SA	So requirements from the local authority, impacts what you're able to do?	
EP1	Yeah, I think so	
EP4	There was a couple of times I used it kind of in the expected way and one of them was related to a critical incident erm, so, work related to that team, I could see that fitting in quite well actually because that's more of a therapeutic role but erm, on that I'd agree with S that there's just, especially now, there's just not the time to do something like that and people don't expect us to do it either	Time/funding hinder CBT delivery Schools' perceptions of EP role hinder CBT delivery
SA	So, time constraint is a key issue?	
EP2	Hmmm	

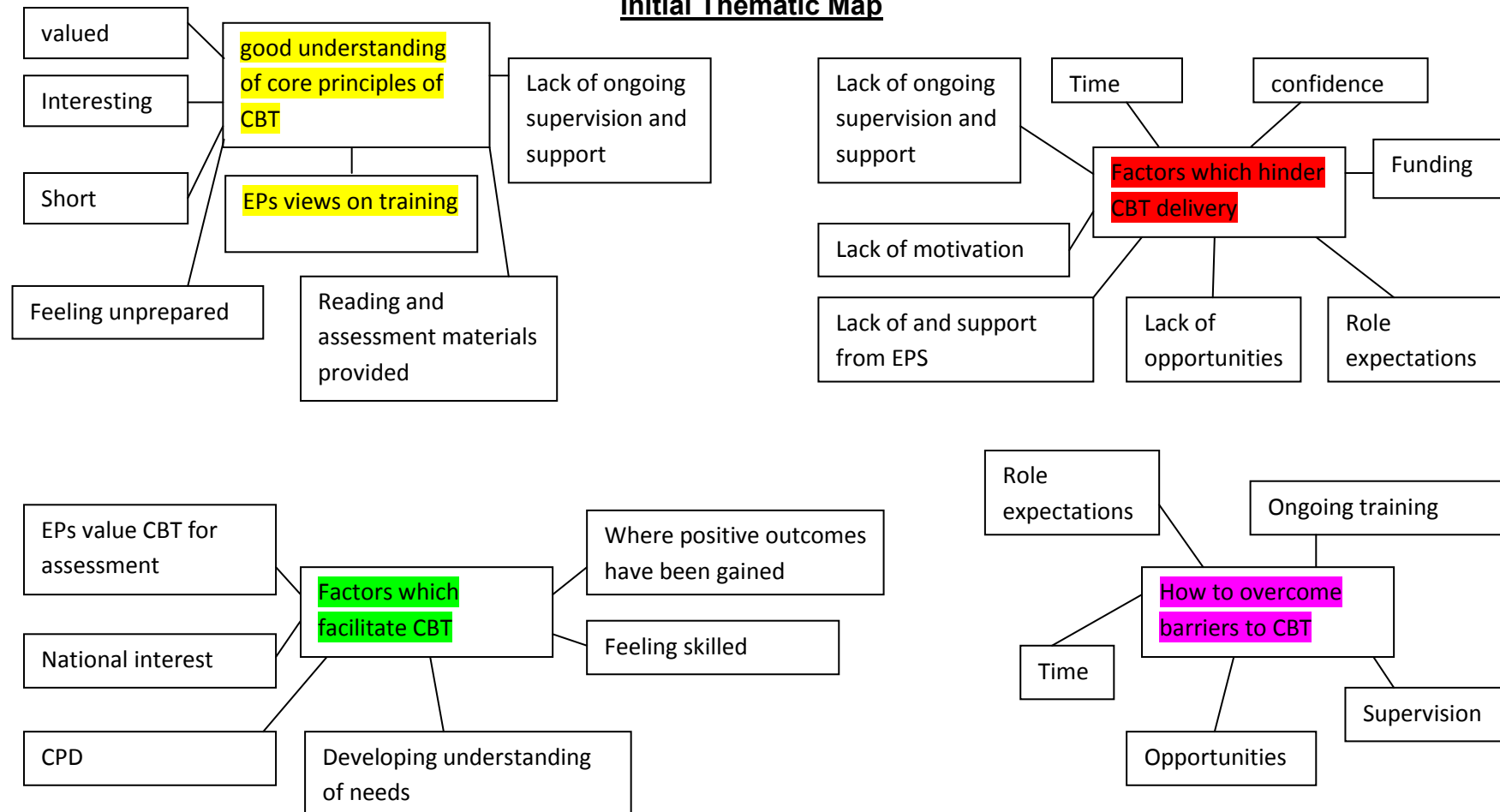| SA	So, if you were to take that away, do you think the skills that EPs have match up well with the skills that are required for CBT?	
EP1, EP4, EP3, EP2	Yeah,	<mark>EPs feel well skilled to deliver CBT</mark>
EP1	Definitely, we have all of the skills needed really	<mark>EPs feel well skilled to deliver CBT</mark>
EP4	Absolutely	<mark>EPs feel well skilled to deliver CBT</mark>
EP2	Y'know on paper we are the right people to be doing that kind of thing	<mark>EPs feel well skilled to deliver CBT</mark>
EP1	Especially with children, I think erm, I think if we can deliver it within school settings, I've got a friend who's a clinical psychologist, she's working, doing a bit of private work and she says she's mainly using CBT but she gets her referrals through the GP practices and she hires a room in a GP's office erm, and she does some work with a child in there, but I think, if we're able to get into schools and do some work with the child in schools then maybe train up an LSP or a support practitioner to help the child with the homework aspects, so that homework isn't necessarily something the parent has to do, y'know, or the child can do independently, if the practitioner at school can support, y'know if you're challenging erm…thoughts or particular type of thoughts between sessions, or you're asking the child to, then that adult can then support	<mark>EPs feel well skilled to deliver CBT</mark> <mark>EPs feel well-placed to deliver CBT</mark>
SA	So, we're well placed because we work in school settings and I suppose we do lots of link work between home and school as well …	
EP4	And also in our understanding of the	<mark>EPs feel well skilled to</mark>

