A COLLECTION OF PROFESSIONAL PRACTICE REPORTS

By

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CHAPTER ONE: INTRODUCTION

1.1 Thesis background

This thesis is submitted in accordance with the requirements of the professional training in Applied Educational and Child Psychology. An expectation of the training is to fulfil practice-based criteria, whilst also producing a two-volume thesis comprising research undertaken whilst on placement in a local authority psychology service. This is the second volume of the thesis, and includes four Professional Practice Reports (PPRs). Each PPR documents a different area of study, relevant to the work of an educational psychologist (EP).

1.2 Contextual factors

The work within this volume is based upon my practice within a [redacted] local authority educational psychology service (EPS). This EPS serves a highly populated urban area, with large cultural and ethnic diversity as well as wide ranging socio-economic factors. The box below summarises information gleaned from the 2011 census, local police data, and local authority statistics:

- 66% of the city's population were born in the UK
- 51 per cent identified as White
- 37 per cent identified as Asian/Asian British (of whom 28 per cent are of Indian heritage)
- 6 per cent identified as Black/African/Caribbean/Black British
- 4 per cent identified as Mixed/multiple ethnic groups
- 3 per cent identified as another ethnic groups.

- A third of all city households include dependent children, higher than regional and national averages
- Children are slightly more likely to live in single-parent households than other areas of the UK
- Many children are experiencing living in households with more than one family couple (i.e., home to more than one family)
- Some areas of the city are fall within the most deprived 5% of England
- In 2011, 52 per cent (80,780) of city adult residents were in full-time employment, lower than regional and national averages

- High crime and violence figures are reported by the local police force, specifically:
- 6% of all telephones call to the police are related to domestic incidents
- Of all harassment crimes, 41% were categorised as domestic violence and abuse (DVA)
- Of all sexual offences, 16% were categorised as DVA
- Of all assault with injury offences, 37% were categorised as DVA
- Of all assault with intent to cause serious harm, 16% were categorised as DVA.
- The local police force has low arrest rates for DVA incidents, in comparison with the national figures.

- The level of qualifications held in [redacted] is low in comparison to regional and national averages
- 25% of usual residents have no qualifications, higher than regional and national averages.
- 68% of the population have significant difficulties with English literacy skills
- Educational attainment levels are low, in comparison to regional and national averages
- At all Key Stages significantly more pupils in Leicester have special educational needs (learning, language, behaviour, mental health etc) than in the region and England as a whole

1.3 Professional Practice Reports

Each Professional Practice Report (PPR) documents a small-scale investigation into a specific area of interest, during my doctoral study. These pieces of work have either evolved directly from my day-to-day practice, or served to explore these issues more systemically. Each PPR will now be summarised in more detail.

1.3.1 PPR 1

This case study explored one school's use of a Dyslexia-Friendly School (DFS) approach, using a Realistic Evaluation model to investigate how and why the approach was beneficial. The literature review indicated a lack of consistency regarding the theories of dyslexia, its causation, and definition. DFS literature was then analysed to discover the contexts, mechanisms and outcomes associated with the successful implementation, and particular it highlighted the suggested need for consensus in the dyslexia discourse. Thematic analysis of data gained in this study did echo the some of the rationale for success given by the DFS movement; however it did not support the need for thorough theoretical knowledge held by the staff. Furthermore, the practice exhibited by the school was based upon of valuing and supporting children's emotional wellbeing as learners. This study suggests that this 'good practice' was fundamental in the successes of literacy instruction and subsequent positive outcomes. Moreover, the removal of emphasis on Dyslexia was suggested: the – Friendly School was viewed as being an explanation of why this approach worked.

1.3.2 PPR2

This report serves to review the current neuroscientific literature surrounding brain development in infants. In particular the application of this literature will be considered in the context of social policy

and an area of EP practice; delivering the Solihull Approach parenting group. Originating in the USA, policy has been built around the purported need for intervention in the lives of disadvantaged children, in their first three years. UK policy has embraced the 'first three years' agenda, often citing brain-based research as the evidence for negative neurological outcomes should we not intervene. However, reviewing the research regarding brain structure and function has highlighted the complexities of understanding what is occurring in children's brains: that different regions undergo different periods of growth and reductions of synaptic connections, which may not always correlate to the behaviours a child may show. Moreover, ongoing plasticity has been evidenced, and developments occur into adulthood. The neuroscience used to support the application of enrichment interventions is explored, and suggested as incomplete. The evidence for this often comes from animal studies, or from cases of extremely negative experiences for children. Caution is advised against taking the evidence as 'factual', in applications to families of non-extreme experiences. Finally, EPs are recommended to carefully consider the content and manner in which neuroscience is shared with parents, to avoid becoming the expert to families, and 'doing to them', not 'doing with them'.

1.3.3 PPR3

Integration within a mainstream social environment can be valued by parents of children with special educational needs, allowing opportunities for them to participate alongside their typically developing peers. This report reviews the literature surrounding this, exploring social participation in relation to developing social skills and success in initiating, receiving and maintaining positive peer-to-peer interactions. Moreover, the relationships between this and concurrent friendships were considered, in both structured classroom and unstructured playground environments. A single case study was used, of eight-year-old David, who is reluctant to communicate. His interactions were explored in terms of frequency, direction, duration, and quality in both environments, and the

findings suggested that there were many interactions occurring despite very limited verbal communication. Within the classroom, David did not initiate much contact, but was able to sustain interactions with his peers approximately half of the time, through playful behaviours. Overall he as perceived to be on-task and compliant with the class. In the playground the majority of interactions were initiated by David, and often sustained by others. All of David's interactions were suggested as adaptive and positive. A sociometric method was then used to explore peer perceptions, and reciprocated friendships were found. These findings are discussed in the context of the different environments, and it is suggested that all of the child's behaviours were cohesive with the group as a whole, and this was protective to his peer relationships. However, it is noted that this study cannot address how David and his maturing relationships will develop over time, if his interactions remain non-verbal. As this work fell as part of ongoing casework, the intention remained to document the process of investigating David's social participation and relationships as part of the formulation process for Trainee Educational Psychologists (TEP). Some brief suggestions for future work are made, but ultimately this report serves to document this part of the assessment process. This study was found to reveal the subtleties of interaction and to identify some positive social experiences that were not previously apparent to the adults around David.

1.3.4 PPR4

This report documents a structured approach to exploring the knowledge and skills of educational psychologists (EPs) practice when making assessments of children who have experienced domestic violence and abuse (DVA). A Training Needs Analysis (TNA), based on aspects of the Integrative Framework (Taylor et al, 1998) was employed to explore whether EPs were considering all aspects of Bronfenbrenner's mature theory of bioecological development, and whether training would supply an effective route to remedy any discrepancies. The literature review identifies relevant research related to outcomes associated with DVA experience, which is then placed into Bronfenbrenner's

Process, Person, Context Time theory, to support the use of this as the 'ideal' set of variables in practice. Discrepancies in the use of these variables, and some external explanatory factors for this, were identified. Participants each perceived between 4 and 15 variables to be unused in their assessment and formulation practice. The most responses showing discrepancies were found in the Context category, suggesting not all the systems of a child's life were consistently explored. Furthermore, not enough time and lack of knowledge were identified as the most consistent reasons for this, along with some suggestion that there were inadequate resources available to use. Training was therefore felt to be inadequate in addressing the discrepancies in practice. Some alternative suggestions are made to combat the discrepancies, in the form of creating a resource which allows timely consideration of the variables, in an explicit manner, alongside an accompanying review of the literature to support knowledge development. TNA is suggested here as a valuable approach to reduce the uncertainty that can arise during exploration of whether training is the best course of action.

1.4 Reflections

Within these four studies, the variation in topics, resources and methods used serves to highlight the myriad functions and tasks an EP can be engaged in. These aspects of the role have been crucial in developing my own practice and skills, and undertaking these studies has allowed for focused exploration of topics that arise in my day-to-day working.

A consistent theme throughout my PPRs is the consideration and critique of the psychological underpinnings related to many aspects of the EP role. An attempt has been made to highlight the importance of applying theory, either in relation to individual cases, within school systems, or within the practice that EPs undertake themselves. I feel that these opportunities have directly contributed to the work at-hand, and allowed for deeper exploration of needs and skills of children, families and

systems. Each individual PPR will focus on the contributions and implications for the both the stakeholders and the evidence base, in more detail.

CHAPTER TWO

Supporting children with literacy needs: Exploring why and how Dyslexia Friendly Classrooms are beneficial in a primary school setting.

Abstract

This case study explored one school's use of a Dyslexia-Friendly School (DFS) approach, using a Realistic Evaluation model to investigate how and why the approach was beneficial. The literature review indicated a lack of consistency regarding the theories of dyslexia, its causation, and definition. DFS literature was then analysed to discover the contexts, mechanisms and outcomes associated with the successful implementation, and particular it highlighted the suggested need for consensus in the dyslexia discourse. Thematic analysis of data gained in this study did echo the some of the rationale for success given by the DFS movement; however it did not support the need for thorough theoretical knowledge held by the staff. Furthermore, the practice exhibited by the school was based upon of valuing and supporting children's emotional wellbeing as learners. This study suggests that this 'good practice' was fundamental in the successes of literacy instruction and subsequent positive outcomes. Moreover, the removal of emphasis on Dyslexia was suggested: the –Friendly School was viewed as being an explanation of why this approach worked.

Introduction

Within the primary school sector, there is much emphasis on the appropriate development of literacy skills, monitoring progress, and increasing support for 'poor' readers and writers. As a core skill in education, any delays or difficulties in acquiring literacy skills become a priority issue for school staff, parents, and other professionals, particularly as estimated prevalence has been suggested as 4%-8% (Rose, 2009). However, as Reid and Fawcett comment "There was, and still is, a growing awareness of the many and often disparate strands of thought" surrounding literacy difficulties (2004: 3). Dyslexia in particular has been varied and even controversial in it's discourse, with Nicolson (2001) suggesting that all branches of science and education should be aiming to combine with government policy to create a more uniformed approach to defining, diagnosing and intervening for those affected by a specific learning difficulty (SpLD) in literacy. It is within this area of need for continuity, that this paper is situated. As a trainee Educational Psychologist (EP), I have noted on many occasions that there are discrepancies between the psychologies of dyslexia, the appropriateness of diagnosis, the requests from schools for investigation, the parental desire for a

label, and the emotional effect of the pupil's awareness of their literacy difficulties. Amongst this lack of consensus, interventions are occurring in schools which may or may not have evidential basis, which may or may not have strong theoretical underpinnings, yet may or may not be showing success in reading and writing attainment and pupil emotional wellbeing. Furthermore in EP training there is much consideration of not working in an expert-led model and maximising and respecting *all* individuals knowledge and expertise, therefore it was felt that an appropriate investigation in this area needed to rely on collaboration and acceptance of the school's skills in knowing 'what works'.

The focus of this paper is not to explore the myriad views of dyslexia in detail, or to provide critique or support for individual approaches to supporting pupils with literacy needs, the exploration occurs into one particular school's approach to working with pupils with dyslexia/other literacy needs and investigate *how* and *why* they feel the approach is beneficial. The Dyslexia-Friendly School (Mackay, 2001) is a whole-school initiative, informing policies: "teaching and learning, monitoring and assessment, differentiation and inclusion" (Mackay, 2004, in Reid and Fawcett: 223). Although is it worth noting that there is a distinct lack of empirical evidence to support this initiative, this paper does not intend to begin the journey to rectifying this. The intention is not to explore whether or not the intervention actually works, as a traditional positivist analysis might, nor to interpret the meanings constructed within the social world of the intervention, as a committed interpretivist might, rather the aim of this paper requires a different ontological approach.

Critical Realism purports that there is a world of reality in which we find ourselves, occurring independently from how we perceive and construct it (Sayer, 1992). The quest of researchers within this paradigm is to attempt to get as near as possible to the 'truth', by acknowledging the stratified ontology: that objects and how they are structured (physical or social) allows for mechanisms to be triggered (*the 'real'*) resulting in social regularities ('*the actual'*), and as individuals we can experience these objects and the regularities in different ways ('*the empirical')* (Bhaskar, 1975). This means we are looking for the mechanisms within the context of the classroom to result in the how

the pupils experience their literacy instruction. Furthermore, by looking at the literacy instruction through a generative lens, we are seeking to explore *why* the school's approach is leading to positive outcomes for the pupils, rather than just exploring from a successionist perspective of *if* the school's approach causes benefits (Harré, 1972). The explanation for why this was felt to be the most appropriate means of evaluation falls within the highly socialised and contextualised nature of the initiative. Each school's implementation of a Dyslexia-Friendly approach will be different, therefore evaluating within a positivist framework would be hard to find useful generalisable information to add to the discourse. Moreover, an interpretivist framework would provide little explanatory function; rather it would be open to multiple ways of interpreting the intervention and again may be limited in its ability to add to the discourse. However, by aiming for the generative element of realism, a Realistic Evaluation model (RE: Pawson and Tilley, 1997) would investigate both the outcomes of this school's support for pupils with literacy needs, *and* attempt to understand what conditions are needed to activate the intervention's success. As a case study approach is used here, the complexities and subtleties of the context are able to be explored in detail, and although this may limit the appropriateness of generalising any findings, we may begin to discover what the necessary conditions are for Dyslexia-Friendly success. Finally, the collaborative nature of RE ensures that at no point does the researcher become an expert of the situations. The school staff themselves are viewed as 'experts' of their experiences, and these views are combined to build a theory of why Dyslexia- Friendly Classrooms are a valuable approach.

This paper will continue to briefly explore some of the relevant theoretical explanations of dyslexia, as well as EP literature regarding definitions and identification. Further information will be discussed regarding the Dyslexia-Friendly Schools initiative and its application in a school setting. The application of RE in a case study will be discussed, alongside further details of the methodology. Thematic analysis was used to explore the data and the findings of this will be given, then discussed in the context of the literature explored in the sections below. Finally this paper will make

suggestions as the 'hows' and 'whys' of successful intervention for children with literacy needs, as well as recommendations for continuing the research further.

IQ and dyslexia.

Snowling (2005) describes the convention of a specific literacy difficulty as being qualitatively different from a more generalised learning need which encompasses more domains than just reading, noting,

> A child is deemed to have a specific problem with reading if their reading attainment is significantly below that predicted from their mental age on the basis of correlation between reading and IQ in the same population. Such children show a discrepancy between expected and actual attainment (110).

This discrepancy definition is not without criticism however. Many argue against the reliance on the 'outdated and indefensible construct (IQ)' (Fawcett and Nicolson, 2004: 32). Furthermore, there is questionable validity and limited evidence in suggesting that there are identifiable differences between the acquisition of literacy skills in those who fall within the discrepancy definition, and those whose literacy skills are more in line with their overarching cognitive abilities (for review see Stuebing et al., 2002). This leads us to consider the effects of this definition on the approaches to teaching a child with a specific learning difficulty (Singleton, 2009). Moreover, with an IQ-vs-reading discrepant child potentially receiving a dyslexia diagnosis, and an IQ-vs-reading non-discrepant child potentially receiving a 'garden variety poor reader' diagnosis (Stanovich, 1988), how does this help us to explain which teaching methods will help which children? Research has suggested that using the discrepancy definition to place children into categories does not lead to consistency when exploring which 'groups' will be remediated well (Vellutino et al, 1996).

Cerebellar Deficit Hypothesis

Can making distinctions between dyslexic poor readers and 'garden variety poor readers' can ever be useful? Fawcett et al's study (2001) found that the two groups did not show differences in their phonological skills or speed of processing text. However, when they investigated potential cerebellum deficits, they found that the dyslexic poor readers showed significantly more difficulty in balance automation tasks than the non-dyslexic poor readers. The cerebellum deficit hypothesis purports that the processes involved in reading require automation and fluency, and dyslexic readers require 'more time and effort to read than a non-dyslexic child of the same reading age (Fawcett and Nicolson, 2004: 27). In fact, the authors suggest that this deficit is not specific to literacy acquisition, but rather to being able to automise any cognitive or motor skill. They continue that individuals with cerebellar abnormality (Finch et al, 2002: dyslexic brains showed significant structural abnormality) experience an 'ontogenetic causal chain' (see Figure 1: Fawcett and Nicolson, 2004:30). Without exploring this account in great detail, it can be seen that the authors are suggesting a brain-level deficit which encompasses balance and motor skill impairment; difficulties with automation; impaired phonological skills leading to limitations with working memory and word recognition. It must be highlighted, however, that there are inconsistent findings in relation to this hypothesis. Specifically, Savage et al (2005) noted hard to interpret data on a study of poor readers, chronological age and reading age matched children in terms of balance automaticity, suggesting that there may be a moderate effect yet there is likely to be a developmental maturation related to balance automisation as opposed to a difficulty related to reading. More generally White et al comment,

> The majority of experiments reported in the literature involve only motor tasks and therefore poor performance may not necessarily be attributable to a cerebellar impairment. The extent of these motor difficulties and their putative role in the dyslexic population are still debated (Ramus, Pidgeon & Frith, 2003; Wimmer, Mayringer & Landerl, 1998; Yap & van der Leij, 1994), especially whether cerebellar dysfunction can independently cause reading disability, or whether it co-occurs, with a different cause of reading impairment (2006: 239).

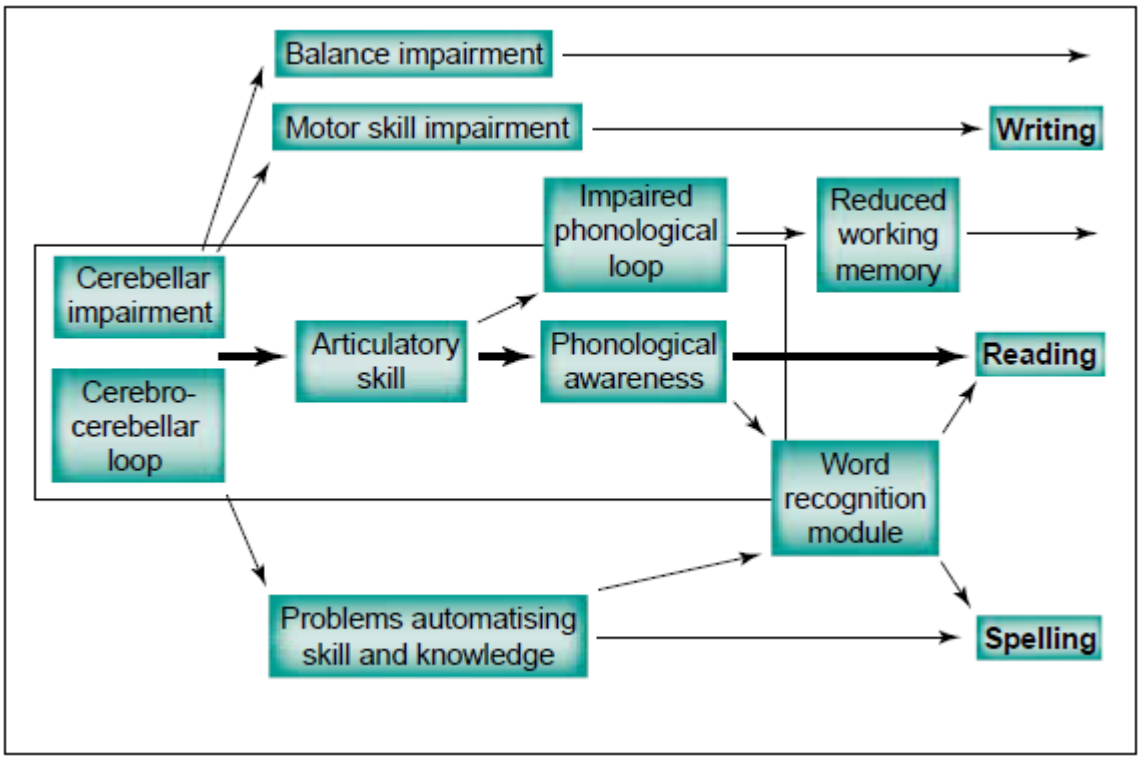


Figure 1: Ontogenetic Causal Chain (Nicolson and Fawcett, 1999)

In contest, Nicolson and Fawcett (2006) suggest the cerebellar deficit hypothesis is the only suitable explanation of why children with dyslexia can experience balance difficulties, phonological difficulties and speed difficulties. They continue to suggest that more specific tests of cerebellar function must occur in future research, as they have included in their own previous studies (Nicolson, Daum, Schugens et al, 2002; Nicolson and Fawcett, 2000).

Although this debate is not widely discussed in this paper, it is important to acknowledge this theory in relation to the potential neurological needs for children with a specific learning difficulty and the resulting pedagogical approaches which may be occurring in schools. Furthermore, this theory makes an explicit distinction between individuals with dyslexia and poor readers without dyslexia, suggesting the need for different approaches to mediation. However, as highlighted at the beginning of this paper, it is important to consider how incongruent views of reading difficulties manifest within the school environment. It is suggested here that although there may be, albeit contestable,

evidence to support the notion that dyslexia is a specific type of literacy difficulty, the claims that this view can be usefully incorporated into a classroom provides more difficulty. As acknowledged earlier, the IQ discrepancy model cannot provide clues as to which remediation approach will benefit which group of children (Vellutino et al, 1996), but can the Cerebellar deficit hypothesis and resulting ontogenetic causal chain? Reid and Fawcett (2004) themselves state that although they believe that there is evidence of cerebellar abnormality in individuals with dyslexia, it is unknown whether attempts to improve this brain function would result in improvements in literacy skills. Certainly in the current education system, investigations of cerebellar activity are not likely to occur, in relation to making a dyslexia diagnosis; the practicalities of selecting intervention depending on whether a child is a 'true dyslexic' or a more generalised 'poor reader' (should this distinction exist) is unlikely to occur or be beneficial. Moreover, as this paper began with comments made from Reid and Fawcett themselves about bringing about consensus of understanding dyslexia, it is unclear how their theoretical standpoint will contribute to this, particularly in what is arguably the 'real world' of dyslexia: the school.

Phonological Deficit Hypothesis

The Cerebellar deficit hypothesis makes arguable claims as to the nature of a true dyslexic, yet the issue stems from a pathological difference in the individuals which is near impossible to investigate at the school level. It is suggested that in order to create a uniformed approach to supporting literacy difficulties, an understanding must be gained at the practical level, i.e, what is actually happening for the child. Savage et al (2005) discuss the wealth of evidence which centres of the phonological deficit, suggesting the skills required for reading and spelling are based on cognitively mapping speech sounds to text. If, as Hulme and Snowling state (1997), phonological skills are key to reading, then deficits at this level would predict literacy difficulties. As originally shown in 1983, Bradley and Bryant found that problems with phonological skills in preschool aged children

successfully predicted later reading problems, and this was irrespective of IQ. Moreover, a large body of research has been conducted to show support for the causal nature of this link; and directly addressing these difficulties can improve reading and spelling (see Singleton, 2009 for a review). In addition to this view, and not dissimilar to the Ontogenetic Causal Chain (Figure 1), poor phonological skills may impact the ability to store and retrieve whole words as text and process information in working memory (Gathercole and Baddeley, 1990; Stanovich and Siegel, 1994; Snowling, 2000; Vellutino et al, 2004). It is suggested here that this theoretical standpoint may lead to a more useable approach to supporting children with literacy needs; if we are to accept the phonological deficit model in practice of identification and intervention for children with dyslexia, we must explore the uniformity of this definition of need, particularly in relation to the issues raised previously: dyslexics/poor reader distinction and IQ discrepant/generalised learning need.

Definitions and identification

The British Psychological Society (BPS) created a working party to investigate and the identification and assessment of children with literacy needs. Their subsequent DECP report (Division of Educational and Child Psychology, 1999) made specific claims regarding the definition of dyslexia summarised in Table 1 by Reason and Stothard (2013). Interestingly although the report acknowledges that dyslexia can occur across a range of intellectual abilities (see paragraphs 4.10 and 6.3), and therefore does not subscribe to the IQ discrepancy approach, it does not consider dyslexia as a continuum based learning need. As Reason and Stothard comment, 'the notion of a continuum implies of course that dyslexia is the remit of general education, not limited to specialist teaching' (2013: 10). Although the document was created by Educational Psychologists, it is clear in its expectation that assessment of dyslexia must occur within the context classroom learning and teaching, however, it could be suggested that once dyslexia has been 'diagnosed', the expectation is that intervention occurs outside of the typical classroom environment. A debate regarding inclusive

education could occur here, this paper will not focus on this issue, however it must be noted that distinct categories of dyslexic versus non-dyslexic could reinforce the pathologised nature of a literacy need and encourage dyslexia as a disability status. Johnson suggests we must 'continue the discourse until pupils with dyslexia are seen as a constituent part of the majority not a separate and coherent disabled minority' (2004:238). Furthermore, due to the contested nature of causation, as exampled briefly above, there is no one true test to diagnose this learning need; 'there appears to be no clear-cut scientific basis for differential diagnosis of dyslexia versus poor reader versus reader' (Elliott and Gibbs, 2008: 488).

DECP report (1999)	**Rose report (2009)**
Dyslexia is evident when accurate and fluent word reading and/or spelling develops very incompletely or with great difficulty. • Literacy learning at the 'word level' • Problem is severe and persistent despite appropriate learning opportunities • Staged process of assessment through teaching.	Dyslexia is a learning difficulty that primarily affects the skills involved in accurate and fluent word reading and spelling. Characteristic features are difficulties in phonological awareness, verbal memory and verbal processing speed. • Occurs across range of intellectual abilities • A continuum of need, not distinct categories • Co-occurring difficulties include language, motor co-ordination, mental calculation, concentration and personal organisation • Indications of severity and persistence can be gained by examining responses to well-founded intervention.

Table 1: The two definitions of dyslexia, adapted from Reason and Stothard (2013).

A more recent publication has embraced the concept of a continuum. The Rose Report: *Identifying and Teaching Children with Dyslexia and Literacy Difficulties* (Rose, 2009: see Table 1) not only explicitly discusses the spectrum of dyslexia, it also includes the term 'literacy difficulties'. It is suggested here that this inclusive use of wording can serve to aid schools in their aims to support these children. It does not rely on a confirmed dyslexia diagnosis, and therefore implicitly supports the notion that the classroom can be as supportive as specific expert intervention. As the Rose Report comments, there is an expectation that children with literacy needs should be supported

through a graduated approach, beginning with adaptations at the whole-class level, where they term dyslexia does not need to be utilised. If then, it becomes accepted that 'literacy difficulties' is an acceptable description, resulting in implied inclusive teaching, are we acknowledging that these needs do not always require specific specialist intervention? Can we support these children within the mainstream classroom without specialist dyslexia teaching?

> [Our evidence] rejects distinctive teaching strategies and accepts that there are common pedagogic principles which are relevant to the unique differences between all pupils, including those designated SEN [Special Educational Needs] (Norwich and Lewis, 1999: 324).

It is from this whole-class approach that the Dyslexia-Friendly School (DFS) initiative was born. Although there is an obvious discussion surrounding the terminology of DFS, as there is explicit and continuous reference to dyslexia, for the purposes of this paper the focus will be on the pedagogical intentions, rather than the lexical semantics, of the approach.

Dyslexia-Friendly Schools (DFS)

The DFS initiative defines dyslexia as 'a specific learning difference that may cause unexpected difficulties in the acquisition of certain skills' (Mackay, 2004). Pavey discusses how being dyslexia-friendly involves,

> building on what is known about dyslexia to date and applying that knowledge in the regular classroom… on the grounds that what benefits children with dyslexia, benefits all children (2007:4).

As highlighted above, there are instant recognisable difficulties with discussing what is 'known' about dyslexia and the suggestion that a consistent view of dyslexia needs to occur across domains, from government to scientific research and from 'expert' to class teacher, it is implied that this is not

currently the case. Regan and Woods (2000) undertook research in which teacher perceptions of dyslexia were explored. They found distinctions were still being made between dyslexic readers and poor readers, often based on either disadvantaged experiences of pupils or a more generalised learning need. Teachers were also broadly discussing the IQ discrepancy model, suggesting that what is 'known' to school staff does not represent what may be 'known' to the research community. The DFS initiative would likely suggest, to combat this discrepancy, schools need to view literacy differences as opposed to difficulties. However, the consistent use of a disability-based label such as dyslexia could be argued as incompatible with this view. Conversely, Mackay states that 'the notion of dyslexia as a specific language difficulty is arguably unhelpful and wrong, certainly within the inclusive, classroom-based ethos of the dyslexia-friendly schools initiative' (2004: 223-224). The intention behind this view is admirable, yet it is suggested here that adapting the terminology to involve a different value base is at best, unlikely to permeate all aspects of the education system, and at worst an impossible task.

Pavey's practical guide for schools (2007) discusses how the initiative is built upon teaching mainstream classes which include children with dyslexia; relying on good classroom practice; and effective monitoring, evaluation and review of whole school policies. A DFS must conform to acknowledging and supporting a variety of learning styles and that 'changes in methods, materials and approaches' can move the previously isolated child with a difficulty into the world of having an ordinary learning need (Mackay, 2004: 224-225). Further examples of practice guidance can be found in Appendix 1. It can be seen how this philosophy could have a positive impact on how the children feel valued and supported. As Lannen's view was summarised by Reid and Strnadova, 'the principle priority in a school offering specialist provision for students with dyslexia is to boost self-esteem' (2008:372). Research has found most dyslexic pupils in one DFS found aspects of their school life helpful, such as having information read to the class, using cue cards and having a scribe (Coffield et al, 2008). It was noted that this sensitivity to their needs was valued by the pupils and in return made them feel valued. Johnson (2004) summarises the importance of emotional support to

pupils with literacy needs, citing Humphrey (2003) who discusses useful techniques such as mediation, being friendly and listening to pupils as beneficial to improving self-esteem, self-concepts as learners and in turn to improving the academic output. These approaches are championed by the DFS initiative.

At this point, it is said that the values and ethos within a school are crucial to developing the pupils, both as learners and as emotional beings. A DFS has an inclusive ethos, valuing all of its pupils as competent, motivated learners, each with a unique skill set and strengths. However, it is questioned whether the specifics of a school being dyslexia-friendly are responsible for this. What if the 'dyslexia' aspect was removed, and the school described as a -friendly school? It would likely continue as a supportive and caring establishment where individual differences are celebrated and pupils are valued both as independent learners and as part of the school community. The strategies employed within the classroom that benefit pupils with literacy needs, also benefit pupils without. Furthermore, if the school is achieving these things in relation to the literacy needs of all pupils, it is likely that the school is also supporting children with other special educational needs, therefore is it actually related to dyslexia at all? If a successful DFS is an effective school, with effective teaching for all, will removing the dyslexia focus result in a shift in the school's effectiveness? Finally, although the much strived for consensus of theoretical and research understanding in this domain may be important in benefitting those with literacy need, is there the potential that what may be more beneficial is achieving positive, caring and supportive cultures within the school, which in turn supports all vulnerable pupils, not specifically those with dyslexia?

In the context of this paper, the above questions will be explored. More specifically the research will focus on exploring:

1. The classroom practice of a medium sized primary school, with regards to their support for children with difficulties in literacy.
2. What 'Dyslexia Friendly' means to the school.
3. Why they feel this initiative provides good outcomes to the school and the pupils, with regards to their learning and emotional wellbeing.

Design and Methodology

The aim of this study was not specifically to explore the outcomes of the school using a Dyslexia-Friendly approach, but to investigate what was happening in the classrooms that could explain why the outcomes occurred. By developing an understanding of the mechanisms that were occurring in the context, we could begin to see a potential pathway to supporting the initiative's implementation. Realistic Evaluation is essentially concerned with causal relationships. As Pawson and Tilley state, "an action is only causal if its outcome is triggered by a mechanism acting in context" (1997: 58). The act of being Dyslexia-Friendly, therefore, may only cause a positive outcome for the pupils if the mechanisms of teaching, learning, resources available etc, work within the context of the classroom. As Pawson and Tilley state, this formula forms "the conceptual backbone to realistic evaluation" (1997: xv), where programme theories aim to identify the mechanisms and contexts. Drawing on the knowledge from professionals concerned and the evidence base can therefore lead to developing initial theories as to the 'whys' and 'hows', which can then be investigated more thoroughly through appropriate data collection. These theories are referred to as CMO configurations, (context, mechanism, outcome configurations).

