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Exploring the Influence of Video on Staff Attributions
and Perceptions regarding Challenging Behaviour:
An Innovative Approach to Group Consultation

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Abstract

Exclusion rates for challenging pupil behaviour (CB) are increasing (DfE; SFR-28/2015). Where staff attribute CB to within-child or home-related factors, low perceived self-efficacy, negative attitudes and exclusionary practice amongst staff may increase (Jager & Denessen, 2015). Group problem-solving approaches including Circles of Adults (CoA) aim to facilitate staff attributions. Given their equivocal influence, such approaches require attunement and systematic research (Gulliford, 2015). Based on educational research (Gaudin & Chaliès, 2015), this study explored the impact of video-data within CoA via a mixed method, pre-post-test experimental, cluster randomisation design where staff reviewed video-data (experimental n=20) or, written-data (comparison n=19).

Analysis of covariance statistical tests were performed on individual participant data (Attribution & Strengths and Difficulties Questionnaires). Group theories (CoA transcripts) regarding behaviour were analysed via content and statistical analyses; allowing triangulation between qualitative and quantitative data. Participants' views (Evaluation Questionnaire) were analysed using some statistical analysis and content analysis of narrative comments

Findings from individual measures suggest that video-data encouraged staff to think holistically regarding causes of CB. Group data showed that video increased participants' awareness of school factors whilst providing some insight into child-related factors. An unexpected relative increase in the experimental group's home-related attributions suggests that CoA processes may have also impacted staff responses and aided holistic formulation, thus the impact of video may be mediated by the accompanying scaffolding and facilitation. Participants in both conditions, particularly in the experimental condition rated the overall CoA, and the added element of data as 'helpful'. Narrative comments also tenuously suggest that video-data encouraged staff to consider school-factors to a relatively greater degree.

Limitations include sample size for group data and reliability of measures. Findings implicate educational and psychological practice, school staff and potentially, pupils. Replication of this study on a larger scale and, use of deductive, qualitative methods will expound current findings.

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Glossary of Acronyms

Acronym	Description
CB	*Challenging Behaviour*
SEBD	*Social Emotional and Behavioural Difficulties*
SEN	*Special Educational Needs*
CYP	*Children and Young People*
BPS	*British Psychological Society*
DES	*Department of Education and Science*
DfE	*Department for Education*
DfES	*Department for Education and Skills*
EPPI	*Evidence for Policy and Practice Information and Co-ordinating Centre*
OfSTED	*Office for Standards in Education*
UoN	*University of Nottingham*
TEP	*Trainee Educational Psychologist*
EP	*Educational Psychologist*
EPS	*Educational Psychology Service*
LA	*Local Authority*
SENCo	*Special Educational Needs Coordinator*
TA	*Teaching Assistant*
SLT	*Senior Leadership Team*
FAE	*Fundamental Attribution Error*
GC	*Group Consultation*
PC	*Process Consultation*
CoA	*Circles of Adults*
GF	*Graphic Facilitator*
PF	*Process Facilitator*
SLR	*Systematic Literature Review*
RCT	*Randomised Control Trial*
IV	*Independent Variable*
DV	*Dependent Variable*
SD	*Standard Deviation*

Chapter 1: <u>Setting the Scene</u>

1.1 An Indicative Case Study

This research partly stems from an indicative case study concerning the challenging behaviour of one pupil raised to the attention of the researcher, in the role of Trainee Educational Psychologist (TEP). The referring school asked the TEP to support staff in how they viewed and responded to the pupil's behaviours. In agreement with the pupil's parent, video recordings of this pupil across a range of school contexts were used as stimulus for discussion within a group consultation facilitated by the TEP. Post-consultation, staff attributions changed; staff identified more environmental factors and less home-related factors as potential reinforcers of the behaviour. Staff then suggested strategies based on their attributions. These findings complement well-documented Attributional theories which propose that staff responses to behaviour are impacted by their perceptions (Weiner, 1979; Poulou & Norwich, 2002). Verbal feedback from staff indicated they viewed the video-data as authentic and that it supported their problem-solving in relation to the behaviour. The findings tentatively indicate that the use of video-data within facilitated consultation can be a means to support problem-solving and influence staff attributions related to challenging behaviour.

Thus, through a more rigorous exploration of the potential influence of video as a tool within group consultation, the researcher aims to provide a unique contribution to the field of Educational Psychology and the frameworks of group consultation.

1.2 Overview

This thesis will be presented over six chapters. Each chapter will be divided into relevant subsections. The chapters will follow as thus:

1.2.1 Chapter 2: Literature Review

This chapter provides the rationale to intervene with school staff perceptions and attributions of challenging behaviour. Specifically, the benefits of *group problem-solving* approaches, such as the Circle of Adults (Wilson & Newton, 2006) – here treated as a control measure - and *video-supported reflection* are explored. Research questions and hypotheses presented are based on the narrative and systemic literature review.

1.2.2 Chapter 3: Methodology

This chapter offers a broad introduction to philosophical and methodological paradigms within psychological research. Following this, justification and details of the employed paradigm and design are given. Emphasis is placed on matters of validity and ethical research practice.

1.2.3 Chapter 4: Results

This chapter outlines analyses undertaken. The main findings from descriptive data, visual analyses and where appropriate, statistical inferential analyses per research question are shared.

1.2.4 Chapter 5: Discussion

Main findings are discussed in relation to the research questions, aims and literature reviewed in Chapters 2 and 3. The current methodology is critically reflected upon and considerations for future research and professional implications are also explored.

1.2.5 Chapter 6: Conclusion

Final conclusions are presented in view of the unique contribution of the current research.

Chapter 2:   Literature Review

2.1 Introduction

This chapter considers the need to facilitate staff perceptions and attributions of challenging pupil behaviour. Specifically explored are the espoused benefits of facilitated *group problem-solving* approaches and *video-supported reflection*. The narrative review is based on reading the researcher accessed throughout doctoral training and previous professional roles as a teacher and mentor. To source literature, hand searches of reference lists and internet search engines were conducted. This is followed by a systematic literature review focusing on research questions in order to specifically explore the impact of video-supported reflection within facilitated group problem-solving approaches on staff perceptions and attributions of behaviour.

2.2 Challenging Pupil Behaviour: Challenging to Define; Important to Address

2.2.1   Defining Challenging Behaviour – a Difficult Concept

National policy has traditionally aimed to diminish the negative impact of challenging behaviour (CB) on pupils, staff and their learning environment (Haynes, 2005). Clarifying what constitutes CB however, has been problematic (Porter, 2007). Similarly, the governmental drive for 'appropriate' behaviour (Steer Report, 2009) has variously been described as a 'political', value-laden concept, or as legitimising the power imbalance between young people and adults in charge (Haynes, 2005); leading to measures which are punitive in nature (Hemphill & Hargreaves, 2009). Furthermore, the conflict between a need to maintain high standards of behaviour *and* promote inclusion of all pupils has confused schools in how to typify and thus respond to pupils displaying CB (BPS, 2002; Norwich & Eaton, 2014).

It is therefore perhaps more appropriate to view CB along a continuum (Miller, 2003): where some undesirable behaviours are deemed developmentally appropriate; persistent disruptive behaviours are considered symptomatic of underlying social, emotional or behavioural difficulties (SEBD; DCFS, 2010; DfE, 2015); and extremely CBs or SEBDs may be indicative of mental health concerns (Grieg, 2007). These conceptualisations complement the current Code of Practice (DfE, 2015) whereby 'behaviour' is no longer viewed as a Special Educational Need

(SEN) in itself - instead identification and support of underlying social, emotional and mental health difficulties is encouraged.

2.2.2   Challenging Behaviour – a Socially Constructed View

Critical to this study is the premise that the way a pupil's behaviour is perceived or socially constructed can impact staff responses and pupil outcomes (Millei & Petersen, 2014). National statistics could be interpreted in the light of this phenomenon; male pupils from inner city areas (Van Bergen, Graham, Sweller, Dodd, 2015) from relatively underprivileged socio-economic backgrounds are more likely to be described as displaying CB and experience school-exclusions (DfE SFR 28/2015) than their peers. These 'trends' can contribute to stigmatisation and low expectations especially where the behaviour is perceived to be part of pupil personality or through choice (Woods & Farell, 2006).

Millei and Peterson (2014) encourage educational practitioners to overlook the categorisation of CB and to question the discourses at hand. Their view suggests intervention can be at the level of staff perceptions and discourse regarding behaviour and it is the methods by which this may be mediated, that is of interest to the current study

2.2.3   The Impact on Pupil Outcomes

Prevalence rates and literature related to CB strongly illustrate the need to intervene with CB. Contra to prior trends, the latest data demonstrates a concerning increase in the number of permanent and fixed term exclusions within UK-based schools (DfE SFR 28/2015). Extant literature has correlated CB with a range of undesirable outcomes including:

- Low academic achievement, both as an overt sign of disengagement and as a mask covering actual learning needs (McIntosh, Flannery, Sugai, Braun & Cochrane, 2008).
- Disrupted learning within the class preventing positive social experiences and increasing likelihood of rejection from peers and staff (Carlson, Tiret, Bender, & Benson, 2011).
- Stigmatisation leading to diminished trust between pupils and staff, which negatively impacts the interactions and relationship within the classroom (Moffat, 2015).
- Pupils identified as stigmatised may experience a reduced sense of 'belonging' within their educational setting (Cullerton-Sen & Crick, 2005). Belonging is conceptualised as a central precursor to the development of an individual's sense of self-esteem and

actualisation without which pupils can experience distress and demotivation (Baumeister & Leary, 1995).

- Negative outcomes of CB can be detrimental throughout life; exclusion from mainstream school increases the risk of further social disadvantage (Howarth, 2004) which recursively reinforces 'anti-social' behaviours (Taylor & Fairgray, 2005).

2.2.4   The Impact on School Staff

The success of behavioural interventions may be mediated by staff capacity and intervention integrity (Baker-Henningham, 2011) therefore, it is important to consider the experiences of staff responding to CB. Research suggests that teachers, especially those who are recently qualified, may require more or different support with classroom management of CB than is currently the case (Martella, Nelson, Marchand-Martella & O'Reilly, 2011). Correlational studies suggest difficulty managing CB is associated with teacher dissatisfaction, burnout, and low levels of staff retention (McKinney, Campbell-Whately, & Kea, 2005; Keller, Chang, Becker, Goetz & Frenzel, 2014).

2.2.5   The Relationship between Staff Affective State and Staff Self-efficacy

Despite the overt focus on learning and attainment, educational organisations may contain intense and emotional experiences that influence interactions and affect learning as well as personal growth in pupils and staff (Pekrun, Goetz, Titz, & Perry, 2002; Becker, Goetz, Morger & Ranelluci, 2014a). Affective 'fallout' stemming from experiences of problematic behaviour may impede staff ability to self-regulate and result in negative attitudes toward inclusion, especially where pupils are viewed to have 'behavioural' difficulties (Becker, Goetz, & Morger, 2014b; Becker et al., 2014a; Keller et al., 2014; MacFarlane & Woolfson, 2013).

Bandura's socio-cognitive theory of self-efficacy (1977) suggests that intense emotional or physiological responses (e.g. anxiety, stress, arousal, fatigue etc.) can be interpreted as cues regarding the anticipated success or failure of an outcome. This model might imply that when a teacher experiences aversive thoughts regarding their capabilities, their perceptions of capability in managing difficult classroom situations is lowered, triggering negative feelings like stress which in turn, may lead to the inadequate performance they fear. This 'expectancy outcome' is linked to intentional and actual behaviour, as individuals predominantly apply effort into those tasks in which they believe they will be successful (Lunenburg, 2011). Thus, efficacy

is an important and relevant construct when considering a teacher's ability to manage commonly occurring classroom situations, such as but not limited to, CB (Manuel & Arias, 2007).

2.2.6 The Importance of Supporting Staff Self-efficacy

While the conceptualisation and measurement of self-efficacy has differed across studies (Woolfolk & Hoy, 1990), a strong sense of self-efficacy is related to a variety of positive teaching behaviours and pupil outcomes (Henson, Kogan, & Vacha-Haase, 2001). Teachers who report high self-efficacy have been found to display more enthusiasm and persistence when teaching demotivated or troubled pupils (Tschannen-Moran & Hoy, 2001). This in turn appears to enhance pupil achievement and motivation (Pajares, 2002; Caprara, Barbaranelli, Steca & Malone 2006; Goddard, Hoy, & Hoy, 2000). Furthermore, self-efficacious teachers are more likely to try new strategies (Tait & Purdie; Tschannen-Moran & Hoy, 2001) in the management of pupils displaying CB than teachers who present with low self-efficacy (Poulou & Norwich, 2000; 2002).

It must be noted that aside from self-efficacy, situational and organisational factors also impact teacher effectiveness (Kennedy, 2010) and teacher self-efficacy is not a 'fixed' construct but can vary in relation to a pupil's learning versus the pupil's general behaviours (Emmer & Hickman, 1991).

2.2.7 Hypothesised Relationship between Self-efficacy and Attribution

To understand the significance of these ideas for teacher self-perception, some further exploration of them here is valuable. Bandura (1977) proposed four sources of self-efficacy (Figure 2-1) each of which are selected, integrated and interpreted to different levels per situation and have been discussed in literature focusing on staff professional development of teacher (e.g. Bandura, 1994) and non-teacher samples (e.g. Higgins & Gulliford, 2014).

Figure 2-1: Bandura's Four Sources of Self-efficacy

PERFORMANCE EXPERIENCES Previous success and failure experiences on similar tasks.	**OBSERVATIONAL LEARNING** Observation of the behaviours and consequences of similar models in similar situations.
VERBAL PERSUASION Encouraging or discouraging messages from others.	**EMOTIONAL AROUSAL** Arousal can be interpreted as enthusiasm or anxiety.
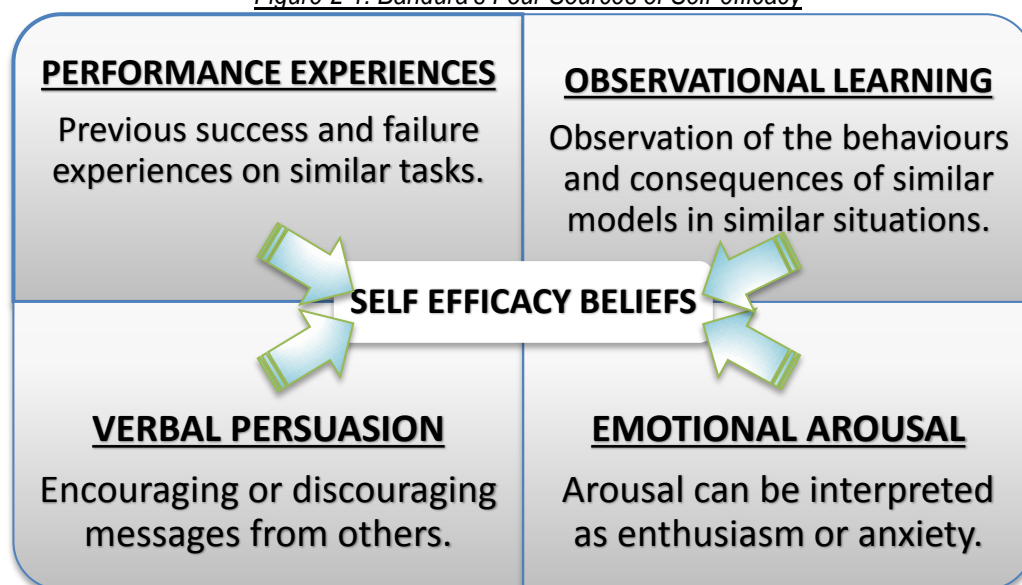
Higgins & Gulliford (2014) found Teaching Assistants (TAs) cited all 4 induction sources (to differing levels) as influential to their practice. The authors suggest that EPs can plan staff professional development activities which seek to enhance staff self-efficacy by carefully drawing on the respective sources. Each of the four sources are underpinned by fourteen different modes of induction (Bandura, 1977). Of relevance to this study, is the mode of Attributions or in other words, perceptions regarding the causes of behaviour. An example of how this mode is positioned in relation to others is illustrated in Figure 2-2 (Higgins & Gulliford, 2014).