	Psychology behind it, we're in a good position	deliver CBT EPs feel well-placed to deliver CBT
SA	Yeah. Ok, in your opinion what are some of the things that need to happen to ensure or promote EPs becoming more involved in using CBT? Perhaps at a service level or professional level. What needs to happen to get EPs more involved in delivering CBT?	
EP1	I think more training, practice, rehearsal	Need more training Need time to practice
EP4	Supervision	Need supervision
EP1	Supervision	Need supervision
EP3	Supervision to keep it going	Need supervision
EP1	And then regular erm…	
EP2	Refreshers	Need ongoing support and training
EP1	Regular refreshers and erm, regular opportunities to do something er where you're using those skills but then you don't become y'know what we're saying, or what I'm certainly saying which is that now if a case came up, I'd feel a little bit oh I'm not really sure if I'm comfortable and I'd have to go back, at least go back to my training notes to have a look	Need ongoing support and training Need more opportunities to deliver CBT
SA	So supervision, training is quite important. Anything else maybe at a service level?	
EP4	It's the definition of role as well isn't it? If we're providing therapeutic input like that on a regular basis then great but, I don't think we are at the moment, but if we are then schools need to	Need more opportunities to deliver CBT

	know we can offer that	Need to raise awareness of schools regarding EP role in CBT delivery
EP1	Yeah, it's not the expectation is it of schools or our main client groups have	Need to raise awareness of schools regarding EP role in CBT delivery
EP3	It's not there priority either, when it's a matter of we can get funding for this child or we can do CBT for that child, the funding so that they can support them in school, always comes first	Funding restricts EPs from delivering CBT
EP1	Schools don't always see the links though, so I've got a case where I could use it, for a child who wouldn't take erm, it was around his, again it was to do with diet erm…chronic constipation, he wouldn't take his medication because that was making him…either go to the toilet at school or was making him make funny smells and he was just really scared of leaking and having accidents at school, so I said I could work with him around that, they didn't see that as the issue, they saw is beh- his challenging behaviour was something that they wanted to deal with. I felt that all of this frust – a lot of this frustrations and anxieties, it was his anxieties around having accidents at school because of his erm…bowel condition erm, that was causing a lot of his sort of behaviours in school but they didn't see that as a priority	Need to raise awareness of schools regarding EP role in CBT delivery
EP3	I don't think schools really expect us to go back and work regularly with a child do they, I think, so I always get the feeling where once I've seen the child once, they kind of like think who can you seen next? So, I think it's the whole way with work, I think.	Need to raise awareness of schools regarding EP role in CBT delivery