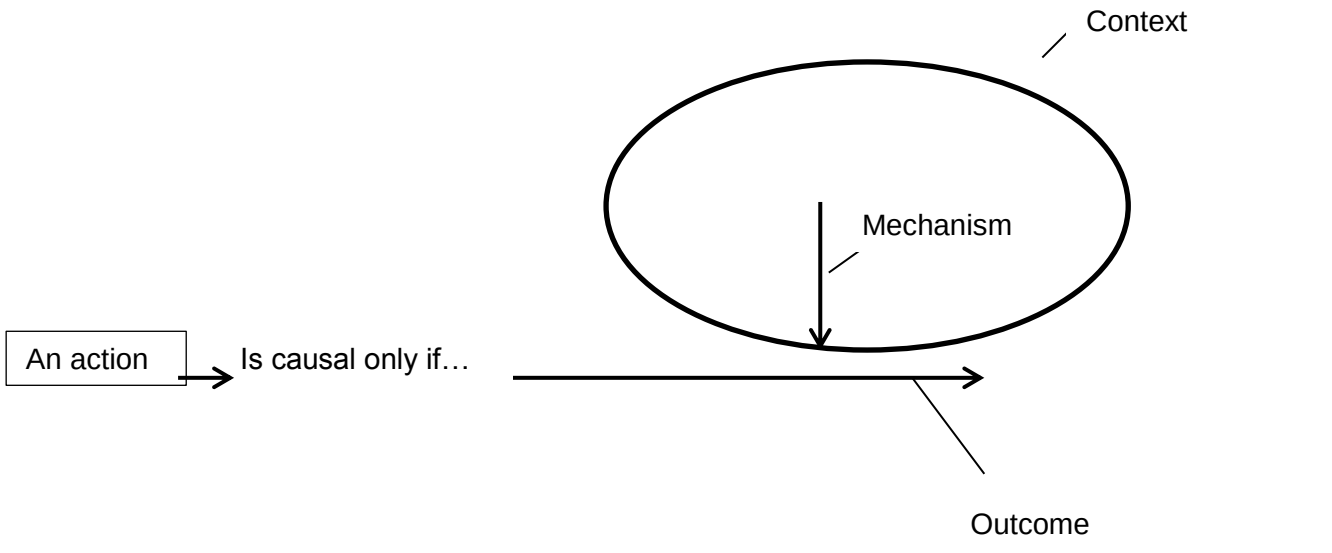


Figure 2: Generative Causation (Pawson and Tilley, 1997: 58).

A case study approach was used within this study, due to the likely inconstant nature of the implementation of the DFS initiative across multiple schools. By allowing focus on one school's use of this approach, it is felt that the 'whys' and 'hows' discussed above could be explored in a meaningful way, within the scope of this paper. By acknowledging the reality experienced by the staff and pupils of this school, this study was free in its exploration of the variables, using flexible methods of data collection, and allowing analysis specific to this social environment: a benefit of this method highlighted by Yin (2009). Although it is highlighted that case studies may have limited abilities to be generalised to other situations (Breakwell et al, 2000), the purpose here is not to contribute to the discourse in this way, rather it is to be generative in terms of explanations as to the actions being taken within this specific school's context which activate mechanisms leading to the outcomes of this dyslexia-friendly school (Pawson and Tilley, 1997).

The school in question was chosen due to its implementation of DFS initiative, within a geographically appropriate area to ensure ease of data collection. Once apprised of the desired research theme and process, the school committed to supplying time to interview staff, respond to questionnaires and share useful documents, with a view to supporting the continued development of their literacy provision and to contribute to their evaluation of their practice. The school was an average sized village primary school, with a majority of White British pupils on roll, and with below average proportion of pupils with SEN/disabilities or in receipt of free school meals. This opportunity sample is recognised as idiosyncratic in nature and potentially biased in terms of data selection, which in turn can question the ability for the study to be replicated. However, as Woodside comments, 'no one study can be replicated perfectly' (2010: 10) and this is not the intention. *This* social phenomena is the focus, as a means of generating potential theories about why they see the outcomes they do. It is also acknowledged that issues of reliability and validity within this qualitative study are potentially questionable, yet as those terms are traditionally associated with positivism, it is suggested that the nature of whether these findings are reliable and valid falls more into the

realms of whether the information uncovered is done so with 'trustworthiness, rigor and quality' (Golafshani, 2003).

Webb (2011) describes the procedure of undertaking a RE case study in relation to a school's implementation of a social and emotional learning curriculum. The procedure undertaken was adapted from Timmins and Miller (2007), and has been further adapted for the context of this research (see Table 2).

1	Undertaking a literature review and developing a programme theory comprising Contexts, Mechanisms and Outcomes (CMOs). (See Appendix 2)
2	Choosing research methods and participants in relation to the information gathered by CMOs.
3	Data collection through interviews and questionnaires and reviewing school documents on DFS.
4	Data analysis identifying the school's CMOs and comparing with the initial programme theory.

Table 2: RE procedure (Adapted from Timmins and Miller, 2007: 10 and Webb, 2011: 66).

The methods used in this study consisted of collating school documents regarding literacy teaching; a semi structured interview with the school's Special Educational Needs Coordinator (SENCO), who in turn supplied questionnaires from members of teaching staff. As this study was based on the values of collaboration and a 'researcher as partner' model, the idea for the SENCO to write and distribute questionnaires was welcomed (see example in Appendix 5). Interview schedules and transcription can be found in Appendices 3 and 4 respectively. School documents have not been supplied due to issues of confidentiality.

As described in the study's procedure in Table 2, the literature surrounding DFS was explored in order to create an initial programme theory. The CMOs created here were then 'placed to one side', whilst an effort was made to code the data from the school in as 'fresh' and unbiased way as

possible. The rationale behind this was to begin a line of enquiry related to the repeated calls from the protagonists in the dyslexia arena for a consensus and transparency of information in order to improve assessment, intervention and ultimately outcomes. As noted in the introduction, this study was not intended to provide evidence for the efficacy of the DFS initiative, however, the aim was to accept the school as expert in their belief that the approach was resulting in positive outcomes.

Findings

An initial programme specification was derived from the following sources (see Table 3):

- Johnson, M. Dyslexia-friendly schools: policy and practice (2004).
- Mackay, N. The case for dyslexia-friendly schools (2004).
- Pavey, B. The Dyslexia-Friendly Primary School: A practical guide for teachers (2007).
- Cochrane, K., Gregory, J., and Saunders, Dyslexia Friendly Schools. Good Practice Guide. Abridged version (2012).
- Norwich, B., Griffiths, C., and Burden, B. Dyslexia-friendly schools and parent partnership: inclusion and home-school relationships (2005).
- Coffield, M., Riddick, B., Barmby, P and O'Neill, J. Dyslexia Friendly Schools: What can we learn from asking the pupils? (2008).

Programme Specification

The school context should include:

Specific training in DFS, and ongoing support regarding it's' implementation for all school staff. This should include policy documents and literature regarding DFS available for all staff to refer to at any time. There should also be more general training for staff, regarding dyslexia and literacy differences, including the potential co-morbidity of the condition. Staff should show a commitment to using, multi-sensory teaching methods and resources, and differentiation for pupils with specific needs. This should include available staff and resources to support, or even complete, the writing tasks for some children, when the process of writing is not the focus of the lesson. Finally, parents should be aware of the means of contacting the school, and open lines of communication should occur regularly.

Mechanisms which should act on this context include:

The school is committed to a universal approach to literacy instruction and expects all staff to work together to achieve it. This should include commitments to supporting emotional wellbeing in learning, praising motivation and effort and not punishing children for any associated or potentially co-occurring behaviours (e.g., forgetting P.E kit, 'not listening'). Staff are also committed to using multi-sensory approaches across all of their teaching. Children made aware that literacy ability is not indicative of intelligence, and their strengths and positive differences highlighted and celebrated, leading to children being able to share ideas without relying on the ability to write it down. Children should also be given opportunities to practice and 'overlearn' basic phonological skills, and these opportunities pervade the curriculum rather than occurring purely during literacy lessons. Finally, parents feel consulted, supported and are able to contribute to decisions regarding their child's education.

Outcomes of these should include:

High levels of emotional wellbeing for all children, including good self-esteem, motivation for school work and positive self-image. Children will experience the learning style which best suits them, leading to higher levels of confidence, and they will not experience stress and anxiety when faced with literacy based tasks. Children will not feel pressure, and feel safety to practice all learning skills, in all areas of the curriculum. School staff will feel empowered and valuable in their profession, as well as well-equipped to support children with literacy differences. School staff and parents work actively together to support the child.

Table 3: Initial Programme Specification from relevant literature.

It is worth noting, as highlighted by Timmins and Miller (2007), that the development of an initial programme specification is very much dependent on the literature available. There is a limited selection of independent research into DFS, and this could potentially affect the accuracy of the, albeit already subjective, programme specification. However, it is suggested that the process of refining this, through data collection, should enable the aims of the study to occur: to explore *this* use of a DFS initiative; this initial programme specification should be a 'good enough starting point for inquiry' (Timmins and Miller, 2007: 12).

Initial investigations of data involved reading school documents. These were:

- Read Write Inc. literacy instruction guidance
- School created document regarding dyslexia.

In addition to this, a semi structured interview was undertaken with the SENCO, and questionnaires completed by some staff (see Appendices C, D, E). A theoretical thematic analysis was applied to all data (Webb, 2011), and although the process attempted to remain neutral when coding themes from the gathered data, it must be acknowledged that as the literature-derived initial programme specification was known well to the researcher, the themes may have been influenced by this knowledge. However, it is felt that this was not to the extent where any emerging themes were disregarded, but 'was more analyst driven and… involved coding for specific research questions which mapped onto a theoretical approach' (Webb, 2011: 84). An overview of the refined Programme Theories can be found in Appendix 6.

As seen in the Refined Programme Specification in Table 4, there are subtle differences from the Initial Programme Specification. These mainly centre on the training and literature available to school staff, in relation to both dyslexia and literacy needs generally and to the DFS approach. The school's approach is based on the SENCO completing formal training and combining this with self-researched information. This is then disseminated to all staff, who are expected to work within this management directed approach. There is no mention of continued support in maintaining a dyslexia-friendly classroom, and practical information is given regarding co-morbid needs, such as organisation and memory, rather than theory based training, however the mechanisms and outcomes are similar, despite the contexts being slightly different. The physical environment of the classroom is given more prominence in the Refined Specification, with emphasis on seating arrangements leading to less distraction, and peer support and learning. There is also more discussion centring on the non-pathologised nature of a literacy difference, and literacy being on a continuum of need. Subsequently there is focus on individualised programmes of support, and the outcomes include very specific improvements in literacy.

Refined Programme Specification

The school context includes:

Training on dyslexia experienced by the SENCO. Self-researched information regarding the practical instructions related to a DFS approach is disseminated to all school staff alongside 'in-house' training on specific interventions, such as Read Write Inc. Staff are expected to show commitment to using multi-sensory teaching methods and resources, and differentiation for pupils with specific needs. This should include available staff and resources to support literacy skills. The physical classroom environment is adapted to ensure children can work without needing to read off the board; posters and hand-outs are placed on walls and tables. Children are sat with a variety of peers across the school week.

Finally, parents are aware of the means of contacting the school, and open lines of communication occur regularly.

Mechanisms which act on this context include:

An increasing knowledge base regarding dyslexia, and the pedagogical approaches to literacy differences, enables a perception of need on a continuum and not IQ dependent: there is a clear culture of literacy success not being equated to levels of intelligence. The potential for co-morbidity of literacy need is understood.

The school is committed to a universal approach to literacy instruction and expects all staff to work together to achieve it. This should include commitments to supporting emotional wellbeing in learning, praising motivation and effort and not punishing children for any associated or potentially co-occurring behaviours. Staff are also committed to using multi-sensory approaches across all of their teaching. School staff perceive that literacy ability is not indicative of intelligence, and their strengths and positive differences highlighted and celebrated. Barriers to literacy learning are expected to be removed, and children are able to attend to tasks without unnecessary distractions. Children are given individualised opportunities to practice literacy skills in whole classes, small groups and in one to one sessions. Finally, parents feel valued and listened to regarding their concerns about their child's learning.

Outcomes of these include:

Consistent approaches and understanding by all school staff results in children having the same expectations and experiences across the whole school. Children are supported with other needs, such as organisation and memory strategies/resources. High levels of emotional wellbeing for children are witnessed, including good self-esteem, motivation for school work and positive self-image. Children make improvements in their literacy skills (reading age, spelling age, comprehension); vocabulary; thinking skills; handwriting and motor skills. Children experience the learning style which best suits them. School staff are well-equipped to support children with literacy differences. School staff and parents work actively together to support the child.

Table 4: Refined Programme Specification.

Discussion

Dyslexia, specific learning difficulty, literacy need, literacy difference are all terminologies which can be used either with intentional specificity, or interchangeably. The complexities of naming this area of learning can be hard to negotiate, yet for the purposes of this paper, the exploration centred on

the school's choice of wording and its related connotations. This school was happy to use the term dyslexia, but with the caveat that they are not in the business of treating it as a pathologised condition, requiring diagnosis, leading to distinct category of need. In line with Reason and Stothard (2013), the school perceived there to be a continuum of abilities that falls well within the 'remit of general education': it is a variation of 'normal' (Johnson, 2004). It is suggested that the school is working more within the definition given in the Rose Report (2009), and that using an alternative terminology will encompass more children more usefully. The idea of a literacy difference, as purported by the DFS agenda (Mackay, 2004) is suggested as a more apt term for this school to use, as it celebrates the differences of its pupils; as the SENCO states "they think differently about an answer… or give an alternative, or they can do things that are different". This study, albeit limited in its ability to generalise, could be said to disagree with Regan and Woods (2000), in which they state that most education staff would identify children as either dyslexic or not and it is further suggestion that the DFS approach may have contributed to this viewpoint. In the context of the inclusion agenda, DFS may aid an expectation of keeping these children within mainstream schooling. However, it must be acknowledged that this school's perceptions are not grounded strongly in a thorough and critical grasp of the extensive dyslexia evidence base. There has been some training for the SENCO, yet it was clear that the majority of the underpinnings to their classroom approach were value and practice driven, which calls in to question whether the explicit need for a consensus regarding theory, as called for by proponents of DFS. Moreover, the data identified here did not emphasise the requirement for intense training and knowledge of causation as bedrock to successful literacy practice. It is suggested that good practice, effective monitoring and 'knowing the school well' can result in improvements in literacy, as well as in emotional wellbeing, cognitive skills, physical development and parental relationships. In line with Stuebing (2002), this school do not see a need for different approaches dependant on the perceived intelligence of each child and like Vellutino et al proposes (1996), they do not use different methods of teaching dependant on those with *specific* literacy differences compared with *general* learning needs. Differentiation was

highlighted, yet this was individual to each child rather than to whether they have a literacy-IQ discrepancy.

Aspects of this research did share similarities with aspects of the dyslexia discourse. The Cerebellar Deficit Hypothesis (Fawcett and Nicolson, 2004) suggests the root cause of dyslexic difficulties lies with brain structure and function, leading to difficulties with automising cognitive and motor skills. This study found support for the co-morbid needs of literacy difference and memory, processing, organisation and balance that are perceived to occur for some children in this school. The school discussed using balance based interventions and coloured overlays to support these children, but noted they "may or may not work… [these children] have significant anxiety levels…and really low self-esteem, so if this boosts their confidence and it's going to make them feel better, then does it matter if it works or not?" It is suggested that this approach is more than just a potential placebo effect, that it encourages children to feel valued and worth investing support in. It is interesting to note that the school did not discuss knowledge of the theoretical underpinnings of these approaches, rather what mattered to them was seeing the positive effects of the interventions, in terms of emotional wellbeing: the value of intervention lies in observable benefits, even if not explicitly related to literacy.

A specific literacy intervention used in this school (Read Write Inc.), did appear to support the Phonological Deficit Hypothesis (Savage et al, 2005), which they saw as a beneficial approach. The school would implement daily phonics teaching and used a phonological method of teaching spelling, seeing observable improvements in skills for children with and without literacy needs, as highlighted by Singleton (2009). It is suggested that this theoretical underpinning lends itself to creating useable and effective intervention in classrooms, yet the theory itself may not be fully understood by the school, in its' academic context. This school's practice was not dependant on theoretical standpoints, but rather based on the 'real world' of literacy differences: the individual child in school.

Key aspects of DFS practice were described as occurring in this school: inclusive classrooms, effective monitoring, review of whole school policies, multi-sensory methods, materials and teaching approaches, and acknowledging learning styles (Mackay, 2004; Pavey, 2007). As Reid and Strnadova comment, these things will lead to a mechanism of valuing and supporting children in boosting their self-esteem as learners, a 'principle priority' of the DFS approach (2008: 372). However, it is felt that these aspects of teaching and learning are all fundamental in a model of 'good practice'. Throughout exploring the DFS literature and the data in this study, it is clear that the approach is centred on quality teaching, based on knowledge of supporting individual children in a whole class setting, yet the content which relates purely to those with dyslexia is less obvious. It is accepted in this paper that the practice of the case study school is outstanding. Although it is felt that the school refer to the implementation of the DFS framework as crucial to their good practice, the use the literacy difference as a central theme seems unnecessary. It is suggested here that the key foundation of this school's success is in valuing its students, parents and staff, and subsequent positive outcomes of emotional wellbeing, self-worth as learners, teachers and carers. It is acknowledged that the DFS approach has been useful in supporting the school's caring philosophy, yet the dyslexia specific aspects (such as consensus of theoretical understanding, and knowledge of dyslexia discourse) are not apparent. Although the approach emphasises 'what benefits children with dyslexia, benefits all children' (Pavey, 2007:4), it is suggested here that it is in fact *what benefits all children, benefits children with special educational needs.* This is not to suggest that no specific need-based interventions should occur, rather it is suggested that the underpinnings of good practice should prevail as the fundamental starting point for all classrooms.

The focus of this paper was to explore the CMOs associated with an individual school's implementation of a DFS approach. RE allowed for exploration of dyslexia theories, investigation of DFS policy and underpinnings, and practical implementation in a school, leading to the suggestions of why it was beneficial detailed below. Moreover, RE allowed identification of the potential order of action, that is, areas of generative causation: which mechanisms acted in the contexts to cause the

outcomes; crucially the context was recognised as fundamental to the whole process allowing the beginnings of understanding why the DFS initiative may work in some schools and not in others. Furthermore, by accepting the school's perceptions as truthful, the relationship between researcher and participant was trusting and fruitful. There are some limitations with this however, as we are accepting the participant's perception of reality. As Pawson and Tilley state,

> realist evaluation promises no certitude and it eschews efforts at being comprehensive. Again as in the natural sciences findings are tentative and fallible (2004: 23).

This would suggest the need for further investigations to occur, to explore other contexts in which DFS are occurring. There could be further criticism with regard to the lack of 'hard' data in this study. Based on a qualitative approach, there is no data which explores the frequency and intensity of the mechanisms discussed in this school's context; there is no data representing the attainment improvements made by pupils that are described by the SENCO; there is no record of pupils' levels of emotional wellbeing. There is potential that the qualitative information gained could have been based on the 'good news' that the SENCO shared (Pawson, 2013), and therefore may have limited the approximation to gaining the 'truth': what is happening at the ontological levels of the *real* and the *actual.* Future research should also acknowledge that the main source of information in this study came from one individual. Throughout this paper, the school's views are represented by the SENCO. Although it is suggested that the SENCO takes responsibility for the development, training and implementation of initiatives, it cannot be certain that this is the only view of practice in the school. Studies which take a wider group of participants would be valuable, alongside a larger variety of individuals included. It is suggested that particular value would be obtained by including the pupils themselves, to explore their perceptions of what is useful in their classrooms, what aspects of their experience contributes best to their literacy development, and what support makes them happiest in their learning.

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APPENDICES

Appendix 1: Guidance on Dyslexia-Friendly Schools

Guidance on Helping Teachers to Create Dyslexia Friendly Classrooms

This is an excerpt from a longer "Guidance for Supporting Pupils with Dyslexia" document developed by Birmingham City Council's Pupil & School Support Service in consultation with the Educational Psychology Service for Birmingham.

The dyslexia friendly classroom

 uses structured – multi sensory techniques as standard, teaches to "catch all"

 ensures IEP's identify concrete steps towards

 progression and involves pupils in target setting

 differentiates appropriately : by task / by outcome /by learning style and preference

 ensures activities 'include' rather than integrate

 provides appropriate additional support

 develops a co-operative classroom culture of peer support

 raises self – esteem

 encourages questioning

 allows more time for tasks

 keeps instructions short and issues one at a time

 breaks down longer instructions into smaller chunks

 repeats key phrases and words

 checks for understanding

 ensures that pupils can see the board

 incorporates working walls to show learning progression

Other features might include:

 sitting pupils with dyslexia near the front next to a well-motivated and supportive study-buddy or have a print-out available of what is on the interactive whiteboard

 well equipped classrooms with clearly labelled learning support resources

 allowing plenty of time for challenging activities

 watching out for fatigue/ tiredness

 extra time allowed for finishing written work

 breaking down activities into smaller tasks

 planning for over learning

 giving plenty of praise and positive feedback

 checking that pupils are keeping up and not just sitting passively

 allowing thinking time

 pre tutoring

 peer work

 marking for success e.g. in a word tick all the correct letters

 interactive whiteboards – use of a standard font

 pale coloured paper and or /overlays

 handouts - recommended font Sassoon, Comic Sans font size 14

Dyslexia friendly lessons

 clear expectations and routines

 variety in teaching and learning approaches

 strong assessment for learning emphasis

 clearly communicated learning objectives

 reinforces and builds on prior learning

 utilises a range of teaching and learning styles

 provides the opportunity for group work

 provides scaffolding to support the learning i.e. writing frames, ICT

Strategies to aid reading

 consider reducing quantity/ complexity

 text checked for accessibility

 interest level of text is checked

 books on tape

 use visual aids

 memory aides : key characters, timeline, concept maps, plot overview

 use reading aids – ruler/card to keep place

 paired reading

 flashcards which are linked i.e. opposites, words that have the same beginning/ending

 present new words in small batches of no more than six at a time

 restrained use of black/white board, write in different colours

 peer tutoring

 texts are given ahead of time for practice purposes

Strategies to aid writing

 ICT – word processors/ assisted technologies

 provide a scribe

 teach handwriting in small groups using continuous cursive script

 physical writing aids – pencil grips

 marking for success

 mark work together using a consistent marking code i.e. two colours, one for content and another for presentation / spelling

 consider alternatives – oral presentations, taping, diagrams, mind mapping

 writing frames are used to support writing tasks

 model tasks

 clear instructions

 time to listen

 use of visual prompts

Strategies to aid spelling

 key word banks

 phonetic dictionaries

 mnemonics

 use of spell checkers

 use spelling buddies

 spelling tests are short and differentiated

 rhyming skills are taught visually and aurally

 use of a thesaurus to locate words

Strategies to aid memory

 colour code lessons/books to help with organisation

 visual timetables

 cue cards/actions

 personal dictionaries/glossaries

 visual/memory aids

 mind maps

 pocket notebooks / personal checklists/ planners

Use of ICT

 ICT is a useful tool for adapting practice, it can provide:

 access to information in forms that involve less or no reading e.g. visual/audio

 a means of recording information without spelling disrupting fluency e.g. spell- checkers

 specific reading and spelling support

 multi-sensory feedback

 an independent way of working

 a non- judgemental environment for dyslexic learners.

 a planning tool before starting to write

 digital cameras can record practical activities and the image annotated in a pupils work.

Use of ICT can also raise self esteem and confidence.

Examples of software that support dyslexic learners:

 Phonics : Word Shark 4, Clicker , phonics in Clicker 5, Lexion

 Reading: Oxford Reading Tree, Rapid Reading, Talking word processors such as Clicker 5, Communicate in Print.

 Writing: Clicker writer, Dragon Speak Naturally, Clicker 5 talking books, Write out loud

 Portable writing aids – Alpha smart, Toshiba notebook

 Mind-mapping tools – Inspiration ,Write on Line

Appendix 2: Initial Programme Theories (PTs)

	CONTEXT	MECHANISM	OUTCOMES
PT 1	Provision of training and support for class teachers and TAs regarding DFS, to impart mechanism.	Supportive of emotional wellbeing: Praising motivation and effort, not success. Acknowledgement of resulting behaviours, and not punishing for frustration Clear culture of literacy success not equalling intelligence.	Emotional wellbeing in children leading to continued motivation in literacy. School staff are empowered and well-equipped to support children with literacy needs.
PT 2	Training and knowledge held by staff regarding potential causes and effects of dyslexia.	Understanding of co-occurring difficulties	Child supported with other needs (memory/sequencing etc)
PT 3	Additional resources and staff available to children	Computers/scribes/alternative communication methods allowed	Child not reliant on writing, can get ideas down without 'failure', leading to reduced stress and anxiety in children regarding writing.
PT 4	Multi-sensory teaching environment and resources available.	Teacher encourages use of multi-sensory approaches	Children experience chance to use learning style most suited to them
PT 5	Differentiated teaching	Opportunities to practice phonological skills, over and above other pupils. Link phonological skills with other literacy learning.	Children experience safety to practice, no pressure to succeed immediately. Literacy skills, generalised and used in other contexts.
PT 6	Parents as partners: Open, honest and supportive relationships with teachers. School's make communication systems easy and stress free.	Parents are supported and listened to.	Parents and school work together to support the child resulting in secure and consistent learning environments for the children.
PT 7	School policy and documentation related to literacy, available and recommended to all staff.	Enables a development of understanding and focussing of knowledge in line with the school's perspective on instruction.	Teaching staff commit to a unified approach of literacy instruction and classroom management.

Appendix 3: Interview Schedule

- Introduce self
- Introduce study and purpose: Using an approach that is interested in the context/environment of your approach in school to working with children with literacy difficulties, why it works here, and what skills you and other staff bring to it.
- Reassure confidentiality and anonymity
- Exploratory study – no right or wrong answers – your opinion, your experiences, your school
- If you don't want to answer something, please say.
- If you'd like to take a break, or stop, please say. If you would like to withdraw from the study, you can do so at any time before the end of March. After this time, your data will have been anonymised and used in the study's final report and so won't be able to be withdrawn.
- The interview should only take approximately 45 minutes. Are you happy for me to use a voice recorder?
- Do you have any questions? Are you happy to continue? – Sign consent form.

Can you tell me a little about your role in school

- How long worked here, how long SENCO, What experience to take on SENCO role, any subsequent training relevant to literacy difficulties? Idea of rough proportion of children in school with literacy difficulties?

What training do class teachers and TAs get regarding dyslexia/SpLDs?

- At uni? - On the job training? - Supported by previous SpLD teachers?

What is the school's position on dyslexia?

- What do you understand by the term 'dyslexia'? Deficit model, or needs led?
- Do you use a specific definition?
- Are diagnosed dyslexics viewed differently to others with poor literacy skills?
- How do you feel about the idea that you either are, or aren't dyslexic?
- Is there a difference between dyslexics and other poor readers/spellers?

Does the severity of the dyslexia or literacy difficulty change according to child?

- Can this be indicated by how they respond to intervention?

From your experience, are there any other co-occuring needs? (Memory, sequencing skills, language, motor coordination, mental calculation, concentration, personal organisation)

- Should these lead to diagnoses, or can 'just' literacy difficulties be enough?

How much can these children be catered for in the mainstream classroom?

When will specialist services get involved?

- Specifically, when would you request EP involvement?

Within the classroom, what support do children with literacy difficulties get?

- Differentiation of content? - TA support? - Extra resources to complete same/similar tasks?
- Computers/scribes? - Following specific approaches: IDP?; Waves of intervention; National Literacy Strategy; other recommended interventions (who recommended?)

What resources/ approaches/ interventions do you feel are most successful?

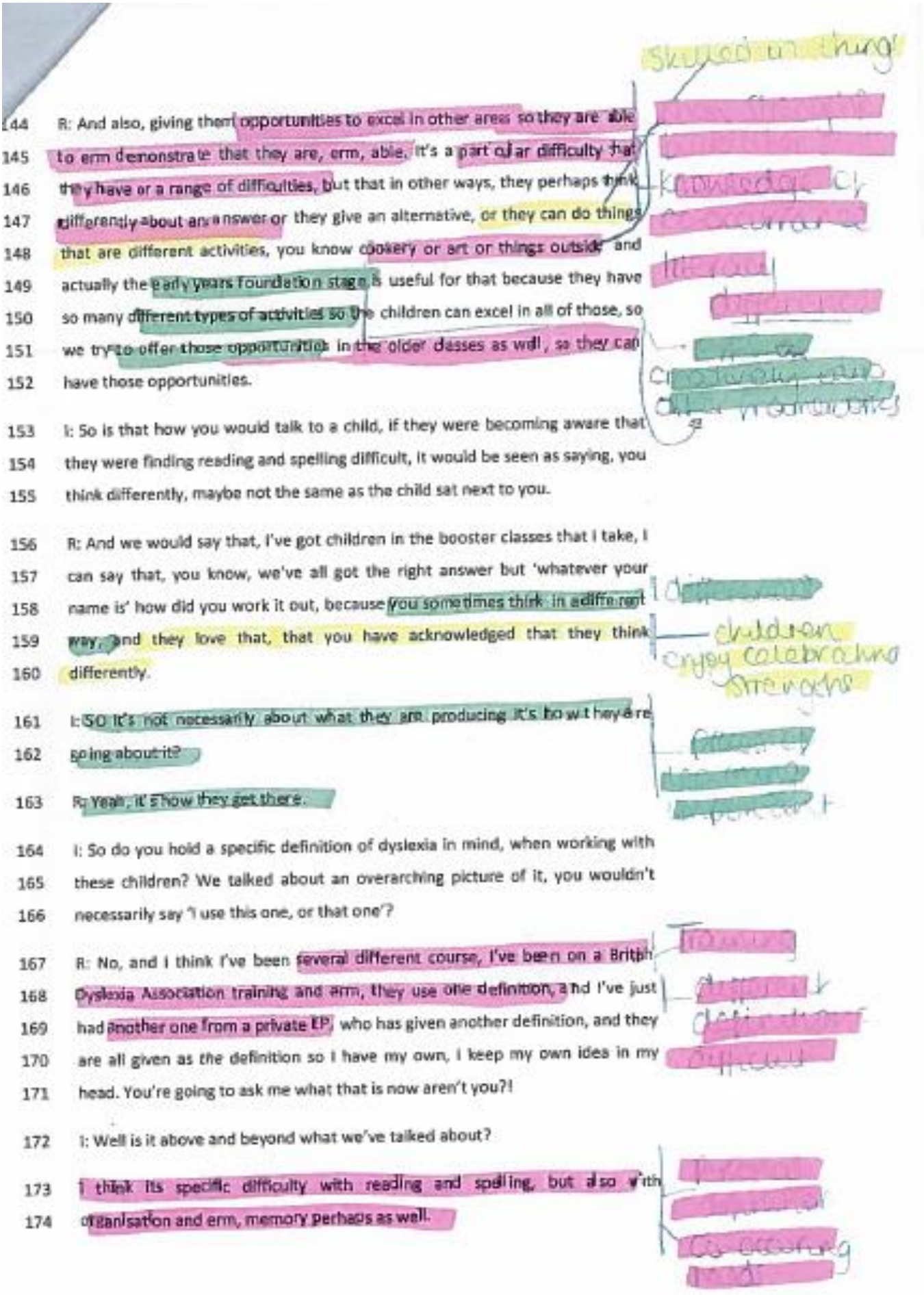
What is it about these things that make them work?

How do you monitor and evaluate individual progress?

How involved do parents of children with literacy difficulties get in their education?

- Are there specific 'literacy conversations' other than in parents evenings etc?
- Do parents ask about their children's dyslexia, do you feel they understand?
- Will parents support learning at home? Opportunities for this? Specific strategies to encourage this?