Studies exploring this hypothesised relationship between staff attributions and self-efficacy in teacher samples have found that low self-efficacy in teachers predicted more external attributions (e.g. 'the child enjoys disrupting the class' or, 'home-related difficulties impact the child's focus') for pupils experiencing difficulties (Brady & Woolfson, 2008; Poulou & Norwich, 2000). Whilst these theoretical suppositions require replication (Jones, Monsen & Franey, 2013), studies have traced a relationship between staff professional development and the development of professional self-efficacy (Brady & Woolfson, 2008; Higgins & Gulliford, 2014). Research suggests there is scope for EPs to mediate staff views in a way which enables staff to feel more self-efficacious in managing CB (Miller, Ferguson & Byrne, 2000; Miller, 2005; Syme, 2011; Turner, 2014).

Figure 2-2: Position and Relationship of the Node of Attribution in relation to Self-efficacy (for TAs; Higgins & Gulliford, 2014)
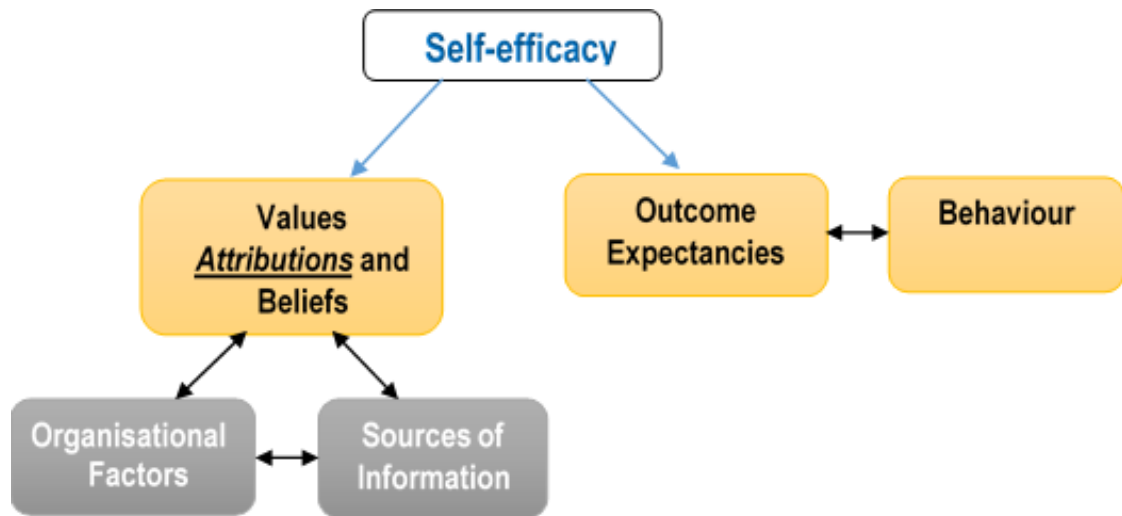
2.2.8   Summary

Defining CB can be problematic and value-laden. CB may therefore be best viewed as a socially constructed phenomenon along a continuum. CB remains a high-profile concern, the widespread and serious impact of which is experienced at the individual, peer-group, staff and organisational level. Furthermore negative affective fallout, possibly from problematic and emotionally tense classroom experiences, can influence interaction, learning and personal growth for staff and pupils within the learning environment.

In this context, the development of staff self-efficacy is considered important. Underlying the development of self-efficacy are four sources, each represented by different modes of induction. Of relevance to this study is the domain of attributions. For EPs, the mediation of staff attributions in relation to pupil behaviour may be both desirable and helpful to behavioural interventions (Miller, 2003; 2005) and staff self-efficacy (Higgins & Gulliford, 2014). The degree to which the facilitation of attributions is a valid venture is explored next, with a focus first upon the nature of attribution theorising.

2.3 Attributions: Staff Attributions and Problem Behaviour

2.3.1 Theories of Attribution

Attribution theorists state that humans act as 'naïve scientists' tending to ascribe causal explanations for failure and, to a lesser extent, success (Kelly, 1973; Harvey & Martinko, 2009). Explanations of behaviour may stem from an individual's beliefs, motivation or the information they receive (Figure 2-3). These explanations are often spontaneous and generate psychological consequences which in turn, may affect subsequent emotion, motivation and behaviour (Weiner, 2001). Within the field of education, Weiner's attribution theories (1985; 1994; 2000) have been used to explain staff behaviour in educational settings toward pupils who display CB (Kulinna, 2007; Mavropoulou & Padeliadu, 2002; Jager & Denessen, 2015).

Figure 2-3: A Representation of Antecedents and Consequences linked to Attributions
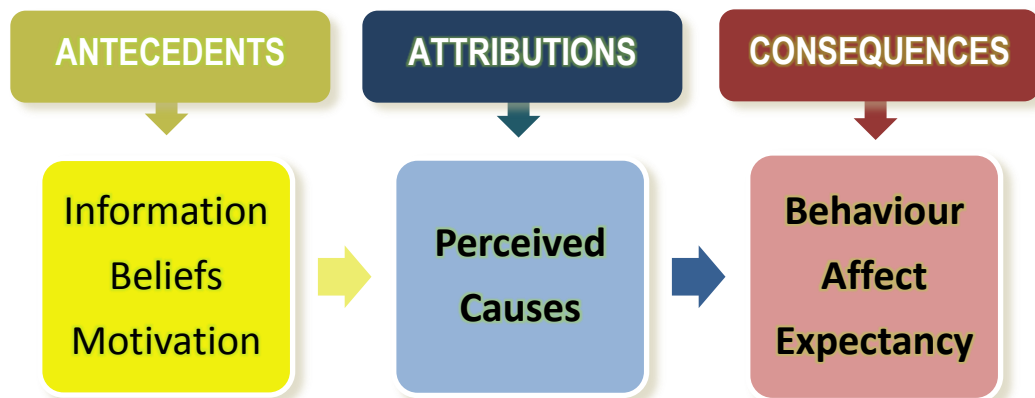
For Weiner, attributions are formed along three causal dimensions (Figure 2-4). Relevant to this study are the dimensions **Locus of Control** and to a lesser extent, **Controllability -** these shall be briefly explored next. For the dimension of **Stability**, the reader is referred to Weiner (1985).

Figure 2-4: Three Dimensions of Human Attribution (Weiner, 1979; 2001)
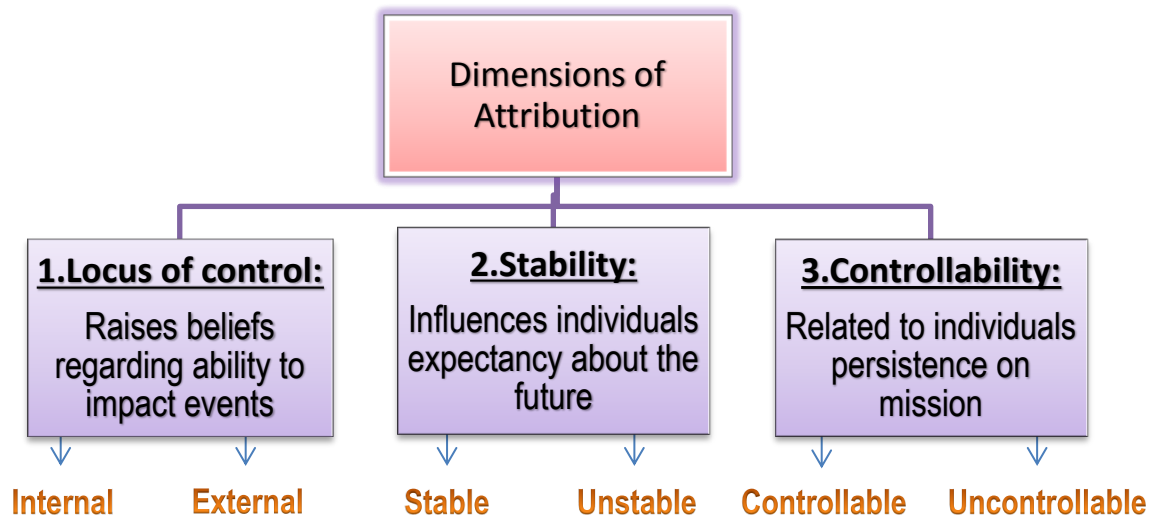
The **Locus of Control** dimension is considered most strongly linked to affective reactions. For example, attributing success to an internal cause can enhance one's self-efficacy or self-esteem more than when it is attributed externally. Attributing failure to internal causes is linked to shame whilst attributing it to external causes is linked to anger (Rotter, 1966; Eccles & Wigfield, 2002). Thus, where a pupil's CB is perceived as unrelated to a teacher's own practice (i.e. externally attributed from the teacher's point of view) a negative attitude toward this pupil may result. This may result in feelings of incapability and lowered motivation (Harvey & Martinko, 2009). Conversely, a staff member who perceives themselves as able to 'control' pupil behaviour, may enjoy feelings of efficacy and view their own actions as significant (Bandura, 1993).

Controllability refers to whether the cause attributed to an event (e.g. CB) is within the individual's (pupil's) control. In the context of education, ability is more typically classified as an uncontrollable attribution in comparison to effort, which is more commonly viewed as a factor within a pupil's control (Weiner, 1979). If an outcome is attributed to an uncontrollable learning difficulty as opposed to a pupils' lack of effort, staff are more likely display to sympathy, offer support and be less likely to administer retributive or disciplinary action (Clark, 1997; Matteuci, 2007; Weiner, 1994). Thus conceptualised, dimensions of attribution can potentially impact an individual's intentionality to act (Weiner, 2001).

Other authors have attempted to carve out 'attributional styles'. Harvey and Martinko (2009) describe the 'hostile attribution style' as a stable tendency toward external attributions for negative outcomes. The stability or immovable nature of this tendency could lead to anger or aggressiveness toward the identified external "entity". For example, a teacher may feel that a pupil's CBs are purely and always due to parenting or the child's personality – resulting in a view that this behaviour is more likely to remain regardless of intervention. This tendency for observers to overemphasise dispositional explanations over situational explanations is also described as the 'fundamental attribution error' (FAE) (Ross, 1977).

2.3.2   The Importance of Staff Attributions

Within education, the majority of the attribution literature suggests that teachers adopt a self-serving bias (Campbell & Sedikies, 1999); relating causes of challenging behaviour to 'within-child' and 'home' rather than 'teaching' or 'school-related' factors (e.g. Brophy & Rohrkemper, 1981; Croll & Moses, 1985; Kullinna, 2007; Medway, 1979; A.Miller, 1995; Mavropoulou & Padeliadu, 2002). Cross-cultural studies provide further support for the findings listed (see Ho, 2004). These 'negative attitudes' have been described as a potential barrier to effective action (Miller, 2003) in the following ways:

- Negative affective states and a reduced perceived ability to elicit positive change (Georgiou, Christou, Stavrinides & Panaoura, 2002; Poulou & Norwich, 2002)
- A lowered intention to modify practice
  (Clark, 1997; Poulou & Norwich, Soodak & Podell, 1994)
- An increase in negative teacher-pupil interactions (Miller, 2000)
- Self-reported teacher burnout (Bibou-Nakou, Stogiannidou & Kiosseoglou, 1999)
- Low staff intervention integrity (Baker-Henningham, 2011; Tollefson & Chen, 1988)
- Low expectations (Vlachou, Eleftheriadou & Metallidou, 2015)
- Increase in punitive measures (Matteuci, 2007)

2.3.3   Attributions – A Cautionary Note

Findings related to teachers should be interpreted with some criticality; for example some teachers do attribute cause of CB to 'teacher' or 'environmental' factors (Poulou & Norwich, 2000). Staff training, cultural values and the setting's ethos may influence attributions (Erbas, Turan, Aslan, & Dunlap, 2010). Attributions of staff from Eastern cultures may differ to Western

cultures (Ho, 2004); the above findings highlight the constraints upon the generalisability of findings.

Attributions may be temporal or situational and therefore, cannot be considered static or a reliable predictor of an overall 'attributional style' (Jager & Denessen, 2015). One grounded theory study found that teachers who attributed the initial occurrence of undesirable behaviours externally (e.g. to parents), contrarily tended to attribute successful intervention outcomes or desirable behaviours internally (A.Miler, 1995). This provides some evidence of a self-serving bias but also suggests that attributions or explanations for behaviour are context-dependent and can develop over time. This resonates with Kelly's (1977) argument that attributions may stem from experience or available knowledge, and that in some ways, the spontaneous and self-serving nature of attributions may be adaptive and protect one's self-esteem. Interestingly, Kennedy (2010) applied 'FAE' to researchers and practitioners who over-emphasise teacher attributional tendencies to account for negative pupil outcomes. The recognition of child-related and home-related factors (Weare, 2015) and the interactions between and within systems surrounding the child is deemed useful to interventions (Dowling & Osborne, 1985) and so child-related attributions may not be the cause of exclusionary practice. Thus to improve outcomes for pupils, it is likely to be helpful to empower staff who are required to manage pupils displaying CB.

2.3.4 Interim Summary

The brief literature presented suggests attributions are not simply translated into good or bad practice; rather the pressures and cultural expectations inherent in demanding school organisations also have a part to play (Ho, 2004; Jager & Denessen, 2015). Nevertheless, where staff perceive causes and therefore solutions as located within the child or home, inclusive practice may be less likely (Tait & Purdie, 2000; Brady & Woolfson, 2008).

As staff attributions may be formed spontaneously and without the aid of much detail or information (Soodak & Podell, 1994), there might be some benefit in providing staff with sources of data or discussion which seek to permeate beliefs and 'open-up' perspectives around causes of CB (Miller, 2003). This idea is pertinent to this study - before this is deliberated further, methodological limitations and measures employed within the relevant attribution literature are considered, with a view to critically reflect on the reliability of the same.