Funding/time restricts |

SA	The last question is, are there any other things you would like to raise in relation to CBT?	
EP4	Just to re-emphasise really that I think that the training was really useful, having said that we haven't delivered it in the expected sense, that knowledge is still really useful in casework delivery so …I'm still glad that I did it	Training was valued by EPs
SA	Yeah	

Appendix Six

Initial Thematic Map

valued

good understanding of core principles of CBT

Interesting

Lack of ongoing supervision and support

Short

EPs views on training

Feeling unprepared

Reading and assessment materials provided

Lack of ongoing supervision and support

Time

confidence

Factors which hinder CBT delivery

Funding

Lack of motivation

Lack of and support from EPS

Lack of opportunities

Role expectations

EPs value CBT for assessment

Factors which facilitate CBT

Where positive outcomes have been gained

National interest

Feeling skilled

CPD

Developing understanding of needs

Role expectations

Ongoing training

How to overcome barriers to CBT

Time

Supervision

Opportunities

Appendix Seven

Thematic Map Two: Refining Themes

Lack of ongoing supervision and support

Time

confidence

Factors which hinder CBT delivery

Funding

Lack of motivation

Lack of and support from EPS

Lack of opportunities

Role expectations

Good understanding of core principles of CBT

Reading and assessment materials provided

EPs value CBT for assessment

Where positive outcomes have been gained

Factors which facilitate CBT

Feeling skilled

National interest

CPD

Developing understanding of needs

Ongoing training

Phase 5 of Thematic Analysis: Collating Codes

Theme one: factors which are perceived as hindering CBT delivery

Subtheme One : Motivation and confidence in applying CBT	
Initial codes	**Sample extracts**
Motivation a barrier to continuing CBT group in service Lack of motivation to engage in CBT Confidence to practice CBT is low. Confidence to practice CBT is low Confidence to practice CBT is low	EP1: No motivation to continue (peer supervision) really EP1: I think now it would be, I wouldn't feel confident EP1: I would need to go back to some basics and I think particularly looking at formulations again, so that particular aspect of the training, how you formulate a case and whether I, whether it was still within my competencies EP4: Yeah, I'd used it on a couple of cases when I'd first done the training but since then my confidence with it has dropped a little bit

Subtheme Two: ongoing support and supervision	
Initial codes	**Sample extracts**
No ongoing supervision offered from university CBT training course Lack of guidance and ongoing support from service provider No ongoing supervision offered from CBT training course provider Lack of supervision perceived as barrier to CBT delivery Lack of ongoing support after training has completed Needing a point of contact after training has finished Lack of ongoing support after training has completed Lack of support from EPS affects delivery of CBT Lack of support from EPS affects delivery of CBT Lack of support from EPS affects delivery of CBT	SA: And were you (EP3) offered any kind of support? EP3: Not from the university but I know at XXXXX they were having regular, sort of every month, someone was coming back and they were doing, like em, supervision sessions with them as well as the training but I was only there for part of it so… EP2: We didn't really know what we were supposed to be doing and there was no ...erm EP2: But nothing from XXX himself EP4: Coz we were advised that if we were practising CBT, we should really

	have some kind of supervision erm…but we never got round to it, did we?
Lack of supervision Need supervision Need supervision Need supervision	EP4: There was not further contact after the course, was there? EP2: I wasn't sure where to start really, I could have done with talking to XXX or someone again after the training to ask questions EP4: I think that because there were some people who were interested, like J and S, there was…I felt partly supported. But from the management I didn't feel there was any… SA: What needs to happen to get EPs more involved in delivering CBT? EP4: Supervision EP1: Supervision EP2: Supervision to keep it going