Appendix 4: Transcript (with codes)



144 R: And also, giving them opportunities to excel in other areas so they are able
145 to erm demonstrate that they are, erm, able, it's a particular difficulty that
146 they have or a range of difficulties, but that in other ways, they perhaps think
147 differently about an answer or they give an alternative, or they can do things
148 that are different activities, you know cookery or art or things outside and
149 actually the early years foundation stage is useful for that because they have
150 so many different types of activities so the children can excel in all of those, so
151 we try to offer those opportunities in the older classes as well, so they can
152 have those opportunities.

153 I: So is that how you would talk to a child, if they were becoming aware that
154 they were finding reading and spelling difficult, it would be seen as saying, you
155 think differently, maybe not the same as the child sat next to you.

156 R: And we would say that, I've got children in the booster classes that I take, I
157 can say that, you know, we've all got the right answer but 'whatever your
158 name is' how did you work it out, because you sometimes think in a different
159 way, and they love that, that you have acknowledged that they think
160 differently.

161 I: So it's not necessarily about what they are producing it's how they're
162 going about it?

163 R: Yeah, it's how they get there.

164 I: So do you hold a specific definition of dyslexia in mind, when working with
165 these children? We talked about an overarching picture of it, you wouldn't
166 necessarily say 'I use this one, or that one'?

167 R: No, and I think I've been several different course, I've been on a British
168 Dyslexia Association training and erm, they use one definition, and I've just
169 had another one from a private EP, who has given another definition, and they
170 are all given as the definition so I have my own, I keep my own ides in my
171 head. You're going to ask me what that is now aren't you?!

172 I: Well is it above and beyond what we've talked about?

173 I think its specific difficulty with reading and spelling, but also with
174 organisation and erm, memory perhaps as well.

Appendix 5: Example questionnaire

Year Group:

Dear Teachers,

I have been asked to help out our trainee Educational Psychologist by being interviewed by her. Her doctorate is based on how school's work with children who may be on the Dyslexic Spectrum.

Please could you help me out by scribbling down the answers to one or two questions- the interview is tomorrow afternoon! Please put completed questionnaires in my drawer-THANKYOU!

1. What interventions (either formal ones from me eg WASP, or informal such as writing down the WALT/date for them) are you using in order to help with reading and spelling?

Some children are given extra support 1 to 1 outside of the classroom. Signs around the classroom are large and displayed on bright cards.
- Word banks and alphabet lines are easy accessible.
- Labels are printed with the labels and dates for the children.
- The RWI sounds are revised daily and displayed around the classroom.

2. What specific resources do you use? Eg overlays, ICT, task lists?

- Word Banks.
- Alphabet lines.
- RWI cards
- Rulers/cards/pointy finger - when reading.

3. What adaptations do you make as a teacher?

- Check child understands task.
- Remind them of the resources they may need.
- Don't make them copy from the board - use word banks, whiteboards, alphabet lines.

Appendix 6: Refined Programme Theories (RPTs)

	CONTEXT	MECHANISM	OUTCOMES
RPT 1	Dyslexia knowledge held by SENCO.	Training and self-researched information increased her knowledge of how to best to teach children experiencing literacy differences. Dyslexia and literacy difference viewed as a continuum. Understanding potential co-morbidity of literacy difference.	Knowledge enables dissemination to all school staff, and subsequent consistent pedagogical approach across the whole school. Children supported with other needs (memory/sequencing). Children experience improvements in handwriting and motor skills.
RPT 2	Expectation of literacy needs knowledge held by all staff.	Class Teachers and Teaching Assistants are taught the DFS approach and specific intervention procedures as perceived by the SENCO. Supportive of emotional wellbeing: Praising motivation and effort, not success. Acknowledgement of resulting behaviours, and not punishing for frustration. Clear culture of literacy success not equalling intelligence. Staff work collaboratively across the school.	School staff are empowered and well-equipped to support children with literacy needs. Emotional wellbeing in children leading to continued motivation in literacy. Expectations and experiences for children are consistent across the whole school. Graduated response to need in place leading to individualised support and progress across attainment.
RPT 3	Additional resources and staff available to children	Computers/scribes/alternative communication methods allowed removing barriers to literacy learning.	Children are focussed on the most important aspects of learning within each task by reducing time and effort spent on lower priority tasks (e.g., writing task titles/date).

RPT 4	Multi-sensory teaching environment and resources available.	Respecting individual differences in learning styles.	Children feel valued as learners, less frustrated and included. Children develop preference for learning style and develop a sense of themselves as a learner which impacts motivation.
RPT 5	Physical environment adapted to class need. Seating arrangements and classroom setup avoid need for reading off the board for majority of the lessons.	Children experience sitting in mixed ability groups, with different peers across the week. Children have opportunity to learn from each other. Children able to attend without extreme distraction.	Children make improvements in vocabulary, comprehension, and thinking skills.
RPT 6	Differentiated teaching	Opportunities to practice literacy skills, in whole class, small groups and 1:1 depending on individualised need.	Improvements in reading age and spelling age scores
RPT 7	Parents as partners: Open, honest and supportive relationships with teachers. School's make communication systems easy and stress free.	Parents feel valued, supported and listened to.	Parents engage well with staff leading to increased consistency between home and school.

CHAPTER THREE

Babies' brains, social policy, and the educational psychologist: A critical review of what we are telling parents.

ABSTRACT

This report serves to review the current neuroscientific literature surrounding brain development in infants. In particular the application of this literature will be considered in the context of social policy and an area of EP practice; delivering the Solihull Approach parenting group. Originating in the USA, policy has been built around the purported need for intervention in the lives of disadvantaged children, in their first three years. UK policy has embraced the 'first three years' agenda, often citing brain-based research as the evidence for negative neurological outcomes should we not intervene. However, reviewing the research regarding brain structure and function has highlighted the complexities of understanding what is occurring in children's brains: that different regions undergo different periods of growth and reductions of synaptic connections, which may not always correlate to the behaviours a child may show. Moreover, ongoing plasticity has been evidenced, and developments occur into adulthood. The neuroscience used to support the application of enrichment interventions is explored, and suggested as incomplete. The evidence for this often comes from animal studies, or from cases of extremely negative experiences for children. Caution is advised against taking the evidence as 'factual', in applications to families of non-extreme experiences. Finally, EPs are recommended to carefully consider the content and manner in which neuroscience is shared with parents, to avoid becoming the expert to families, and 'doing to them', not 'doing with them'.

INTRODUCTION

The impact of brain research is reaching far beyond the sphere of neuroscience, and into the realms of education, health and welfare; and being driven by the media into parenting literature. Of particular interest is the often-uncontested way it pervades discourses, influences assumptions and determines social policy. O'Connor and Joffe summarise the concepts thus, "this neuroscientific framing of development holds that early experiences inscribe themselves on a child's brain, and it is this organ that carries childhood influences into adulthood" (2013: 297). The authors continue to highlight how this "preoccupation" is unambiguous within public awareness. Part of the current policy agenda noted above, in both the UK and the USA, discusses the requirement of 'enriched experiences' to grow healthy children, in relation to their cognitive, psychological and social outcomes. The 'first three years' is often cited as the optimal time within a developing infant's life, in

which these attuned, responsive experiences should occur (see Allen and Duncan Smith's paper on Early Intervention for a summary in a UK context, 2008). It is noted here, and explored in more detail later, that 'experiences' could be more accurately equated with 'parenting'; moreover 'parenting' could be arguably equated with 'mothering'. These concepts will be explored within this report, with attention given to how neuroscientific theory has been used (and misused) within the social policy field.

Popular parenting literature often contains explicit neuroscientific theory to support the early experiences enrichment agenda (for examples see *Why Love Matters,* Gerhardt, 2004; *The Baby in the Mirror,* Fernyhough, 2009; *The Wonder Weeks,* van de Rijt and Plooij, 2010). Furthermore, the factual presentation of these theories does not include alternative explanation, critique or exceptions. A section of this report serves to review the literature surrounding how babies' brains develop. Moreover, it serves to offer explanations of the developing brain, in terms of its structure and function as categories distinct from the associated behaviours a child may display.

Neuroscience and infant development can be seen as issues pertinent to the practice of psychologists. In particular, child (and therefore, brain) development knowledge can be seen as encompassed within the role of an educational psychologist (EP). As a Trainee EP, within my current Local Authority (LA), there has been a drive to support children and families at a community level. This work often occurs within the Early Years strand of our practice. Adaptations to our service delivery have resulted in allocated hours given to work within children's centres and in community settings, particularly in the form of offering individual and group support to parents. With the current interest in infant mental health and brain development, the Solihull Approach (see Solihull Primary Care Trust, 2011) has been utilised as a framework for practice, within this LA. EPs have been trained on the general principles, and many have been offered facilitator training to be able to run parenting groups and training to other professionals. Although the focus of the Solihull Approach has not been early brain development in its entirety, aspects of neuroscience are discussed within it.

This intervention presents baby brain literature to the participants, with a view to sharing understanding of what is happening for their child, and how to support their ongoing development. It is from this perspective that my own interest has peaked, with regards to exploring what we are telling parents about the neurology of their babies, and whether this information is based on current knowledge and research. Aspects of the Solihull Approach that utilise neuroscience will be reviewed in this report, within the context of the current neuro-research and social policy. Particular emphasis will be placed on baby brain literature, including exploring structure, function and links to behaviours and outcomes. The aim will be to explore the suitability of applying neuroscience to EP practice, when working with parents and families of young children.

LITERATURE REVIEW

A thorough literature search was conducted using findit@bham: including Cambridge Journals Online, EBSCO, ERIC, IngentaConnect, JSTOR, OVID, PubMed, Swetswise, Wiley, etc; and Google Scholar, and the key words: neuroscience; neuropsychology; baby brain; AND environment; experience; early intervention. A snowball technique, of following up references in the initial articles, was used to extend the review of literature beyond the first search. Further papers were then searched for, with regards to the specific topic of interest (infant brain structure; brain function; Solihull Approach).

Neuroscience, child development and social policy

Almost 25 years ago within the USA, 'the decade of the brain' was announced. A proclamation statement made by George W. Bush stated the intention was, "to enhance public awareness of the benefits to be derived from brain research" (Bush, 1990). Neuroscience was firmly placed on the national agenda, with many domains accessing and utilising brain-based research within their policy-

making. Particular focus was placed on the first three years of life, with documents such as *Starting Points* (Carnegie Corporation, 1994) and *Rethinking the Brain* (Shore, 1997) stating explicitly that many children three years and under were at great risk of insufficient development due to chaotic and stressful home environments. Early intervention policies and legislation were created, often with an overwhelming certainty of how brain research had informed them:

> The brain development that takes place… in the first year of life is more rapid and extensive than we previously realized… The influence of early environment on brain development is long lasting …not only the number of brain cells and number of connections among them, but also the way these connections are "wired" (Carnegie Corporation, 1994: 3)

In response to these reports, Dr Bruer documented the misuse of the science surrounding them (1999). His overarching theme was regarding the inclusion of neuro-research: the research used in these reports and subsequent policies was more often of a behavioural nature (such as psychology and sociology) than it was neuroscience. Bruer claimed there was nothing new in the reports, stating more recently that "neuroscience was chosen as the scientific vehicle for the public relations campaign to promote early childhood programs more for rhetorical, than scientific reasons" (Bruer, 2011: 2). Although his critique was well supported by other authors (see Dawson et al, 2000; Cichetti and Toth, 2000; Wastell and White, 2012), Bruer still claims that the pseudo-neuroscience that was, has continued in its focus and certainty, to create and maintain early intervention policies.

Within the UK, neuroscience and social policy links have been more recent. 'Early Intervention' was championed by New Labour and subsequently inherited and developed by the Coalition government. As summarised by Featherstone et al,

> This is a future-oriented project building on elements of social investment and moral underclass discourses. It incorporates an unforgiving approach to time and to parents—improve quickly or within the set time limits. It is shored up by a particularly potent neuroscientific argument which has been widely critiqued from within neuroscience itself (Bruer, 1999; Uttal, 2011) but is unchallenged in current policy (2013: 4).

A government-commissioned report called for all professionals to unite under a banner of early support for troubled families. The publication, *Early intervention: Good Parents, Great Kids, Better Citizens* (Allen and Duncan Smith, 2008) discussed the need for co-ordinated working to increase the competence of "inadequate" parents, and consequently raise the life outcomes for their children. Brain development research features within the report, as an explanation of the supposed "irreversible vulnerabilities of early childhood" (Wastell and White, 2012: 398), and ultimately lays the blame of poor neurodevelopmental outcomes at the door of early experiences in the home. Interestingly, the report periodically strays into comments regarding the levels of maternal responsiveness to infants, suggesting that the more positive stimulation a baby receives from its mother, "the more brain cells and synapses it will be able to develop" (Allen and Duncan Smith, 2008: 57). Evidence for such claims will be explored in more detail later, but it must be noted here that although the document claims to be discussing wide ranges of enriched experiences as being ideal, the initial cause of negative outcomes is associated with the *mother's* parenting. Furedi notes that 'parent-blaming' is nothing new in modern social policy (2001), yet it is noted here that the mother is implicitly suggested as being central to the cause of the child's difficulties. Perhaps, more interestingly, this 'mother-shaming' approach is not compatible with the very research on which large amounts of this report are based: Bruce Perry's suggestions that changes in *society* have resulted in limited opportunities for children to encounter multiple relational experiences, within the family and wider community (see Perry's 2014 presentation for a summary).

A later document, *Next Steps,* discusses "the wrong type of parenting" leading to detrimental brain development in infants (2011: xiii). Wastell and White (2012) have scrutinised this document, and its' supposed neuroscientific evidence base; a summary can be found in figure 1.

- 59 uses of the word 'brain'.
- The report states that structural brain development occurs prolifically during the first three years of life;
- Yet, the three studies cited as evidence for this all describe the plasticity of brain throughout development and into adulthood.
- The report uses an image of a neglected child's brain, showing it is significantly reduced in size and appears shrivelled;
- Yet, no information is given in the primary source of this image, regarding the case history of the neglected child.
- The report states, repeatedly, that instances of trauma and neglect lead to damage (i.e., fewer synapses, elevated levels of stress hormone) in the brain;
- Yet, no literature is cited for these claims.
- The report cites a paper by Dawson et al (1994), suggesting that children of depressed mothers exhibit negative psychophysiological changes;
- Yet, the primary source itself actually found the children exhibited more positive changes, on separation from their mothers.

Figure 1: Summary of Wastell and White's (2012) analysis of the evidence base used in Allen (2011).

Ultimately, the early intervention agenda seeks to foster support from LAs to intervene with families. Further discussions occur in other papers about what it might mean to intervene (for example, the increases in child removal from the family, see Featherstone et al, 2013), yet that discussion will not fall within this report. Intervention will be placed within the context of EP practice, more specifically in terms of offering support and guidance to parents in a preventative approach. However, we must first explore the neuroscientific evidence base to extrapolate why there are claims we should intervene at all.

Baby's brains: structure, function and behaviours

The structural development of the human brain has been of interest to researchers for many years, albeit with changes in the methods used to investigate this, as new technology has allowed it. Initially, small scale post-mortem analyses had been conducted, which may be critiqued for their confounding factors (such as concurrent illness, cause of death, post-mortem degeneration etc), it is suggested that more recent techniques have validated their findings (Casey et al, 2005).

Developmental positron emission tomography (PET) scan techniques are more current, yet these studies were often only conducted with clinical samples of children with coexisting neurological needs (Johnson, 2003). However, MRI scans, as the less invasive choice, can reveal some interesting data when utilised on healthy child populations (Durston et al, 2001).

Belsky and de Haan (2010) state that 8-16 weeks post-conception babies neuronal development is prolific, creating up to 200,000 neurons per minute. By birth, it is estimated that babies are born with 100 billion neurons (DiPietro, 2000). Although previous suggestions were made regarding these being the full complement of neurons, Erikson et al (1998) have suggested that new neurons are still being developed within the adult brain, albeit at a slower rate. The neurons present at birth are often described as isolated or unconnected, suggesting that the synapse connections between neurons which allow the transfer of information are very limited before birth (DiPietro, 2000). However, this has been revealed to be too simplistic a notion; studies have identified that synaptogenesis, that is the process of neurons developing connections, begins early after conception in the cerebral cortex (the outer surface of the brain) (Zecevic, 1998). Although this process is not complete in comparison to the adult brain, it has certainly begun its journey prior to birth. Belsky and de Haan continue to state that different areas of the brain have different timescales for synaptogenesis, with visual systems achieving maximum capacity by four months post-birth (Huttenlocher, 1990), and the prefrontal cortex achieving capacity at approximately three years old (Huttenlocher and Dabholkar, 1997).

DiPietro (2000) states that the newborn brain weighs a quarter of its adult size, the process of synaptogenesis accelerates growth significantly within the early years. By aged five years, it is suggested that overall brain size is similar to that of an adult (Durston et al, 2001). Although here we are discussing when synaptic density and brain growth is increasing, this is not to say that once capacity is reached infants have a fully mature brain.

Synaptic pruning is the process of strengthening and stabilising commonly used and important synapses, and the deterioration and deletion of connections that are obsolete. As Belsky and de Haan comment, “at the same time the brain is growing and increasing in size and complexity, seemingly ‘regressive’ events are also occurring… the number of synapses increases above the level observed in adults and remains at this level for some time. Then, synapses are eliminated until the adult number is reached” (2010: 411). As with the synaptic growth, pruning occurs at different times in different areas of the brain. Huttenlocher suggests that synaptic pruning does not begin in the prefrontal cortex until approximately age seven years, and does not reach stability until adolescence. In the visual cortex, pruning begins at six months, reaching stability at approximately five years of age (1999). The relative stability of overall brain size is therefore suggested as related to the ongoing balancing act of increases and decreases in structures, in differing areas of the brain, at different intensities, and at different times (Durston et al, 2001).

As noted previously, brain regions associated with sensory skills appear to mature sooner than areas of more complex cognitive processes. Suggestions have been made regarding the need for timely environmental stimulation to develop appropriate vision (see Hubel and Weisel, 1970 for their study regarding the critical period of visual development in cats), and early language discrimination skills (Kuhl et al, 1992). Moreover, there is no evidence that enriching these environmental qualities will increase or accelerate these developing skills (DiPietro, 2000). In addition, Bruer (1998) highlights that these critical periods have not been evidenced for intellect and emotion.

It is interesting to note that it is now commonly accepted that both the creation of neurons and synapses, along with synaptic pruning, are fundamental processes of successful development. It is not the case of ‘the more the better’, “it is abundantly clear that more synapses does not mean greater intellectual prowess” (Wastell and White, 2012: 403). Moreover, “this loss of synapses… does not reduce the range of behaviours but may be related to the stabilisation of important networks of neurons in the brain” (Belsky and de Haan, 2010:411). The suggestion is that in order for

a brain to mature, the ongoing processes of pruning are crucial, throughout infancy, childhood, adolescence and into adulthood. Although we are interested in what factors are important in these processes (genetics and/or experiences; this will be discussed later), at this stage it is suggested that brain development is not limited to the first three years of a child's life. As neuroscientist Goldman-Rakic herself stated, "While children's brains acquire a tremendous amount of information during the early years, most learning takes place after synaptic formulation stabilises", that is, during the school years (cited in Bruer, 1999: 86). As many studies are now attempting to link structural brain development, brain function and child behaviours, the supposed 'critical period' of brain development seems to last well beyond the first three years, in contrast to the views of the previously discussed social policy.

Neuroscience has been fundamental in determining the neuroanatomical structure of the brain, yet it seems that many of the purported brain functions associated with those structures have been driven by more behavioural studies, as noted earlier by Bruer (1999). Furthermore,

> To date, much of the research attempting to relate brain to behavioral development in humans has been from a maturational viewpoint in which the goal is to relate the maturation of particular regions of the brain, usually regions of cerebral cortex, to newly emerging sensory, motor, and cognitive functions (Johnson, 2003: 1313).

Johnson continues to highlight how this simplistic explanation, however tempting, does not have consistent evidential support. Studies have aimed to show an infant's success at a particular task relates to the hypothesised brain region's maturity, yet "some of the regions that are slowest to develop by neuroanatomical criteria show activity from shortly after birth" (Johnson, 2003: 1313). Furthermore, *multiple* brain regions can show functional activity during the changes in an infant's behaviour, rather than just in the region which is hypothesised to have matured (Luna et al, 2001). It seems, therefore, that we are still in the early stages of linking brain structure and function, when related to the behavioural outcomes of very young children.

Further studies have implied associations between infant behaviour, and brain metabolism. As the brain's 'fuel', levels of glucose uptake can be seen via PET scan, increasing rapidly during early childhood, and returning to adult levels prior to, or during, adolescence (Chugani, 1998; Johnson, 2003). This pattern, as with synaptogenesis, varies between brain regions, ultimately echoing the structural changes that are occurring. Studies have further hypothesised that stabilisation of metabolic shifts co-occur with a child's ability to successfully perform certain cognitive and motor tasks (Chugani, 1998). Yet again, it is suggested here that the development of behaviours may be based more on the processes of stabilising structures and functions, rather than being based on the initial rapid developments in neuronal proliferation, synaptogenesis and glucose uptake that are occurring in the very early years.

DiPietro summarises the connections between structure, function and behaviours, in children,

> While it is true that the trajectory of synaptogenesis corresponds to that of brain metabolism… Single functional or structural indicators of the brain, such as synaptic density or glucose uptake, should not be relied on as indicators of the functioning of the "mind". Moreover, the rapid rise and early peak in aspects of brain structure and function should not be interpreted as an indication that the ability to learn is greatest in the third year of life (2000:458).

<u>Enriched experiences: can these make 'better' brains?</u>

> "Scientific discoveries suggest it is nurture rather than nature that plays a lead role in creating the human personality… infants need a stimulating, accepting environment in which they feel safe and loved" (Allen and Duncan Smith, 2008: 57).

The Early Intervention report does not cite specific studies from which it has extrapolated the claim above. This statement, in combination with previous quotations given, relating experiences resulting in increased brain cells and synapses, must be explored in order to test the accuracy of these claims.

Although neuroscientists such as Rakic acknowledge that genetics are fundamental in shaping how the brain develops (1988), current research often acknowledges the complex interplay between nature and nurture. Moreover, the complexity increases when considering which brain regions are being explored, as with the structural and functional aspects discussed above (Lenroot et al, 2009). Black et al (1998) discuss how the developing brain undergoes three levels of neural processes, as summarised in figure 3.

1. Gene-driven processes:

   "more or less impervious or insensitive to experience. Such processes protect the developing brain, guide neuron migration, and target many of their synaptic connections, while also determining differentiated functions"

2. Experience-expectant processes:

   "the brain is primed to receive particular classes of information from the environment… These correspond with critical or sensitive periods during which an over-abundance of synapses characterises the brain (or brain structure), ones which are eventually reduced"

3. Experience-dependent processes:

   "a function of the individually unique experience of the individual, typically taking place later in time than experience-expectant processes… these processes are less subject to the temporal constraints – and opportunities- than experience expectant ones… rather than involving, then the overproduction and subsequent pruning of synapses, a process restricted to early development, this third brain development mechanism involves formation of new synapses and/ or modification of existing ones and can take place… across the life course"

Figure 3: Three stages of neural processing, summarised by Belsky and de Haan (2010: 413).

These processes highlight the brain's plasticity: the ongoing developmental changes, or malleability, that the human brain experiences. Both experience-expectant and experience-dependant processes are thought to influence plasticity, in that the brain makes adaptations depending on what environmental information it is receiving. However, in the expectant condition, there is no indication that the experiences need to be of a particular quality to increase successful outcomes. As Bruer comments, these experiences are ones that (notwithstanding the uncommon situations of extreme

sensory deprivation, severe abuse or neglect), *will* be experienced by children (2011). Within a typical environment (of various guises) children will experience light and dark; they will experience hearing language and other sounds; they will observe objects and the consequences of them reaching out to them: "The odds are overwhelming that the infant will have appropriately fine-tuned visual, auditory, motor and linguistic systems" (Bruer, 2011: 6). Exceptions to this are most likely to be due to congenital conditions (such as eye defects), rather than due to environmental deficiencies. However, this report does not serve to document the findings from research where insufficient experiences have occurred. For further discussion on this topic see Rutter, 1998, *Developmental catch-up and deficit following adoption after severe global early privation.* However, even in these hugely adverse early conditions, Rutter notes that plasticity is evident and 'catch-up' does occur.

In the experience-dependent condition, most of human learning occurs, through our daily environmental interactions. Again, it is noted by multiple authors that the plasticity in this condition is ongoing and not within a critical period (Bruer, 1998; 1999; 2011; Chugani, 1998; Rutter, 2002). Rutter goes further, suggesting that if neuroscience can offer anything when considering environmental conditions and the developing brain, it is to highlight the differences in expectant and dependent experiences. Intuition dictates that positive social environments *should* be good for children, at no point within this report is it intended to suggest that these things do not matter to child development. However, the focus here is the use of neuroscience to support these claims.

The definition of enriched experiences within the neuroscientific context was derived from animal studies, in which rats were assigned to three conditions: isolated (alone), social (with other rats), and complex (with toys and obstacles) (see Greenough, 1997 for a summary). Rats reared in the complex environment showed comparative increases in synapses by 20-25%. However, as Wastell and White comment, the increases were less for areas of the brain involved in higher cognitive processes (2012). Moreover, subsequent rat studies have also shown that these increases can be shown in much older animals (see Bruer, 1999 for a review). Difficulties arise, however, when generalising the

extreme rat environments to children's experiences. It is unclear whether, for children, enriched means excessive opportunities for multiple relationships and large amounts of resources in their environment, or the *qualities* of fewer experiences. Although this research, again, does not support the critical period, it could be suggested that whilst the timing is not crucial the enrichment may be. If we ignore the 'early' aspects of intervention, does this mean that by supporting parents to increase the positive environmental and relational experiences of their any-age children, we can support ongoing brain development? There have been some longitudinal studies which have explored the implications of targeted support for families that may allow for consideration of how the term enriched has been applied to our developing children. It is important to note, however, that although neuroscience may have helped conceptualise the following studies, the outcomes have been sought through behavioural, not neurological methods.

Early intervention studies

Within the USA there have been many studies focused on offering early intervention, and charting the outcomes for those children. A brief summary of one of those projects is shown in figure 4.

North Carolina Abecedarian Project (summarised by Melhuish, 2004).

"The Abecedarian project involved an Early Child Development (ECD) initiative in a poor African-American population in Chapel Hill, North Carolina, which was a largely middle class community with relatively little deprivation (Ramey & Campbell, 1991; Campbell and Ramey 1994; Ramey et al. 2000). The 111 children, whose mothers had a low intelligence quotient (IQ) and low income, were randomised into two groups. One group was placed in an ECD program that involved centre-based care and home visits beginning at three months of age and continuing until the children entered school. The control group received family support, social services, low-cost or free paediatric care, and child nutritional supplements but no additional childcare beyond what the parents and the local services provided" (p12).

- "Participants had significantly higher cognitive scores as toddlers through age 21 than the control group. Reading and math scores were also consistently higher"
- Participants were twice as likely to attend higher education as those in the control group (40% versus 20%). More than twice as many of the participants (35% versus 14%) attended a four-year college at the age of 21"
- The intervention group were more likely to postpone parenthood until they were more mature. On average, they were more than one year older (19.1 versus 17.7 years) when their first child was born compared to the control group"
- There were no significant differences in criminality between the intervention and control group as had been found in the Perry Pre-school Project. Although there was a trend for less criminality and there was less marijuana use" (all bullet points, p12).

Figure 4: North Carolina Abecedarian Project Results

Although the outcomes associated with this project appear to validate its implementation, it is not without criticism. Initial gains in IQ scores, for example, diminished over time, and by late adolescence only resulted in scores 4.6 points higher than the control group. As Wastell and White highlight, this was "despite an eight-year programme of tailored, intensive support" (2012: 404). Moreover, the intervention group itself included pre-kindergarten preparation sessions for six weeks; full-time early education and childcare settings who focused on language skills; and a home visiting service focused on parenting skills. It is therefore difficult to extrapolate whether any or all of these interventions could be influencing the changes. The most significant critique, in the context of this report however, is that the neurological basis which is often cited in relation to this study, is unfounded: no neuroscientific methods, such as scanning to explore structure or function, were employed. It seems therefore that projects such as this, which explore social, behavioural and

cognitive outcomes, are using neuroscience as a vehicle for explanation and support, without the evidence to support the claims.

Within the UK context of early intervention, a family-based approach has been suggested. The Government documents (Allen and Duncan Smith, 2008; Allen, 2011) suggest 'foundational programmes' which are the minimum requirements, summarised in figure 5.

1. A prenatal package
2. Postnatal (Family/Nurse partnership)
3. Sure Start Children's Centres
4. Primary school follow-on programmes, focusing on parenting support, language, numeracy and literacy, and the development of children's social competences
5. Anti-drug and alcohol programmes
6. Secondary school pre-parenting (i.e. pre-conception) skilling.

Figure 5: The foundational programmes as a minimum requirement for early intervention (Allen and Duncan Smith, 2008: 76).

Without focusing extensively on the details of the programmes offered above, it is suggested that the focus seems to be on 'skilling-up' parents (and most often mothers), with the supposed necessary resources to support their children's development. Again, it is stated here that the intention of this report is not to analyse the efficacy of interventions such as these, rather it is to investigate the use of neuroscience literature as the evidence base for their implementation. Yet again, it is not clear how the programmes above will affect brain development. There is simply no evidence that these interventions will make structural and functional brain changes, resulting in increases in positive outcomes for children. The suggestions are that the brain changes will occur as a result of these interventions, and they are monitored through behavioural measures, yet this hypothesis cannot be endorsed without explicit investigation. Early intervention programmes such

as these *may* result in improved outcomes, but using a neuroscientific evidence base to support this suggestion is not valid.

Aspects of neuroscience research which have explored early relationships have occurred, often focusing on responses to stress (see DiPietro, 2000 for a brief summary). Again animal studies have evidenced that nurturing rat mothers often have offspring who tolerate fear well and explore more, whilst experiencing lower levels of stress hormones. In human studies there has been suggestion that infants with a secure attachment can show non-elevated levels of the stress hormone cortisol when faced with a stressful experience such as being approached by a stranger or during childhood vaccinations (Nachmias et al, 1996; Gunnar et al, 1996). It would seem that there is evidence for reduced stress levels in children that experience sensitive parenting; however, again this explanation is too simplistic. In a later summary article, Gunnar notes that the evidence base surrounding infants who experience severe abuse or neglect actually show *reduced* cortisol (Gunnar and Donzella, 2002). Furthermore, it must be noted that studies of adversity often rely on children experiencing extreme situations, such as living in orphanages or being moved into care following neglect; there are many confounding factors at play here. These studies do not provide information regarding the experiences of children who are living in environments of sub-optimal, but not catastrophic, care. There is not scope within this report to examine the neuroscientific attachment literature in more detail (see Gunnar's articles for further discussion), yet it is briefly acknowledged to highlight the early evidence base that is forming. It is suggested here that, alongside much of the neuroscience discussed previously, we are not at a stage where these studies can be used to generalise all findings to explicitly state we *must* tackle 'problem parenting (or mothering?)' because the neurodevelopment of our children depends on it.

Educational Psychologists' and our sharing of neuroscience: The Solihull Approach

EPs are increasingly working to support the parents of young children, utilising psychological theory to discuss growth and development (Shannon and Posada, 2007). Many EP organisations offer this work, in a variety of forms from individual casework, therapeutic groupwork, structured workshops and training to other professionals. One such programme will be explored in relation to the neuroscientific content it employs, as an example of the neuroscience that may be influencing EP practice. As noted in the introduction, the Solihull Approach has been adopted by my current employing local authority, as a framework for supporting parents in the community. The investigation of this approach in this report serves as an example of how neuroscientific literature is being utilised in EP practice. It is noted that this example will not be being implemented in all EP services, yet neuroscience, baby brain literature and early experience 'evidence' may be incorporated into practice through other forms of intervention, training, and development opportunities.

The overall efficacy of this programme will not be considered here, nor will the content in terms of behaviourist, cognitive or developmental psychology.

Created by Hazel Douglas, a clinical psychologist and psychotherapist within the West Midlands, the Solihull Approach is "a theoretical model supported by a comprehensive resource pack and training programmes… to explain how emotional health and wellbeing develops within the child's main relationships" (Douglas, 2010: 23). It is acknowledged that the theory underpinning this model is eclectic, and integrates aspects of psychoanalytic, behaviourist, developmental and neuroscientific theories. The approach offers a parenting group available to those with children of all ages, with the intention of supporting parents to understand their child's behaviour. A brief summary of the content can be viewed in figure 6.