2.3.5   Limitations of Attribution research

Due to the design of studies, much of the data focuses on identifying correlational relationships as opposed to causal directions. Objective measures, such as observations of behaviour or performance data may help to identify causal relationships between staff attribution, behaviour and pupil outcomes (Jones & Hastings, 2003).

Attribution studies predominantly explore the attributions of cohorts of individual teachers, resulting in a limited understanding of how attributions across roles or in staff groups may differ or impact staff practice. This is important to address as schools operate as systems where beliefs and cultures tend to impact staff perceptions and approaches toward CB (Miller, 2003; Farouk, 2004). It has also become increasingly common for non-teaching staff to be involved in the support of pupils who present with CBs (Blatchford et al., 2009; Higgins & Gulliford, 2014). Therefore, researching ways to permeate perceptions and attribution of a *range* and/or *groups* of staff may provide a more ecologically valid appreciation and, support the efficacy of interventions at the staff level.

2.3.6   Limitations of Attribution Measures

Employing appropriate attribution measures is vital to understand professional implications (Weiner, 1983; Grey, McClean & Barnes-Holmes, 2002). Nevertheless, reliably measuring cognitive mechanisms is difficult; attributions are largely unconsciously activated and are not directly observable in themselves (Wigelsworth, Humphrey, Kalambouka & Lendrum, 2010).

This study is concerned with helping staff to encourage supportive learning behaviours of pupils for whom they require support and so values measures which are ecologically valid. A brief critical examination of the available measures will now be presented with this aim in mind.

Many studies have employed vignettes or 'mock' case studies which are easier to replicate and add experimental control (Poulou & Norwich 2002). As the vignette examples are hypothetical, the ecological validity of findings is arguably reduced (Grey et al., 2002) thus, the constructs investigated may differ from those detected when using 'real' data, such as actual observations of pupil's displaying CB (Jones & Hastings, 2003; Lucas, Collins, & Langdon, 2009). Jones and Hastings (2003) found that staff who observed actual incidents of CB, indicated they would offer a higher degree of help to the pupils in question, suggesting that the use of real data, in

comparison to vignettes, may result in an increase in inclusive practices. This finding will become important to the design of this study.

The Challenging Behaviour Attributions Scale (CHABA-Hastings 1997; Hastings & Brown 2002) aims to assess a range of staff attributions of CB in relation to particular 'learning disabilities' (e.g. autism, physical impairment etc.). While this measure may offer insight into staff perceptions for certain groups of pupils, the content validity of the longer version of CHABA has been questioned (Grey et al., 2002). For this reason, investigators looking at causal factors in new contexts have been encouraged to develop new attribution measurement instruments (Giavrimis & Papanis, 2009). Carter, Williford, & Locasale-Crouch (2015) argue that to improve the reliability of teacher attributions measures, researchers may choose to concurrently explore teachers' beliefs, practices, and relationships with pupils.

2.3.7   Summary

Educational literature provides theoretical and empirical support for the suggestion that staff causal attributions correlate with staff self-efficacy and staff practice in relation to pupils displaying CB. If a pupil's CB is perceived to be internally attributable to the child, or beyond staff or school control, the likelihood of exclusionary and 'punitive' practice may increase. Historically, measuring attributions has been difficult due to the challenges of construct and ecological validity; as such the development of new measures is encouraged. Discussion thus far has highlighted that the mediation of staff attributions is relevant but that research in this field must progress to support professional practice.

2.4　Facilitating Staff Attributions: Group Problem-Solving Approaches

2.4.1　The Need to Intervene with Staff Attributions of Challenging Behaviour

Many pupils displaying CB are identified as vulnerable (Van Bergen et al., 2015) yet as noted, exclusion rates for pupils displaying CB are on the rise (DfE SFR 28/2015) and are associated with educational and social disadvantages (see Section 2.1). Therefore inclusion of all pupils continues to be a national and relevant aim (DfES, 2003; DfE, 2012; DfE, 2015).

Recent changes to policy have increased schools' accountability to self-improve and respond to national expectations (Ainscow, Dyson, Goldrick, & West, 2016). Whilst these foci have been conceptualised as barriers to equality and inclusion (Whitty & Anders, 2014), elsewhere they are described as opportunities for schools to support pupil outcomes by providing staff with professional development activities relevant to the local and national context (Hargreaves, 2012). Furthermore, schools with high exclusion rates are susceptible to additional scrutiny and publicised undesirable ratings (OfSTED, 2010). These external motivators may inspire schools to think more autonomously and respond inclusively in relation to CB.

The discussion thus far has demonstrated the significance of facilitating staff attributions in order to promote staff ownership and professional development in cases of CB (Kulinna, 2007). While school-staff and educational practitioners are encouraged to go beyond the typography of CB and explore school-related factors (DES-Elton Report, 1989; DfE, 2015) one meta-analysis of twenty-eight studies found that generally, school staff tend to ascribe within-child explanations (Evans, Harden & Thomas, 2004). One way to support schools in taking ownership of the management of CB is through school-based problem-solving groups which appear to support the inclusion of pupils with CB or SEN (DfE, 2010; Armstrong, 2014). Specifically, processes within group problem-solving allow educational practitioners to address conflicting attributions across adults which may impede effective collaboration, hinder joint problem-solving and positive change (Miller 2003; 2005).

Discussion now turns to the efficacy of group problem-solving in facilitating staff attributions preceded by a brief presentation of the role of EPs. The Circles of Adults (CoA) approach, featuring as the GC approach in the current study, is then presented.

2.4.2   Increasing Inclusion Indirectly; Benefits of a Collaborative EP approach

EPs appear well positioned to support schools to be self-improving and inclusive (DECP, 1998; Guishard, 2000; Hart, 2010a). Various influences (e.g. DfE; 2012; 2015) have arguably led to an increase in indirect service models where instead of working directly with a pupil, EPs consult with staff (Erchul & Martens, 2010; Leadbetter, 2006; Wagner, 2000). There are a number of consultative approaches EPs adopt with staff in delivering such support; functional behaviour assessment involves understanding the context and purpose around a pupil's behaviour (LaVigna & Willis, 2012) whereas cognitive-behaviour approaches explore and find ways to adapt thought-processes which trigger undesirable behaviour (Ayers, Clarke & Murray, 2015). EPs also report indirect (or systemic work) is of value (Miller & Leyden, 1999; Bettle, Frederickson & Sharp, 2001; Wagner, 2000) as it can foster long-term positive change through enhancing staff self-efficacy, organisational efficiency and pupil outcomes (Margerison & Rayner, 1999; Miller, 2003; Frederickson & Cline, 2009).

As indirect service delivery represents a collaborative problem-solving relationship between consultants (e.g. EP) and consultees (e.g. school staff), staff ownership is not adversely impacted by such external support (Conoley & Conoley, 1982; Gutkin, 1999a; 1999b). Thus conceptualised, this approach has many espoused benefits (Appendix-1) including opportunities to discuss staff attributions (Miller, 2003) and understand socio-environmental factors (Gutkin, 1999a; 1999b) thereby assisting EPs to reframe problems for staff in a more objective and solution-focused manner (Miller, 2003).

2.4.3   Problem-Solving Together: a Mutual Dialogic Construction

Group-problem solving approaches focus on the dialogue and narrative around the 'problem', seeking to intervene in staff perceptions (Wagner, 2000). The "conversation" becomes the intervention, where "meaning is built up" and "aims to bring about some change" (Macready, 1997 p.130-132). According to Miller (2003), effective consultation can be viewed as "a subtle and delicate undertaking, steering a course between thoughts and feelings, the professional and the personal". (Miller, 2003; p. 86). Further elaboration is offered by Moore who states that it is this "mutual interchange of understanding" which enables "avenues for change" (2005, p 110). Dialogic interactions appear to influence individual's attributions in a rapid and dynamic manner (Finlay & Faulkner, 2003). This relates to Vygotsky's (1978) socio-constructivist opinion, whereby higher mental functions are moulded by the inter-psychological state of the group (social interactions) and are then primed by the intra-psychological state of the individual. Thus

problem-solving with others allows individuals to co-construct and internalise knowledge. Of relevance to this study is the notion that EP-supported group consultation holds potential to mediate staff thinking (Annan et al., 2013) and thereby support pupil outcomes (Baxter & Frederickson, 2005; Farouk, 2004; Farrell et al., 2006).

2.4.4 Principles and Benefits of Group Problem-Solving

2.4.4.1 Group-problem Solving: a Fusion of Approaches

Group problem-solving approaches generally seek to empower staff, inject objectivity into attributions of CB and enhance problem-solving ability (Brown & Henderson, 2012). Although EPs are not necessary, through a collaborative approach, EPs may use social influence, modelling, coaching, feedback (Martens and Ardoin, 2002) and share effective problem-solving frameworks (Cameron, 2006) to enable staff trying to manage CB (e.g. Hanko, 1999; Osborne, 1983; Stringer et al., 1992). Group approaches also provide staff with access to peer supervision or, 'circles of support' to reduce the negative affect associated with CB and in this way, aim to increase inclusionary practice (Gramshalaw & Henson, 2015). Experiencing positive feelings during problem-solving activities may also encourage a more positive orientation toward reflection in general (Bandura, 1993) and may enhance staff resiliency in managing difficult situations (Squires, 2007; Stringer, Stow, Hibbert, Powell, & Louw, 1992). Group approaches draw upon a number of theoretical orientations (Bennett & Monsen, 2011) - two relevant to the current study are explored next.

2.4.4.2 Group Consultation: Theory and Research on Staff Attribution

Group consultation (GC) can be conceptualised as an holistic approach seeking to triangulate between cognitive and affective responses to CB (Morton & Frith, 1995), thereby enhancing the staff groups' material and psychological resources (Hanko 1999). According to Hanko (2002) staff group formats which are theorised to draw on psychodynamic principles (such as CoA), address and support the emotional well-being of staff. Hanko argues these principles enhance 'containment' (see definition in Appendix-2) of staff anxiety or negative affect, leading to the restoration of objectivity in relation to the 'problem'.

Jones et al., (2013) measured primary school staff attributions before and after participation in a six week staff group problem-solving programme. Post-participation, data indicated an increase in all types of attribution, with the largest increase in teacher-related factors. This suggests participation in GC can facilitate staff attributions through increasing awareness of pedagogical

and organisational factors. Contrarily, Poulou & Norwich (2002) did not find a statistically significant change in staff attributions. To explain this finding, the authors suggest the group of teachers sampled were already aware of and, placed a higher emphasis on the importance of teacher-related factors. The sample of Jones et al., (2013) consisted of teaching and non-teaching staff; while this may reduce replicability and generalisability, non-teaching staff are increasingly implicated in supporting CB and may provide an alternative perspective during problem-solving (Alborz, Pearson, Farrell, & Howes. 2009). Guidance states that when teachers and TAs work in partnership, teaching and learning is enhanced (Smith, Whitby & Sharp, 2004). Furthermore Wilson and Newton (2006), the creators of the CoA approach, claim that the more complex the 'problem', the more diverse the problem-solving team needs to be.

Thornberg (2014) identified existing risks to inclusive practice such as cultural barriers, inter-group conflict and change-resistance. For this reason, some political and psychological intricacies of GC may require mediation by an external facilitator (Farouk, 2004). These factors have also been highlighted as potential confounds during social research (Dickerson, 2012), and include;

- Group polarisation: where members achieve an extreme viewpoint;
- Group conformity: where members tend to agree with others they perceive to be in their in-group or hold power, and
- Power imbalances: leading to some members feeling like they cannot truly share their perspective or if they do, that this may incur a negative outcome.

Some problem-solving group approaches may take less notice of the above-described mediating factors (Farouk, 2004). These variables are the mainstay of interactionist approaches (Wagner, 2000) inherent in process consultation frameworks such as CoA.

2.4.4.3 Process Consultation: Theory and Research on Staff Attribution

Process consultation (PC) draws on organisational and social psychology perspectives (Schein, 1988). These approaches are complementary to joint-systems thinking (derived from family therapy; Dowling & Osborne, 1985) which states that the point of interest is the interaction between the interrelated and interconnecting systems around the child. This allows the consideration of different and alternative explanations and veers away the medical model of disability which tends to attribute 'problems' to within-child factors (Sheridan & Gutkin, 2000; Hylander, 2012).

Within PC approaches, a facilitator (e.g. EP) normally guides participating staff through processes and subsystems in order to develop interpersonal and problem-solving skills (Schein, 1988). Via reflexive and circular questions, the EP-facilitator aims to 'punctuate' homeostatic beliefs and values to generate change (Lindsey, 1985) rather than providing their own 'expert' analysis or inferences on behaviour observed. Set structures, such as graphic facilitation (where responses are visually recorded) and ground rules aim to counter potential power imbalances between participants and attend to emotional and interpersonal factors that may be encountered in GC (Lambrechts, Bouwen, Grieten, Huybrechts, Schein, 2011; Farouk, 2004). For consultants, these principles are of increasing importance as efficient, effective, and healthy schools are better able to accomplish goals and improve outcomes (Farouk, 2004).

2.4.5   Circles of Adults

2.4.5.1   An introduction

The CoA is commonly used in complex CB cases to support 'the circle' (e.g. staff participants) to self-generate solutions (Wilson & Newton, 2006). CoA fosters non-hierarchical relationships between staff participants and 'consultants' – in this approach the latter either facilitate the discussion or visually record the problem-solving discussion.

2.4.5.2   The CoA Process

2.4.5.2.1   Structure

The CoA is a structured, ten-step process which follows the order below:

1) Agreement of GROUND RULES for the session

2) PRESENTATION OF PROBLEM

3) EXPLORATION OF RELATIONSHIPS

4) Consideration of ORGANISATIONAL FACTORS

5) Presenting the VOICE of the CHILD

6) SYNTHESIS

7) Generation of HYPOTHESES and THEORIES related to child's behaviour

8) Generation of STRATEGIES

9) Agreement of FIRST STEPS

10) ROUND OF WORDS

2.4.5.2.2   Description of Steps

The CoA is planned to last around 90 minutes and, as stated, is led by two facilitators who guide the questions or, record the responses of the group (Wilson & Newton, 2006). The process opens with an agreement of ground rules to set the tone and enable participants to feel safe during the process. One volunteer member is then asked to describe the young person's 'story' which includes consideration of a variety of factors and systems which may contributing to the child's behaviour. The process facilitator then asks a series of questions which draw upon psychodynamic principles to encourage the group to consider the quality of relationships surrounding the young person. Following this, the group collectively identifies organisational factors which may be 'helping' or 'hindering' the current situation.   Then, one member who volunteered to be the 'voice of the child' at the beginning of the session, suggests what the young person might say had they been present during the previous three stages. The graphic facilitator then briefly synthesises the main points or themes raised by the group thus far and attempts to identify themes that appear to be conflicting or, require further exploration.