Subtheme Three: time and opportunities to practice CBT	
Initial codes	**Sample extracts**
Lack of opportunity to practice CBT Lack of opportunity to practice CBT Time limitations are a barrier to practicing CBT Time limitations are a barrier to practicing CBT Time/opportunity to practice CBT is limited Time/opportunity to practice CBT is limited Time to practice CBT is limited Time/funding hinder CBT delivery Time/funding hinder CBT delivery Time/funding hinder CBT delivery Time/funding hinder CBT delivery Need more opportunities to deliver CBT Need more opportunities to deliver CBT Funding restricts EPs from delivering CBT Funding/time restricts EPs from delivering CBT	EP2: I, I mean, there was definitely some enthusiasm there to go out and do it and try it but I suppose because there wasn't that supervision, erm, from someone like XXX, then erm, and what, the opportunities as well, there wasn't always the opportunity to go and use it, then it kind of dwindled really, a little bit, I suppose …that's my experience EP1: But even when you've been able to identify cases like…where I think CBT might have been useful as part of some approach, it's not been, I haven't followed that through because I don't have a term, or however many sessions, you know, to go back so… EP4: There's just not the time to EP1: The commitment to that particular case …for a school they might want you

	to work with lots of different children or erm…you know if you're saying you want to do CBT, you kind of, you might expect to then put in so many sessions with that child and then plan for those sessions as well which would take a big chunk of your time allocation, however that's worked out
	EP4: ...it's more identifying cases where you'd need to do 6 to 8 sessions for example, I don't feel we're in a position to do that really, which is what you were saying
	EP4: Yeah, funding and time allocation is a big one because schools don't see it as a priority
	EP4: ... I'd agree with S that there's just, especially now, there's just not the time to do something like that and people don't expect us to do it either
	EP3: It's not there priority either, when it's a matter of we can get funding for this child or we can do CBT for that child, the funding so that they can support them in school, always comes first

Subtheme Four: role perceptions and expectations	
Initial codes	Sample extracts
Expectations from school restrain EPS from practicing CBT Own role perception hinders CBT delivery Perceptions of the EP role in delivering therapeutic interventions hinder CBT delivery Schools' perceptions of EP role hinder CBT delivery Schools' perceptions of EP role hinder CBT delivery Need to raise awareness of schools regarding EP role in CBT delivery Need to raise awareness of schools regarding EP role in CBT delivery	EP1: I would need to go back to some basics and I think particularly looking at formulations again, so that particular aspect of the training, how you formulate a case and whether I, whether it was still within my competencies EP1: I think there are quite a lot of contradictions between our role and the therapeutic aspect of CBT, so I don't see our role, I don't see that our role and the systems we work within that they erm kind of erm facilitate therapeutic work really. I feel our role is around, more around, assessment and sometimes

| Need to raise awareness of schools regarding EP role in CBT delivery
Need to raise awareness of schools regarding EP role in CBT delivery | around funding and other things, although we might want to do these sort of therapeutic roles erm that there's a contradiction in that

EP4: ... I'd agree with S that there's just, especially now, there's just not the time to do something like that and people don't expect us to do it either

EP4: It's the definition of role as well isn't it? If we're providing therapeutic input like that on a regular basis then great but, I don't think we are at the moment, but if we are then schools need to know we can offer that

EP1: Yeah, it's not the expectation is it of schools or our main client groups have

EP3: I don't think schools really expect us to go back and work regularly with a child do they, I think, so I always get the feeling where once I've seen the child once, they kind of like think who can you seen next? So, I think it's the whole way with work, I think. |

Subtheme Five: Training needs	
Initial codes	**Sample extracts**
Short course Training too short, trainees left feeling not ready to implement CBT Need more training Need time to practice Need ongoing support and training	EP4: I think it was eight and the last one was somebody different EP4: I though the training didn't really give us enough to get started with on our won...erm...yeah SA: What needs to happen to get EPs more involved in delivering CBT? EP1: I think more training, practice, rehearsal EP2: refreshers EP1: Regular refreshers and erm, regular opportunities to do something er where you're using those skills but then you don't become y'know what we're saying, or what I'm certainly saying which is that

	now if a case came up, I'd feel a little bit oh I'm not really sure if I'm comfortable and I'd have to go back, at least go back to my training notes to have a look