"The Solihull Approach is a psychotherapeutic and behavioural approach for professionals working with children, young people and families who are affected by behaviour and mental health difficulties. Parents need to help children with anxieties and emotions as well as managing their own emotion. To help young people develop, parents need to be able to respond to children's needs and children need to be able to communicate these needs. The theoretical model has three components. These form the cornerstones of the Solihull Approach" (p 15).

"Containment: [Psychoanalytic theory] the process of helping the person to contain their own anxiety and emotions… so that they do not feel overwhelmed" (p 28).

"Reciprocity: [developmental theory; neuropsychology; attachment] the process whereby the parent is sensitive to the needs and feelings of the child and the child responds to the parent… there is something like a dance that occurs in mother-child relationship" (p 38).

"Behaviour management: [behaviourism] the ordinary process of normal development whereby parents teach their child self-control, thus enabling the child to participate in society" (p 57).

Figure 6: A summary of the Solihull Approach, key theories and messages (2011).

As noted, this approach uses many theoretical underpinnings to inform the training of professionals, and in terms of what information is passed to parents. The 'baby brain' information used is presented in more detail in appendices 1 and 2.

Balbernie's (1999) research is quoted as a key message: "Parents help their children through the developmental stages of growing up. They even have a direct effect on what pathways are retained in a baby's brain" (cit in Solihull Primary Care Trust, 2011: 73). Further investigation of Balbernie's work leads to further statements containing certainty of the changes that parents can make to their infants developing brains,

> It has been demonstrated that both the establishment of synaptic connections between neurones and the programming of neurochemical responses that have an effect on the whole body are dependent on experience. The most sensitive period for brain growth, the time of optimal plasticity, is over the first two or three years of life. If the baby's neurological development is threatened by abuse or neglect, which includes excessive attachment disruption, the damage may set its stamp on the rest of life. (Balbernie, 2001: 237)

Again, the issue of the critical period is raised. As previously stated, if we are to accept the different types of neural processes that occur in brain development (gene-driven, experience-expectant, and

experience-dependent) then this statement is inaccurate. This report has highlighted that many accept the ongoing plasticity of the brain, and that learning and development of higher order skills such as social problem solving continues throughout childhood into adolescence and beyond. It is also accepted here that the human brain does go through initial periods of intense synaptogenesis during the early years, yet some researchers have stated that it is the processes of synaptic pruning which are crucial in affecting how children develop and the subsequent life outcomes. Furthermore, it is acknowledged that severe abuse and neglect has been associated with differences in neurodevelopment; the cases investigated have been extreme and often with many complex experiences for the child which are difficult to 'unpick'. Interestingly, however, the "neuroscience literature shows that the infant brain has quite remarkable resilience and plasticity when exposed to ordinary patterns of 'chaotic' neglect usually seen in the population referred to children's social care" (Featherstone et al, 2013: 8). Consequently, it is still unclear how this research can be generalised to 'everyday' parenting, that is, the sub-optimal but non-abusive environments. Ultimately, the Solihull Approach parenting course is unlikely to be aimed at parents who have subjected their children to intense cruelty. The intervention in that case is more likely to be that the child is removed from that environment. It is also unlikely that the parents who attend this course are going to be those who are responsible for abuse and neglect, as there may be issues with engaging those parents. As a final thought, statements such as those above are not likely to be supportive of carers or adoptive parents of children who have experienced those extreme scenarios, as it implies that the damage will have already been done and those children will have moved out of the critical period in which the detrimental course of their brain development could be altered.

The Solihull content also acknowledges that the changes in brain development are "related to changes in observable skills, and to behavioural and emotional development" (2011: 73). Although this seems like a common-sense statement, there is not strong evidence to link exactly what is happening in the brain and the behaviours shown. Luna et al (2001) and Johnson (2003) have stated that there is often not direct correspondence between emerging skills and the area of the

brain which is said to control it, and the timescales in which those areas mature do not always match with the mastery of that behaviour.

As part of the Solihull Training and the parenting group, a DVD excerpt is suggested as a useful summary of baby brain development. *Brave New World* was created as part of Channel 4's Body Story series. This compelling film shows how babies understand the world they are born into. Again, there is great certainty with which the content is discussed. A summary can be seen in figure 7.

Brave New World:

- All babies are born with half a brain, this is our greatest asset, shaped by our experience by the outside world
- The cerebral cortex contains 50 billion brain cells. The cells are isolated with no connections sprouting
- The cortex is a blank sheet waiting to be filled with new skills
- His brain can't combine the images from both his eyes, no distinct colours or shapes
- All of Robert's senses are in chaos
- Strong signals from his ear spill over into his vision so any sudden noises are seen as well as heard
- Bold regular patterns generate strong regular signals that reinforce connections
- The more Robert communicates, the faster his cortex can develop
- The cortex can't make sense of adult's patterns of speech, motherese helps the cortex to wire itself
- Even when we're ninety we are still forging new connections.

Figure 7: A summary of the key messages within Brave New World, a DVD resource used in the Solihull Approach.

Although there is not capacity to explore all these statements in detail, it is noted that the certainty with which they are made is not without contention. It may be that research has postulated that certain regional brain activity can be used to explain babies' experiences, but we cannot ask them if they are seeing noises, or experiencing difficulties in processing visual images. This information is presented to both professionals and parents in such a way that it could be received as fact. There are no caveats, explanations, or discussions about how much of these hypotheses are inferred from neuroscience, in combination with observations of infant behaviour. It is suggested here that this is

misleading to those who trust us to tell them the truth. Whilst this may be for simplification purposes, it will not help us to explain any future research, should our thinking about brain development alter in time. Moreover, if we are presenting this information in order to 'skill up' parents, to support them to change the way they parent, and to persuade them that this is the correct way to be, should we not be offering the full story to empower them to make their own decisions. It is suggested here that the lures of brain science is yet another way which risks EPs acting as experts, resulting in parents being 'done to' rather than 'worked with'.

CONCLUSION

Throughout this report, the impact of brain research has been considered, within the domains of social policy, parenting programmes and EP practice. It has been acknowledged that the often-uncontested evidence base is used freely within US and UK policy documents, as a means of fostering support and strengthening argument. However, the acceptance of such explanations has been suggested here as arguable. Analysis of the brain research currently available does not fully support the notion of the critical period. Variations are found in both structural and functional processes, and across different brain regions, suggesting that the uniform concept of 'critical' is not acceptable. Moreover, the ongoing plasticity of the brain, and the balancing act of creating and deleting neuronal pathways, is suggested as all part of a lifelong process of brain development.

Applying these 'one size fits all' explanations of how children develop has resulted in strongly worded, emotive and at times, catastrophic predictions of the effects of environment and parenting on children's life outcomes. Within the UK, the ameliorative suggestions lay heavily at the door of fixing inadequate parenting; often focusing on mother-child relationships. It is suggested here that the inclusion of neuroscience for this purpose is overstated at best, and exploited at worst. Interventions at the family-based level are suggested as potentially disempowering, as they may not

present the broader picture of science for parents to explore and make their own judgements: they are not given opportunities to 'own' their own changes and outcomes. As Featherstone et al comment, "the term 'intervention' needs interrogation, as it suggests practices delivered to families rather than practices with families" (2013: 4). Moreover, much of the research regarding the damaging effects of poor social environments stems from work within extreme cases. We are not able to clearly state that these types of intervention will change the course of children's developing brains, within the sub-optimal, yet non-abusive households. There is further query over whether the parents who attend these sessions are in fact the parents who may require more support to understand their growing children. This report has found no solid evidence that the interventions discussed in policy documents will directly and beneficially impact or change neurodevelopment, let alone whether any potential change will make dramatic increases in outcomes for the child. These comments do not serve to suggest that early intervention is not valuable, nor is it suggested that there may not be positive developments to cognitive, psychological and social outcomes; yet using neuroscience as the vehicle for support is suggested here as rhetorical.

As shown by the example of the Solihull Approach, neuroscience and infant development are being used within EP practice. The content of the neuroscience has been debated, and it is suggested that EPs should be very clear about what evidence they are using to share with parents. It is further suggested that caution should be employed in stating this research as factual. This approach risks EPs working within an expert model. Furthermore, there are risks that we begin to support the notion of parents, and more often mothers, as the source of the difficulties. Comments within government documents do not help this; with suggestions that we are "forcing wonderful teachers to cope with the consequences of inadequate parenting" (Allen and Duncan Smith, 2008: 16). If we are to truly support parents in making changes to how they raise their children, we must not begin with blaming and shaming, but we must work with compassion and understanding. Moreover, we must not base our work on evidence bases which have not shown explicit and rigorous links to outcomes, as this report has served to highlight.

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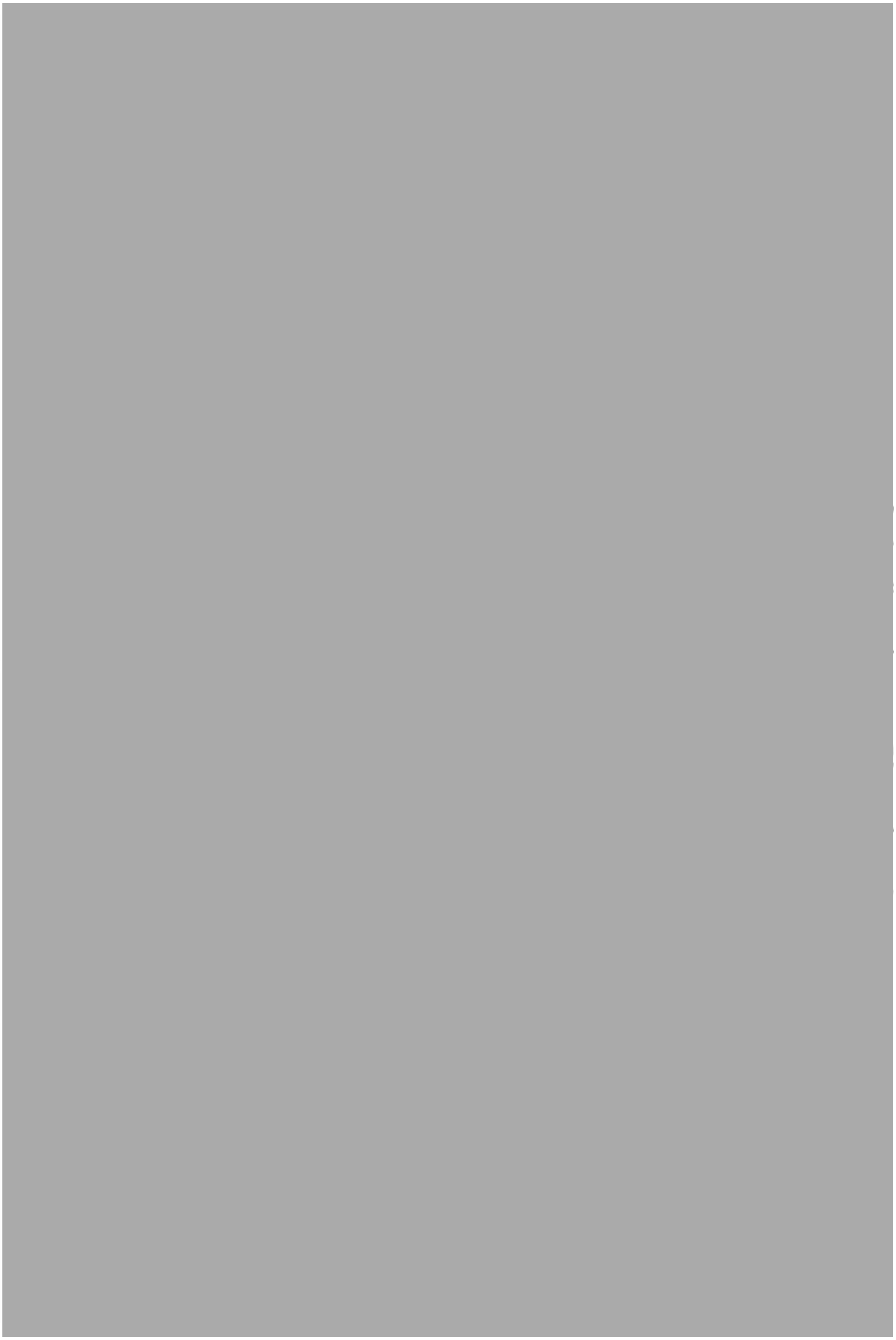
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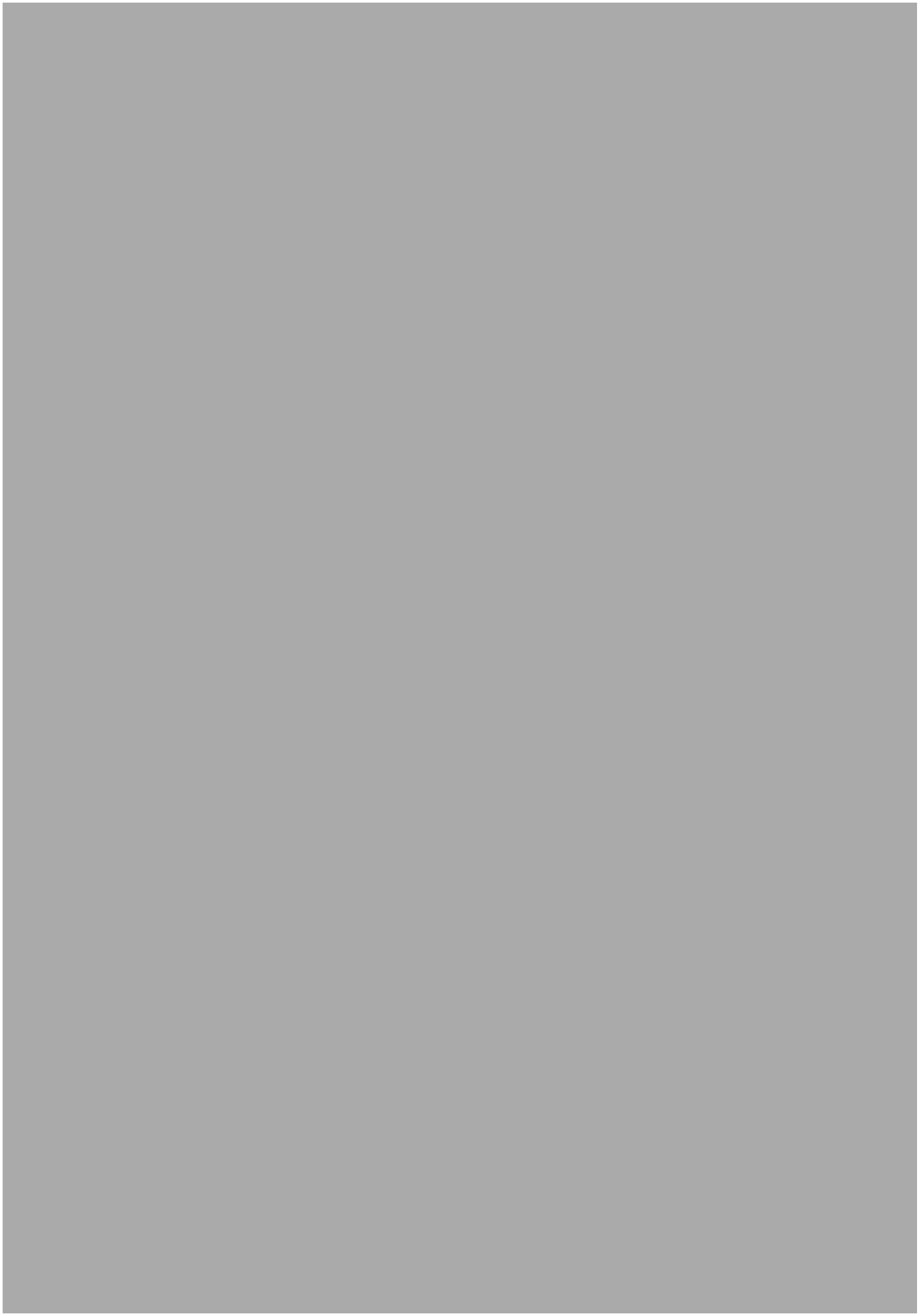
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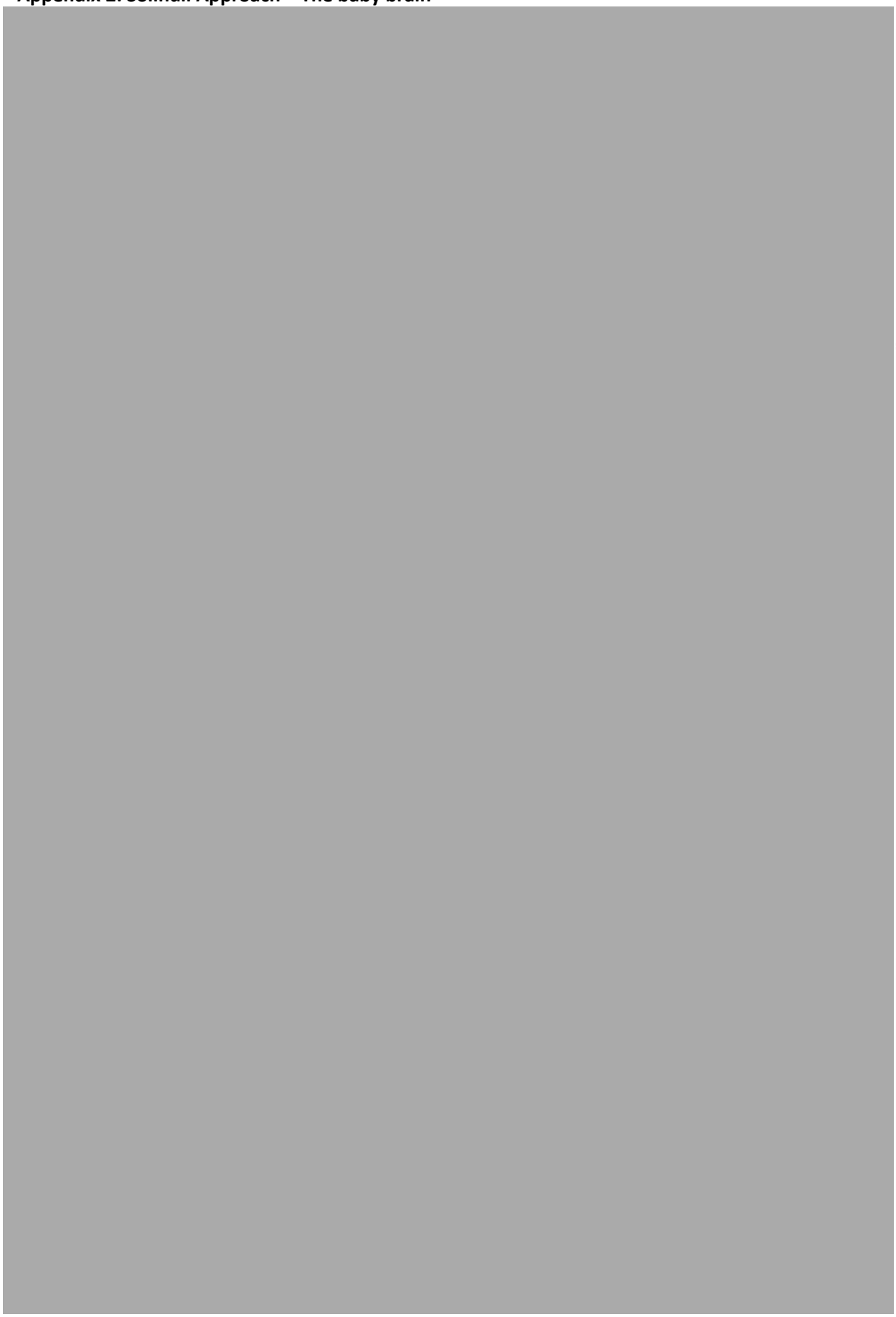
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Appendix 1: Solihull Approach – The baby brain





Appendix 2: Solihull Approach – The baby brain



CHAPTER FOUR

Social participation and friendships in schools: A case study of one child's experiences of the classroom and the playground.

ABSTRACT

Integration within a mainstream social environment can be valued by parents of children with special educational needs, allowing opportunities for them to participate alongside their typically developing peers. This report reviews the literature surrounding this, exploring social participation in relation to developing social skills and success in initiating, receiving and maintaining positive peer-to-peer interactions. Moreover, the relationships between this and concurrent friendships were considered, in both structured classroom and unstructured playground environments. A single case study was used, of eight-year-old David, who is reluctant to communicate. His interactions were explored in terms of frequency, direction, duration, and quality in both environments, and the findings suggested that there were many interactions occurring despite very limited verbal communication. Within the classroom, David did not initiate much contact, but was able to sustain interactions with his peers approximately half of the time, through playful behaviours. Overall he as perceived to be on-task and compliant with the class. In the playground the majority of interactions were initiated by David, and often sustained by others. All of David's interactions were suggested as adaptive and positive. A sociometric method was then used to explore peer perceptions, and reciprocated friendships were found. These findings are discussed in the context of the different environments, and it is suggested that all of the child's behaviours were cohesive with the group as a whole, and this was protective to his peer relationships. However, it is noted that this study cannot address how David and his maturing relationships will develop over time, if his interactions remain non-verbal. As this work fell as part of ongoing casework, the intention remained to document the process of investigating David's social participation and relationships as part of the formulation process for Trainee Educational Psychologists (TEP). Some brief suggestions for future work are made, but ultimately this report serves to document this part of the assessment process. This study was found to reveal the subtleties of interaction and to identify some positive social experiences that were not previously apparent to the adults around David.

INTRODUCTION

It can be seen within the world of politics, academia, education and psychology, that discussion is ongoing regarding the inclusion of children with special educational needs (SEN) in the mainstream school. Whilst it has been acknowledged that there may be multiple rationales and perspectives on the value of this (see Slee, 2011 for more detailed analysis), research has suggested parental views of the benefits of educating their child within their local mainstream school. Koster et al (2009) cite

Farrell's definition of inclusion, "taking a full and active part in school-life, be a valued member of the school community and be seen as an integral member" (2000: 154). It is this *integration* within the normative social environment that has been echoed by some parents: many desire their children to participate fully alongside their typically-developing peers (Sloper and Tyler, 1992; Scheepstra, 1998; Nakken and Pijl, 2002).

> In their opinion it is important for their child to grow up as far as possible in a normal environment... Parents often assume that contacts with peers will have a positive effect on their child (Nakken and Pijl, 2002).

Although it is acknowledged that this view will not be held by all parents (see Runswick-Cole, 2008 for further analysis of parental views) this current study is interested in the assumption above. Are children with additional needs being supported to participate with their peers, to a level in which positive social effects occur? Does this participation reveal developments in appropriate social skills and lead to success in initiating, receiving and maintaining successful peer-to-peer interactions? Perhaps of more interest here, does this support the child to develop appropriate friendships?

Working within an educational psychology service (EPS) often entails reviewing needs and provision in order to ensure that children are receiving opportunities to maximise their learning and development. My professional experience has shown that whilst a school's focus can be related to academic achievement, the educational psychologist (EP) often considers the wider issues of the developing child's social and emotional needs. Earlier research suggested that children with SEN are at risk of poor peer relationships (Wiener and Harris, 1989; Cole and Meyer, 1991), and a more recent study has suggested that these children are less socially accepted in the classroom (Freeman and Alkin, 2000). The complexities of these statements, however, must be acknowledged so as not to assume causation between the factors. The SEN themselves may prove to be the foundations of the social difficulties, with certain diagnoses requiring 'symptoms' of limited language skills; poor social communication; physical barriers to interacting with others; reduced cognitive functioning etc. However, the process of learning itself is suggested as a social one (see Kozulin, 2003 for a review of

the Vygotskian theory). Shaffer (2002) suggests that it is through the process of social participation with proficient learners that a child's cognitive skills manifest; a notion particularly pertinent to a child with SEN. If a child is struggling to participate in classroom interactions (discussion, joint working, sharing ideas and learning from each other), then the opportunities for accessing the curriculum and any subsequent achievement may be compromised.

The intentions of this report are to document an investigation into some of these complexities. A case study was chosen to elaborate upon the detail of a primary-aged child with SEN relating to learning and communication. Rather than focus on attainment, this exploration occurs in relation to the child's interactions within their school environment, their social experiences, and the social acceptance from their classmates. Conclusions will be drawn with regards to their perceived ability to hold successful interactions, and the associated friendships they develop. Ultimately it will be suggested that we must not make assumptions of children with SEN, and their perceived reduced ability to form relationships. However, suggestions will be made of how to support social participation within the mainstream classroom, in order to give children the best opportunities to continue to be accepted by the world around them.

LITERATURE REVIEW

A literature search was undertaken (using findit@bham: including Cambridge Journals Online, EBSCO, ERIC, IngentaConnect, JSTOR, OVID, PubMed, Swetswise, Wiley, etc.; and Google Scholar), using the key words *social participation; friendships/peer relationships; marital violence/conflict* AND special educational needs). A 'snowballing' technique, in which references of interest cited in those papers were then searched for, allowed further exploration. Papers were included from both UK and international research to increase the depth of the review. It was noted that throughout many recent articles, certain key papers were cited, therefore these were returned to as the primary sources of the literature. I decided to report the seminal work within this report, to not only

highlight the origins of the evidence base, but also with respect to the key messages that were contained within them: current literature often became too specific to individual types of SEN or focused on precise aspects of social interactions, which were viewed as too distinctive to be generalised to this study.

Social Participation- What is it and why does it matter?

Kennedy et al (1997), amongst other authors, discuss a primary factor of inclusive education as offering the opportunities for children to participate in heterogeneous social experiences. As Koster et al highlight, however, "the analysis of articles featuring social participation also only reveals implicit definitions" (2009: 128). They continue to summarise the implied notions of what social participation is from a range of relevant articles, shown in table 1.

Reference	Type of disability	Grade/age	Items within key concept Social Participation
Hunt *et al.* (2003)	Severe disabilities	Grade 4	Assessment by observation of levels of engagement and interaction patterns (e.g. initiating and responding to interactions, participating in conversations, providing and receiving assistance, working collaboratively)
Hunt *et al.* (2002)	Augmentive and alternative communication needs	Kindergarten, grades 1 and 5	Frequency and quality of interactions, communicative function of interactions (i.e. request, protest, comment, assistance)
Bokhorst *et al.* (2001)	Social anxiety	Grades 1 and 2	Five levels of social participation, varying from 'unoccupied/ onlooking behaviour' to 'cooperative play'
Mirenda (1998, cited in Power and Hyde, 2002)	Hearing disabilities	No specification	Four levels of social participation, varying from 'none' to 'competitive'
Kennedy *et al.* (1997a)	Severe disabilities	Ages 11 and 18	Social contacts, friendship networks
Kennedy *et al.* (1997b)	Severe disabilities	Intermediate school age	Social interactions, friendship networks, providing and receiving social support behaviours
Ialongo *et al.* (1996)	Anxious and depressive symptoms	Grade 1	Among other things: playing with other children, the ability to make friends
Bayliss (1995)	(Severe physical) disabilities	No specification	(Quality of) interactions, familiar and equal relationships between pupils (which is the aim of inclusion)

Table 1: Systematic summary of analysis of social participation (Taken from Koster et al, 2009).

The range of criteria included, as well as the systematic way in which participation is measured, varies according to author. Koster et al continue to summarise the definitions of social participation thus,

> The analysis of social participation makes clear that interactions comprise the most important part of social participation. In addition, friendships, friendship networks, (lasting) relationships, playing together and social contacts are described by researchers as major aspects of social participation. Others include social support behaviours, involvement in group activities and being solitary (Koster et al, 2009: 129).

It is significant to note that, as time progressed, the focus on friendships has minimised within the definitions, whilst the focus on the interactions remains. It is suggested here that whilst analysing patterns, frequency, and functions of the contact between children may be useful in establishing their levels of participation, it does not support us to understand the impacts of these on the development of their friendships. Moreover, when studying friendships was more explicit, the *structured* nature of analysis of interactions was limited. For the purposes of this study, the definition of social participation is taken as the child's levels of interacting with others (frequency, direction, durations, quality, adult/peer, and the patterns between these factors), in combination with the *impacts* of these behaviours; whether they are associated with positive or negative peer perceptions of the child, and whether these are mutual. Therefore, social participation is seen as not only the child 'joining-in' with others in with others, but also the friendships the child has. Furthermore, focused analysis of interactions and friendships is perceived as fundamental to understand how the child functions within their social world.

Whilst the term 'friendship' may be assumed to hold clear meaning in everyday language (and within many academic publications), it is important to acknowledge the definition that is used within this report. A friend is referred to as the named individual a child relates to, that is, a self-chosen peer whom the child lies to spend time with (Wasserman and Faust, 1994). These authors continue to suggest that the friendship connection can be well documented through the analysis of social

networks, and this will be further explored here through sociometry. Gifford-Smith and Brownell give a definition stating, “Friendships are voluntary, intimate, dynamic relationships” (2003: 248). Whilst it is noted that *acceptance* by peers within a social group is not the same thing as a friendship (see Gifford-Smith and Brownell, 2003, for a more detailed discussion), a reciprocal connection between peers is assumed to indicate a friendship.

Another interesting aspect of social participation relates to where the interactions and friendships are located. Structured environments, such as the classroom, were explored by Kennedy et al (1997a, 1997b) and Hunt et al (2002, 2003). It is suggested that this may yield different levels and styles of interaction compared with studies such as Bokhorst (2001) who explored interactions in the playground. Although it is difficult to hypothesise whether differences in environment (structured versus non-structured) will inhibit or expand social participation, we can draw on other aspects of school-based research to support the suggestions that we need to include both aspects of the school day to gain a full picture of the child’s interactional abilities.

School environments for participation

Research has identified that structured and unstructured times in schools can reveal differences in behaviour for children. Qi and Kaiser (2004) found that children were more likely to be disruptive during teacher-led time, compared with child-led play time. Moreover, when children with identified language needs were explored specifically, they were more likely to show negative behaviours towards peers whilst experiencing structured classroom activities (Coolahan et al, 2000).

Ladd and Price (1993) wrote a review of playground research summarising that the differing environments of classroom and playground are bound to elicit different behavioural responses in interactions, due to the varying levels of choice in partnerships; balance of power and control; social rules (listening to teacher/listen to peers and more rules or less); and focus of the activity

(learning/play). As children often exhibit more choice and control over their play behaviours outside the classroom the authors continue,

> Peer interactions within this behavioral setting are likely to play an important role in the development of children's perceptions and impressions of their classmates and in development of their peer relationships (1993: 132).

Perhaps unsurprisingly, this review of the research concludes that the more cooperative and prosocial the play behaviours, the more 'liked' a child will be. However, an alternative view of this could be proposed, albeit by considering much earlier research. Dodge et al (1982) conducted a study exploring socially rejected and neglected primary-aged children, analysing their behaviours in both the classroom and the playground. They found that whilst the rejected children made similar attempts at prosocial play behaviours in the playground as the popular children, it was their levels of disruption in the classroom which were suggested as associated with their rejected status. The neglected children, whilst not behaving inappropriately in the classroom, exhibited less prosocial play behaviours than both the rejected and popular children. If we are to accept this view, it is the combination of how a child is perceived in both environments which influences the levels of acceptance from peers, and ultimately, whether they are viewed as friends.