As a collective, the group are then asked to offer any theories or hypotheses which they feel may be relevant to the situation. To do this, the members are explicitly asked to draw on the information gleaned so far. After this strategies are developed whereby the group must refer to the list of theories generated. The problem presenter is encouraged to identify strategies to implement post-session. Once identified, first steps towards achieving these are agreed in the group. To culminate the session, all members of the group donate one word to describe their experience of the session (Wilson & Newton, 2006).

2.4.5.3   Theory underlying CoA

A range of theoretical models are implicated CoA including; social constructivism, narrative approaches, Rogerian principles, and social interactionist theory (Grahamslaw & Henson, 2015). However most prominent is the psychodynamic perspective (Bennett & Monsen, 2011), which emphasises the cognitive-emotional responses generated from the inter- and intra-personal interactions of individuals (Hanko, 1999). For instance, within the CoA approach, focus pupil's perceptions are shared via transference and projection (Appendix-2) as one way to establish insight on the behaviour being discussed.

2.4.5.4   Benefits of CoA

Grahamslaw & Henson, (2015, p112) reviewed the small literature base on CoA and similar 'circles' and summarised the following benefits:

1. All members' views and opinions are listened to and treated equally;
2. There is a shared focus and unified purpose;
3. Cooperative and collaborative problem-solving is encouraged;
4. A cohesive group identity is created;
5. The impact of the group is experienced beyond the 'circle';
6. Social support in a safe climate is part of the process.

2.4.5.5   Literature Base

Published studies suggest staff rate CoA highly and experience feelings of empowerment and confidence (Bozic & Carter, 2002; Grahmaslaw & Henson, 2015). Despite the positive reports and strong theoretical grounding, there is very little empirical research which systematically analyses the outcomes on staff, staff practice or pupil outcomes (Bennett & Monsen, 2011; Grahamslaw & Henson, 2015; Gulliford, 2015).

Three recent unpublished dissertations from the University of Nottingham (UoN) attempted to measure the impact of CoA on staff attributions in relation to CB (Syme, 2011; Dempsey, 2012; Turner, 2014). Post-intervention, Dempsey (2012) found a decrease in within-child attributions made by staff however, Syme (2011) found an increase in the same, in both studies findings were statistically insignificant. Turner's (2014) descriptive data suggested an initial increase in within-child factors yet, during a maintenance check (i.e. Time 3) scores decreased. Whilst variations in methodology prevent conclusive comparisons across the studies, these differential findings suggest CoA accomplishes equivocal and non-maintained impact on staff attributions.

2.4.6   CoA and GC: A Need for Development

The recognition of school-related attributions or factors is important to inclusive practice (Elton Report-DES, 1989; Norwich & Eaton, 2014; Warnock, 1978) as these are easier to influence than factors outside the control of educational practitioners (Chaplain, 2000; Gilligan, 2007). While the CoA aims to enhance holistic formulation around causes of CB (Wilson & Newton, 2006), this approach does not consistently generate the above-described 'desired' staff attributions (Syme, 2011; Dempsey, 2012; Turner, 2014).

The CoA approach aims to raise awareness of systemic and organisational factors, (Stockley, 2003) however; it is largely steered by a psychodynamic approach (Bennett & Monsen, 2011). This can support peer supervision (Hawkins & Shohet, 1989) but may inhibit the move toward solutions or holistic formulation through a heavy focus on the personal agenda and emotional needs of participating staff (Farouk, 2004).

Psychodynamic approaches rely on theoretical constructs whose existence is difficult to prove (e.g. the unconscious mind) hence interpretation around causes of CB is prone to subjectivity and may differ across participants (Wigelsworth et al., 2010). Without objective data (Bennett & Monsen, 2011) and limited awareness of the pupil perspective within CoA (Dawson, 2013), subsequent attributions of behaviour are difficult to test. It can be argued then that other perspectives, such as eco-systemic thinking (Roffey, 2013) may position the pupil and their behaviour relatively more clearly in school contexts. As a result, the ability of CoA to facilitate attributions away from within-child explanations is questionable. Figure 2-5 tentatively illustrates the process by which the discussion undertaken directly informs attribution and strategies within the CoA. Thus, it is proposed that awareness of and, adjustments to the mechanisms and processes within the CoA may influence or facilitate the attributions participants make.

Figure 2-5: Tentative Questioning of the CoA framework's Influence on Participants' Attributions

Entry: 1. GROUND RULES

2. PROBLEM PRESENTATION

3. EXPLORE RELATIONSHIPS

4. ORGANISATIONAL FACTORS

5.VOICE OF THE CHILD

6.SYNTHESIS

7. THEORIES

8. STRATEGIES

9.NEXT STEPS

Exit: 10. Round of Words

Due to the heavy psychodynamic perspective, are **organisational/school-related factors** given relatively **less emphasis**? (Farouk, 2004)

As an adult represents this, how **authentic** is this? (Dawson, 2013)

As theories must be explicitly linked to the information shared in the previous stages, does the **balance of psychodynamic versus eco-systemic** discussion impact the theorising or attributions of staff? Will staff relate the problem to the child's past, home-life or child's emotional disposition? What about school factors? = *What can be done to aid more school-related or, **less within-child attributions?***

The process states **theories donated by staff must explicitly inform strategy-creation and staff next steps**. Therefore the theories and planned outcomes of CoA are dependent on the facilitation and content of preceding discussion = *Will the **inclusion of objective and environmentally based data lead to more school-related attributions**?*

Despite the benefits of CoA (Grahamslaw & Henson, 2015) there is a need for further development of (Nolan & Moreland, 2014) and, research into processes of GC such as CoA (Gulliford, 2015; Truscott, Lopez, Fish & Margolis, 2015). Staff participating in a two-year GC model suggested that the detail and delivery of data impacted their perceived ability to problem-solve (Nugent et al., 2014). Newell & Newell (2011) found that group problem-solving processes and intervention effectiveness may be enhanced by the quality of data gathered. These authors call for research which looks at quantity, thresholds and types of data to improve the effectiveness of consultation outcomes. In response, this study tenuously suggests consultants or consultees may be able to use video-data to support staff objectivity and, potentially give a more authentic insight into the voice of the child (Barnhart & van Es, 2015; Steward, 1969) than is currently offered by the CoA process (Dawson, 2013; Turner, 2014). There are widely documented benefits of video-enhanced reflective practice (Schildwacht, 2012); the discussion now explores this literature to identify the potential of this medium within group consultative practice.

2.4.7   Summary

Inclusive practice is currently a national and topical aim. To support this, EPs can provide an indirect service which involves supporting groups of staff to problem-solve around CB.

Staff reports suggest group problem-solving approaches such as CoA are supportive and valuable however, there is little clarity on how such approaches impact staff attributions (Turner, 2014) and sustain inclusive practice (Grahamslaw & Henson, 2015). There are calls to research the processes within group problem-solving (Nolan & Moreland, 2014) and to seek ways to enhance this via data (Newell & Newell, 2011). The discussion now turns to the potential of video as a medium of data to support the facilitation of staff attributions.

2.5 Video in Education: The Growth of Video as a Medium and Tool

2.5.1 Introduction

Over the past 10 years research has provided insight into the potential of video as tool for professional development (Cherrington & Loveridge, 2014), especially in the education of pre-service and in-service teachers "in all subject areas, at all grade levels and all over the world" (Gaudin & Chaliès, 2015 p.1). Video has been used as a stand-alone activity (Calandra, Brantley-Dias, Lee, & Fox, 2009) within long-term projects (Van den Bergh, Ros, & Beijaard, 2014), as part of group supervision or coaching (Borko, Jacobs, Eiteljorg, & Pittman, 2008; Maria & Schildwacht, 2012) or to guide individual self-observation (van der Berg, 2001). Consequently, a wide range of video-based frameworks have been developed, some of which are complementary and overlap across uses (Table 2-1).

Table 2-1: Literature Relating to the Uses and Benefits of Video-based Frameworks

Uses/Benefits	Study Examples
As a professional development tool for auxiliary staff to identify strengths	Hayes, Richardson, Hindle & Grayson, 2011
As a professional development tool to support self-reflection in supervision (e.g. 'video-enhanced reflective practice; VERP, Birbeck et al., 2015)	Grant & Kline, 2010; Baecher, 2011; Mercado & Baecher, 2014
Video study groups; affording teachers opportunities to collaboratively investigate their pedagogical content knowledge, the analysis of which can then be disseminated	Cherrington & Loveridge, 2014; Shanahan & Tochelli, 2014
Baseline measure to observe behaviour initially and as outcome measure to record change and/or intervention integrity	Hayes et al., 2011; Kennedy & Sked, 2008; Mercado & Baecher, 2014
Means to improve interaction between staff and pupils	Hayes et al 2011; Fukkink & Tavecchio, 2010
Means to develop a shared understanding	Borko, Jacobs, Seago, & Mangram, 2014
As a coaching method to support various groups of pupils to display desired behaviours through video self-modelling	Hart, 2010b; Bellini & Akkullian, 2007; Mechling, 2005
To contribute to an archive of clips of positive instances which staff refer to when considering effective instructional strategies	Mesquita, Dean, & Young, 2010
To create an international archive of clips which staff refer to when considering effective instructional strategies in Mathematics	Hiebert, 2003

Aside from the growing accessibility of video devices (Van den Bergh, Ros, & Beijaard, 2014) there are many practical advantages of this medium to support instruction and classroom practice:

1) Different observers may focus on the same video as the basis of a shared analysis, increasing inter-rater reliability and insight into training needs of observers.
2) The use of multiple cameras may allow different aspects of the classroom to be captured simultaneously.
3) Since the videos are permanent records of classroom activities, multiple analyses may be performed.
4) The videos may be manipulated for analysis, that is; paused, rewound, fast-forwarded.

(TIMMS study[1]; World Bank, 2010)

Video has been characterised as an evidence-based professional development approach and as a rigorous research data collection and analyses tool (Forsyth, 2014). The evidence available suggests EPs and school practitioners could benefit from the rich data video-observations can provide of pupils and staff in their natural context. Early on, Steward (1969) called for EPs to use video to facilitate their consultative work in order to enable the child to be more clearly and fairly represented in assessment processes. According to Steward, "The future usefulness of VTR (i.e. video) will be determined by the imagination of the professionals who use it." (p.58) However, while video has featured in educational contexts, the potential of video in specific EP consultative work remains relatively unexplored. Consideration is now given to the broad uses of video as a tool for professional reflection. The underlying theoretical orientations for the use of video-enhanced reflection at the individual and group level are discussed.

2.5.2   The Reflective Practitioner

Reflection is a process where one learns from what has already occurred through reconstructing events, emotions and accomplishments (Calandra et al., 2009). To aid professional development and facilitate positive change, reflection on one's own practice is a valuable skill when staff are presented with problems that cannot be solved in a straightforward manner (Schön, 1987).

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[1] *The Trends in International Mathematics and Science Study (TIMSS) is a series of international assessments of mathematical and scientific knowledge*

The literature on reflective practice concerns a variety of aspects including the content and processes of reflection. Studies have also looked at the role of facilitators, mentors or supervisors (Jay & Johnson, 2002). However, elusive boundaries regarding the definition and teaching of reflection or reflexivity make it difficult to identify the most effective way to support staff to reflect on situations involving CB (Borko et al., 2008). For instance, reflecting alone may increase the risk of a narrow perspective, whereas reflecting in groups increases the risk of socio-cultural beliefs interfering with objectivity (Jay & Johnson, 2002).

2.5.2.1   *Professional Development and Situated Learning*

Situated learning is a growing theoretical stance, grounded in post-modern notions of learning through communicative and social exchange (Anderson, Reder & Simon, 1996). A situated perspective sees learning as both an individual and community level process where knowing and learning is meaningfully constructed through participation in the discourses and practices of a particular community within their physical and social contexts. This suggests school-based environments should be powerful contexts (Putnam & Borko, 2000) for staff to learn together in order to improve their practice (Borko et al., 2008).

2.5.2.2   *Videos as Concrete Artefacts*

The use of artefacts such as media (including video) is one way of bringing events and elements of the classroom to a professional development activity. Video is considered a powerful catalyst for positive change due to its ability to present dynamic complexities existing within classroom contexts that may be missed by staff whilst teaching or, inaccessible later (LeFevre, 2004).

In comparison to theory-based sessions, the use of concrete examples or artefacts from the real context of the classroom can play a key role in bridging the gap between theory and practice (Korthagen & Kessels, 1999). Consequently, video examples can be used as a method of situated learning for staff investigation of their practice, through individual or group discussion and reflection of what is observed - such activities can be followed up with discussion of theoretical and practical elements (Seidel, Blomberg, & Renkl, 2013).

2.5.2.3   Video-enhanced reflection: Self-observation

A particular focus within research has been to explore the use of video to aid and strengthen post-event reflection and analysis (Maclean & White, 2007; Sherin & van Es, 2005). It is hypothesised that observation through video as opposed to traditional in-situ observation, may enhance and sharpen the skills of observer through allowing the observer to focus on and reflect more clearly on the myriad of important contextual factors influencing the teaching and learning process, leading them to consider a range of aspects, such as alternative actions, functions of the pupil behaviour or even see the typography or patterns of interactions in a more objective manner (Brophy, 2004).

Video may increase knowledge activation (Seidel, Stürmer, Blomberg, Kobarg, & Schwindt, 2011) and deep levels of engagement and immersion in the reflection process (Youens, Smethem, & Sullivan, 2014). Studies where staff have viewed video excerpts from their own classrooms have consistently reported this has helped to develop 'professional vision', allowing them to selectively attend to specific elements of their dynamic classroom, reflect on knowledge-based reasoning and interpret classroom interactions in new ways. (Borko, 2004; Borko et al., 2008; Sherin & van Es, 2002; Sherin, 2004; van Es, 2014).

Some studies report that through the use of video-enhanced reflection, teachers have been able to identify gaps between their beliefs about good teaching and their actual teaching practices (Rich & Hannafin, 2008). This finding varies however; Bryan & Recesso (2006) report on one participant who did not change his view about his teaching despite having clearly contradicting evidence in video footage. Furthermore, van Es (2012) adds that it is essential participating teachers believe they will benefit from video based initiatives as sharing videos with other staff involves the risk of exposing themselves and their practice.

Calandra et al.'s study (2009) suggested that video-enhanced reflective practice can produce enhanced multifaceted reflection in comparison to debriefing with an 'expert' or teacher educator. Whilst the authors provided a rubric for reflection in both conditions, given the lack of detail provided, it remains difficult to ascertain the reliability of findings as the relationship between the tutee/educator or the language used by the teacher-educator (amongst other factors) may have confounded the findings.

The majority of the literature suggests a variety of skills can be learnt via video however, some authors argue video should be treated as a medium and not a tool. For example, Seidel et al (2013) investigated the differential impact of two types of instructional strategies for integrating video into teacher education with a sample of 56 German 'novice' teachers during their initial university based teacher training. The first group were presented with video as an illustrative example (rule-example) and the second group were given the use of video as an anchor (example-rule). The rule-example group scored higher on reproducing factual knowledge and evaluating videotaped classroom situations, whereas the example-rule group scored higher on lesson planning. Hence differing processes, as might be expected, can produce differential knowledge and impact.