Theme Two: factors which are perceived to facilitate interest in CBT delivery

Subtheme One: The quality of training received	
Initial codes	Sample extracts
Training specific to role of EPs Reading lists given on training to support delivery Assessment materials given on training to support delivery Assessment materials given on training to support delivery Formulation guides given on training to support delivery Felt training gave a good understanding of core principles of CBT Training was valued by EPs	EP1: Oh yeah, that was all about how you use CBT in educational…CBT for educational psychologists wasn't it? EP2: They gave us lots of reading lists to refer to EP4: Lots of assessment materials too, which I've used a few times EP4: I think the principles were quite clear, in the sense of applying the principles of CBT I felt quite prepared for that erm, and then kind of identifying whether negative automatic thoughts and using some of the strategies erm…that was fine... EP4: Just to re-emphasise really that I think that the training was really useful, having said that we haven't delivered it in the expected sense, that knowledge is still really useful in casework delivery so …I'm still glad that I did it

Subtheme Two: Developing and acknowledging the relevance of professional skills	
Initial codes	Sample extracts
Interest in CBT Motivation to engage in CBT training was because of raised national interest at the time CPD facilitated interest in CBT training EPs feel well skilled to deliver CBT	EP1: It was also something that A was keen for us to do, there was this sort of we want to support this development coz they were doing a lot of it in XXXXX apparently and then Walsall decided they were going to take it up as a thing that

| EPs feel well skilled to deliver CBT
EPs feel well skilled to deliver CBT
EPs feel well skilled to deliver CBT
EPs feel well skilled to deliver CBT
EPs feel well-placed to deliver CBT
EPs feel well skilled to deliver CBT
EPs feel well-placed to deliver CBT | everybody in their service was doing so there was this sort of ...and I think there was quite a lot of it around in the media as well about CBT, there was this kind of oh you know this is something we could kind of offer schools

EP2: Some of it is skill isn't it, that you're skilling yourself up and … in a different way

EP1: Definitely, we have all of the skills needed really

EP2: Y'know on paper we are the right people to be doing that kind of thing

EP1: Especially with children, I think erm, I think if we can deliver it within school settings,

EP4: And also in our understanding of the Psychology behind it, we're in a good position |

Subtheme Three: valuing what CBT can offer	
Initial codes	**Sample extracts**
Service –level interest in CBT EPs see value in CBT techniques EPs see value in CBT techniques EPs see value in CBT techniques for assessment EPs see value in CBT techniques for raising staff understanding of children's needs EPs see value in CBT techniques for helping parents understand children's needs EPs see value in CBT techniques to raise awareness and understanding of children's needs EPs see value in CBT techniques for raising staff understanding of children's needs EPs see value in CBT techniques for raising child's understanding of their own needs	EP1: ... I've kind of used a scaling technique about looking at the evidence or the students re-evaluate the evidence er, and that's a technique from the CBT training or I've left that with the schools to have a go with … EP4: I think, again, it's kind of having that understanding isn't it? of where some behaviour comes from that if we're not delivering it in a therapeutic way but we are applying the principles of it, it helps with our own understanding of what might be going on EP1: Helps with our assessment really doesn't it? EP4: Yeah, also the staff working with the pupil, it might help them to

| EPs value the outcomes from using CBT
 | understand if we're talking around…

EP2: It helps parents as well to understand

EP3: And helping with the staff's relationship with the pupil because if they've got a bit more understanding of maybe a bit more sort of sympathy for the child almost, rather than the behaviour is a problem, they're understanding where it's come from and why

EP2: And also helping the young person to come to that realisation as well, y'know, understanding their own thought patterns and how their feelings affect that and vice versa. I think with the one case that I can remember working with, that young person that was definitively something that came out of that, that the young person, you could see the light bulb go on almost

EP1: And I think it was addressed within a short period of time and erm the parents were happy with the outcomes and erm the child went back to eating and not being worried about his food |

Appendix Nine

Final Thematic Map

Time and opportunities

Lack of ongoing supervision and support

Factors which hinder CBT delivery

Lack of motivation and confidence

Training needs

Role expectations

Good quality training

Factors which facilitate CBT

valuing what CBT can offer

Professional skills