When SEN are added to this picture, it is noted that the needs themselves may be driving factors in levels of interaction. Generally children with SEN have been suggested as having more difficulties with establishing and maintaining friendships within the unstructured nature of the playground (Nabors et al, 2001) and within the wider school environment (Freeman and Alkin, 2000; Pijl et al, 2008). More specifically, Fujuki et al (2001) found that children with language impairments sought and responded to significantly less interactions than their non-SEN peers, in the playground, where social rules and reliance on language is perceived to be less fundamental than in the classroom. These, among many other studies paint a picture of children with SEN, and language needs in particular, as being vulnerable to reduced friendships, within the school environment. It is interesting to consider the initial premise of this report: that inclusive education environments are

often sought by parents in order to give their children more typical interactional opportunities. The research mentioned above may serve to suggest that this is not a realistic goal. Yet, other studies have opposed this uniform view, suggesting that inclusive schools can support children with SEN to develop friendships (Vaughn, Elbaum and Boardman, 2001), with similar levels of playground interactions as non-SEN children (Roberts et al, 1990). These discrepancies again highlight the complexities of the situation. For example, if children with intellectual difficulties are suggested by other authors as being less at risk of friendship difficulties than those with social communication difficulties such as autism (Monchy et al, 2004; Koster et al, 2007), then the nature of the initial diagnosis is potentially highly relevant. Moreover, Estell et al (2009) conducted a two year study in which they conclude that children with SEN are just as likely to have friendships as those without, albeit the number of close relationships decreased during the course of the study. Again, the focus is returned to the child's individual behaviours here, with suggestions that the more prosocial a child can be, in all environments, the less peer rejection they experience (McCay and Keyes, 2001; Kim, 2003). As a final note, we must consider the interactional partner in these relationships: Estell et al (2009) state that they are more likely to also have SEN. Moreover, the instability of friendships may also be higher for those with SEN (Howes, 1990), and the quality of the interactions may be limited (Parker and Asher, 1993).

It is suggested here that there are key dimensions to explore when considering whether a child with SEN is likely to experience difficulties with social participation, interactions, peer acceptance, and friendships, and these are shown in table 2.

Key dimensions	**Areas to explore**	**Actions**
Social participation - Interactions	Frequency, direction, durations, quality, adult/peer, and the patterns between these factors	Naturalistic observation, structured measurement of interactions
Social participation - friendships	Peers' perceptions of the child and whether they are reciprocated	Sociogram activity within the class
Location of interactions	Structured environment (classroom) and unstructured environment (playground)	Both environments explored during observations

Child's individual SEN, and associated diagnoses	Are communicative or interactional difficulties associated, directly or indirectly?	Holistic assessment of child's needs, through consultation and assessment, and information sharing with others.
Interactional partners	Any associated needs? Stability and quality of friendship over time?	Ongoing review of relationships through anonymised discussions with class teacher.

Table 2: Key dimensions of exploring relationships.

If, as this report proposes, the dimensions above are combined, we are accepting an interactional model. The child's individual and personal needs and strengths; the qualities and manifestations of the relationships between individuals; the influences of significant partners; and the environmental constraints, can all be coalesced within a theory of social competence. Dodge et al (1986, see figure 1) conceptualised this as a series of interacting and influential factors which will impact upon a child's behaviour and social development. Although Dodge (1985) himself noted that the definitions of social competence are likely to be as many and varied as the researchers studying it, there is not capacity to explore this within the context of this report. However, the model is supplied as an example of compatible theoretical underpinnings to the areas that will be explored within this study.

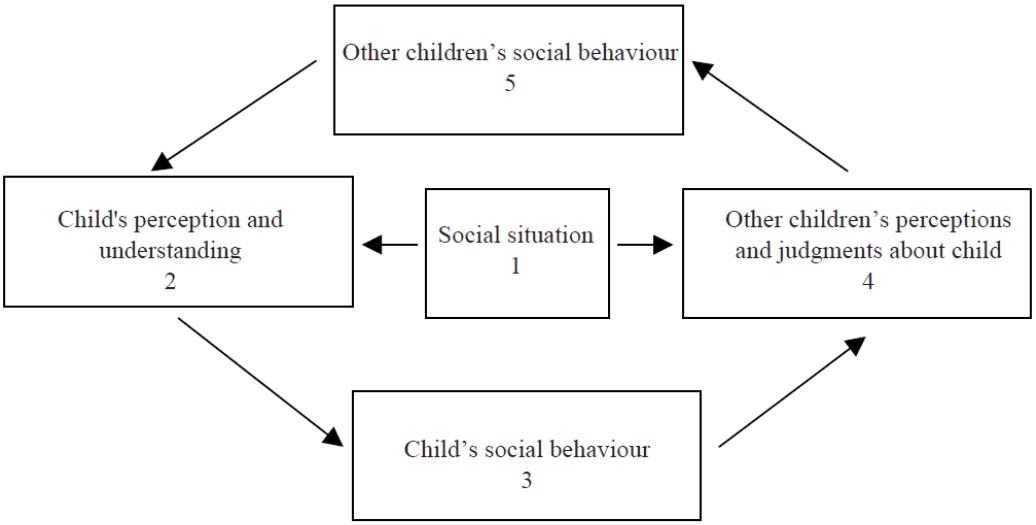


Figure 1: Dodge et al's (1986) model of social competence, adapted by Frederickson et al (2005).

Critique of key research

As highlighted in the studies cited above, there are inconsistencies of approach when exploring children with SEN and their levels of participation, interaction, acceptance and friendship. The argument built here acknowledges the likelihood of different findings, depending on the environments of study and the criteria they use for defining the key concepts, yet it must be noted that the methodologies of the studies may reveal limitations to the rigour which with the evidence can be transported to current research. Of particular relevance in this study is the differing environmental effects on interactions. It is suggested that by focusing purely on singular environments (as with Coolahan et al, 2000; Nabors et al, 2001), or not acknowledging the implications of/variations in context (as with Kuhne and Wiener, 2000; Jan Pilj et al, 2008), we may not receive enough information to explain the potential causal mechanisms underlying the child's social experiences. Moreover, we cannot explore the compensatory nature of differing environments that may combine to explain why a child is accepted, or not (as suggested by Dodge et al, 1982).

Many studies (such as Nabors et al, 2001; Jan Pilj et al, 2008; Estell et al, 2009) categorise children in terms of SEN or non-SEN, with limited regard to the variations within both groups: neither will be homogenous and social behaviours will be influenced by many factors (for example, diagnosis and associated 'symptoms'; previous social experience; expectations of social behaviours and intervention/support for developing these skills. These are suggested as influencing the individual child's social understanding, motivation and abilities. Furthermore, the methods by which interactions are assessed may be limiting in terms of the information they provide. Many of these studies rely on using quantitative measures of interaction (frequency) or peer acceptance (sociometry), with little or no triangulation of data exploring the qualities of the interactions and friendships (Kuhne and Wiener, 2000; Bokhurst et al, 2001; Hunt et al, 2003;2003). Teacher and parent reports may be cited as measures of social competence (Freeman and Alkin, 2000; Kemp and

Carter, 2002), yet it is queried whether these reports may be better supported by primary observations of relationships, particularly involving the child's views (Vaughn et al, 2001). This study attempts to remediate some of these criticisms, by offering an exploration of an individual child; triangulating data from multiple sources; within different environments; whilst acknowledging the specifics of the child's presenting need.

This study's aims

As noted, the aim of this work is to investigate a single child's social experiences within their school environments; their individual characteristics, their initiation of interactions, and their peers' perceptions and attempts to interact with them. This case study intends to be exploratory, whilst remaining within the confines of a documentation of a professional practice report. That is to say there is no preconceived notion or hypothesis of what is expected based upon the literature; it is open to the process of gathering primary information, formulating potential explanations of this information, and making suggestions as how to best support the child. Within this intended remit, there will be acknowledgement of the methodological considerations, as with academic reporting. However, the traditional form of reporting results and discussions will follow a pattern more consistent with the professional practice of an educational psychologist: reporting the identified needs, strengths and suggesting ways to further support the child.

CASE EXAMPLE

Background and reason for referral

The focus of this report continues with a case study. David[1] is an eight-year-old boy who was referred to the psychology service with concerns about his interaction and communication skills, and

[1] Pseudonym used to protect identity

delays with his attainment. There was concern about the location and extent of David's difficulties, with school staff at a loss to understand the aetiology of his needs. Suggestions had been made as to whether David may have been experiencing cognitive difficulties, an autistic spectrum disorder, speech and language disorder, or anxiety related to interacting with others. As the school's link EP (in training) I was asked to undertake an assessment to explore his needs and begin to make a formulation as to how best to support David within the school environment. A summary of my initial investigations is found in table 3.

Investigation area	Method used	Results
Learning skills	Review of curriculum within the classroom through discussion with class teacher, how David approaches his learning and the work he produces; Classroom observation of approaches to learning	Mixed ability classroom, with table groupings according to classroom achievement. Limited differentiation of curriculum (some examples of reduced complexity of work covered in literacy and numeracy) with task setting being the same across all children, albeit with lesser expectations of David in comparison with some of his higher achieving peers; Acknowledgement that David is motivated to complete tasks, but he appears to show limited understanding of task instructions and he spends a lot of time looking at others work to see if he is doing 'the right thing'; David is attaining within the stages expected of a year 1 child. Immature drawing skills and handwriting.
Cognitive skills	British Ability Scales (BAS3) used, dynamically and not according to standardised instructions	David finds it difficult to respond verbally to questioning, therefore activities from the BAS3 were used, but adapted to allow David to respond through pointing, drawing or gesture. Results indicated that David was often responding correctly when tasks were not expressive language-based. David's responses in spatial tasks indicated these skills were strengths for him. Further reporting of results was not appropriate in light of his needs.
Emotional wellbeing	Explorations of emotional awareness through drawing. Discussion with parents regarding social and emotional needs	David could draw pictures of basic emotions (happy, sad, angry) and could draw pictures of his family. He could link pictures of his family with the emotion pictures, to state whether they were mostly happy, sad or angry. He could point to the emotion pictures when asked how certain scenarios make him feel (playing football = happy, some class work = sad, some = happy). Parents state that David can become anxious when taken out of the house. He withdraws and will not speak with anyone. He can get angry if he is told to talk to people.

Social interaction and participation	Classroom observation (45 minutes) Discussion with David	Followed all instructions, given by teacher, but often needed prompt if it contained more than one-step. Smiled at peer, shared a picture with him from a workbook. Spent lots of time watching other children. When asked, could name xxx as his best friend.
Speech and language skills	Review of previous assessments and attempts to support David	Previous speech and language team assessments suggested language delay of 2 years, yet stated that his social needs could be causing or impacting this. No clear formulation supplied, but strategies to encourage verbal communication suggested.

Table 3: Summary of assessment undertaken with David.

The assessment information above supported the formulation that David may be experiencing difficulties with his learning, yet it was hypothesised that his hesitation with language use in school may have been fundamental to this. Further support for this was gleaned from discussion with parents, in which David was described as being a "chatty boy" at home, responding to conversations in an age-appropriate manner. I was informed that David will talk openly with parents, asking questions, sharing his views, and even refusing to comply with requests! During my visit, David would not talk openly, yet he was overheard to tell his mother he didn't want to come into the room with me. David's reluctance to talk with me was not surprising, yet his willingness to communicate with his parents indicated that his needs may have been more social and emotional, as opposed to being related to a language disorder. However, it must be noted that David's parents may not have an evidence-based perception of language skills, therefore there is potential that his skills are underdeveloped, yet they serve the purpose of communicating within the home environment. Moreover, any maintaining factors (such as speaking for David, low expectations of sentence complexity, leaning in to hear him, reduced complexity of instructions and conversation offered to him) may not be apparent to parents and have become standard parts of their communication repertoire with him. This will require continued discussion in the future.

As noted, it was difficult to undertake a structured assessment of David's cognitive skills, due to his reluctance to communicate with me. His responses indicated there were potentially needs associated with verbal problem solving, yet it is suggested that a potential hypothesis for this could be within the Vygotskian view purported briefly in the literature review. If, as is suggested, that

learning is a social experience, David's communication needs within the classroom may be 'holding him back' from developing his learning. More fundamentally, if we are not really sure of David's language abilities, in terms of understanding and using it, then it may be an intrinsic need which could be causal. Finally, if David's language capacity is good, yet it is a social or emotional need which is hampering his ability to respond to questioning, then using a standardised assessment is an inappropriate measure to assess his cognitive skills. It is noted that the assessment of David does not end here. Further investigation of his needs and strengths is occurring, yet a priority for this report (and indeed of his parents) was his levels of communication in relation to his social participation. They were particularly concerned about his levels of social competence and it was then that it was suggested that he could benefit from closer examination.

Exploring social interactions: Observation schedule design

I explored David's social interactions during a structured observation of his time spent in his classroom and the playground, during a three hour session.

Downer et al have noted, "Observations are somewhat flexible and sensitive to individual ways in which children display their competence" (2010: 5). This sensitivity was fundamental in the schedule design, as the subtleties of David's interactions were felt to be crucial in understanding them. Some commonly used classroom observation methods are used in research, but were discounted for their reliance on verbal language use and teacher-pupil interactions (e.g., the Flanders Interaction Analysis: Flanders, 1965). A further method created by Downer et al (Individualized Classroom Assessment Scoring System/ InCLASS: 2010) was considered, but analysis of the categories of investigation were felt to be unsuitable due to prominence of expressive language skills required to achieve positive findings. It is suggested that this method would be biased against any potential non-verbal skills David may show. Appendix 2 offers further details regarding this.

As with the InCLASS method, it was felt that the schedule required flexibility in the data that was recorded. Some observation methods rely on event sampling yet it was felt that this could potentially reduce the data to a frequency count of interactions which would not provide a rich data set. Moreover, time sampling was discounted as only recording data at standard time intervals may omit important interactions. However, time sampling does offer the observer the opportunity to record chronologically, which may reveal interesting information. Although rating scales of the qualities of the interactions may be useful, it was felt that my judgement may not have been representative of David's interactions and may be biased against his interactional style (expected to be mainly non-verbal). Duration recording was felt to be appropriate, as it was not clear how long any interactions may last for, and it was expected that they would vary across the sessions. Due to all these factors, a schedule was created for the purpose of exploring David's contacts with others. In line with table 2, I was interested in certain aspects of David's interactions: the frequency, direction, duration, quality, and the patterns between these factors. The schedule would allow for the frequencies of interactions to be analysed, in the context of the time it occurred, whilst also allowing for the durations to be recorded without affecting the rigour of the schedule (see figure 2 for the schedule headings). The interactional partner, who initiated, and the quality of the contact could be noted, alongside any further notes of the use of verbal or non-verbal communications. These dimensions were recorded and categorised accordingly (see appendix 1 for example of data and recording methods). The intention was to build a profile which began to identify the levels of participation David experienced.

TIME	ON/OFF TASK	INITIATED/ RECEIVED	SUSTAINED/ ENDED	ADULT/PEER *new peer?	POSITIVE/ NEGATIVE	NOTES (inc. relevant context

Figure 2: Headings for schedule.

It is important to note that naturalistic observations are not without criticism however; Zegiob et al (1975), amongst many authors, have suggested that presence of an unfamiliar figure in a classroom can have confounding effects on the data they record.

Some authors have sought to rectify this by developing less invasive observational methods (e.g., audio-visual recording: Craig and Pepler, 1995), however, the ethical considerations associated with this are vast and difficult to negotiate within a classroom. More recently, researchers have accepted the critique yet continued with the use of observations when exploring children's interactions (Wragg, 1994; Galton et al, 1999; Alexander, 2000), even suggesting they are indeed more valid methods of data capture (Caprara et al, 1986) because behaviours are *actual,* not *reported*. Kemp and Carter have further summarised,

> Asher and Hymel (1981) have suggested that despite the obvious face validity of naturalistic observations, they may not be good measures of social competence, especially if the emphasis is on frequency of observations. They report, for instance, the weakness of the relationship between the frequency of peer interactions and how well children are liked. On the other hand, the authors noted that there did appear to be a relationship between the frequency of positive interactions and social acceptance and negative interactions and social rejection (2002: 408).

It is suggested that purely measuring frequency is not helpful, particularly if we are to make links between this and the perceived social status of an individual child. It is further suggested that the frequency of interactions must be complemented by the nature and direction of the interaction. As a final note, in relation to the current educational climate, Smith and Hardman (2003) go so far as to say that "the presence of an observer in a classroom nowadays is not an unusual occurrence because of school inspections and performance management assessments" (2003: 41). This view is accepted here, in relation to the chosen methodology.

It is also noted that observations do require ethical consideration. These are summarised in more detail in appendix 3, yet it worth noting that permission was gained from David's parents for detailed observation (through signed permission on the psychology service referral, and through

verbal consent explaining the nature of the referral and this case study). As this process was very much focused on David's interactions, the partners were not observed in relation to their behaviours, and data recording remained anonymous. In fact this process was no different to classroom observations that occur through daily EP practice; this was confirmed and agreed by psychology service management. Again, this raises points of reflection. If this activity was purely 'academic' it may suggest requiring informed consent from all parties. However, in line with standard service procedures, generalised consent is not gained from all members of the class, nor from the class teacher. The practicalities of this would prove very difficult.

Exploring friendships

David's friendships were explored through a sociometric method. This method is popular in classrooms, due to its simplicity and being a time-efficient resource (Leung and Silberling, 2006); the methodological simplicity provides information as to whether children are liked or disliked within the classroom, to gain a picture of their social status (Wu et al, 2001). Moreover, this method has been suggested as robust, when triangulated with teacher views (Wu et al , 2001), and children's own perceptions of friendship group formation (Shapiro, 2001). It is noted that young children's friendships can be transitory, therefore the reliability of the method has been questioned (Meyerhoff, 1999; Leung and Silberling, 2006), yet when used on singular occasions it is accepted that the data relates to the moment in time rather than making assumptions as to enduring relationships.

29 children took part in the activity, from the same year 3 class, with consent gained from parents/carers through an opt-out letter (see appendix 4). No further details for David's peers were gathered, as they would not be required for data analysis.

The process for administering the sociogram activity is found in the box below.

1. All children who were not opted out of the activity (N=29, one opted out) were given a questionnaire sheet, within their classroom environment.

2. The children were asked by the teacher to listen, as she read out the instructions (see appendix 5). The children were encouraged to keep their answers private and to respond with their own views. They were asked not to discuss their answers before, during or after completion of the activity.

3. The children completed the sheets, by writing the names of the three children they most liked (ML) and least liked (LL) to play with.

4. The sheets were returned to me immediately after completion.

5. The names of the children were entered into a password protected excel file, and were then allocated a numerical identifier.

6. The data was then entered into the downloaded files gained from http://users.sussex.ac.uk/~robinb/socio3.html (a site created by Robin Banergee).

7. Some data was missing (4 out of 29 children did not complete all LL entries).

8. The downloaded software created the sociogram results (discussed in the Findings of Assessment section below).

Sociogram procedure.

Findings of Assessment – Classroom interactions

David's classroom interactions were categorised in terms of frequency, the direction (initiated or received), sustained (for more than the initial contact), whether it was with an adult or peer, positive or negative or neutral, alongside notes of any other pertinent information.

Initial analysis explored the frequency of interactions and whether it was terminated or sustained beyond the initial contact. Table 4 shows that of all David's interactions, 77% were received by others and only 11% were initiated by him. Of particular interest is that of all of David's initiated interactions, none were sustained beyond their initial contact, either by him or by the interactional partner. Of the interactions he received from others, approximately half were sustained, either by himself or the partner.

	Initiated	Received
Frequency (total = 47)	11	36
Sustained (total = 17)	0	17
Terminated (total = 30)	11	19

Table 4: Classroom interactions by direction and duration.

It is also noted that many of David's interactions were perceived to be prosocial, that is, not inappropriate or antisocial, and supportive of others feelings and consistent with the values of the classroom community. Although many were not sustained, they were all compliant to requests or showed some non-verbal acknowledgement of the partner. There was one classroom incident of David pushing past a peer, but this behaviour was in keeping with his peers at that time.

Also of interest is that 23% of David's interactions were with the adults in the room, leaving 77% with his peers. Only one incidence of adult interaction was initiated by David, and this was when he brought his work to show me. This would reveal that the direction of David's interactions with peers was mostly initiated by them. It is also important to acknowledge that David's language use within the classroom was very limited, with only single words responses used to answer questions, and occasionally saying *thank you.*

Analysis also explored levels of on-task/off-task behaviour. Taken at 5 minute intervals, David appeared on-task for over three-quarters of the time. Nearly all of David's apparent off-task behaviours were responding to games and silliness, instigated by peers. There were no instances of off-task behaviour that occurred without an interaction occurring, he was not noted to be independently distracted or disruptive. It is noted in the literature cited above that it is the levels of

disruption within the classroom that might reveal unsuccessful peer perceptions (Dodge et al, 1982; Qi and Kaiser, 2004), and David's interactions do not suggest that he is at risk of poor friendships. Moreover, as Coolahan et al (2000) state, children with SEN who exhibit negative behaviours towards peers are at increased social risk. However, the literature review above proposed the argument that it is the combination of behaviour in both the classroom and playground which may impact how they are perceived by peers (McCay and Keyes, 2001; Kim, 2003), therefore we must continue to explore David's interactions here. As Dodge et al (1982) suggest, even children with competent classroom behaviours are at risk of being neglected, if their playground behaviours are not prosocial.

Findings of Assessment – Playground interactions

David's playground interactions were categorised using the same format as within the classroom.

Again, initial analysis explored the frequency of interactions and whether it was terminated or sustained beyond the initial contact. Table 5 shows David's playground interactions. The data reveals an opposite pattern to within the classroom: only 21% were received by others and 79% were initiated by him. Again, opposite patterns occurred with most of David's initiated interactions being sustained beyond their initial contact, either by him or by the interactional partner. Unlike the classroom data, of the interactions he received from others, none were sustained by him, and he appeared to break the activity and begin a new interaction. It seemed that David was more proactive with the interactions he was having in the playground, and more willing to terminate unwanted contact in favour of beginning a new interaction 'on his terms'.

	Initiated	Received
Frequency (total = 14)	11	3
Sustained (total = 8)	8	0
Terminated (total = 6)	3	3

Table 5: Playground interactions by direction and duration.

Again, it is noted that many of David's interactions were perceived to be prosocial. Most were sustained, but rather than being through compliance, it is suggested that this was through David being more directive in the activities of peer group. Only on one brief occasion did David appear to be struggling to ingratiate himself into the group, and he overcame this by moving closer and making playful physical contact with a peer. In this environment David was not observed to use any language. At one stage a peer separate from his chosen group called him over, which he initially ignored. After several more attempts, David ventured over making eye contact, but then broke off the interaction and returned to his group. Not surprisingly, no adult interactions occurred in the playground.

In this scenario, there were no obvious instances of being disruptive to the game, yet as the focus was very physical with lots of running and chasing, it did not seem that there were many rules.

As noted in the literature, Ladd and Price (1993) suggested that playground environments allowed for more choice of activity and behaviour, more power and control than within the classroom, and less rules to follow, which could all combine to support the child to develop successful relationships. Data from the observations concurred with this view, in terms of providing opportunities for all those aspects. However, another significant factor for David appeared to be the reduced

requirement for verbal communication. It could be hypothesised that the playground diminished the pressure to speak and potentially allowed David the opportunity to remove himself from any situation which required language. His demeanour within the playground appeared more content, happy and excitable than was observed in the classroom, suggesting he was more comfortable here. Of note, is the frequency of David's interactions within the classroom and the playground: he took part in more than double the amount of interactions in the less structured environment, when the frequencies were divided by the time. Interestingly, Fujuki et al (2001) stated that children with language impairments responded and sought less interactions in the playground, than non-SEN peers. Although this cannot be contested formally, as no control children were observed during this process, it was not felt that David's interactions were any less in number compared with the peer group he was playing with, as found by Roberts et al (1990). were suggestive of the fact the However, as Estell et al (2009) states, it may be likely that David's interactional partners may also be experiencing their own SEN, yet this study's ethics did not support further investigation of this.

Following on from the discussion of David's classroom behaviour it was suggested that he may need to exhibit prosocial behaviours in the playground to protect against being neglected by peers (Dodge et al, 1982). As this was found, it is further suggested that it would be not expected the sociogram activity would reveal him as neglected. Moreover, as none of David's behaviours were disruptive or antisocial, it would suggest that he would receive nominations within the most liked categories which would suggest him as being perceived to be a good friend (McCay and Keyes, 2001; Kim, 2003).

Findings of Assessment – Sociogram

Raw data, including numbers of nominations, can be found in appendix 6. Due to ethical restraints, whilst not identifying the individual children, it is noted that David is child number 1.

The key to reading the sociogram (see figure 3) can be found in the box below.

Popular (coloured green): received high numbers of [most liked] ML nominations and low numbers of [least liked] LL nominations. The majority of pupils with these classifications tend to be prosocial, showing socially competent behaviours.

Rejected (coloured grey): received low numbers of ML nominations and high numbers of LL nominations. This is considered to be the most 'at-risk' peer status classification, as it is often associated with externalising and/or internalising problems. This also tends to be the most stable peer status classification, with some pupils experiencing multiple years of peer rejection. Further assessment of these pupils, measuring their feelings and their patterns of thinking, will be important for supporting these pupils' development in targeted work. In addition, the links in the sociogram will provide valuable information for supporting and managing these pupils in groupwork.

Controversial (coloured orange): received high numbers of ML nominations and high numbers of LL nominations. This classification tends to be less stable, but pupils falling into this category can be highly influential. They are often dominant characters who are perceived to be highly popular, yet they may be aggressive, disruptive, and even intimidating. Because of their influence, work with these pupils can have a substantial impact on the classroom ethos.

Neglected (coloured pink): received low numbers of ML nominations and low numbers of LL nominations. This classification is generally seen as less problematic than the Rejected category. Research often finds that these pupils -- despite having low social impact -- are well-adjusted, although they may have a reputation for shyness.

*Bear in mind that the peer status allocations are based on statistical cutoffs. There may be other pupils in the class/group who fall just short of the threshold for one of these peer status categories. Please examine your Excel spreadsheet to see the exact numbers of ML and LL nominations received by each pupil.

Key to reading sociogram data (Banerjee, no date given by source).

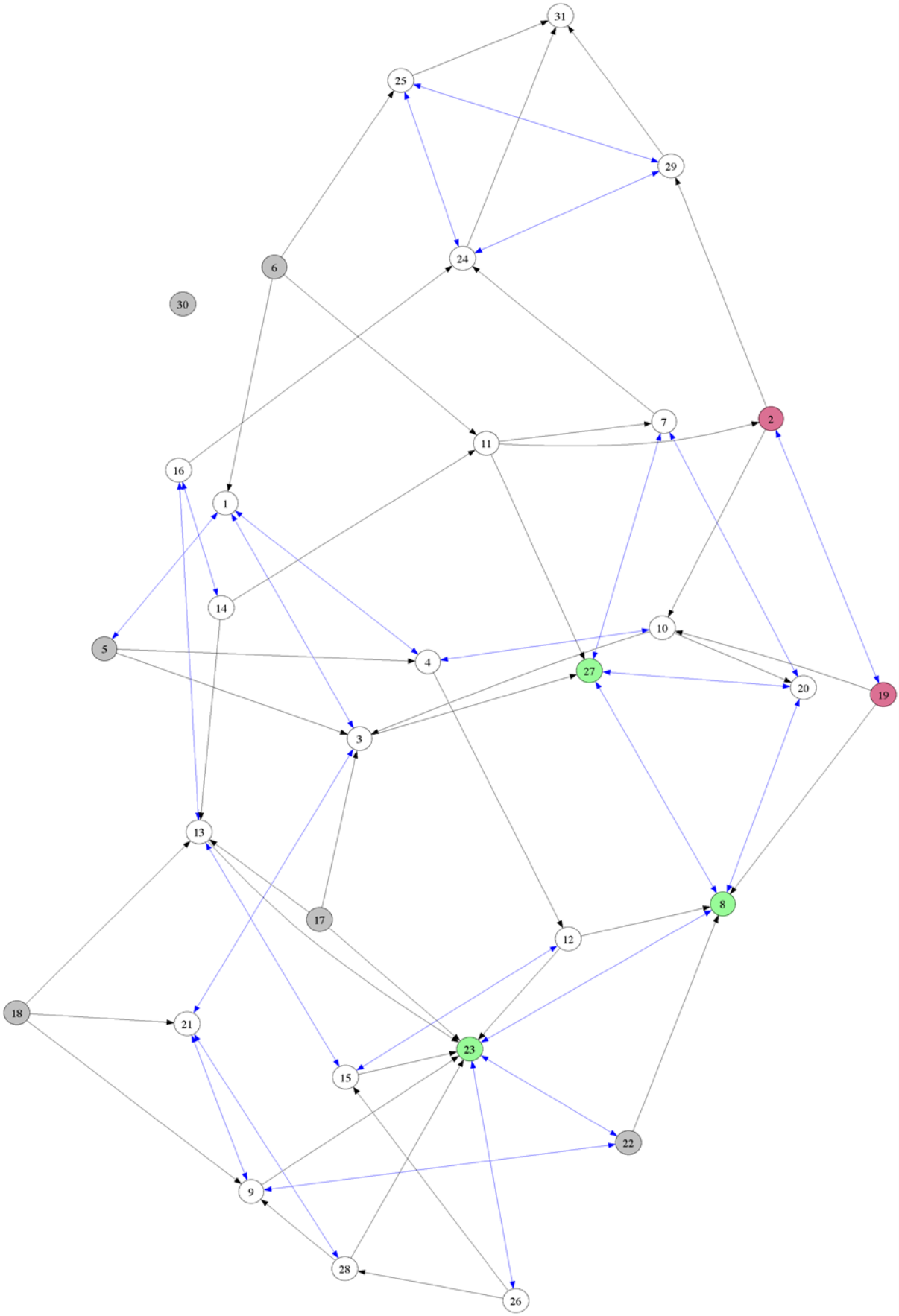


Figure 3: Sociogram data from David's class (*David is child number 1).

It can be seen that David is not placed within any of the categories suggested in the key. More detailed analysis of the raw data highlighted that he received 4 ML nominations, and 2 LL nominations. Moreover, it can be seen that the nominations from him showed reciprocal friendships with 3 children who selected him as a child they most like to play with. David did not identify any children as LL. Within the conceptualisations of sociometry, this would indicate mutual peer perceptions, and ultimately friendships. Perhaps of interest here, 2 of the positive nominations David received were from 'rejected' children. These children received 7 and 6 LL nominations. As the sociogram data purely states the connections between children, we cannot begin to answer why the children make nominations the way they do. Moreover, we are not able to explore why children are least liked by their classmates. Within the context of the literature, there could be suggestions that these peers are suffering from their own SEN, as this population have been cited as being 'at risk' of poor friendships (Coolahan et al, 2000; Kemp and Carter, 2002; Pilj et al, 2008; Estell et al, 2009), yet we must not make assumptions that SEN is the only reason why social difficulties can appear. Moreover, by returning to the earlier work of Dodge et al (1982), the socially appropriate behaviours within the playground that occurred may combine with disruptive behaviours in the classroom to produce this rejected status. Ultimately, however, David's peers were not the focus of this exploration, and as interesting as these reflections were found to be, this case example does not support further analysis here.

Discussion of findings

An initial review of the literature surrounding children with SEN and their social relationships could potentially paint a negative picture. Particularly when coupled with the specifics of a child with learning and communication needs. As noted in the discussion of social participation above, previous researchers have sought to explore levels and styles of interactions, and the friendships they children have. However, it is acknowledged that many studies have not combined the structured

analysis of interactions with a review of peer perceptions, and social relationships within a peer group. Moreover, whilst exploring David's social world in school, this case study sought to review the potential differences within the structured and non-structured environments of his school life. This also occurred within the context of his potential needs, and gave brief consideration of his peer's status.

Below is a summary of this information, placed within the areas to explore that were identified at the beginning of this report (see table 6).

Key dimensions	**Areas to explore**	**Findings**
Social participation - Interactions Location of interactions	Frequency, direction, durations, quality, adult/peer, and the patterns between these factors. Structured environment (classroom) and unstructured environment (playground)	**Within the classroom**: Limited initiated interactions, particularly noticeable with the adults in the room. No initiated interactions were sustained, either by him or by others. David's interactions with adults were compliant, yet short. For interactions received by David, there was an even balance of whether they were sustained beyond the initial contact, or terminated. Sustained interactions lasted between 20 seconds and 2 minutes. No signs of disruptive behaviour, and all off-task behaviour was likely to be seen as positive by peers as he was joining in with games and silliness. **Within the playground:** Mostly initiated interactions, all with peers. No received interactions were sustained, either by him or by others. David's interactions with peers were mostly self-directed, guiding the play through his behaviour. His peers complied with this. For interactions received by David, none were sustained beyond the initial contact, and he broke the interaction to begin a new one of his choosing. Sustained interactions lasted approximately 1-2 minutes. No signs of disruptive behaviour, as his peers seemed content to follow his lead, however, David did not direct the game towards anything which appeared non-cohesive to the group's needs.