One video-based positive behaviour management framework that has been researched with non-teaching staff is called Video-Interaction Guidance (VIG). VIG is based on the idea that viewing oneself perform positively provides a powerful mechanism for self-modelling (Kaye, Forsyth, Simpson, 2000). It has been used with auxiliary staff as a way to develop positive behaviour management skills and increase the rate and quality of positive interactions between pupils and participant staff (Hayes et al., 2011) indicating that TA skills and confidence to support pupils can increase. In another evaluatory study by Kennedy and Sked (2008), non-teaching staff supporting pupils with social-communication difficulties also reported and demonstrated an improvement in pupil-staff attunement. The first study appeared not to objectively analyse the impact of the VIG on TA behaviour, and neither study explored pupil perceptions of this relatively long-term intervention.

2.5.2.4   Video enhanced reflection –observation of others

In investigations teachers have consistently expressed positive views and engaged in 'productive' reflective conversations after seeing video from each others' classrooms (Borko et al., 2008; van Es & Sherin, 2005; 2009) with some stating this act encouraged them to make changes in their practice more than watching videos of themselves (Borko et al., 2008; Seidel et al 2013; Cherrington & Loveridge, 2014).

When done in a safe manner, sharing may promote mutually beneficial professional relationships amongst staff (Brophy, 2004). It is also possible, with this in mind, that long-term projects fare better (Sherin, 2004; Sherin & Han, 2004; Sherin & Van Es, 2002; Borko et al., 2008; Seidel et al., 2013) with participant feelings of discomfort being minimised with 'exposure'

to the video sharing process and the quality of conversations evolving positively over time (Borko et al., 2008). Long-term projects may provide opportunities to build learning communities which foster mutual respect and where video can be used as a vehicle to promote collaborative 'dialogic space' (Calandra et al., 2009). Long-term projects also appear to blur traditional hierarchies and boundaries, enhancing reciprocal learning partnerships across differing professional backgrounds (Yoeuns et al., 2014). Sherin and Han (2004) found that within their groups staff discussions shifted from a focus on the teachers' actions and decisions to a focus on the pupil's thinking, subsequently teachers (mathematics) changed their practice to become more learner-centred - findings later supported by van Es and Sherin (2005).

Some greater insight into how video enhanced knowledge of pupil diversity was noted by Rosaen (2015). Rosaen critically analysed twenty-three studies involving pre-service literacy teachers and concluded that the reflective space afforded by group video reflection provided teachers multiple perspectives in relation to pupil race, language, culture and power. However, Rosaen noted variation in the impact on teacher agency and levels of inquiry, and called for further research.

2.5.3 Theoretical Orientations and Mechanisms

The studies reviewed above suggest video can be a motivating source to support discussion of instructional practices, enhance teacher-pupil relationships and encourage productive inquiry in a situated fashion, apparently aiding reflection in-action, on-action, and for action (Calandra et al., 2009). The studies espouse a number of theoretical and mechanistic underpinnings which lend differently to the described benefits of self-observation and observation of others and, which may be considered pertinent to development of video-enhanced frameworks such as GC. These are now considered.

2.5.3.1 *Viewing Videos of Oneself*

In comparison to traditional pen and paper observations, video is considered less prone to bias, interference, selective memory and decay (World Bank, 2010). Video-observations also provide more data, such as the detail within the environmental context (Schildwacht, 2012). Thus video can be viewed as more authentic evidence leading to higher levels of feedback acceptance and subsequent action (Danielowich, 2014).

Compared to traditional verbal feedback, video feedback may be perceived as more descriptive and less analytical, resulting in less threats to self-esteem or negative response (Rosaen, Lundeberg, Cooper, Fritzen, & Terpstra, 2008). Compared to observations of others, it has been suggested that viewing oneself may increase resonance, authenticity and motivation (Borko, et al., 2008; Kleinknecht & Schneider, 2013; Rosaen et al., 2008; Seidel et al., 2011).

Demanding situations can cause negative affect thereby diminishing our ability to process a situation and respond appropriately (Bandura, 1977). Retrospective viewing, afforded by video allows staff distance from such potentially negative or physiologically aroused emotional states (Brophy, 2004). This potentially enhances the transformative power of reflection, resulting in a likely greater application of theoretically grounded principles when acting, rather than acting unconsciously or subjectively (Korthagen & Kessels, 1999).

Video enables repeated viewing (World Bank, 2010) which facilitates the development of cognitive skills such as selective attention and knowledge-based reasoning (Gaudin & Chaliès, 2015). Video thus supports staff to build upon mental models or schema in relation to practice (World Bank, 2010). Through exposure to mental models after the event, the likelihood of triggering and using the same in situ, or when 'in-action' (Schön, 1987) may be increased. Such reinforcement may also be supported by self-editing or selection of video segments (Borko et al., 2008; Mesquita et al., 2010) as this encourages selective attention and increases ownership (Danielowich, 2014).

Frameworks such as VIG, which draw on positive psychology through emphasising what is going well, allow staff to see the benefits of changes in their instructional practice (Hayes et al., 2011). Positive reinforcement and empowering approaches appear to positively impact staff motivation to change perceptions and behaviours (Voerman, Meijer, Korthagen & Simons, 2015). Thus, the theoretical framework underpinning video-observation may differentially impact an individual's cognitive and affective response.

2.5.3.2   Viewing Video in Groups

Evidence thus far has highlighted the potential value of video to support reflection. The focus here will now turn to the specific question of how it may support group review of professional practice. As seen above, video can support peer discourse and collective inquiry with colleagues, researchers or supervisors (Sherin & Han, 2004; Borko et al., 2008). Van Es &

Sherin, (2008) suggest video enables staff to view their peers in similar circumstances, allowing them to relate to the data viewed which then assists comparative and reflective thinking skills. This resonance and immersion then increases the chance that staff will identify, discuss and implement new classroom practice (Flandin & Ria, 2012).

Seeing others may help the observing staff to identify inconsistencies in their espoused practice in comparison to their actual practice (Bruce & Shively, 2015); providing models of vicarious learning (Sherin & Han, 2004). The presence of peers whilst watching videos may also provide another source of rich data: staff may provide observations and perspective as well as highlight positive instances of interaction which the 'actor' may not have identified. These positive affirmations may counter an individual's tendency to self-criticise (van Es, 2012) and support staff self-efficacy (Bandura, 1977).

2.5.4 Considerations: Video-Frameworks and Literature

Despite the number of advantages and the accessibility of video, a number of structural, organisational and pragmatic factors may hinder the application of video technology (Cherrington & Loveridge, 2014). Without specific instructional contexts or identifiable learning goals, the learning achieved may not be optimum (Seidel, Blomberg, & Renkl, 2013). Unforeseen practical difficulties may hinder aims of research or programmes of professional development and result in a reluctance to employ video as a tool or medium (Bueno de Mesquita, Dean, & Young, 2010). Some staff with less experience of video-observation may require more support in learning the skills involved in video-enhanced reflection (Baecher & Kung, 2011). Watching oneself may elicit lower levels of motivation to change one's behaviour than when watching others (Seidel et al 2011; Kleinknecht et al., 2013). These aspects implicate the need for carefully facilitated group viewing.

Some studies suggest that a framework or, facilitator should scaffold video-observations or feedback in order to make staff feel positive, safe and supported (Brophy, 2004; Calandra et al., 2009). This suggests the role of a facilitator, such as an EP - who may employ interpersonal skills and/or apply certain psychological perspectives - can guide the process. Professional development programmes which increase exposure to video over a period of time, may also support staff willingness to participate (Seidel et al., 2011). These aspects can encourage the development of learning communities which foster mutual trust (Youens et al., 2014). In this

way, video observation may be less intrusive than live observation, particularly if the latter involves more than one observer (World Bank, 2010).

In one meta-analysis looking at a range of video-programme approaches, the majority of studies report a positive impact on learners' and staffs' development of various skills however, the effect sizes across findings differed (Mechling, 2005). This suggests that other factors, aside from video, may impact the outcomes of video-based frameworks. Tripp & Rich (2012) reviewed 63 studies, they identified a number of factors that appear to mitigate the outcomes of video-based frameworks including; type of facilitation to support viewing, the focus of the video-related task, the length and frequency to which a video clip is viewed and, the relative combination of individual versus collaborative reflection. The authors discuss past research where a number of measures have been used to identify the impact of video-reflection including pre-/post-test scores, case studies and self-report measures. As a result of the wide variation in research aims and processes, the authors state that to understand the optimal conditions for video-enhanced reflection, further systematic research is required. Furthermore, Hart (2010b) argues publication bias, where papers with non-significant findings are rarely published, may be skewing the literature to favour video-based approaches. Hart claims that the majority of published studies take a case study approach, constraining generalisability of findings and highlighting the need for further empirical research.

2.5.5   Rationale for Researching Video-enhanced Group Problem-solving

Previous sections discussed the need to prevent the exclusion of pupils displaying CB (Section 2.1) through supporting staff management and attributions in relation to the same (Section 2.2). Current attempts to achieve this include group problem-solving approaches such as CoA; however it appears that the mechanisms of such approaches may require attention (Section 2.3.3-6).

A growing number of studies describe the positive impact of video-based frameworks on staff reflective ability and practice (Gaudin & Chaliès, 2015). It has also been hypothesised that school-based consultants (e.g. EPs) and applied-researchers may gain insights into the behaviours and interactions of pupils and teachers through the research and application of video-enhanced reflection (Steward, 1969; Forsyth, 2014; Rush, 2012). Thus, the potential influence of video on staff attributions and perceptions regarding pupils displaying CB, is of interest. However, relatively little research exploring the impact of video on staff perceptions and

beliefs is available (Rosaen, 2015). Thus the literature reviewed so far does not provide specific insight on the influence of video-enhanced and EP-facilitated GC on staff attributions of CB.

2.5.6   Summary

Research provides varied and wide theoretical and empirical grounds supporting the use of video-enhanced frameworks in order to support the problem-solving and reflective ability of staff. Despite the growth in research concerning video-based professional development in educational contexts, relatively less is known about the influence of video on staff attributions and perceptions regarding CB in facilitated GCs such as the CoA. A systematic literature review, presented next, aims to identify studies which can directly inform this research aim.

2.6 Systematic Literature Review

2.6.1 Introduction

A systematic literature review (SLR) enables researchers to apply a rigorous, transparent and therefore replicable search strategy (Petticrew & Roberts, 2008). Aims include acquiring quality information and access to databases rich with relevant studies. However, the results of searches depend on the creative use of applicable search terms, appropriate inclusion-exclusion criteria and a reliable strategy for sifting through the output (Roberts & Petticrew, 2008).

Systematic comparison of generated studies allows researchers to make judgements on the quality and relevance of methodologies and findings in relation to specific research questions (RQs; Andrews, 2005), the outcomes of which can be used to inform policy, practice, theoretical understanding and future research (Gough & Elbourne, 2002; EPPI-Centre, 2007).

While the narrative review guided the researcher's knowledge base, no papers directly related to the research aims were found. The scope of SLRs is often restricted to add precision to the interpretation generated, and to avoid making gross generalisations (Noblit & Hare, 1988). Given the wide berth of topics implicated (e.g. attributions, perceptions, school-staff, video, CB) a narrower focus was appropriate which intended to increase the explanatory value of findings and provide insight into conceptual understanding (Seers, 2012).

2.6.2 Systematic Search Strategy

The SLR was interested in the following question:

- ***Can (and how) does the use of video influence the nature of school staff attributions and perceptions within group consultation or group problem-solving?***

Within this some subsidiary questions were relevant:

1. *What research design and methods were employed?*
2. *What was the staff sample?*
3. *What were the outcomes?*
4. *What were the described implications of outcomes for staff and on the use of video-enhanced frameworks?*

The systematic map that guided the SLR activities was based on Gough's (2007) recommendations (Appendix-3). Inclusion and exclusion criteria informing search terms are described in Table 2-2.

Table 2-2: Inclusion and Exclusion Criteria Adopted in the Current SLR

Inclusion – all criteria to be met	Exclusion – if any criteria is met
Measuring the impact : *of* video data/excerpts/artefacts *on* staff attributions/perceptions *in* school settings	**Not measuring:** the impact of video data/excerpts/artefacts **Not concerning**: staff attributions/perceptions **Not based in:** school settings
Paper is: Original (i.e. not a review article) Peer reviewed Published in the last 20 years or less	**Paper is:** An opinion piece or narrative review Non-published Published before 1995

On the 18th September 2015, the UoN 'eLibrary' Gateway was accessed to search the databases 'ERIC' and 'Psychinfo (Ovid)' using the search terms in Table 2-3. Prior to this search, hand searches to locate articles on the use of video within EP-facilitated group problem-solving elicited no papers. Therefore to avoid restricting the sample of studies, synonyms related to the word 'attribution' were considered and, despite the interest in EP-facilitated GC and attributions of CB, these terms were unspecified to increase the yield of potentially relevant papers. The following limits were then 'checked' in the databases: '*English language*,' *peer-reviewed*', '*scholarly journal*'.

Table 2-3: Search Criteria Employed to Generate Papers Relevant to Current Study

Intervention: Use of video data		Impact: Staff Attributions/Perceptions		Context: School
= "Video reflect*" OR "Video analysis*" OR "Video feedback*"	AND	="Staff attribut*" OR "Staff perce* " OR "Staff attitude*" OR "Staff belie*" OR "Staff opinion*" OR "Staff standpoint*" OR "Staff viewpoint*" OR "Staff view*" OR "Staff outlook*" OR "Staff thinking*" **AND:** All the above replicated with the word 'Teacher' in lieu of 'Staff'	AND	= "school*"

2.6.3 Outcomes of Systematic Search

The searches returned a total of seventeen papers - six from Psychoinfo (OVID) and eleven from ERIC. None were duplicates. Abstracts were analysed, subsequently fourteen papers were discarded for reasons including irrelevant samples, irrelevant dependent variables or narrative reporting. The remaining three papers were consulted as full papers during which a further paper was excluded. Appendix-4 provides the rationale for exclusion per study. Figure 2-6 represents a flow chart showing the search strategy and outcomes.