Social participation - friendships	Peers' perceptions of the child and whether they are reciprocated	David's status was not within the extreme categories, although two of his ML nominations were from rejected peers. David received 4 ML and 2 LL nominations. David did not give any LL nominations. His own ML nominations were reciprocated, suggesting friendships with these peers.
Child's individual SEN, and associated diagnoses	Are communicative or interactional difficulties associated, directly or indirectly?	David's language use in both environments was limited: only single word responses within the classroom, and no apparent language within the playground. Discussions with parents revealed David was much more communicative at home, both self-initiated and responsive, although it is not clear as to whether he may be experiencing an underlying speech and language need beyond the social and emotional aspects which are hypothesised. It is further suggested that the reduced verbal pressure in the playground may account for his increased initiation of interactions. Furthermore, the associated learning delays as described by the teacher may be associated with David's communication needs: this may be related to difficulties with expressing his views/producing the work necessary for appropriate attainments; limited opportunities for social learning experiences impacting on his capacity to develop his learning skills; emotional needs impacting on his own perceptions of his ability. This requires ongoing assessment and consultation with staff and parents.
Interactional partners	Any associated needs? Stability and quality of friendship over time?	Consultation with David's teacher regarding her view of his friendships revealed that, whilst he was thought to be liked, they may not be language-rich or challenging friendships. She raised concerns as to whether David would be able to sustain these friendships, without developing his language skills. She was concerned the gap would widen in their expectations for ongoing relationships.

Table 6: Summary of findings.

As stated, this report served to document a specific exploration of a child's needs. Assessments had previously occurred to begin to make formulations of their holistic world, yet the focus here was on their levels of social participation and friendships. Literature has noted that there are often significant concerns from adults, when discussing children with SEN and their social competence

(Freeman and Alkin, 2000; Kemp and Carter, 2002). Both school, and more explicitly, David's parents shared concerns regarding David's social competence within his school environment. A review of literature made suggestions that, whilst many parents feel mainstream schooling is best for children who may be at risk of unsuccessful relationships, they may be experiencing less quality interactions than their non-SEN peers (Wiener and Harris, 1989; Cole and Meyer, 1991; Freeman and Alkin, 2000). However, complexities were identified in terms of what was being assessed in these explorations, and an argument was made to suggest that participation included exploration of both the interactions themselves, and their associated friendships. Furthermore, an evidence base was employed to highlight the interplay between the levels of structure within school environments, as suggested as crucial by Dodge et al (1982).

In support of research by Ladd and Price (1993), David's interactions were observed to be very different, depending on location. He showed more initiated behaviours within the less structured environment, and appeared more comfortable with less requirement to speak. His interactions were more likely to be sustained if they were received, in the classroom, and if they were initiated in the playground. As none of his interactions were viewed as disruptive, and were all cohesive with the activities of the group as a whole, it was suggested that he was aware of and compliant with prosocial norms. It is suggested that this awareness was supportive of David's perceived suitability as a friend. However, David's limited language use may be impacting his ability to be fully prosocial, particularly within the classroom, which may explain why he did not receive more ML nominations Ladd and Price (1983) that the playground behaviours are fundamental in influencing how they are perceived by their classmates, therefore it is suggested that David's associations with rejected peers may have implications for how he is perceived by more 'popular' children (according to the sociogram). It is interesting to note that Fujuki et al (2001) found that children with language impairments sought and responded to significantly less interactions than their non-SEN peers, in the playground. This was not supported here, and it is suggested that the reduced structure and reliance on language in the playground was beneficial in supporting David to have successful interactions.

Conclusions, recommendations and limitations

Overall, this in-depth assessment of his social skills have served to guide the hypothesis that David is experiencing a reluctance to communicate with others in social settings. It may be that there are other co-morbid needs, in terms of language disorder or learning difficulties, but it is felt that these cannot be confirmed without being able to separate them from his reluctant speech. Recommendations will be made, in line with emotionally-based communication needs, which will require ongoing review (e.g., reduce anxiety; remove pressure to communicate; offer non-verbal resources for communication). Moreover, it is suggested that support can be gained from his parents, to gather further information about his speech at home (e.g., a language diary).

Other aspects to consider within this case study are the needs of the other children. As identified, there were peers who are experiencing potential social difficulties, by being rejected or neglected by peers. The ethical considerations of this study, and the consent for class inclusion in the sociogram stated that no children will be identified. It is suggested that a general conversation occurs with the class teacher to inform her of the findings, on a general levels. Consultation can then be used to explore ways to support the class as a whole to develop their social competencies, and acceptance of one another. Some researchers suggest that negative relationships can occur through inappropriate play (McCay and Keyes, 2001; Yanghee, 2003). Support and structure for whole class play activities could be beneficial here, albeit with consideration of the fact that David appeared more comfortable without the structured, language-rich expectations. Moreover, what may be viewed as inappropriate by some children, may be viewed as appropriate by others. Ultimately we must not presume that individual differences are not acceptable.

Finally, a note of caution is raised. This case study aimed to explore on child's experiences, through a naturalistic observation and a potentially 'unnatural' questionnaire activity. There was no analysis of the compatibility of this information, and it was not explicitly triangulated. It would be interesting to further explore whether the ML and LL nominated children were then treated accordingly by the

child. Is there variation in how the child is perceived, at different times? Are 'fallings out' and changes in mood implicated in who they nominate? This study was limited in its capacity to explore this. Moreover, the constraints of only 3 ML and LL nominations does not allow for the children that may also be like, or not liked. It could be suggested that unlimited nominations may rectify this concern in the future. On a final note, although there are suggestions that physical proximity can be important in determining who a child is friends with, this study did not consider potential relationships outside of David's classroom. Further analysis of the wider school environment may reveal differences in data. Ultimately, however, this study has supported me to identify further areas for investigation, and make suggestions as to ways forward, it has served a valuable professional purpose: to add to my understanding of David's needs and experiences, to make evidence-based formulations as to how best to support him, and to give areas of focus for intervention and evaluation. These are all fundamental parts of the EP's role in casework.

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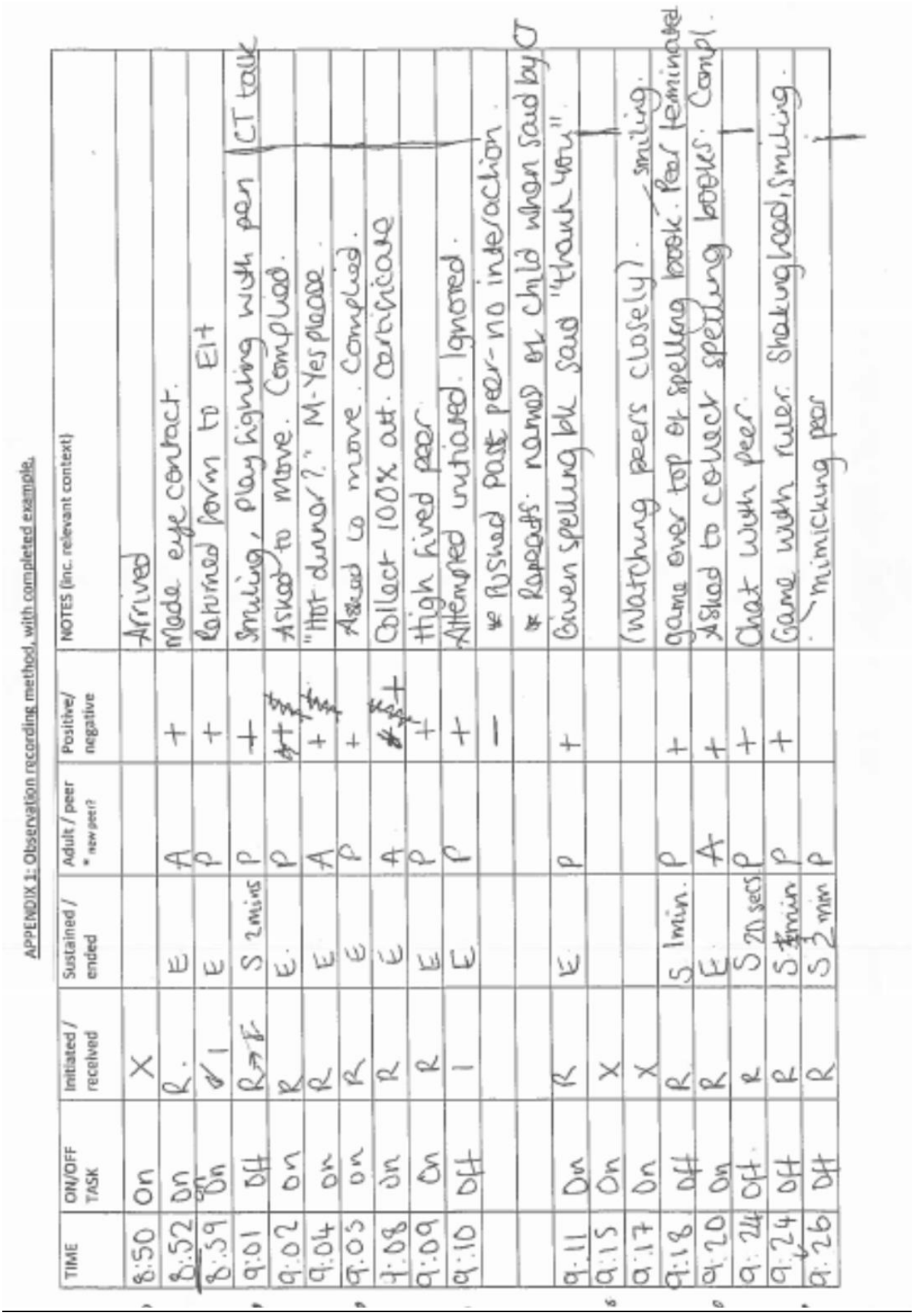
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Appendix 1: Observation recording method, with completed example.



APPENDIX 1: Observation recording method, with completed example.

TIME	ON/OFF TASK	Initiated / received	Sustained / ended	Adult / peer * new peer?	Positive/ negative	NOTES (inc. relevant context)
8:50	On	X				Arrived
8:52	On	R.	E	A	+	Made eye contact.
8:59	On	✓1	E	P	+	Returned form to EIT
9:01	Off	R→E	S 2mins	P	+	Smiling, playfighting with pen (CT talk
9:02	On	R	E	P	+++	Asked to move. Complied.
9:04	On	R	E	A	+	"Hot dinner?" M-Yes please
9:05	On	R	E	P	+	Asked to move. Complied.
9:08	On	R	E	A	++	Collect 100% att. certificate
9:09	On	R	E	P	+	thigh fived peer
9:10	Off	I	E	P	+	Attempted unnoticed. Ignored.
					—	* Rushed past peer- no interaction
						* Removed by child when said by CT
9:11	On	R	E	P	+	Given spelling bk said "thank you"
9:15	On	X				
9:17	On	X				(Watching peers closely) smiling.
9:18	Off	R	S 1min.	P	+	game over top of spelling book. Peer Heminated
9:20	On	R	E	A	+	Asked to collect spelling books. Compl.
9:24	Off	R	S 20 secs	P	+	Chat with peer
9:24	Off	R	S 1min	P	+	Game with ruler. Shaking head, Smiling.
9:26	Off	R	S 2 min	P		mimicking peer

TIME	ON/OFF TASK	Initiated / received	Sustained / ended	Adult / peer * new peer?	Positive/ negative	NOTES (inc. relevant context)
9:27	Off	R.	S. 15sec	P	+	Games. with pencil. Peer terminated
9:29	Off	I	E	P	+	Game. pushed peers pencil down gap.
9:30	On.	x				(Peers playing / talking over M)
9:31	Off	R	E	P	+	Smiled @ M, M smiled back.
9:33	On	I (peer not successful)		P *		(Moved to listen to peer talking.)
9:35	On	R	E	P A	+	Measured plant. M nodded.
						CT talking
9:38	On	R	S. 15 secs	P A	+/-	CT asked M - "what did you do?" "[peer] selects in it". "water". single words possible.
9:40	On	x				Peers supported - whispering to hum CT said no.
9:42	Off	I	E	P	+	Tapped peer, to move.
9:42	Off	R	E S. 5sec	P	+	Laughing together with peer.
9:45	On.	x				Talk returns.
9:50	On → Off	R.	S. 10 sec	P		Silliness / game.
9:51	Off	R	E	P *		CT Peer asked? M said "what?".
9.52	On	R	E	A	-	CT asked - Direct? M Silent.
						Peer whispered (on instruction of CT)
						M did not say anything.
9:54	Off	R	S. 5sec	P		Game (All games initiated by others. M
						Seems to struggle to sustain. Seems to be
						on their terms if it continues).

APPENDIX 2: Review of InCLASS Observation Method (Downer et al, 2010)

Domains, definition and behaviours of interest*	**Discussion of suitability in this context**
Teacher Communication : Child's ability to sustain conversation Variation of child's speech Child's responses to requests	David's limited verbal communication reduced likelihood of being able to sustain conversation and vary their use of speech, David may not show verbal responses to requests, and may not present with great understanding of instructions (depending on complexity)
Teacher Interactions: Child's proximity seeking behaviours (conversations with teacher, eye contact, initiation of communication) Emotional connections between child and teacher	David has been suggested to have limited eye contact with adults in school, and does not hold conversations outside of the home, David does not show obvious signs of emotions, and often does not verbalise his feelings
Teacher Conflict: Tension in relationship, Resistance to teacher requests, Negativity in relationship	There is no reported negativity in the relationship between David and his teacher
Peer Sociability: Child's experience of positive emotions, Child's seeking of interactions with peers, Child's responses to interactions with peers, Peer's responses to child	David may not seek and initiate interactions with peers, and there is potential that his peers may not seek him for interactions, yet this would be useful information to have
Peer Assertiveness: Child's initiation of interactions, Child's leadership skills, Child's ability to speak up to peers, Child's ability to communicate their needs to peers	Whilst exploring initiation of interactions is an aim of this observation, leadership skills, communicating his needs and 'speaking up' are suggested as potential skewing the data. Other aspects of interactions may be more subtle, and provide useful information
Peer Communication: Initiating communication, Sustaining conversation, Varying purposes for speech with peers	Very focused on verbal skills, therefore inappropriate for David
Peer Conflict: Aggression from child to peer, Confrontation between peers, Attention-seeking behaviours from child, Negative affect (shown through body language)	There is no reported negativity in the relationships between David and his peers, David shows limited emotional behaviours, in terms of facial expression and body language, but this is not to say that his he is not experiencing negative emotions.

*Not all dimensions explored, with only relevant dimensions documented here.

APPENDIX 3: Ethical considerations.

Ethical Considerations

As a Trainee Educational Psychologist undertaking fieldwork research, I adhered to the ethical guidelines as recommended by the British Psychological Society (BPS, 2009; 2011) and the British Educational Research Association (BERA, 2011). Due to the involvement of external participants (e.g., child, parents, class teacher, peers), due consideration was given with regards to:

- "Respect knowledge, insight, experience and expertise of clients"
- "Keep appropriate records… record, process and store confidential information appropriately… make audio records only with explicit permission"
- "Ensure that clients… are given ample opportunity to understand the nature, purpose and anticipated consequences… of any research participation [and] seek to obtain informed consent"
- "Ensure from the first contact that clients are aware of their right to withdraw"
- "Debrief participants at the conclusion of their participation"
- "Be honest and accurate in conveying professional conclusions, opinions, and research findings, and in acknowledging the potential limitations" (BPS: 10-22).

Further ethical considerations include:

- The implications of the issues discussing friendships might raise with individual children.

  Ensure discussion prior to activity with the class teacher, to reveal what support the children could receive if issues are raised. Suggest that children are told they can talk to the teacher if they wish to.

- The implications of exploring children's friendships, for the classteacher (e.g., they may question how to support the children, or it may highlight some children's social difficulties which may cause upset).

  Offer debrief with the classteaacher after the activity. Within this, share any concerns raised from the data, generally and anonymously. Offer consultation to support classteacher to develop strategies to support social competence, participation, acceptance and friendships within the school.

APPENDIX 4: Letter to parents.

Dear parent,

My name is Emily Heath and I am your school's link Educational Psychologist. As part of my doctoral training, I am currently undertaking a piece of research which is exploring the friendships of children.

I am very interested in exploring the relationships children have with other children in their class and whether some children with special educational needs have the same relationships as those children without special educational needs. I would do this by using a tool called a sociogram, which asks all the children in the class to fill in a short questionnaire which tells me the children they most like, and who they don't get on so well with. Children will be asked to write the names of these children down (with help if they need it), but then I will then change the names to numbered codes, to keep the information confidential. The children will be asked if they want to complete the questionnaire and be told that they do not have to.

Your child will complete the questionnaire at the same time as all the others in their class, and they will all be told that their answers will be kept confidential and secret to only me. Other children won't know who they put down on their questionnaire. This information will then be used to look at patterns of friendships across the class.

All information I receive will be kept confidential. I will not name any child. I will give feedback to the school on the friendships in their class, but only by using general comments. If the children themselves have any worries about their friendships, they will be encouraged to speak to their teacher who will be able to give them some support. I can also offer to support the teachers in thinking of new ways to encourage good relationships in their class.

I would like your permission for your child to take part in the sociogram activity. If you are happy for them to take part, you needn't do anything.

If you DO NOT wish your child to take part in this activity, please complete and return the form overleaf, by **Thursday 26th March 2015**. If you have any questions about this research, please telephone or email me on the contact information below.

Many thanks,

Emily Heath

Trainee Educational Psychologist

[redacted] Council / University of Birmingham

I DO NOT give consent for my child to take part in the study of the friendships of children.

Please return this form to your child's class teacher, and keep the attached information sheet.

Name of child _____

Parent/carer sign _____

Parent/carer name _____

Date _____

APPENDIX 5: Sociogram questionnaire

My name _____ boy or girl

The three children in my class who I MOST like to play with:

_____ _____ _____

The three children in my class who I LEAST like to play with:

_____ _____ _____

APPENDIX 6: Raw sociogram data for David's class

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1			1	1	1																										
2	-1				-1					1		-1							1										1		
3	1																	-1			1	-1			-1		1				
4	1					-1				1		1						-1				-1									
5	1		1	1														-1				-1									
6	1				-1						1														1						
7																				1		-1		1		-1	1			-1	
8				-1		-1											-1			1			1				1				
9						-1											-1	-1			1	1	1								
10			1	1																1											
11		1			-1		1							-1			-1										1				
12						-1		1		-1					1		-1						1								
13				-1										-1	1	1		-1					1								
14			-1								1		1			1		-1								-1					
15												1	1					-1				-1	1							-1	
16													1	1			-1	-1				-1		1							
17			1										1									-1	1			-1				-1	
18						-1		-1	1				1	-1							1										
19		1			-1			1		1										-1								-1			
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25			-1		-1																	-1		1					1		1
26												-1			1								1	-1				1	-1		
27						-1	1	1									-1	-1		1											
28									1	-1								-1			1	-1	1								
29							-1						-1			-1								1	1						1
30																															
31																															
ML	4	2	5	3	1	0	3	6	4	3	2	2	5	1	3	2	0	0	1	4	4	2	9	4	3	1	5	2	3	0	3
LL	2	0	2	4	7	6	2	1	0	2	1	3	1	3	0	1	7	12	0	1	0	10	0	1	1	3	0	1	1	4	0

CHAPTER FIVE

Exploring Training Needs in Educational Psychology Practice: What knowledge and skills do Educational Psychologists utilise when working with children who have experienced domestic violence and abuse, and how can we develop it?

ABSTRACT

This report documents a structured approach to exploring the knowledge and skills of Educational Psychologists (EPs) practice when making assessments of children who have experienced domestic violence and abuse (DVA). A Training Needs Analysis (TNA), based on aspects of the Integrative Framework (Taylor et al, 1998) was employed to explore whether EPs were considering all aspects of Bronfenbrenner's mature theory of bioecological development, and whether training would supply an effective route to remedy any discrepancies. The literature review identifies relevant research related to outcomes associated with DVA experience, which is then placed into Bronfenbrenner's Process, Person, Context Time theory, to support the use of this as the 'ideal' set of variables in practice. Discrepancies in the use of these variables, and some external explanatory factors for this, were identified. Participants each perceived between 4 and 15 variables to be unused in their assessment and formulation practice. The most responses showing discrepancies were found in the Context category, suggesting not all the systems of a child's life were consistently explored. Furthermore, not enough time and lack of knowledge were identified as the most consistent reasons for this, along with some suggestion that there were inadequate resources available to use. Training was therefore felt to be inadequate in addressing the discrepancies in practice. Some alternative suggestions are made to combat the discrepancies, in the form of creating a resource which allows timely consideration of the variables, in an explicit manner, alongside an accompanying review of the literature to support knowledge development. TNA is suggested here as a valuable approach to reduce the uncertainty that can arise during exploration of whether training is the best course of action.

INTRODUCTION

Educational Psychology Services (EPSs) are undergoing processes of change. The current climate is making financial demands on local authority EPSs, as with many council-based services, leading to adaptation and creativity in models of delivery across Britain (Booker, 2013). Models are varying from reducing services to the statutory-only level, to trading psychological services; yet there is also a shift away from local authorities with increasing numbers of Educational Psychologists (EPs) gravitating towards social enterprises and independent practice. Within the larger organisations themselves, the individual practice of EPs has always been varied: professional training content can vary between institutions (Evans et al, 2012); management requirements will differ between

organisations (Booker, 2013); individual perspectives will influence practice (Boyle and Lauchlan, 2009). The diversity is nothing new, yet it seems the trend of differences in practice is continuing. With such variations in practice, it is suggested that this may lead to difficulties evaluating the overall impact of EPs' work, both at an individual and organisational level. Moreover, when do EPs know there is a need for change and development in their practice approaches? Likewise, how do researchers, policy makers, managers and psychologists themselves know if development is needed at a whole service level or whether it is individual practice that could benefit from adaptation?

As a Trainee Educational Psychologist I have spent time working in several local authority EPSs, as well as having previous experience working within the independent sector. The variety of approaches to casework has always been of interest to me; often wondering what are the influences, at what levels, that contribute to EPs' practice. It is possible to identify individuals within a service with specific theoretical approaches or interests within their practice. Through the process of the professional training, my own pockets of interest are developing which vary greatly from my office-mates; this leads to questioning how we know if change is necessary if everyone approaches tasks in different ways. Although the focus of this report is not to find in-depth explanations behind why EPs work in the ways that they do, it is important to consider the potential factors that may be influencing the myriad ways in which practice is manifest. Moreover, as the intention here will be to explore the potential *need* for developments in EP practice, we must acknowledge that the growth from trainee EP to experienced practitioner will bring about such variety in practice approaches that any exploration must centre on the individual EP and what they are doing in the first instance. This will seek to ensure that any recommended changes are based on what the EPs themselves perceive to be areas of need, and whether there are general patterns to this; avoiding targeting all EPs should any needs be specific to individuals.

My career to date has included a specific area of interest: the effects of domestic violence and abuse (DVA) on children and young people's development. I have studied the potential outcomes within

the context of an EP's work, as well as at a wider systemic level. Furthermore, I have considered the pockets of resilience within a child's life which may prove protective to them (see NSW Government presentation, 2002). This line of enquiry has led me to critique current theoretical explanations of life outcomes for these children, in the context of the wide range of research available. Theories of child development, such as Social Learning Theory (see Mihalic and Elliott, 1997), and Attachment Theory (see Bolen, 2005), have attempted to explain the negative outcomes of experiencing DVA. However, I have felt that each theoretical explanation has fallen short when exploring why some children achieve more positive outcomes than others, in similar adverse situations. From this perspective, I suggest that a more appropriate overarching theory by which to explore the complexities of this discourse, would be Bronfenbrenner's bioecological model of development, moreover his mature *Process, Person, Context, Time* (PPCT) theory (Bronfenbrenner, 1989). This report will provide summaries of this argument, and explore EPs work with this vulnerable population, particularly during the initial psychological formulation. Consideration will be given to the use of Training Needs Analyses to inform and direct how organisations tackle the requirements for developments in professional practice. An integrative framework for Training Needs Analysis (TNA) will be employed (Taylor et al, 1998) to explore whether there is a need for EPs to receive further training in the DVA domain, or whether other aspects of working in an EPS are influencing how they approach individual work with these children and families. Finally, a case will be made for a results-focused TNA, that is, an evaluation of practice approaches and how they contribute to the results that are required and valued by the organisation.

LITERATURE REVIEW

Domestic Violence and Abuse and the effects on families and children

A thorough literature search was undertaken (using findit@bham: including Cambridge Journals Online, EBSCO, ERIC, IngentaConnect, JSTOR, OVID, PubMed, Swetswise, Wiley, etc; and Google

Scholar), using the key words *domestic abuse/violence;* OR *interpersonal violence/conflict* OR *marital violence/conflict* AND *children/families*). A 'snowballing' technique, in which references of interest cited in those papers were then searched for, allowed further exploration. Papers were included from both UK and international research to increase the depth of the review.

Walby and Allen (2004) suggest that 45% of women and 26% of men have been victims of DVA at some point in their lives. Research into the effects of DVA is rapidly expanding. Beginning with effects on the adult survivors, studies have explored the psychological consequences of being in a violent relationship. Higher rates of depression and distress (Cascardi and O'Leary, 1992; Sato and Heiby, 1992); reduced psychological functioning (Levendosky and Graham-Bermann, 2001); and increased risk of post-traumatic stress disorder (Herman, 1992) have all been suggested as outcomes of DVA. Although there is academic acknowledgement that being victim to DVA is not confined to gender or sexuality (Calder et al, 2004), it is suggested that when the frequency and severity of the violence and abuse is accounted for, women are still perceived to be the most likely sufferers (Walby and Allen, 2004). Mirrlees-Black (1999) has suggested that in 50 percent of reported DVA cases there are children within the family; therefore it is not unreasonable to suggest that the negative outcomes above may influence the survivor's parenting style. Bowlby (1969) proposed that through proximity seeking behaviours, sensitivity and responsive parenting, an infant can gain a successful attachment to their primary caregiver. Through internalising this relationship pattern, children gain internal working models of relationships, which they use to represent future interactions in their lives. It can therefore be seen that less sensitive caregiving may result in internal working models of insecurity and unpredictability in relationships, leading to insecure attachment styles. Associations have been proposed between the levels of maternal warmth and instances of DVA (Levendosky and Graham-Bermann, 2000), and negative causal relationships have been found between abused mothers and the secure attachment style of their babies (Huth-Bocks et al, 2004), and their adolescents (Levendosky et al, 2002). Within the expanding discourse, emphasis has moved towards exploring the effects on not only those that experience the DVA directly, but also towards the

children in these households; whether their experience is of direct witnessing/involvement or of indirect, multi-sensory exposure.

Kitzmann et al (2003) conducted a meta-analysis of DVA research, identifying a plethora of potential negative outcomes for a child's social, emotional, mental health and cognitive development. Vulnerable behaviours, both internalising and externalising, have been identified as associated with DVA (Fantuzzo et al, 1991; Holden and Ritchie, 1991; Kernic et al, 2003); as has lower social competence and bullying behaviours (Kernic et al, 2003; Baldry et al, 2003). The Cycle of Violence hypothesis, borne from Social Learning Theory, is explained as learned behaviour from violent adults in the child's life, which is internalised into a mechanism of response to certain contexts or interactions. Many authors have found favour with this explanation of why these children resort to externalising childhood behaviours and later violence (Browne, 1980; Burgess et al, 1987; McCord, 1988). However, the association between exposure to violence as a child and later becoming victim to, or performing, violent acts is a very simplistic one. The nature of violent (and nonviolent) interactions is not considered (for example, supportive and non-oppressive relationships outside of the DVA may mediate the likelihood of further violent experiences: for example, Camacho et al, 2012). The individual's psychological, emotional, and biological characteristics are not considered. Moreover, Social Learning Theory in general does not reflect on the variety of contexts in which all the individuals exist and the potential risks and protective factors within them. Bevan and Higgins (2002) suggest that Social Learning Theory does not provide deep understanding of the complex issues surrounding DV, finding issues such as neglect a more consistent predictor of later violence.

Depression and anxiety rates are also suggested as higher in this population (Graham-Bermann, 1996). Reduced cognitive functioning has been associated (Rossman, 1998), as have maladaptive thinking skills in terms of reasoning and problem solving, rationalising and predicting abilities (Holt et al, 2008). However, it is suggested that these patterns are not consistent and generalisable across

all children who have experienced DVA, with many other researchers offering alternative protective factors which may mediate the negative outcomes.

Osofsky (2003) has identified that the nonviolent parent can offer responsive and sensitive relationships to their children, alleviating some negative social and emotional outcomes. Lamb et al, as early as 1985, identified that there are often successful attachment relationships occurring, as the nonviolent parent can attempt to compensate for the DVA. In support of this, Levendosky et al (2003) offered evidence to suggest that many pre-schoolers in violent homes have secure attachment styles. Further social mediating factors against the negative outcomes have been proposed in the form of consistent and enjoyable friendships (Camacho et al, 2012); and non-oppressive interactions (Mihalic and Elliott, 1997). Furthermore, Graham-Bermann et al (2009) continue to suggest that although the risks of psychopathology may be higher in this vulnerable group than in those children who have not experienced DVA, 60 percent of the children exposed to DVA, studied by the likes of Edleson (2001), are not hugely affected. Within the DVA literature, acknowledgement of a child's resiliency is coming to the fore (O'Brien et al, 2013). The complex interactions of risk and protective factors is not suggested here as successfully explained by the most often cited theoretical underpinnings, namely Attachment Theory and Social Learning Theory. Research has provided support to the wider ecological experiences a child has, when considering the impact on their development. This is not to say that these psychological theories are without merit. It is suggested here that they may be useful in explaining 'pockets' of a child's development, and they should not be disregarded completely. However, it is further suggested that these theories may be compatible with an ecological model of child development; an overarching approach could allow for individual theories to be placed within a wider context of a child's life. Bronfenbrenner's Process, Person, Context, Time model will be discussed below as useful for providing this holistic framework.

Bronfenbrenner's PPCT model and the developing child

Bronfenbrenner (1979), argued a need to consider the contexts in which human's develop. From an individual's direct contact with objects and people to the wider political and cultural contexts, the differing systems require attention, particularly when making formulations about a child's experiences and the subsequent outcomes. Having revised his initial work in the late 1980s, Bronfenbrenner increased the importance of the interrelation between the child's contributions to and from the systems in which they live, highlighting *proximal processes* as the central tenet in the PPCT model (Tudge et al, 2009). These processes therefore provide explanations for the individual differences in reactions to similar events.

Within the **Process** dimension, the consistency of any interactions is crucial to shaping development. This will extend to the DVA itself, as well as the precursory events and aftermath, and the effects of the interactions with and between the 'players'. Examples of relevant literature here are the suggestion that the levels of consistency of DVA experience for children will affect their risk of post-traumatic stress symptoms (Rossman, 2000), and the frequency of exposure will correlate with the child's later use of violence (Bell, 1995). It can be seen that exploring the child's individual interactional violent experiences may prove more insightful than making the link from witnessing to performing violence, as Social Learning Theory suggests. Moreover, the inconsistency in parenting style is suggested as more harmful to a developing child than the overall parenting style (Levendosky and Graham-Bermann, 2000). It is suggested that exploring attachment in a singular way (secure versus insecure) is not enough to explain outcomes, rather we must investigate the "form, power, content and direction of the proximal processes" (Bronfenbrenner and Morris, 1998: 996). It is not the attachment relationship that is crucial, but the effects of it on the developing child.

This model also recognises the individual characteristics that a **Person** holds, within the context of their environments (Bronfenbrenner and Morris, 1998). Gender, although contentiously, has been explored in literature with some claims that boys develop more externalising behaviours than girls as

a result of DVA (Yates et al, 2003); cognitive resources are said to be associated with DVA (Rossman, 1998; Holt et al, 2008); and positive aspects of a child's temperament can mediate negative outcomes (Osofsky, 1997). Overall, as stated previously, there are suggestions that an individual child's resilience is associated with better outcomes, with their personal characteristics contributing to this (Holden et al, 1998).

The systems of **Context** are interrelated within a child's life, as they were in Bronfenbrenner's original theory (see Figure 1). Issues affecting family violence, such as parenting skills, stress in the family, socioeconomic status, and unemployment, fall within varying ecological systems (Little and Kaufman Kantor, 2002). Further community issues, such as high local crime rate, times of war and conflict; and major football events have also shown positive correlations with DVA (Andrews, 1996; Walker, 1999; Kirby et al, 2014).

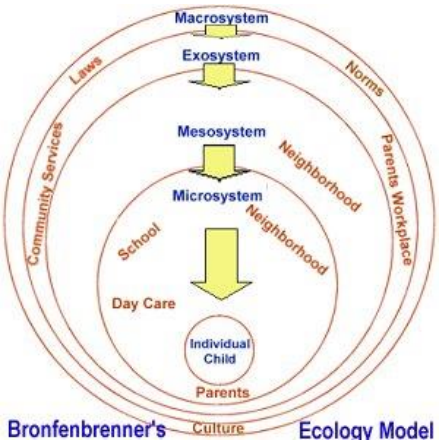


Figure 1: Bronfenbrenner's ecological systems of development (Eisenmann et al, 2008)

Age at the **Time** of DVA has been suggested as altering the child's outcomes, for example, younger children can exhibit more instances of externalising behaviours (Hughes, 1988). Discrepancies arise,

however, with some suggestions that older children experience more negative outcomes (Holden and Ritchie, 1991), and some that younger children do (Graham-Bermann, 2002). It is proposed that the PPCT model will allow for deeper exploration of these factors and the inconsistencies in the literature, by providing a model to explore the variables in combination with one another. Overall, it can be seen that children will not experience the same combinations of interactions; contexts; personal characteristics; or temporal factors. PPCT allows children's experiences, needs and potential outcomes to be formulated in a holistic and individualised manner, and allows the consideration of the literary evidence base without relying on "simplified explanatory short cuts" (Little and Kaufman Kantor, 2002: 143).

Educational Psychologists' work with these families

As noted, the use of the PPCT model lends itself well to investigations of how a child develops in the light of their multi-level experiences. The focus of this report is to use this model in an investigation of EPs' casework practice when working with this vulnerable group, and to explore whether there is a requirement for further training to support EPs to utilise these dimensions of child development when making formulations.

There is a dearth of research surrounding EPs work with children and families who have or are experiencing DVA. A thorough literature search (using *findit@bham* and *google scholar*) revealed only one published article within the field of Educational Psychology (Warren-Dodd, 2009: *Therapeutic groupwork with young children and mothers who have experienced domestic abuse*). Gallagher, in her unpublished thesis (2010), sought to rectify this by undertaking a detailed examination of EPs' perceptions of working with children exposed to domestic violence. Her findings revealed that although EPs' knowledge of definition, causes and outcomes of DVA was fairly broad, there were inconsistencies between participants. Moreover, there was limited evidence found for

EPs considering DVA at ecological levels. The EPs were able to identify some risk and protective factors yet these also did not extend to a thorough knowledge of DVA from its inner to outer systems. Perhaps most interestingly, Gallagher states,

> although most EPs reported having had experience of DV in their practice, it was generally not explicitly considered in case formulation. This has implications for EP practice because if DV is not considered in formulation, the impact of DV is not going to be recognised and appropriate intervention strategies are not going to be devised (2010: 111).

Gallagher's work supports the rationale for this study. There is evidence that EPs have gaps in their knowledge regarding working with DVA. These gaps permeate through the prevalence; the causes; the outcomes; the interventions; to the consistent application of ecological knowledge in case formulation. This study aims to continue exploring EPs' work in this field, but the focus will be placed upon EP considerations in the formulation process. This is due in part to the scope of this study, as there is not capacity to extend it to wider processes of casework practice. Moreover, as highlighted above, case formulation is the basis for all actions and conceptualisations within casework. If this area of work is thorough and broad, it could be said that the results of our practice will increase the benefits for these children. This report serves to document and unearth the consistent patterns in the gaps of variables which the DVA literature and the PPCT model supports as fundamental in explaining individual children and families' experiences.

Training Needs Analyses

> [There are] difficulties experienced, both by outside support agencies and staff within organisations, in introducing and sustaining new approaches and materials on a lasting basis (Myers et al, 1989: 91).

Training Needs Analysis (TNA) is a process of investigating requirements for changes to learning and educational strategies at an individual, group and/or organisational level (Gould et al, 2004). The aim is to enable the successful transfer of training into day to day working practice, suggested as difficult by Myers, above. The approach has been implemented widely in human resources and personnel

management (Bee and Bee, 1994; Brown, 2002; Desimone et al, 2002) business and industry (Pearson, 1987; Bowman and Wilson, 2008); and in nursing and healthcare (Hicks et al, 1996; Pedder, 1998; Gould et al, 2004). Limited application has been found within social care, with some exploration of social care managers' practice approaches in assessment (Clarke, 2003) and of social care workers' use of evidence-based practice (Booth et al, 2003). Within education, there is also limited use, with assessments of education professionals' generic training needs (Walklin, 1991; Sherry and Morse, 1995). Within Educational Psychology, there were no published articles related to a formal use of a TNA. As there is a lack of literature surrounding the implementation of TNA in this field, we must explore the benefits of the process, in relation to our practice.

Why explore training needs?

It can be said that exploring needs when looking at implementing change is a logical step in the planning process (Robson, 2011). Assessing need can ensure that uncertainty is reduced and that the planned change is based on the systematic investigation of the specific environment and current performance of individuals, rather than on 'sensed' or implied need (McKillip, 1987; Lewis, 2006). Furthermore, we can analyse the areas in which we could benefit from training to improve job performance, in the light of these competing demands; we can ensure that the training *will* lead to supporting the organisationally-valued results, and we can acknowledge where it is not training that is required, but changes to how we work within the system.

What is a training need?

Training needs are the identified aspects of professional practice that are unearthed in the exploration of discrepancies between what is expected of the worker, and what they are actually doing (Kaufman, 1994). Tracey continues the explanation further by commenting that a TNA is "the first step in the training process. Designed to identify performance gaps that can be remedied by training" (2004: 678).

Processes and models of TNA

It is noted that TNA is a process, in which it is decided "where training should be directed in the organisation, who should receive training and what the content of such training should be" (Clarke, 2003). Yet, Taylor et al (1998) comment that although there is usually consideration given to what the training needs are, of individuals or organisations, this consideration can often fall in an unsystematic and *ad hoc* manifestation. The author's concerns with this fall within the realm of difficulties in integrating research theory and practice, and often TNA do not embrace the new developments in theoretical models. It has been noted that the majority of TNA that occur are derived from earlier models with limited conceptualisation of the complex influences that affect how people perform their jobs (Goldstein, 1993). These models, (such as McGehee and Thayer's Organisation-Task-Person/ O-T-P model, 1961) have relied heavily on examinations of the organisation's objectives, knowledge and skills required to perform tasks, and the individual's ability to perform those tasks successfully. This model, and developments of it have been widely used in research (Latham, 1988; Goldstein and Ford, 2002), and it has been suggested this model has proven more useful to academic researchers than practitioners themselves (Ghufli, 2010). This may be due to the criticism that they lack consideration of external factors which may mediate the benefits of training (such as time issues, financial constraints, organisational culture and politics), in implementing change (Taylor et al, 1998). Moreover, more crucially in the context of this report, these models does not allow for decisions to be made that result in training *not* being the answer to the 'problems' (Clarke, 2003). A response to the O-T-P model has been the Performance Analysis Model (Mager and Pipe, 1984). Seeking to acknowledge the causes of discrepancies between ideal and actual job performance, proponents of this approach (and subsequent developments to it: Rummler and Brach, 1990; Sleezer, 1993) discuss how training should only be implemented when it can be directly shown that the workers require additional knowledge and skills to improve performance. If, as the authors suggest, changes in the work environment will have more beneficial impact, then training itself is not required. However there is no allowance within this model for a

combination of work environment influences *combined* with a need to develop knowledge and skills (Taylor et al, 1998). Furthermore, it does not explore whether the training itself, and subsequent improvements in job performance, will explicitly contribute to what the organisation itself values as good results.

Taylor et al offer a further model, which combines the organisation, tasks and person analysis alongside the performance analysis and potential mediating factors to effective training. The Integrative Framework "illustrates how the specific linkages between training and results are mediated by knowledge/skills and job behaviour, as well as the competing influences on each endogenous variable" (1998: 31). Figure 2 shows the framework and the directions of causality between the different components. Table 1 summarises the components and gives examples of the key factors within the context of EP practice. Clarke (2003) has explored this integrated approach, suggesting it offers "a far more comprehensive framework for guiding the decision-making process", than previous attempts (2003: 142). It is noted that although TNA may be well-discussed in the literature, there are still concerns as to their empirical use (O'Driscoll and Taylor, 1992). As Clarke (2003) comments, there is still no consensus regarding the influences on the TNA process, or on the successful implementation of training itself, based on 'real world' research. From this perspective, this report serves to document part of a developmental, ongoing, explorative TNA process. As this professional practice report is limited in its size, only an aspect of the Integrative Framework is henceforth adopted as the TNA model. This will allow some consideration of the external forces, alongside the knowledge and skills, which influence the individual's job behaviours (processes 3 and 4 in Figure 2).

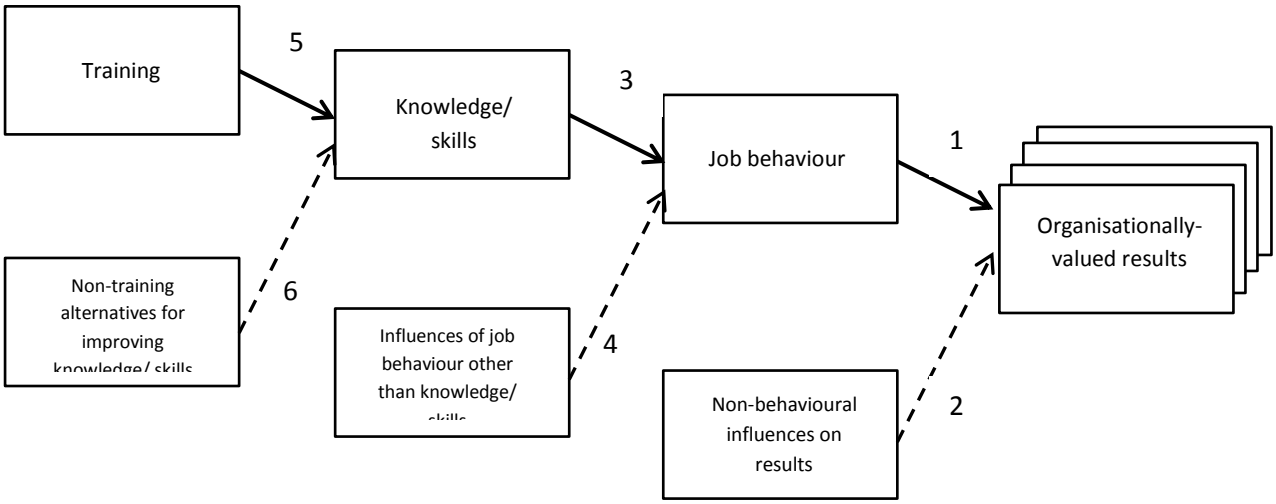


Figure 2: Integrative Framework for Training Needs Analysis (Taylor et al, 1998).

It can be seen that this model in its full form allows for exploration, from steps 1 to 6 ascending:

(1) whether the individual's practice leads to the ideal results of the organisation, or
(2) whether there are external influences which may lead to those results;
(3) whether the individual holds the appropriate knowledge and skills that influence that practice, or
(4) whether there are external influences that affect that practice;
(5) whether training is required to develop those knowledge and skills, or
(6) whether there are alternative actions that could be taken.

The approach is therefore results-focused, that is, its core value lies in attempting to achieve the desired results through training (or other means if the analysis suggests it) (Taylor et al, 1998).

Level	Description	Mediating factor	Description
Organisationally-valued results	Requires identification of the optimum results of the EPs practice.		
1. Job behaviour	What the EPs are doing to achieve the organisationally-valued results, and how they are doing it.	2. Non-behavioural influences on results	Other agency intervention, social/ community/ legal support, policy/legislation, etc.
3. Knowledge/ skills	The knowledge and skills the EPs are utilising to complete the job behaviour.	4. Influences of job behaviour other than knowledge/skills	Local authority procedures/ directives/ finances, staffing, time constraints, etc.
5. Training	Training activity/ies that will increase or expand the knowledge/skills of the EPs.	6. Non-training alternatives for improving knowledge/ skills	Time management, Resources, 'On-the-job' learning, etc.

Table 1: Explanations of the components.

Optimal job behaviours and ideal knowledge and skills

Discussing needs analyses in general, McKillip states,

> During the goal-setting phase performance expectations are derived. Typically, an expert group is surveyed concerning dimensions of desirable performance (McKillip, 1987: 20).

Therefore, we must consider, during our task analysis, what the ideal job behaviours and knowledge/skill set that the current practice is being assessed against. McGehee and Thayer (1961) suggest that the individual undertaking a TNA should be from within the profession that is being analysed, and should have access to a subject matter expert (SME). The SME should provide information regarding what the ideals are, and what the training content should be to rectify any discrepancies: "SMEs are likely to have valuable implicit knowledge about how the new and modified tasks might be performed, as well as their underlying knowledge, skill, and ability requirements" (Dachner et al, 2013: 241). Use of an SME has also been described as allowing for appropriate data collection methods to be chosen for the TNA, in acknowledgement of the wider organisational context (Brannick, Levine, and Morgeson, 2007).

As the person undertaking the TNA, it is acknowledged that I work within the organisation as a practitioner, as well as undertaking research from within. This study attempts to make explicit use of the theoretical evidence base, in terms of the outcomes associated with children exposed to DVA, therefore the SME role has been fulfilled during my process of becoming familiar with this literature. There are potential complications with my scientist-practitioner role here: there is potential for bias towards the literature; a lack of objectivity and opportunity for collaborative discussion; limitations with the amount of practical experience working in this profession. It is acknowledged that there is potential for confirmation bias (the propensity for viewing all information gathered in a way that is only favourable for the chosen theory-base). It is hoped an awareness of any potential bias will allow for a considered view of the data collected, with attempts to be objective regarding the usefulness of both the PPCT model in practice, but also in terms of the practicalities of the TNA. It is also suggested that the benefits of being able to 'straddle' both areas of the process will enable a grounded and understanding approach, whilst being a 'critical friend'. As Fox states, "EPs need to become much more actively involved in different types of research to justify professional practice" (2011: 327). More specifically, it is hoped that this combination of roles will serve to be helpful in determining an efficient choice of data collection methods that are both revealing and relevant to the service environment.

Summary

It has been suggested that 45% of women and 26% of men have been victims of DVA at some point in their lives (Walby and Allen, 2004). The estimation is that approximately one million British children are affected (UNICEF, 2006). It is reasonable to suggest that EPs *will* be working with some of these children and families, probably at multiple points in their careers. Although, the purpose of this report is not to explore and critique the individual DVA literature in detail, it does provide the rationale for the ideal knowledge that an EP should hold when working with these families. The practice of EPs is of particular interest here: informal discussion and literature reviews have

previously identified DVA is a neglected area of priority (see Gallagher, 2010 for a review), suggesting justification for further investigation, particularly to explore whether EPs feel there is a need for developing their practice in this area. An evidence-based TNA, based on Bronfenbrenner's PPCT model (1989) will be used, with appropriate variables suggested as important in the psychologists' formulation process (see table 2). There is already suggestion that the PPCT model is a valuable theory for exploring DVA (Little and Kaufman Kantor, 2002), and an extensive review of the literature, regarding outcomes for children and families, is layered over the PPCT categories (see appendix 1). The areas in which a child lives: the directions, qualities, intensities and durations of relationships with people, objects and environments; the individual child characteristics; and the historical and temporal issues that will influence how they grow and learn will be measured. The aims of this study will be to identify whether there are discrepancies between these ideal areas of consideration in the EPs formulation process, and their actual practice. The potential mediating factors of EPs accessing training to make developments in knowledge and skills will then be explored. As well as considering the results of the TNA itself, reflections on the process will be given. As this use of TNA is currently unique within the field of Educational Psychology, the process is acknowledged as developmental and exploratory, and is likely to require further refinement in future research.

The research questions are as follows:

1. What is the range of knowledge and skills that EPs currently bring to their casework with children who have been exposed to DVA?
2. What potential external influences (such as lack of time; resources; value) do EPs acknowledge as limiting their application of the PPCT variables?

DESIGN AND METHODOLOGY

Conceptual orientation

Conceptually, this project falls within a Critical Realist paradigm, thus it is accepted that the world experienced by the children and families, and consequently the EPs, is a real and truly-existing place as opposed to being based purely on social constructions. The experiences, however, *are* social ones: they are perceived, rationalised and discussed using constructions that each individual holds. Bhaskar (1975) partitions the world into three sections, summarised below:

> The domain of *the empirical* is made up of human sensory experiences and perceptions, while *the actual* refers to the events occurring in the world… *the real* consists of those mechanisms and structures that have causal powers and whose generative capacity creates the order we see in the world (Warner, 1993: 312).

This view purports that we can never hold a wholly objective view of the world: we live, breathe and perceive from our experiences and interactions (Maxwell, 2012). Olsen discusses that an empiricist view can acknowledge only the experiences (that is, the empirical), yet "experiences can be misleading" (2010: 6). Whereas a positivist might claim that these experiences can be measured objectively to reveal the truth about the world, an interpretivist might suggest that each individual's experience is subjective and true, but only within their social constructions. Within this report I am rejecting those notions, as ontological fact, in favour of the view that what we know about the world as 'real' is based on considering the mechanisms that cause the events, which lead to our empirical experiences. However, as this critical realist ontology relates to how we conceptualise knowledge, this is not to say that our investigations of the content of that knowledge (the data we uncover) may not be gleaned through an interpretivist approach: "the integration of ontological realism and epistemological constructivism or interpretivism has also been given explicit philosophical defences (Maxwell, 2012: 6). Here I acknowledge that the socially constructed data that is unearthed is also 'real', to the participants. We may explore the mechanisms which result in the descriptions of the data, and we are accepting of them as truthful and valid. The empirical experiences here are as true as the realist world with which they align.

Tool development

McKillip (1987) discusses how surveying needs can prove fruitful in deciphering the discrepancies between actual and ideal practice in needs analyses, namely because they directly include the people who will be affected by the results. However, we must acknowledge the potential for socially desirable responses that may be given; participants may overestimate their descriptions of positive job-based behaviours and underestimate negative ones (Mckillip, 1987). More specifically, Fox highlights how professionals with extensive knowledge of a subject tend to underestimate their competencies, and those with limited knowledge tend to overestimate it (2011). The tool here attempted to remove the requirement for EPs to estimate their knowledge, but rather to focus on what knowledge is gathered and used in practice. Furthermore, to reduce social desirability bias, the tool needed to be able to be used anonymously.

Questionnaires were rejected in favour of a 'card sort' activity with the aim of participants being able to consider each variable in isolation, provoking an instant response. This was to support the ease and speed of completing the activity, which would be favourable to time-harassed EPs.

Taylor et al (1998) describe 'job behaviour' as the actions the worker undertakes to achieve the organisationally-valued results (see table 1). It has previously been mentioned that the ideal job behaviour in this report was to be derived from the literature surrounding DVA. The PPCT categories were subdivided, as suggested by Bronfenbrenner (1989: see Table 2). A literature review was then conducted around the effects of children and young people witnessing DVA. These findings were identified by their key message (for example, mothers exposed to DVA can show less maternal warmth to their infants, Levendosky and Graham-Bermann, 2000). Research with similar key messages were then amalgamated into common themes (for example, *Warmth, security, attunement and attachment from both violent and non-violent parents*). These themes were overlaid on to the PPCT categories and sub-categories to ensure all aspects of a child's bioecological world were explored within the evidence base (see appendix 1). These themes became the *variables of*

practice, which were then made into cards (see appendix 2). Each card was coded with the PPCT category and a numerical value which identified which sub-category is fell within (see Table 2). Although the variable cards detailed the areas in which information gathering and assessment could occur, the research findings were not included, so as not to bias the responses into socially desirable answers.

PPCT Category	PPCT Subcategory	Description	Variable Card
Process	Form	What form the relationships takes	Pr1** Pr7
	Content	What the content of the relationship is	Pr2 Pr8
	Power	The strength and intensity of the relationship	Pr3 Pr9
	Direction	The direction of the relationship processes, coming from or to the child.	Pr4 Pr10 Pr5 Pr11 Pr6
Person	Demand Characteristics	Immediate stimuli available to others (gender, appearance etc)	Pe1 Pe2
	Resource Characteristics	Mental, emotional, social and material resources available to the child	Pe3 Pe7 Pe4 Pe8 Pe5 Pe9 Pe6
	Force Characteristics	Temperament, motivation, persistence of the child	Pe10
Context	Microsystem	The multiple environments in which a child spends their time	Co1 Co7 Co2 Co11 Co3 Co14
	Mesosystem	The interactions between the microsystems	Co4
	Exosystem	Systems in which the child does not directly live, but which indirectly affect them	Co5 Co6 Co12 Co13
	Macrosystem	Culture, social belief systems, opportunities, social policies, laws.	Co8 Co9 Co10
Time	Micro-time	What is occurring at the time of the experiences: age of child at start and end of DVA	Ti1 Ti2 Ti7*
	Macro-time	The consistency of the experience	Ti3 Ti4 Ti7*
	Meso-time	Historical events that may influence rates of DVA	Ti5 Ti6

* Variable occurs in more than one subcategory.
** All variables span all subcategories.

Table 2: PPCT categories and sub-categories, as created by Bronfenbrenner (1989), with the associated variable cards, created by the researcher.

Participants

Participants were taken from an opportunity sample, requested to contribute from my placement local authority psychology service. 20 qualified EPs were approached, including maingrade, senior, principal and locum roles. The EPs had varying levels of post-qualification experience, ranging from being newly qualified to those having been in the role for multiple decades. A 50% return rate was found, with 10 EPs agreeing to participate. Data was appropriately returned, allowing all 10 EPs to be included in this study.

Procedure

Job behaviours were identified through the data collection from the EPs themselves. An initial request was made in a whole service meeting, explaining the TNA, the rationale for undertaking it, and the expectations of contributions. As the process would be based on professional goodwill from an already-stretched service, the speed of the card sort method (discussed below) was highlighted to encourage participation. The participants were also explicitly informed of how the data would be used: as an opportunity to directly contribute to identifying needs for development in practice (Pitz and McKillip, 1984). Card packs (appendix 3) were left in all 20 EPs post trays, along with accompanying information letter and instructions to participants (see appendix 4).

The instruction sheet asked the participants to review the cards in terms of whether the variable was considered in their psychological formulation of a child or young person, where DVA was known or suspected to have occurred. Variable cards that were considered were to be placed into the YES envelope. The participants were then asked to sort the remaining cards into reasons as to why they were not considered: not enough TIME in their work; not felt to add VALUE/USEFULNESS to the formulation process; limited or lack of KNOWLEDGE/TRAINING as to the potential impact of the variable; or there is not a RESOURCE/TOOL available to support this information to be considered. The results of this data collection were entered into an Excel spreadsheet, where the data was initially informally explored to view emerging patterns in responses (see section below for further

data analysis information). The results allowed for consideration of whether developments in those areas would lead to changes in job behaviour (that is, by using the variables in their practice). This further allowed for consideration of whether training to increase knowledge was beneficial, or whether there were non-training alternatives. The results were communicated to the participants through the sharing of this report.

Data analysis for the TNA tool

Responses were formally analysed in terms of frequency of response. Number of YES responses, and the variable cards in this set were identified according to individual participants. The discrepancy variables and where they were placed were then identified, according to individual participant. Patterns across participants were then explored, and consistencies were identified. Data will be presented according to the discrepancies from the ideal conditions, within the PPCT categories and subcategories to explore where the discrepancies most commonly fell. Explanatory responses, for why the discrepancy variables were not considered, are reported.

Ethical considerations

Ethical guidelines were adhered to, as recommended by the British Psychological Society (BPS, 2009; 2011) and the British Educational Research Association (BERA, 2011). As external participants were involved, particular focus was given to the areas in Figure 3.

- "Respect knowledge, insight, experience and expertise of clients"
- "Keep appropriate records… record, process and store information appropriately"
- "Ensure that clients… are given ample opportunity to understand the nature, purpose and anticipated consequences… of any research participation [and] seek to obtain consent"
- "Ensure from the first contact that clients are aware of their right to withdraw"
- "Debrief participants at the conclusion of their participation"
- "Be honest and accurate in conveying professional conclusions, opinions, and research findings, and in acknowledging the potential limitations" (BPS: 10-22).

Figure 3: Areas of ethical consideration.

It is highlighted that participants were made aware that by returning the cards packs, they were acknowledging their consent in the research. Informed consent (that the participants understood the requirements of the study and how the data would be used) was therefore obtained through action rather than in written form. This was due to being able to make the process completely anonymous, rather than just confidential. Furthermore the participants were aware that, as their data was anonymous, they would not be able to withdraw their data.

RESULTS

What knowledge are EPs using: Discrepancy variables between ideal and actual practice

42 variables were identified, and offered to the participants as the 'ideal condition'. This TNA requires that there must be an ideal level of knowledge to positively influence the job behaviours. The ideal knowledge variables were identified by structured review of the evidence base surrounding this area of work. Discrepancies between the ideal and the actual conditions were identified by participants responding 'no' to whether the variable was considered in their practice.

The overall results can be found in appendix 5. Table 3 summarises the 'no' responses, according to PPCT model. The overall **use** of variables (indicated by cells left blank), across all participants, was 81%. These were found to be *non-discrepancy variables*, that is variables that were found to match with the purported ideal condition.

Individual participant data ranged from 4 variables **not used** to 15 variables not used (mean: 7.9; SD: 4.1). According to individual variables, the highest scoring negative responses are shown in Table 4. These were found to be *discrepancy variables*, that is variables that were found to be 'gaps' in practice from the purported ideal condition.

	PARTICIPANTS									
	1	2	3	4	5	6	7	8	9	10
PROCESS			PR1					PR1		
			PR2					PR2		
			PR5			PR5				
			PR8	PR8				PR8		
			PR9		PR9		PR9	PR9		
			PR10	PR10			PR10	PR10		
PERSON										
						PE2				
					PE7	PE7		PE7		
CONTEXT	CO1				CO1	CO1	CO1	CO1		CO1
	CO2			CO2			CO2			CO2
			CO3			CO3		CO3		CO3
										CO4
	CO5							CO5		
		CO6	CO6	CO6	CO6	CO6	CO6	CO6		
			CO7							
		CO8	CO8		CO8	CO8		CO8		
	CO10	CO10	CO10		CO10	CO10		CO10	CO10	
						CO11				
			CO12			CO12				
		CO13	CO13	CO13				CO13		
TIME										
						TI2			TI2	
			TI3	TI3		TI3			TI3	
			TI4	TI4		TI4	TI4		TI4	TI4
									TI5	

Table 3: Variables identified as 'not used' by the participants

Code	Description	No. of negative responses
CO6	Parental workplace (and other consistent context) and any subsequent effects on the parent	7/10
CO10	Policy and law effects on the community, on the family, on the individuals	7/10
CO1	The school environment: classrooms, toilets, corridors etc	6/10
CO8	Specific community factors: Unemployment rates, crime rates, socioeconomic status, opportunities for residents	5/10
TI4	Regularity and consistency of DVA experience	6/10
PR9	Consistency of positive or negative relationships experiences	4/10
PR10	Balance of power in close relationships	4/10
CO2	Home environment(s): bedrooms, living rooms, bathrooms, outside space	4/10
CO3	Child's relationship(s) with school staff: style of interactions, attuned to needs, availability/reliability	4/10
CO13	Support for violent and nonviolent parent: professional (therapy/support groups) or social (family/friends)	4/10
TI3	Duration of DVA experience	4/10

Table 4: Highest negative response rates according to individual variables

Any discrepancy variables that were given by 3 or less participants are felt to not to provide a strong enough pattern and therefore not reported here as noteworthy. It is accepted that this is a subjective view; therefore the full response breakdowns are available in appendices 6 and 7. A summary can be seen in figure 4.

- 2 variables within the Process category are suggested as discrepancies (PR9 and PR10)
- No variables within the Person category are suggested as discrepancies
- 7 variables within the Context category are suggested as discrepancies (CO1, CO2, CO3, CO6, CO8, CO10, CO13)
- 2 variables within the Time category are suggested as discrepancies (TI3, TI4).

Figure 4: Summary of responses by PPCT category

As can be seen, the most responses showing discrepancies were found in the Context category. The discrepancies according to Bronfenbrenner's contextual systems (1989) can be seen in Figure 5.

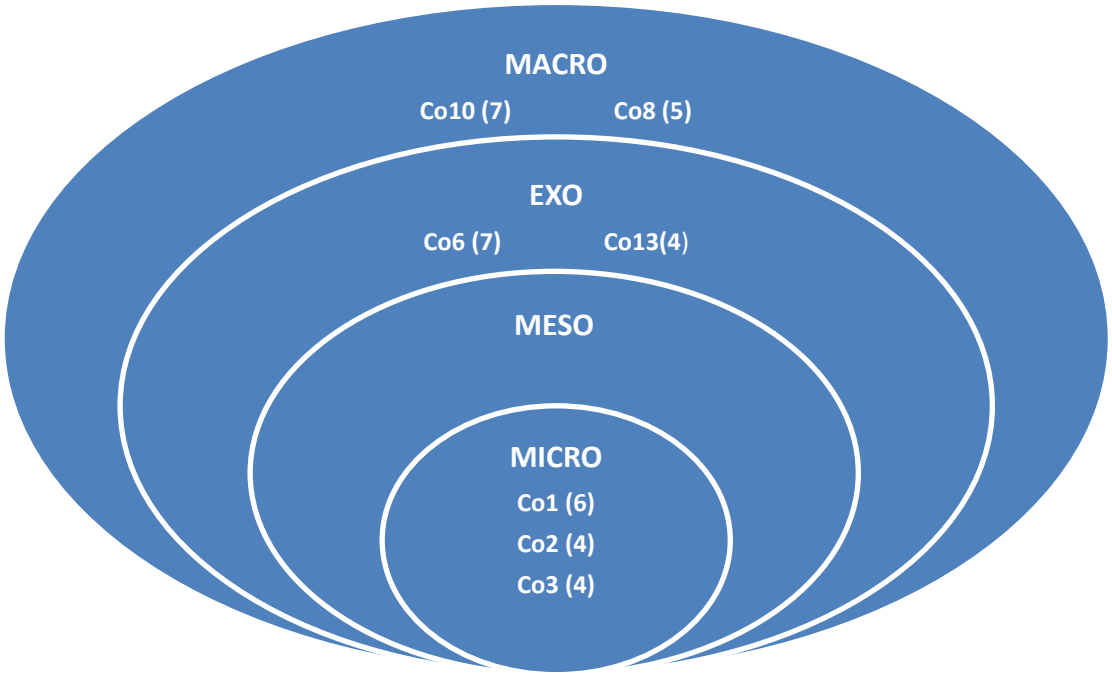


Figure 5: Discrepancy context variables (numbers of participants who identified its non-use in parentheses).

Explanatory responses for discrepancies: some external influences on the use of the PPCT variables

When exploring the cards according to the explanatory responses (Time/Resources/Knowledge/No value), the following descriptions were found:

- 70% of participants identified with not having enough time to consider all variables
- 50% of participants identified with not having appropriate resources or tools to consider all variables
- 70% of participants identified with not having the appropriate knowledge or incomplete training to consider all variables
- 40% of participants identified with not perceiving all variables as adding value or usefulness.

Figure 6: Discrepancy variables by explanatory responses.

A breakdown of all discrepancy variables according to the explanatory responses can be found in appendix 6. Patterns were found (pattern here refers to three or more participants) for some variables that were not used, for the same reasons. No clear patterns were found for there not being appropriate resources or there not being any value in using particular variables. These are highlighted in table 5 below.