Two papers were considered relevant:

1. Danielowich (2014; ERIC)
2. Kleinknecht & Schneider. (2013; Psychinfo–OVID)

Figure 2-6: Flow Chart of Search Strategy and Results

Initial Search Criteria Applied

Studies identified from initial ERIC search **N = 11**

Studies identified from initial PsychInfo-Ovid search **N = 6**

Total N= 17

Studies incompatible after abstract analysis **N=14**

Studies
N = 3

Studies incompatible after full paper analysis **N=1**

Studies
N = 2
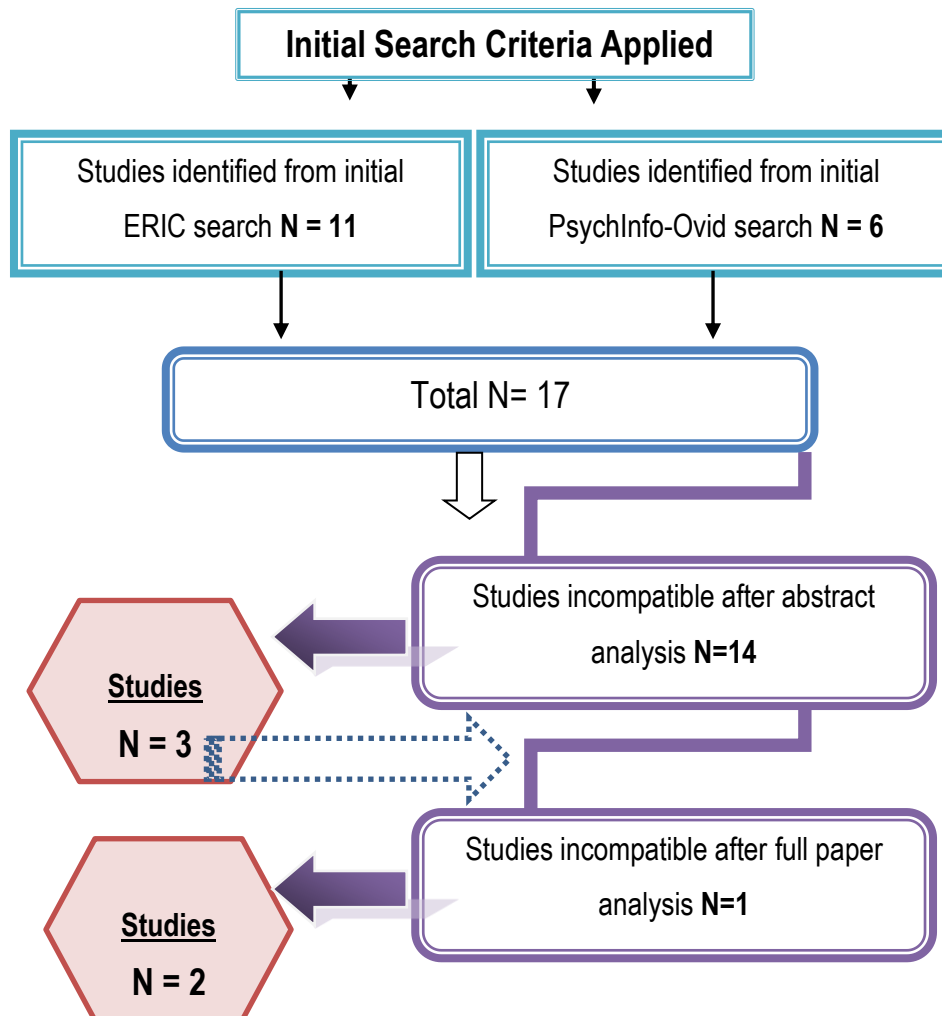
2.6.4   Summaries of papers elicited

The SLR became necessarily small scale. Narrative summaries reviewing the aim, methodology and findings per paper are presented below. Appendix-5 provides a tabulated version, the purpose of which is to facilitate comparison with more ease. Variables unrelated to the RQ of this study (e.g. teaching subject-specific knowledge) are not commented upon.

1.   Danielowich (2014)

This two-phase American study involved 6 pre-service teachers. The second phase is of relevance as it focuses on teachers' change-directed thinking via video-taped teaching. Two video-enhanced reflection conditions are explored; self-reflection and reflection in groups, which

are compared subsequent to teachers receiving formal supervisory feedback. Case study and action research designs informed the data collection processes.

The *alone* and *group* reflection data were transcribed and coded using a grounded theory approach. Eight journal entries were 'searched' for how teachers intended to change their practice and appraise pupil needs. Data were coded, triangulated and member-checked. Individual semi-structured interviews at the start, middle and end supported teachers to evaluate their strengths and weaknesses and refer to their goal development.

Analyses indicated that teachers in the group-video condition engaged more, and quicker in the development of richer interpretations of the video analysis than when in the self-video condition. Danielowich states that a peer-sharing context enabled multiple interpretations of the "same voices, behaviours and movements of students' which encouraged teachers to be less 'ego-centric" (p.248). However, inter-teacher conflicts over reflection foci were apparent. Some teachers therefore, may benefit from more private and slower introspection nurtured by sole-observation contexts. This suggests protocols across video-based reflective frameworks should be considered in relation to specific or individual professional development needs.

The degree of scaffolding and structured performance evaluation provided by the researcher-supervisor seemed to be inversely related to teachers' readiness for change. For example, staff reflective ability appeared to be enhanced where staff themselves decided the content of video footage. Furthermore, loosely-scaffolded group contexts, where facilitators were *less* directive, enhanced teacher perspectives on classroom interactions. Danielowich stated this scaffolding supported teachers to find "the guidance they needed to articulate dilemmas in ways they saw as most relevant to their own teaching" (p.277). It is unclear how much of the data coding process was inter-rated, given the close positioning of the researcher as the educator-supervisor, clarifying this step would have aided validity and reliability of the theoretical suppositions provided.

2. Kleinknecht & Schneider (2013)

This German quasi-experimental study involved ten mathematics teachers matched into five pairs on the basis of gender, subject taught, years of experience in teaching and video observation. The individuals within pairs were split across two group conditions where they watched videos of themselves or others.

Footage was selected by the researchers and involved the teachers engaging their class in a variety of complex and/or simple question-answer situations. A computer-based online environment was set-up for staff; selected scenes were presented alongside a video tutorial, general lesson details and information about the impact of focused and unfocused questions. In the first stage, no specific guidance on the foci of observation was provided. In the second stage, teachers were asked to identify situations where the questioning behaviour of teachers elicited higher levels of cognitive activation in pupils.

Teachers were asked six open-ended and a number of fixed-item questions that aimed to tap into cognitive, emotional and motivational processes. Some questions aimed to measure the degree of teacher motivation, measured by the levels of immersion (i.e. engagement) and resonance (i.e. the relevance) indicated in responses.

Based on a pilot study, four coders used nine pre-defined categories which covered the dimensions of *selective attention, knowledge-based reasoning, emotion* and *motivation*. Twenty percent of the data set was inter-rated; satisfactory to good accordance was demonstrated. Teacher comments and item-ratings were analysed using descriptive and statistical measures. Correlations between the cognitive, emotional and motivational processes were illustrated through quantitative analyses.

The authors found teachers watching their own videos were generally less critical and less able to identify alternatives to situations in the videos. In addition, watching videos of others' teaching more often activated negative emotions such as disappointment thus, different cognitive and emotional reactions appear to be implicated when watching videos of one-self versus others.

The off-site and individual computer-based environment nature of the reflection-activity constrains the ecological validity of the study. Furthermore, schools would need to consider how to realise the logistic demands of external agents selecting video-excerpts. Larger samples and explorations of the facilitator role to scaffold video-analysis and group collaboration are suggested as meaningful avenues of research by the authors.

2.6.5   Synthesis of Studies

A discussion of the papers studied in relation to the questions detailed above (Section 2.6.2) is now presented. The information is structured thus: *Design and Methodology* and *Outcomes and Implications.* C*larity* regarding the comparability, quality and potential implications of studies synthesised, aimed to inform the RQs of the current study.

2.6.5.1   *Design and Methodology*

The small sample, heterogeneity of groups and design constrains generalisation of findings. Neither study is UK-based; the impact of cross-cultural factors is unclear thus replication in UK-contexts is required.

The studies differed in sampling procedure, method and design. Kleinknecht and Schneider's (2013) German study was quasi-experimental in nature with purposive and matched sampling, whereas Danielowich (2014) was closely positioned to his sample as a supervisory-educator with an opportunistic sample and data drawn from a previous study. Neither study employed randomised allocation procedures however; each made choices regarding the balance of reliability and validity. Danielowich's (2014) study took place in schools, supporting ecological validity. The German authors employed considerably more control measures including a comparatively artificial setting; increasing external validity yet constraining ecological validity.

The studies acknowledge their remit; Danielowich (2014) employed case study approaches in order to make detailed and formative conclusions regarding change-directed thinking whereas Kleinknecht and Schneider (2013) wanted to systematically and statistically compare specific cognitive, emotional, and motivational processes involved in reflection upon one's own practice versus another.

Comparisons of the impact of the video-frameworks are difficult due to variation and ambiguity in the implementation, duration and nature of video exposure the participants received. Danielowich (2014) carefully describes the data collection processes; however there is little control over the duration or detail of the video clips selected across participants. Participants in Kleinknecht and Schneider's (2013) computer-aided session reflected on video-excerpts whenever they wished, yet it is unknown how this flexibility impacted the data. Action research approaches are idiographic and openly influenced by the socio-cultural factors. Whilst this

influence cannot be eradicated from applied research; for the purposes of generalisation Danielowich's (2014) study is less replicable.

Both studies attempted to increase reliability. Kleinknecht and Schneider (2013) inter-rated the coding of data whereas Danielowich (2014) implemented member-checks to validate findings. Risks such as transparency, respondent bias, demand characteristics, incidental and social desirability are not touched upon in either study.

2.6.5.2   Outcomes and Implications

Differences between group versus sole introspection and, observation of oneself versus others are explored in both studies. Group reflection and reflecting on others can elicit different affective responses such as greater criticality and stronger feelings of disappointment (Kleinknecht & Schneider, 2013). In addition, problem-solving ability and change-directed thinking can benefit from group reflection where participants share a socio-cultural understanding (Danielowich, 2014). Some participants may feel less able to share in group settings and require time; others seem to learn more from group reflection and can come to richer conclusions from the start (Danielowich, 2014). Therefore, an awareness of potential affective responses to 'self' versus 'other' video-reflection may be useful when planning group reflection.

The role of the facilitator and scaffolding are also discussed. Loosely-scaffolded contexts, where participants retain control and ownership over footage observed appear to increase engagement and develop reflective ability (Danielowich, 2014). Similarly, open-ended versus closed questions are considered to elicit a truer breadth of perceptions (Kleinknecht & Schneider, 2013). The papers both argue facilitation is supportive yet caution against prescribing and thus potentially restricting participant reflection.

2.6.6   Limitations of Search Strategy

Unfortunately very few relevant papers were elicited. Whist efforts were made to loosen the search criteria, omitting the term 'school' as well as conducting a reference chase of the papers elicited may have been more fruitful. The positive-outcome trend found across the studies suggests publication bias could have limited the search outcomes (Hart, 2010b). Search engine bias may have also impacted results, where similar to non-automated searching, automated search-engine structures may produce biased and skewed data presentations (Goldman, 2006).

No attempt to categorise the papers on weight of evidence was attempted using published guidelines (e.g. Gough 2007). This protocol may have refined the process of comparison and added a layer of consistency; however efforts to review reliability and validity of both studies were made. Furthermore, the two papers synthesised varied widely in methodology and purpose, making it difficult to compare the outcomes.

2.6.7   Conclusions and Implications for Current Study

Due to differences across the studies and the current RQ, confident conclusions cannot be made. However a clear rationale and design - open to the potential differential impact of individual versus group and, self versus other reflection on staff problem-solving and attributions is appropriate. These comparisons may inform the development of video-enhanced staff problem-solving frameworks in relation to CB.

Neither study involved EPs as consultants or facilitators however both suggest looser scaffolding or facilitation encourages staff ownership and reflection regarding classroom interaction.

Within the two studies, prizing apart the impact of video-data from the guiding framework was difficult. Thus to understand what is being measured, the focus should be clarified and also discussed in the context of findings - for example, is the focus video-data, a specific framework scaffolding the video-data, or both? This will aid reliability and replicability (Tripp & Rich, 2012).

The papers suggest video-enhanced reflection is a positive experience for staff and can support the development of richer interpretations of classroom activity. However, differences in cognitive and affective responses were found therefore, the impact of novel or less researched framework such as EP-led GC, would benefit from some participant evaluation or appraisal in order to support ethical practice. The dearth of papers relevant to the RQ suggests systematic research, explicitly exploring the impact of video-enhanced GC on staff attributions and in relation to CB, is warranted.

2.7   Current Study: Rationale and Unique Contribution

The rate of school exclusions for pupils displaying CB is concerning, as are the social and educational correlates of school exclusion. The prevalence of CB is known to negatively impact staff attitudes, affective state, perceptions and management of the classroom. Research into exclusion-prevention is therefore of potential value to pupils and staff.

Staff perceptions and attributions of CB impacts their self-motivation, self-efficacy and practice, indicating the value of developing staff attributions around CB. EPs often support staff problem-solving around CB through facilitation of group approaches. However the impact of these approaches on staff attributions appears variable. Studies have called for consideration of problem-analysis processes (Gulliford, 2015; Truscott et al., 2015), including the inclusion of data to support staff objectivity (Newell & Newell, 2011; Nugent et al., 2014). One way of achieving objectivity may be through video-supported reflection. Video is thought to enable objectivity and authenticity through providing the viewer with access to the context of the behaviours under discussion. However to support staff learning from video, the facilitation and scaffolding guiding the process of video-reflection is important. This study begins with the premise that there may be benefits of using video within CoA processes to facilitate staff problem-solving and attributions as the use of 'authentic' video data may increase staff objectivity and position the voice of the child more clearly into GC approaches such as CoA. The steps within CoA may serve to scaffold and provide a framework for staff to supporting learning from video - indicated within the extant research as important. To date there have been no studies which explore the potential benefits of EP-facilitated GC - in this instance CoA, where video is employed: the potential unique contribution of this study. This study therefore proposes a controlled investigation exploring the effects of video-data within problem-solving groups upon staff attributions in educational settings.

2.7.1 Research Questions

Stemming from the literature and rationale presented, the following RQs are pertinent to the national agenda of exclusion prevention and enhancement of staff problem-solving in relation to CB:

"Can the use of video influence the nature of staff attributions and perceptions of CB within EP-facilitated group consultation?"

A number of sub-questions will help explore this:

1. Will exposure to video-examples of a pupil considered to be displaying CB, influence greater change in individual staff *attributions* and/or *perceptions* in comparison to other data (e.g. written-observation logs)?

2. Will staff groups who watch video-examples, *donate more school-oriented theories* rather than child or home oriented theories as causes of pupil behaviour, in comparison to staff-groups who read written-observations?

3. Will participants who view video-data indicate, to a greater degree than participants who view written-data, that the element of data was *helpful* and, *supported them to think about school-factors* when considering pupil behaviour?

Chapter 3:   <u>Methodology</u>

3.1   Introduction

The current study adapts an existing group-problem solving framework called the Circles of Adults (CoA) by exposing staff participants to either video or, written observational data during the process. The study aims to measure the impact of this adapted approach on staff attributions and perceptions of a pupil they consider to be displaying challenging behaviour (CB). This chapter considers and addresses risks to reliability, validity and ethical practice and, presents methodological choices considered. To support this, various philosophical and methodological stances are discussed first.