Variables that were not used	**Explanations as to why not used (if given by 3+ participants)**
Duration of DVA; regularity of DVA; the school environment; the parental workplace; policy and law effects on DVA.	Not enough knowledge/ training experiences
School environment; Other environments the child attends; Parental workplace; Support for violent and nonviolent parents	Not enough time

Table 5: Most commonly cited discrepancy variables by explanations.

DISCUSSION

The placement local authority, and the subsequent TNA, served as an example of a structured approach to identifying the requirements for developments in EP practice. It is recognised here that this report has identified the limited use of TNA in educational psychology, when identifying areas for practice development. Within this discussion, the results from the TNA will be used within the context of the literature to provide support for TNA process. It is suggested that using a TNA can help to limit the uncertainty associated with implementing change. Moreover, the EPs themselves identified aspects of their formulation practice which they acknowledged as of value, yet unfulfilled due to issues with knowledge, resources or time.

The results showed there were areas of a child's bioecological world that were not consistently considered by EPs in their practice. These areas have been suggested as valuable to EP knowledge and practice, by reviewing the DVA literature and including them within the PPCT model. As Fox (2002) states, EPs should be working from a strong evidential base, to ensure informed and rigorous practice to benefit children and young people. The DVA literature is wide and varied, yet previous foci on underlying psychological paradigms did not consistently explain the variations in outcomes for children. It is suggested that working at a bioecological level, namely applying Bronfenbrenner's PPCT model (1989), can provide a model of approaching psychological formulations that can supply explanations of varying outcomes (see Little and Kaufman Kantor, 2002).

The results of this TNA did show that EPs report that they consider variables at wider levels, including many within all of the PPCT categories, therefore within the 'real world' EPs are finding this exploration useful. However, when variables were analysed by category and sub-category, patterns emerged regarding the most common discrepancies from the ideal. It is noted here that the most consistent non-discrepancy variables fall within the Person category. Aspects of the child's own resources, or 'within-child' characteristics, were consistently considered by the EPs. It is interesting to note that within the domain of education, it is often cited that that we should have moved away from this approach to a more social model (see Lindsay, 2003 for a discussion). Further holistic factors were not considered as consistently. Areas specific to the impact of DVA (policy and law effects, community factors such as unemployment and crime, consistency and duration of DVA, power balances in relationships, support for violent and nonviolent parents) have all been evidenced as associated with outcomes for children and families (see appendix 1). The EPs in this research identified these discrepancies as affected by limited knowledge and/or training. Further contextual discrepancies found were affected by a lack of time within the current mode of practice. Aspects of investigations into relationship processes were mediated by knowledge and resources, albeit with inconsistent responses by EPs as to the priority cause of the discrepancies.

To further support this TNA process, in terms of value and importance of making change (Foster and Southard, 1988), there were no consistent patterns found regarding lack of value in investigating the PPCT variables. Some participants found limited value with individual variables (2x- investigating policy and law impacts on the developing child; 1x investigating material resources available to children; 1x investigating the physical home environment; 1x other environments a child experiences). If strong patterns had emerged, it could lead us to question the usefulness of the PPCT model for this work; however, these individual views are not suggestive of this. Moreover there is evidence that unemployment, socioeconomic status and higher crime rates are associated with the frequency of DVA (Andrews, 1996: Little and Kaufman Kantor, 2002). It can be seen how these factors will influence a child's material resources and opportunities, suggesting that EPs should consider these variables to explore the potential risk and protective factors. It is suggested that there is evidential basis for their inclusion in the formulation process; therefore increasing EP knowledge of this is important.

The explanatory responses for discrepancy variables allowed for 70 percent of the participants to identify they do not have the complete set of ideal knowledge or training experience at this current stage. 3 or more participants identified limited knowledge or training experiences for the variables related to duration and regularity or DVA; knowledge of the impact of school environment and parental workplace; and the policy and law effects on DVA. It is also noted that 3 of the participants did not identify any concerns regarding the breadth of their knowledge, suggesting they feel it is adequate when working with these children and families. However, in line with Taylor et al's Integrative Framework (2009), this suggests that increasing the majority of these EPs knowledge and skills may result in changes in their job behaviour, that is, their formulation practice. It is therefore suggested that ways to develop this could be found through training opportunities. However, it must be clear that there are external influences which further impact on their job behaviour; requiring exploration.

The participants identified other factors which affected their use of all the variables in their case formulations. Issues with time were identified by 70 percent of the participants. Most of the time concerns fell within the context categories of the PPCT model, and particularly within the exo and macro systems. Therefore it is suggested that EPs feel considering the lives of children within their wider indirect experiences does not fall easily into current practice. Issues with resources were identified by 50 percent of the participants. There was limited consistency with which variables were associated with inadequate resources, however. As noted, the participants did not reveal any consistent patterns when identifying any variables which were not thought of as valuable in their formulations.

The solution that is suggested here is borne of the mediating external factors identified by participants. As Ross (2008) comments, these should be explicitly considered to support commitment to change, and likelihood of training actually being transferred to the job behaviours of the participants. Limitations with solely implementing a training approach are therefore suggested. Furthermore, it is also suggested that there are ways to impart this knowledge in ways, other than training, that also support the participants' requirements for new resources in a timely manner.

It is suggested here an appropriate solution must address the reported issues with knowledge, time and resources. As the ideal conditions were identified by literature, the solution could be created from evidence also. As briefly mentioned in the introduction, there is a current political climate of accountability and streamlining of resources (Robson, 2011) and many services are experiencing financial demands (Booker, 2013). It is suggested that it is appropriate to share the significance of the DVA evidence base and there may be value in creating a summary of literature as a reference guide. It is further suggested here that an appropriate solution should involve the creation of a resource which allows for focused assessment in all relevant areas. Within Volume 1 of this thesis, development of a tool to support practice will be documented, and subsequently implemented. The tool will serve as a guide to inform practice, to encourage data gathering in all of the PPCT areas, and

to allow for explicit investigation of the protective and risk factors that a child may experience in their overall development. Furthermore, it will endeavour to extend the thorough investigation of the 'within-child' factors that are occurring currently in relation to other contexts, processes and time areas.

TNA is suggested here as a valuable approach to reduce the uncertainty that can arise during practice development. It is felt that the process allowed for identifying some mechanisms which may be acting on the environment of an EP service, generating the outcomes associated with how EPs formulate the needs of children and young people who are known or suspected to have experienced DVA. Although the empirical world has been explored, that is the experiences of the EPs, we are suggesting that there is a 'real world' underlying it. It is believed that this process has allowed for consideration of how EPs construct their own practice, and we are beginning to understand what is 'actually' happening. This structured approach has enabled possible solutions to be formed in order to support development; not only by identifying expert/literature-derived discrepancies, but also by incorporating perceptions of whether all Bronfenbrenner's areas of child development can add value to EP's work. There are limitations within this TNA, however. It is thought that by undertaking all steps in the Taylor et al (2009) framework, further external influences could be discovered that would require alternative solutions.

Furthermore, only a singular source of data was used in this research (the card sort activity); future work could consider extensions to gathering information about the actual conditions of practice, such as observations and document/report analysis. It is also recognised that as the data was anonymous, there is no way of knowing what stage the EPs were at in their careers, their professional training content/post qualification training or whether EPs with specialisms in trauma and abuse were taking part.

As this report began by acknowledging the many differences in EP practice that occur, it may be interesting to consider whether there are further mediating factors, in relation to EP experiences

and interests. Ultimately, however, it is felt that this process not only served to begin the journey into investigating EP practice and the issues associated with developing it, it also served to highlight the many discrepancies between what is proposed here as the ideal areas of assessment and formulation, and what is happening in this local authority. Nevertheless, many aspects of the ideal knowledge were identified which is hopeful for supporting these families. Any extensions to supporting practice development in this domain can increase this work's prominence and support our striving for excellence.

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APPENDICES

Appendix 1: literature examples and process (pr), person (pe), context (co), time (ti) overlay

BRONFENBRENNER PPCT VARIABLES	ACCOMPANYING LITERATURE BASE
Pr 1: Use of boundaries/ rules/ levels of strictness from both violent and nonviolent parents	Harsh parenting can lead to poor developmental outcomes for children. Positive romantic parental relationships can reduce this, yet these are not often observed in violent households (Conger et al, 2013).
Pr 2: Warmth, security, attunement, attachment from both violent and nonviolent parents	Mother as victim- less maternal warmth (Levendosky and Graham-Bermann, 2000); secure attachment with child (Lamb et al, 1985) Father as perpetrator- insecure attachment with child (Lamb et al, 1985); Father as perpetrator- more likely to be neglectful (Bancroft and Silverman, 2002); Responsive parenting decreases negative outcomes in children (Osofsky, 2003)
Pr 3: CYPs relationship(s) with school staff: -style of interactions - attuned to needs -availability/reliability	School can be seen as respite from violence (Holt et al, 2008); Children can feel unsupported by teachers, emotionally and academically (Buckley et al, 2007); Children can feel teachers do not understand the impact of exposure to violence (Buckley et al, 2007)
Pr 4: CYPs relationship(s) with peers: -style and consistency of interactions - characteristics of chosen peers	Poor social competence in children (Kernic et al, 2003); Increased bullying behaviours in children (Baldry, 2003); Consistent supportive friendships can mediate effects of exposure to violence (Camacho et al, 2012)
Pr 5: Levels of protection from physical and psychological harm, and basic physical care needs	Children remaining in physical/psychological danger can reduce consistency of positive care relationships (Levendosky and Graham-Bermann, 2000); Exposure to violence strongly associated with physical harm to child (Moore and Pepler, 2998; Appel and Holden, 1998) Increased risks of sexual abuse for children (McCloskey et al, 1995)
Pr 6: Relationships with other family members (siblings, grandparents etc)	Positive caregiving relationships with children can mediate effects of exposure (Levendosky et al, 2000)
Pr 7: Activities (play, learning etc) regularly undertaken	Children can re-enact the DVA in their play (Knapp, 1998); trauma of experience can create difficulties concentrating, attending and becoming hyper vigilant (Carlson, 2000); Lower social competence can occur for children

	(Gerwirtz and Edleson, 2007) Self-blaming can result from DVA experience, which can impact the child's approach to learning (Harold et al, 2007)
Pr 8: The nature of close relationships: predictability, intensity, enduring?	Positive caregiving relationships with children can mediate effects of exposure (Levendosky et al, 2000)
Pr 9: Consistency of positive or negative relationship experiences	Variability in close relationships (particularly with nonviolent parent) can negatively impact more than the overall parenting style (Levendosky and Graham-Bermann, 2000)
Pr 10: Balance of power in close relationships	DVA is perceived as an act of power and control (Keeling and Fisher (2012), and is regarded as potentially intergenerational. Mediating factors include having non-oppressive close relationships (Mihalic and Elliot, 1997).
Pr 11: Relationship with carer if removed from parental home	Positive caregiving relationships with children can mediate effects of exposure (Levendosky et al, 2000) Responsive parenting decreases negative outcomes in children (Osofsky, 2003)
Pe 1: CYPs Gender	Girls more likely to bully and be bullied (Baldry, 2003); Boys may exhibit more externalising behaviours, girls may exhibit more internalising behaviours (Yeats et al, 2003)
Pe 2: CYPs physical attributes: appearance/physical health	Children with disabilities may be at higher risk of exposure to violence (Sullivan, 2009)
Pe 3: CYPs cognitive abilities	Cognitive ability may be influenced by exposure to violence (Carlson, 2000), cognitive functioning has been shown to reduce (Rossman, 1998); Developing cognitive skills, at different stages will influence the child's thinking: rationalising, predicting, preventing violence, guilt, self-blame may occur (Holt et al, 2008. In Gallagher, 2010). Children with disabilities may be at higher risk of exposure to violence (Sullivan, 2009)
Pe 4: CYPs emotional wellbeing/mental health	Child as witness- insecure attachment as teenager (Levendosky and Graham-Bermann, 2000) Trauma symptoms in children from 1yr (Bogart et al, 2006)
Pe 5: CYPs language skills	Reductions in language skills can occur as a result of exposure (Huth-Bocks et al, 2001)
Pe 6: CYPs social skills and understanding	Poor social competence in children (Kernic et al, 2003); Increased bullying behaviours in children (Baldry, 2003)
Pe 7: CYPs material resources (financial, clothing,	Unemployment and socioeconomic status are

toys, books etc)	associated with the frequency of DVA (Andrews, 1996: Little and Kaufman Kantor, 2002).
Pe 8: CYPs levels of motivation and persistence	Self-blaming can result from DVA experience, which can impact the child's approach to learning (Harold et al, 2007)
Pe 9: CYPs sensory impairment	Children with disabilities may be at higher risk of exposure to violence (Sullivan, 2009)
Pe 10: CYPs temperament	Emotionally intense children; aggressive characteristics (Adamson and Thompson, 1998); Child's temperament can mediate risks of trauma symptoms (Osofsky, 1997)
Co 1: The school environment: classrooms, toilets, corridors, etc	Positive alternative environments can reduce negative outcomes for children (Osofsky, 2003)
Co 2: Home environment(s): bedrooms, living rooms, bathrooms, outside space	Negative environmental conditions increase risks of exposure to violence (Daro et al, 2004)
Co 3: Other environments where CYP may attend (extended family homes, clubs/groups etc)	Positive alternative environments can reduce negative outcomes for children (Osofsky, 2003)
Co 4: Interrelations between home/school/other environments	School's awareness of home situation to lead to implementing successful interventions for children who experience DVA (Thompson, 2012); Schools can remove the barriers to receiving support (e.g., accessibility, adaptability, scheduling) that may be found within the home (Huth-Bocks, 2001); Multi-agency support is viewed as fundamental for the most positive outcomes (Hague et al, 1996)
Co 5: Familial demands on parents time (caring for siblings/ carers for others)	Parenting stress increases child conduct problems (Huth-Bocks, 2008); Responsive parenting decreases negative outcomes in children (Osofsky, 2003); Variability in close relationships (particularly with nonviolent parent) can negatively impact (Levendosky and Graham-Bermann, 2000)
Co 6: Parental workplace (and other consistent contexts) and any subsequent effects on the parent	Parenting stress (as result of workplace and other things) increases child conduct problems (Huth-Bocks, 2008)
Co 7: Direct witnessing of DVA/ direct exposure of sensory exposure (hearing)/ indirect experience	Children directly witnessing violence can increase risk of becoming violent themselves (Jenkins and Bell, 1997); Children directly intervening increases risk of conduct problems (Lee et al, 2004); children witnessing nonviolent parent defending themselves reduces negative outcomes (Holden, 2003)
Co 8: Specific community factors: Unemployment rates, crime rates, socioeconomic status, opportunities for residents	Unemployment, socioeconomic status and higher crime rates are associated with the frequency of DVA (Andrews, 1996: Little and Kaufman Kantor, 2002).
Co 9: Cultural/ faith factors:	Faith and spirituality can support trauma

values, beliefs, expectations	recovery from violence, in parents (Bryant-Davis and Wong, 2013); Faith can be used as a tool for DVA (Cares and Cusick, 2012).
Co 10: Policy and law effects on the community, on the family, on the individuals	Children more likely to enter criminal justice system (Herrera and McCloskey, 2001; Pomeroy et al, 2001); Children's positive outcomes increase if their voice is heard in family law proceedings (Eriksson and Näsman, 2008); Often police involvement not viewed as helpful or supportive/law did not help families (Buckley et al, 2007)
Co 11: LAC: Current placement environment, number of previous placements.	Pre-care experiences (e.g., DVA) and care experience (duration and number of placements, environment etc) can impact combine to impact on intellectual ability, play skills and self-regulation in LAC (Coman and Devaney, 2011)
Co 12: Parental emotional wellbeing/ mental health	Depression in parent increases risk of depression in child (Cummings and Cicchetti, 1990; Herring and Kaslow, 2002); Maternal distress associated with risk of conduct problems in children (Clark et al, 2007)
Co 13: Support for violent and nonviolent parent: professional (therapy/support groups) or social (family and friends)	Support to increase positive relationship between nonviolent parent and child, post exposure, can reduce negative outcomes for children (Humphreys et al, 2006); Lack of social support for nonviolent parent can decrease their psychological functioning and availability to child (Levendosky and Graham-Bermann, 2000)
Co 14: Any significant contextual changes (school moves ect)	Multiple contextual moves can increase difficulties with readiness for school, behaviour, and poor mental health particularly for vulnerable and disadvantaged children (Ziol-Guest and McKenna, 2013)
Ti 1: Age at onset of DVA experience	Younger children experience more negative outcomes (Graham-Bermann, 2002)
Ti 2: Age at end of DVA experience	As teenagers, boys may experience more sadness and girls may experience more anger, post exposure (Spaccarelli et al, 1994)
Ti 3: Duration of DVA experience	Longer exposure increases risk of PTSD (Rossman, 2000);
Ti 4: Regularity of consistency of DVA experience	Recurrent exposure increases risk of PTSD (Rossman, 2000); Repeated exposure can increase child's own use of violence (Bell, 1995)
Ti 5: Time since DVA occurred or still occurring	6 months post exposure, responsive parenting can increase to appropriate levels (Holden et al, 1998); Cannot assume separation leads to end of

	violence-post separation violence occurs in many cases (Bancroft and Silverman, 2002)
Ti 6: Any significant historical events occurring which impact development directly/indirectly (war/ economic crisis)	Violence towards women increases during times of war (Walker, 1999); Risks of violence can increase during economic crisis (Manganara and Pind, 2013); Major football events can increase instances of DVA (Kirby et al, 2014)
Ti 7: LAC: Age when became LAC, how long with LAC status, duration of current placement	Pre-care experiences (e.g., DVA) and care experience (duration and number of placements, environment etc) can impact combine to impact on intellectual ability, play skills and self-regulation in LAC (Coman and Devaney, 2011); The more placement moves over time, the lower educational attainment (Stein, 1994).

Appendix 2: variable cards, (pr-process; pe-person; co-context; ti-time)

Pr 1 Use of boundaries/ rules/ levels of strictness from both violent and nonviolent parents	Pr 2 Warmth, security, attunement, attachment from both violent and nonviolent parents
Pr 3 CYPs relationship(s) with school staff: -style of interactions - attuned to needs -availability/reliability	Pr 4 CYPs relationship(s) with peers: -style and consistency of interactions - characteristics of chosen peers
Pr 5 Levels of protection from physical and psychological harm, and basic physical care needs	Pr 6 Relationships with other family members (siblings, grandparents etc)
Pr 7 Activities (play, learning etc) regularly undertaken	Pr 8 The nature of close relationships: predictability, intensity, enduring?
Pr 9 Consistency of positive or negative relationship experiences	Pr 10 Balance of power in close relationships
Pr 11 Relationship with carer if removed from parental home	

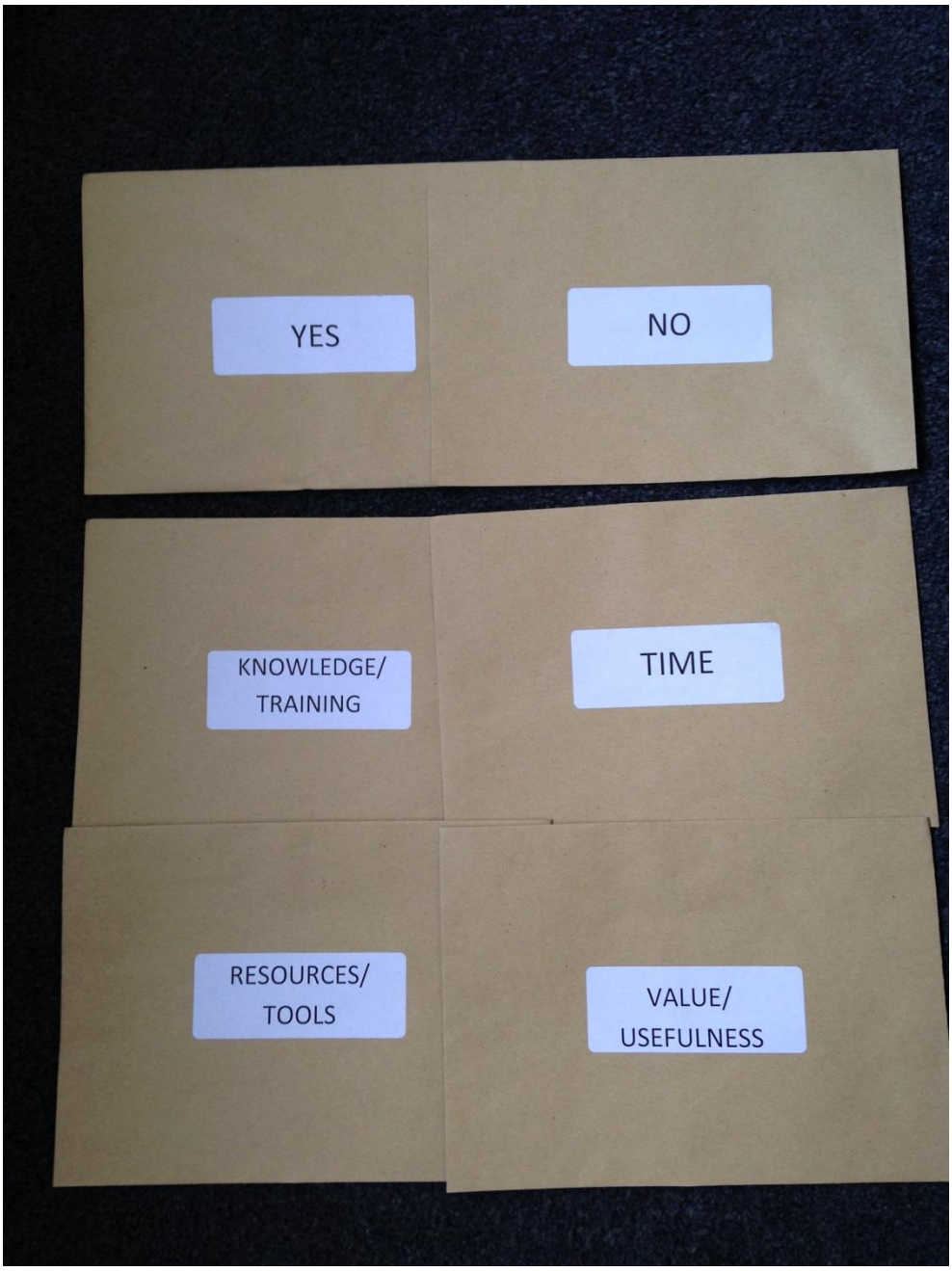
Pe 1 CYPs Gender	Pe 2 CYPs physical attributes: appearance/physical health
Pe 3 CYPs cognitive abilities	Pe 4 CYPs emotional wellbeing/mental health
Pe 5 CYPs language skills	Pe 6 CYPs social skills and understanding
Pe 7 CYPs material resources (financial, clothing, toys, books etc)	Pe 8 CYPs levels of motivation and persistence
Pe 9 CYPs sensory impairment	Pe 10 CYPs temperament

Co 1 The school environment: classrooms, toilets, corridors, etc	Co 2 Home environment(s): bedrooms, living rooms, bathrooms, outside space
Co 3 Other environments where CYP may attend (extended family homes, clubs/groups etc)	Co 4 Interrelations between home/school/other environments
Co 5 Familial demands on parents time (caring for siblings/ carers for others)	Co 6 Parental workplace (and other consistent contexts) and any subsequent effects on the parent
Co 7 Direct witnessing of DVA/ direct exposure of sensory exposure (hearing)/ indirect experience	Co 8 Specific community factors: Unemployment rates, crime rates, socioeconomic status, opportunities for residents
Co 9 Cultural/ faith factors: values, beliefs, expectations	Co 10 Policy and law effects on the community, on the family, on the individuals

Co 11 LAC: Current placement environment, number of previous placements.	Co 12 Parental emotional wellbeing/ mental health
Co 13 Support for violent and nonviolent parent: professional (therapy/support groups) or social (family and friends)	Co 14 Any significant contextual changes (school moves ect)

Ti 1 Age at onset of DVA experience	Ti 2 Age at end of DVA experience
Ti 3 Duration of DVA experience	Ti 4 Regularity of consistency of DVA experience
Ti 5 Time since DVA occurred or still occurring	Ti 6 Any significant historical events occurring which impact development directly/indirectly (war/ economic crisis)
Ti 7 LAC: Age when became LAC, how long with LAC status, duration of current placement	

Appendix 3: card packs



Appendix 4: information letter and instructions to participants

30/04/14

Dear Colleague,

The research surrounding the outcomes for children and young people (CYP) who have experienced Domestic Violence and Abuse (DVA) is wide and varied. Many variables have been explored in psychological literature in relation to how DVA affects a CYPs development: their subsequent behaviours and interactions, cognitive development, emotional wellbeing, and mental health.

This study aims to explore the practice of EPs when working with these CYP, particularly focusing on the variables which are considered during psychological formulation. The intention for the data is to build a picture of which aspects of a CYP's life are most often considered by EPs, whether there are any variables that are not considered often, and what the potential barriers may be to encompassing all the variables given here, in formulation. The variables themselves have been derived from literature surrounding child development and outcomes associated with experiencing DVA.

This activity should take approximately 10 minutes to complete. It will be completed anonymously, with no identifying features present. Due to this, data will not be able to be withdrawn once it has been submitted. Returning the pack will be classed as giving consent for your data to be used. Please see the instructions overleaf.

Please could the completed packs be returned to my post tray by **Friday 30th May**.

If you have any questions or require any further information please contact me via email: emily.heath@leicester.gov.uk

If you wish to speak with my university tutor, who is overseeing this work, please contact n.m.bozic@bham.ac.uk

I would like to thank you in advance for taking the time to complete this activity. Your views are fundamental in exploring EPs perceptions of their practice, and are very much appreciated.

Emily Heath

Trainee Educational Psychologist

University of Birmingham

INSTRUCTIONS

STAGE 1:

- Please review these cards in terms of whether the variables are often considered in your psychological formulation of a CYP (where DVA experience is known or suspected).
- Please include consideration either through direct data gathering/testing or through secondary sources or informal discussion.
- Place each card into the **YES** envelope if it is often considered and the **NO** envelope if it not often considered.

STAGE 2:

- Retrieve the cards from the **NO** envelope.
- From these cards, please identify what the primary reason is for why it is not considered in your formulation. Choose from,
    - **TIME** (not enough time to enable you to consider it)
    - **VALUE/USEFULNESS** (consideration of the variable does not add usefully to the formulation)
    - **KNOWLEDGE/TRAINING** (limited knowledge of the evidence base as to the potential impact of this variable/limited training experiences exploring the effects of this variable)
    - **RESOURCES/TOOLS** (resource or tool not available to you, to support you to consider this variable/to focus your thinking/to guide your data gathering)

- Once you have allocated each card please place the card in the relevant envelope and seal them. Please return completed packs to Emily Heath's post tray in the communications room.

Many thanks!!!

Appendix 5: overall responses

PART	YES	TIME	RESOURCES	KNOWLEDGE	VALUE
1	All PR All PE All TI CO3, CO4, CO6, CO7, CO8 CO9, CO11, CO12, CO13, CO14	CO1	CO2 CO5		CO10
2	All PR All Pe All TI CO1, 2, 3, 4, 5, 7, 9, 11, 12, 14	CO13 CO10 CO8 CO6			
3	All PE PR 3, 4, 6, 7, 11 CO 1, 2, 4, 5, 9, 11, 14 TI 1,2,5,6,7	PR9 PR8 PR2 PR1 CO3 CO13 CO6		PR10 PR5 CO12 CO7 TI3 TI4 CO10 CO8	
4	ALL PE PR 1,2,3,4,5,6,7,9,10,11 CO1,3,4,5,7,8,9,10,11,12,14 TI 1,2,5,6,7		PR10 PR8	CO13 TI4 TI3	CO2 CO6
5	PR 1,2,3,4,5,6,7,8,10,11 PE 1,2,3,4,5,6,8,9,10 CO 2,3,4,5,7,9,11,12,13,14	CO10 CO6	CO8	CO1 PR9 PE7	
6	CO2,4,5,7,9,12 PR1,2,3,4,6,7,8,9,10,11 PE1,3,4,5,6,8,9,10 TI1,5,6,7	CO13	CO11 PE2	CO6 CO1 TI4 TI2 TI3 CO8 CO10 PR5	PE7 CO3
7	PR1,2,3,4,5,6,7,8,11 ALL PE CO3,4,5,7,8,9,10,11,12,13,14 TI1,2,3,5,6,7			PR9 PR10 CO1 CO2 CO6 TI4	
8	PR3,4,5,6,7 PE1,2,3,4,5,6,8,9,10,11, CO2,4,7,9,11,12,14 ALL TI	CO1 CO3 CO5 CO13 PR1 PR2 PE7	PR8 PR9 PR10 CO8	CO6 CO10	
9	ALL PR ALL PE CO1,2,3,4,5,6,7,8,9,11,12,13,14 TI1,6,7			TI2 TI3 TI4 TI5	TI6 CO10
10	All PR ALL PE CO5,6,7,8,9,10,11,12,13,14 Ti1,2, 3,5, 6, 7	Co1 Co2 Co3 Co4 Ti4			
	TOTALS	27	11	34	7
		TOTAL VARIABLES		42	
		TOTAL VARIABLES X 10PARTS		420	
		TOTAL NOT USED		79	
		PERCENTAGE		19%	NOT USED
				81%	USED

Appendix 6: breakdown of discrepancy variables according to explanatory responses

TIME	1	2	3	4	5	6	7	8	9	10	
PROCESS			1					1			3/10 parts had no TIME issues
			2					2			
			8								
			9								2/10 parts had issues with TIME for use of boundaries/strictness from parents
											2/10 parts had issues with time for warmth, attachment from parents
PERSON								7			
CONTEXT	1	6	3		6	13		1		1	3/10 parts had issues with TIME for CO1 school environment
		8	6		10			3		2	3/10 parts had issues with TIME for CO3 other environments CYP attends
		10	13					5		3	3/10 parts had issues with TIME for CO6 parental workplace
		13						13		4	2/10 parts had issues with TIME for CO10 policy and law effects
											3/10 parts had issued with TIME for support for CO13 parents, violent and nonviolent
TIME										4	

RESOURCES	1	2	3	4	5	6	7	8	9	10	
PROCESS				8				8			5/10 parts had no issues with RESOURCES
				10				9			
								10			2/10 parts had issues with RESOURCES for PR8 nature of close relationships, predictable enduring
											2/10 parts had issues with RESOURCES for PR10 balance of power in relationships
PERSON						2					
CONTEXT		2			8	11		8			2/10 parts had issues with RESOURCES for CO8 specific community factors, unemployment, crime
		5									
TIME											

KNOWLEDGE	1	2	3	4	5	6	7	8	9	10
PROCESS			5		9	5	9			
			10				10			
PERSON					7					
CONTEXT			7	13	1	1	1			
			8				2			
			10			6	6	6		
			12			8				
						10		10		
TIME						2			2	
			3	3		3			3	
			4	4		4	4		4	
									5	

3/10 parts had no issues with KNOWLEDGE

2/10 parts had issues with KNOWLEDGE for PR5 levels of protection for psych and phys harm

2/10 parts had issues with KNOWLEDGE for PR9 consistency of pos or neg relationship experiences

2/10 parts had issues with KNOWLEDGE for PR10 balance of power in relationships

3/10 had issues with KNOWLEDGE for CO1 school environment

3/10 had issues with KNOWLEDGE for CO6 parental workplace

2/10 parts had issues with KNOWLEDGE for CO8 Specific community factors, unemployment crime

3/10 parts had issues with KNOWLEDGE for CO10 policy anf law effects

2/10 parts had issues with KNOWLEDGE for TI2 age at end of DVA

4/10 parts had issues with KNOWLEDGE for TI3 duration of DVA

5/10 parts had issues with KNOWLEDGE for TI4 regularity of DVA

VALUE	1	2	3	4	5	6	7	8	9	10
PROCESS										
PERSON						7				
CONTEXT	10			2		3			10	
				6						
									6	

6/10 parts had no issues with VALUE

2/10 parts found no VALUE in CO10 policy and law effects