3.2   Paradigms, Ontological and Epistemological Considerations

Researchers must recognise the possible conflicts between different paradigmatic beliefs, values and assumptions existing and developing within the psycho-social research community (Braun & Clarke, 2014). These differences can be separated into three broad frames:

- ❖ Ontology: beliefs surrounding the form and nature of reality;
- ❖ Epistemology: the relationship between the researcher and what can be known and,
- ❖ Methodology: how the researcher can find out about reality

These frames are inter-related and can be used to inform the overall approach taken (Denzin & Lincoln, 2008). Table 3-1 summarises the interrelationships between ontologies, epistemologies and methodologies considered within the current study.

	POSITIVISM	POST-POSITIVISM	CONSTRUCTIVISM &INTERPRETIVISM	PRAGMATISM
Ontology	**Realism**: A single external reality exists	**Critical realism**: a universal reality exists but cannot be known perfectly	**Relativism:** Multiple realities exist. Constructions of the individual and others in the context interact	**Realist-relativist spectrum**: A single reality exists, and this is interpreted in multiple ways
Epistemology	**Objectivist**: Findings are true/fact and not influenced by the reality in which they exist	**Modified objectivist/ dualist**: Findings are true on the basis of probability. Influence of bias is a risk which must be controlled	**Transactional/ Subjectivist:** Findings are constructed in collaboration between participants and researcher.	**Objectivist-Subjectivist continuum**: Knowledge and relationships defined depend on what researcher finds appropriate to the study context
Methodology	**Experimenta**l: A heavy focus on quantitative means	**Quasi-experimental:** The focus is on quantitative measures but can include some qualitative supplement	**Dialectal/ interpretive:** A heavy focus on qualitative methods and flexible designs.	**Mixed methods**: Methods must match the research questions and purposes

3.2.1   Positivist and Post-positivist Paradigms

Positivist approaches posit the existence of an external, observable and objective reality, independent of the observer, and obtainable through scientific and systematic approaches (Mertens, 2014). This approach offers the ability to make causal connections and identify 'facts' (Robson, 2011). It can be viewed as limited and reductionist due to a reliance on quantitative methods which may insufficiently capture the context and socio-dynamic nature of educational settings (Phillips & Burbules, 2000). Furthermore, the degree of control required to maintain this stance is often unfeasible in real-world research (Phillips & Burbules, 2000).

Post-positivism, acknowledges the influence of unobservable phenomena such as thoughts, and feelings and therefore allows the existence of a single reality but one that can only be known imperfectly (Mertens, 2014). The search for 'laws' is therefore replaced with a view on 'probabilities'. This approach allows inquiry within more 'real-world' settings and can take into account situational data and participant views (Guba & Lincoln, 1994). The minimised level of

control is offset with the increase in applicability or ecological validity of this approach (Phillips & Burbules, 2000).

3.2.2   Constructivist and Interpretivist Paradigms

Unlike positivist and post-positivist approaches, constructivism highlights the influence of subjective views and constructions of actors (participants). Often combined with the interpretative paradigm, a constructivist approach is interested in the way meaning may be differently and subjectively construed within a particular context which involves taking into account the researcher's own interpretation (Creswell, 2009). The assumption is that humans are influenced by the socio-historical context (Creswell, 2009), thereby rejecting the notion of an 'objective truth'. Collaborative or qualitative approaches are often adopted in constructivist and interpretivist paradigms in recognition of the reciprocal and developing nature of multiple perspectives (Mertens, 2014).

3.2.3   Pragmatic Paradigm

Pragmatism recognises the existence of an external, as well as, social and psychological worlds (Johnson & Onwuegbuzie, 2004). This paradigm allows multiple realities to be explored empirically, since knowledge is both constructed and based on an external reality (Robson, 2011). Pragmatism can be seen as occupying an intermediate position between realism and constructivism (or relativism), and between epistemological dogmatisms and scepticism (Johnson & Onwuegbuzie, 2004) and thus offers a conceptual model of scientific enquiry which advocates for the efficient use of both quantitative and qualitative or 'mixed' approaches (Teddlie & Tashakkori, 2009). With this flexibility comes a responsibility to ensure that decisions are carefully made to respond to research questions (RQs) and purposes (Greene, 2007). For example, a quantitative approach may elucidate whether an intervention has an impact whereas the qualitative element can indicate why, for whom and how (Greene, 2007).

3.2.4   Epistemological Stance of the Current Research

To measure the impact of video on attributions via group consultation, the current study employs a pragmatic epistemology with the aim of establishing cause-effect relationships in 'real-world' settings (Robson, 2011). As the experimental hypotheses (Section 3.4.2) are concerned with the identification of possible causal relationships between video-enhanced group consultation and subsequent attributions, a fully interpretivist approach is unsuitable (Sayer, 2000). Adopting a

partially positivist approach more readily fits: the study employs a standardised quantitative measure, as well as an ipsative evaluation measure, and contrasts the intervention with a comparison group. This is a study of attribution change; as behaviour constructions are influenced by socio-historical and cultural contexts (Millei & Petersen, 2014) and may differ across staff (Miller, 2003), challenges include effective measurement and adequate control. Nevertheless, pragmatism suggests multiple realities can be explored empirically since knowledge is both constructed and based on external reality (Johnson & Onwuegbuzie, 2004).

3.3   Methodological Considerations

A range of methodological considerations pertinent to the current study are described before providing a rationale of the design employed.

3.3.1   Evidence-based Practice

Evidence-based educational practice informs the effectiveness, efficacy and implementation of interventions and in doing so, supports ethical practice (Frederickson & Cline, 2009). This study responded to the lack of research establishing the evidence-base of processes within CoA (Gulliford, 2015) and concerned 'real-world research', involving multi-layered organisations in order to elicit ecologically valid and meaningful findings (Cohen, Manion & Morrison, 2011). As such it was appropriate to identify what would be 'best' evidence to guide the methodology employed.

3.3.2   Hierarchy of 'Best Evidence'

The traditional classification system of 'best evidence' stems from the medical field (Miller & Todd, 2002) and is represented by a hierarchy where randomised control trials (RCT) are considered the gold standard (Figure 3-1). Random assignment of participants offers rigour and control and supports the identification of causal relationships, although this is not always possible in real-world research (Kazdin, 2003). Further down the hierarchy, the focus moves from causal relationships toward 'what-works, in what situation and for whom', and on towards more exploratory questions. This study aimed to identify causal relationships and thus allocated participants via cluster randomisation.

3.3.3 Evaluative Research

The field of educational psychology must draw upon effective staff interventions which demonstrate value (Bennett & Monsen, 2011). To achieve this, feedback from participants, which identifies how they viewed the intervention and how it could be improved is common practice (Baxter & Frederickson, 2005). Given the paucity of research combining CoA processes with video, participant feedback was deemed valuable and ethical in this study.

3.3.4 Mixed-methods

The pragmatic stance underlies mixed-methodology; highlighting that research purposes should precede method. Mixed methodologies fall within the remit of educational and social psychology research (Armstrong, 2014). Mixed-methodologies, fusing qualitative and quantitative measures, encapsulate designs where there is a fixed and a flexible element (Yeasmin & Rahman, 2012). In this way, a quantitative method may illustrate if a change from pre to post time points has occurred, whereas the qualitative method may be used to understand why.

A combination of methods allows triangulation across a range of quantitative and qualitative data, diminishing inflated certainty (Miller & Todd, 2002) and circumventing for weaknesses within either data-type (Mertens, 2014). Some authors contend mixed-methodology can reduce rigour (Mercer, 2010) and reinforce an unnecessary divide between quantitative and qualitative methods (Symonds & Gorard, 2010). Ultimately, research purposes should inform the decisions around how to 'mix' methodologies, such as triangulating findings using a range of quantitative data or, considering typically qualitative data such as 'words' within a quantitative paradigm of analysis (Symonds & Gorard, 2010).

3.3.5   Additional Designs Considered

Alternative designs were considered when considering the current RQs, including:

- Action research: this approach is shaped by a collaborative and developing relationship between stakeholders (McNiff, 2013). As RQs were pre-defined, this approach was unsuitable.

- A design involving matching vignettes to video-excerpts was considered: however, stimuli would be 'artificial'. For the purposes of ecological validity, using data from 'real' pupils was preferred.

- Single-case experimental designs (SCEDs) provide rigorous ways to monitor change through repeated measurement (Horner et al, 2005). Syme (2011) employed SCEDs, nested within a case study design, to explore the impact of CoA on attributions. Syme (2011) concluded that controlling for extraneous organisational factors in SCEDs precluded the degree of required control and reliability in measurements. Potential recurring negative affect, caused by repeatedly measuring staff attributions regarding pupils considered 'challenging', was also deemed unethical. Case study research and SCEDs explore relationships between phenomenon within a specific context in order to explain presumed causal links (Yin, 2009). As this study was first of its kind, this level of exploration was considered premature. Furthermore small samples in such designs are criticised for poor generalisability (Naylor et al, 2009).

3.3.6   Methodological Stance of the Current Research

In social research, the valuable aspects of several paradigms are often amalgamated in order to compensate for the separate weaknesses within them (Babbie, 2010). This values a pragmatic

paradigm which keeps the research focus and purposes at the fore (Johnson & Onwuegbuzie, 2004). Reliance on only quantitative data is insufficient when evaluating evidence-based practice (Neuman & McCormick, 1995); the adopted perspectives allowed the exploration of views and interpretations whilst establishing a causal relationship to inform practice (Teddlie & Tashakkori, 2009).

Since the study aimed to explore the impact of the use of video data to support problem-solving in a novel way, it was considered ethical to seek participants' views to inform practice development, requiring a qualitative element. The study also responded to literature highlighting the limitations associated with measurement of attributions of CB (Section 2.3.5 & 2.3.6). Thus, to capture the views of individual participants and those generated in groups, measures had to be carefully focused. The pragmatic epistemological stance allowed for the fusion of quantitative (ratings) and qualitative (narrative comments) data in order to triangulate findings and explore varied lines of enquiry. The researcher recognises criticisms of mixed-methodology include a lack of rigour and correspondence through the merging of quantitative and qualitative data (Mercer, 2010). However, by recognising and responding to threats of bias and risks to validity, the researcher seeks a level of trustworthiness (Johnson & Onwuegbuzie, 2004) and maintains reputable inferences can be drawn.

3.4 Current Study

3.4.1 Design

A pre-post-test, between and within measures mixed-method experimental design was employed. Staff from eight schools, who wanted to attend a group-consultation session regarding CB, were randomly allocated to the experimental condition (video clips) or to the comparison condition (written data) via cluster randomisation. Both conditions used an adapted version of the CoA group problem-solving process facilitated by the researcher (Appendix-6). The sessions were all audio-recorded. A comparison condition (written-data) was considered preferable over a control condition, to identify whether any changes in groups were due to video data as opposed to no data at all. In other words, without a comparison condition, it would be harder to identify whether differences were related to the medium of video-data rather than the inclusion of additional data. A short evaluative element served the secondary aim of this research; to identify the processes and mechanisms valued by staff. Figure 3-2 illustrates the design and data collection procedures.

Figure 3-2: Design of the Study

	Pre-INTERVENTION DATA GATHERING (T1)	INTERVENTION Data type	Post-INTERVENTION DATA GATHERING (T2)	
Purposive Sample = Cluster Randomisation	**EXPERIMENTAL condition (VIDEO data)**			
	Individual measures: **AttQ (SA) SDQ (SA)** 2-3 weeks before CoA Group measure: **Group Theories (CA)** During Step 7 of the CoA-*before data review*	Adapted CoA session using **3-5 video clips**	Individual measures **AttQ (SA) SDQ (SA)** During Step 8 of the CoA - directly post-data review Group measure: **Group Theories (CA)** During Step 9 *after data review* and individual measures: **Post session:** Staff EvalQ	**WITHIN - GROUP ANALYSES** **Compare T1 versus T2**
	COMPARISON condition (WRITTEN observation data)			
	Individual measures: **AttQ (SA) SDQ (SA)** 2-3 weeks before CoA Group measure: **Group Theories (CA)** During Step 7 of the CoA-*before data review*	Adapted CoA session using **3-5 written** logs	Individual measures **AttQ (SA) SDQ (SA)** During Step 8 of the CoA - directly post-data review Group measure: **Group Theories (CA)** During Step 9 *after data review* and individual measures: **Post session:** Staff EvalQ	**WITHIN - GROUP ANALYSES** **Compare T1 versus T2**
	BETWEEN GROUP ANALYSES T1		**BETWEEN GROUP ANALYSES T2**	

Key

CA: Content Analysis
SA: Statistical Analyses
EVal-Q: Evaluation Questionnaire
AttQ: Attribution Questionnaire
SDQ: Strengths and Difficulties Questionnaire

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3.4.2 Variables, Research Questions and Hypotheses

3.4.2.1 Dependent Variables

The dependent variables (DVs) were the **attributions and perceptions of staff** in relation to behaviour being discussed. These variables were measured both **pre and post-intervention**. Additional DVs were participants' views of the **helpfulness of the CoA** and the **usefulness of data** they were exposed to, measured using an evaluation questionnaire. An account of measures can be found in Section 3.2.11.

As illustrated in Figure 3.2, pre and post-intervention data collection points - for both conditions, differed across DVs.

- **Pre-intervention individual measures:** Individual Attribution (AttQ) and Strengths and Difficulties Questionnaires (SDQ) were taken approximately two weeks *before* the CoA session.

- **Pre-intervention group measures:** Group theories were collected *during* Step-7 (Group Theories-1) of the CoA. Theories steps entailed staff sharing possible causes of the focus pupil's behaviour.

- **Post intervention individual measures:** AttQ and SDQ post-intervention measures were taken immediately *after staff reviewed data* (i.e. at the end of Step-8: Data Review).

- **Post intervention group measures** Post-intervention group theories (Step-9 Group-Theories-2) were collected *after Step-8: Data Review and after the participants completed the individual measures.*

3.4.2.2 Independent Variables

All participants took part in the adapted CoA session, facilitated by the researcher and one colleague (Appendix-6). The Independent variable (IV) was the **type of data used within the CoA.** There were two levels: video-clips (experimental-condition) and, written behavioural logs (comparison-condition).

3.4.2.3 Research Questions and Hypotheses

Table 3-3 and Table 3-4 illustrate the range of DVs and Research Questions (RQs) explored. The Experimental (EH) and, Null Hypothesis (NH) are presented.

Table 3-2: RQs 1&2: DVs, Hypotheses and Measures

RQ	Hypotheses	DVs	Measure
1: Will exposure to video-examples of a pupil's behaviour, influence greater change in individual staff attributions in comparison to other data (e.g. written-observation logs)?	**EH1**: Post-intervention, there will be a statistically significant difference in the **types of attributions** made by individual participants in the experimental versus the comparison condition. **NH1**: Post-intervention, there will be no statistically significant difference in the **types of attributions** made by individual participants in the experimental versus the comparison condition.	**Staff Attributions=** 1) **Total Score** Three sub-factors: 2) **home** 3) **school** 4) **within-child**	**Attribution questionnaire =created by EPs in researcher's LA** Ten items per factor
2: Will exposure to video-examples, influence greater change in individual staff perceptions of a pupil's strengths and difficulties in comparison to other data (e.g. written-observation logs)?	**EH2**: Post-intervention, there will be a statistically significant shift in the **perception of the focus pupil's strengths and difficulties** by individual participants in the experimental versus the comparison condition. **NH2**: Post-intervention, there will be no statistically significant shift in the **perception of the focus pupil's strengths and difficulties** by individual participants in the experimental versus the comparison condition.	**Staff Perceptions=** 5) **Total Score** Five sub-factors: 6) **Emotional-problems** 7) **Hyperactivity** 8) **Conduct-problems** 9) **Peer-problems** 10) **Pro-social skills**	**Strengths-Difficulties (Teacher) Questionnaire =Goodman, 1997:** Five items per factor

RQ	Hypotheses	DV	Measure
3. Will participants in the experimental (video) group donate more school-oriented theories in comparison (written) condition?	**EH3:** Post-intervention, compared to the comparison group, the experimental group will donate **more school-oriented theories/attributions**. **NH3:** Post-intervention, compared to the comparison group, the experimental group will not donate **more school-oriented theories/attributions**.	**Theory codes/types generated** **Theory types/Factors:** 1)Within-child 2)Home 3)School	**Audio record:** Transcribed theories. Basic Content Analysis of the theory (inspired by Drisko & Maschi, 2015)

Table 3-4: RQ 4: DVs, Hypotheses and Measures

RQ	Hypotheses	DV	Measure
4. Will participants who view video-data indicate, to a greater degree than participants who view written-data, that the element of data was helpful and insightful when considering pupil behaviour?	**EH4:** Participants in the experimental group will to a greater degree than participants in the comparison condition, indicate that they found **the element of 'data' helpful** and that the **data made them 'think differently'** about the origins of pupil behaviour. **NH4:** Participants across conditions will indicate no or, very little difference in relation to helpfulness and the impact of the data on their thoughts regarding the origins of the pupil behaviour.	**Participants rating:** **a)Degree of helpfulness** of the COA and separate elements including data b)**Frequency of positive** responses in relation to the data making them 'think differently' about behaviour c)**Narrative Comments** to support (b)	**Evaluation questionnaire:** Responses to 1a/b) *How helpful did you find the COA and separate elements (includes element of data)* = 5-point Likert-scale *2) Did you see/read anything that made you think differently about the origins of pupil behaviour?* = 'YES' versus 'NO' response and Content Analysis of narrative comments

3.4.3 Intervention

3.4.3.1 Setting

The CoA sessions (based on Wilson & Newton, 2006) took place within a two-hour block in a predesignated room where participants could comfortably sit in a circle around a table. A voice recorder (Olympus-WS/833) was set-up on the middle of the table. The visual record (see below) was tacked to a wall in view of all participants.

3.4.3.2 Process and Graphic Facilitators

As specified by Wilson & Newton (2006), the process was led by two facilitators, a Process facilitator (PF) and a Graphic Facilitator (GF). The PF (current researcher) led the participants through the 12-stage process. One GF from a team of six - all either TEPs or Assistant Psychologists trained in CoA graphic facilitation in the two LAs where this study took place - recorded the participants' responses using symbolic visuals or key words. At set points, the GF also synthesized the participants' views. Figure 3-3 is a photograph of the visual record template used in all schools.

Figure 3-3: Photograph of the Blank Record Template Applied in All CoA sessions
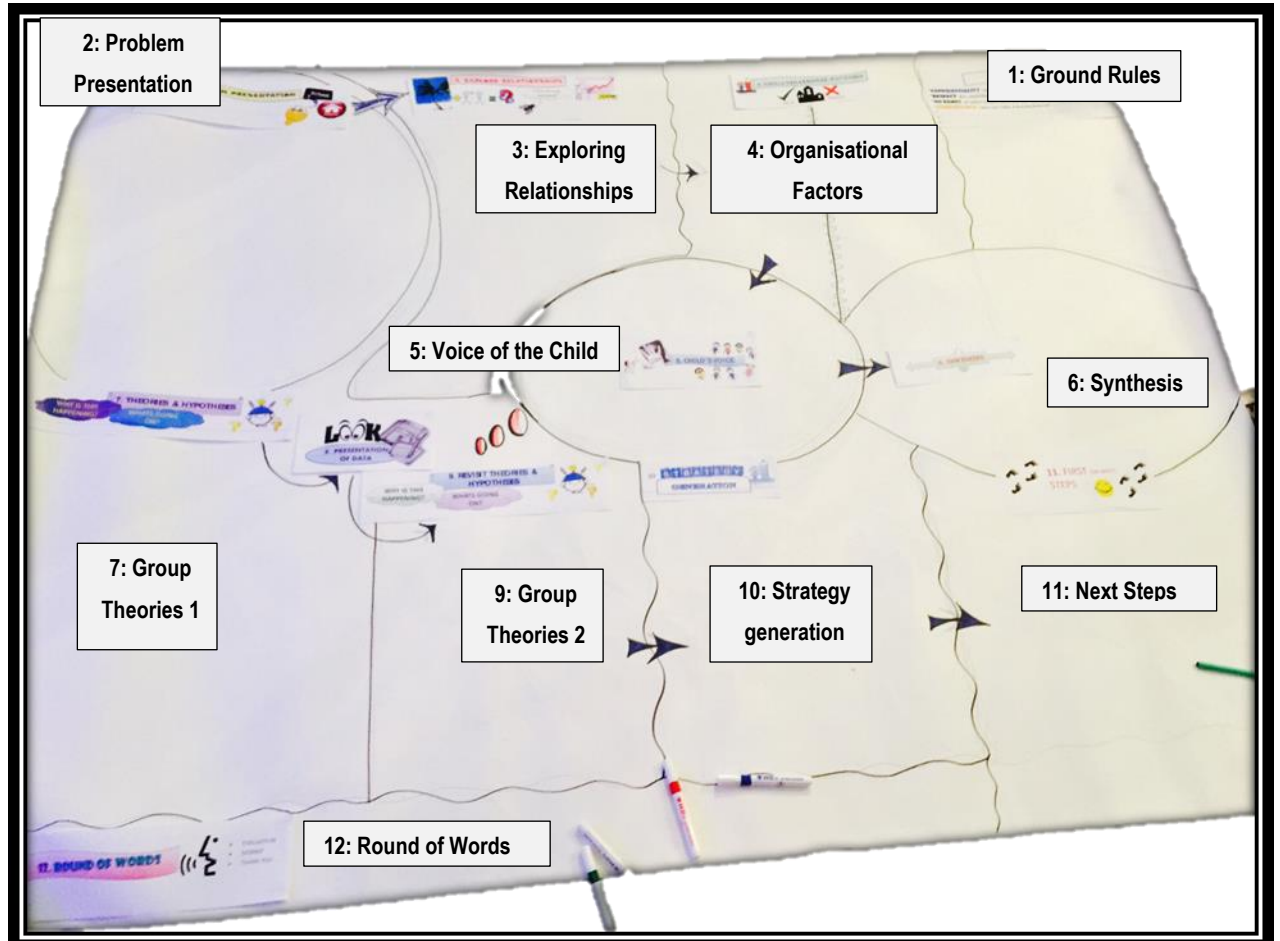
3.4.3.3 Adapted Process

In all CoAs delivered, the stepped process (Figure 3-4) and script (Appendix-6) were closely followed. Before each session commenced, the steps of the process and ethical procedures were explained, followed by Ground-Rules (Step-1). One participant was invited to present the 'story' around the child to build up a 'rich picture' (Step 2-Problem Presentation). Other participants were then given an opportunity to broaden perspectives through the facilitated information sharing processes within the subsequent steps. Crucial to this study are Steps 7, 8 and 9, the latter two steps were added for the purposes of the study.

Figure 3-4: The Adapted Circles of Adults Steps and their Related Time Frames
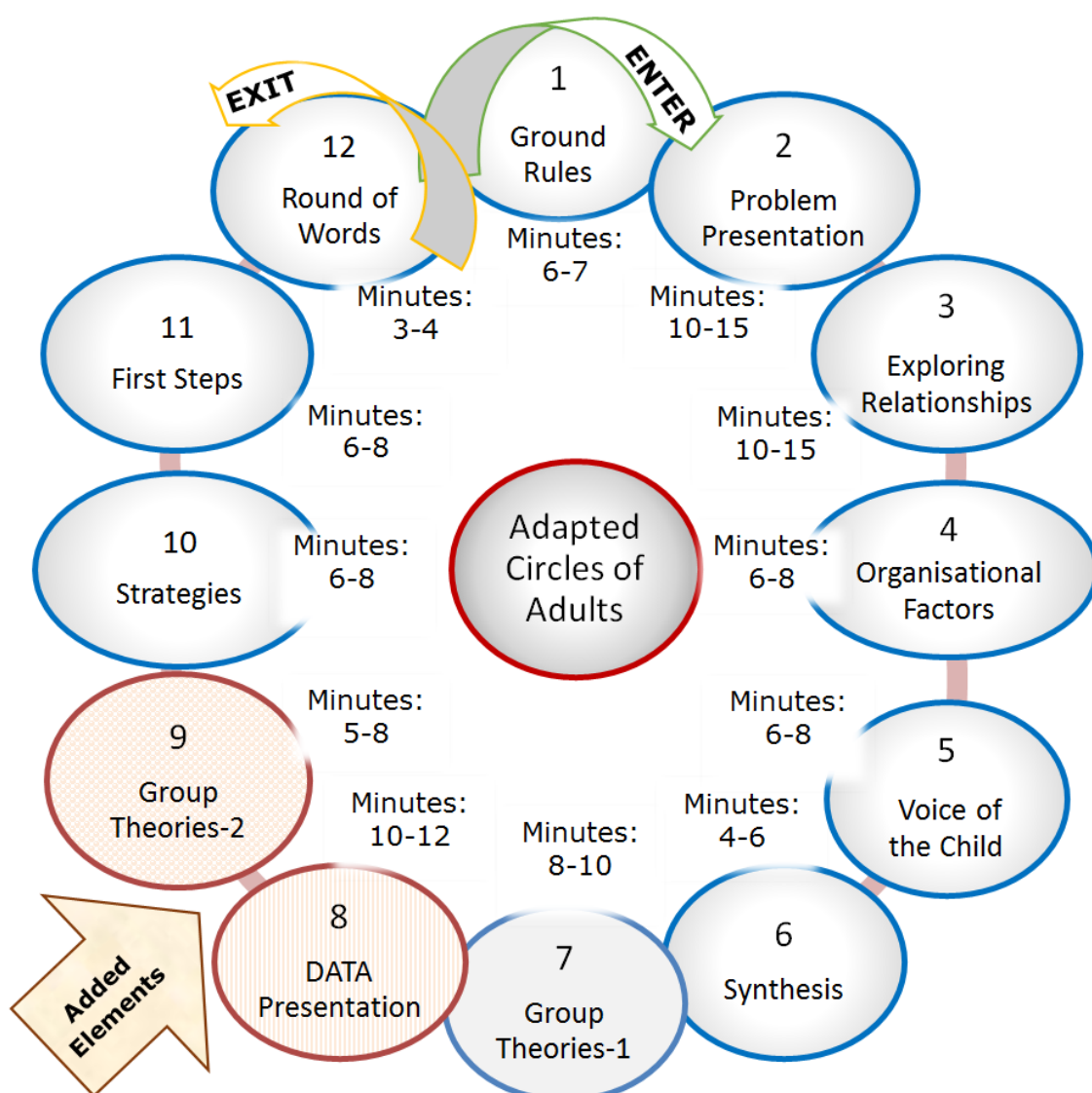
3.4.3.4 Step-7: Group Theories-1

Following Wilson & Newton (2006), at Step-7 participants were asked to donate theories regarding possible causes for the pupil's CB which were based on discussion within preceding steps. Participants were told they could share contrasting theories or build upon those shared by others and were encouraged to not 'close-down' or state evidence to negate another participant's theory.

Every theory donated was reiterated by the PF to check it was understood correctly; participants either agreed with the understanding or corrected the PF. The GF then recorded the agreed version on the pre-prepared visual record (Figure 3-3). Once the group appeared to exhaust theories, the PF asked the group again if they had any more theories before moving onto Step 8-Data Review.

3.4.3.5 Step-8: Data Review

This step was added as a mechanism to explore the influence of video-data on staff attributions. During this stage participants either watched video clips or, read data within the written ABC-observation log. In both conditions, data was collected and selected by staff in the school. Protocols leading to this data collection are discussed Section 3.4.4. Participants were requested to: *'please watch/read carefully…you can make notes… absorb the data and do not share views until we have had a chance to process individually and have completed the questionnaires'.*

Participants then either viewed 4-5 school-based video clips (2-3 minutes each) or, read 4-5 written observations of behavior incidents of the focus pupil. The aim was to give staff an opportunity to see the pupil's behaviour in context, in order to support their theorising. The clips were played on an iPad or connected to a screen via VGA adapter. For the written-logs, photocopies were prepared on the day and given per participant.

3.4.3.6 Step-9: Group Theories-2

Participants were invited to add any further/different ideas as a group, based on what they read or watched. The main prompt used was:

- 'After reviewing the data, is there anything we can add to our set of theories/hypotheses?'

Again, new theories were recorded by the GF using the process in Step-7. Following this step and the remainder of the CoA process, participants completed the evaluation questionnaire independently. The researcher closed the session by providing debriefing and contact details.

3.4.4 Protocols for the Collection of Pupil Stimulus Data

3.4.4.1 Overall Protocol and Guidance

To support consistency across schools, comparability of conditions and enhance staff theorising, it was important to provide staff collecting data with guidance on how and what to film (Tripp & Rich, 2012). Guidance for both conditions was provided (Appendix-7 Video; Appendix-8 Written). Giving staff ownership in selecting video excerpts (i.e. the data they want to review) has been found to enhance problem-solving (Danielowich, 2014) thus, key staff collected and selected the data but were asked to refer to the guidance and not share the stimulus data with others before the session. Data was collected across a 2-3 week period and included:

- Experimental-Condition: 4-5 school-based video clips (2-3 minutes each)
- Comparison-Condition: 4-5 written observations of (short) behavior incidents.

The guidance identified that the aim of capturing examples of the focus pupils' school-based behaviour was to help staff to think of strategies to support pupils to learn and led to pointers on good practice and precautions and a 'Dos' versus 'Don't' list which covered practical and ethical elements.

3.4.4.2 Pupils Stimulus Data: Video Clips – Comparison Condition

Staff were led by the guidance given to staff regarding the filming of focus pupils (Appendix-7). This included the following details and pointers:

- Staff were encouraged to film across school contexts and occasions to capture behaviour considered typical and atypical of that pupil.
- Staff used an iPad or similar portable recording device for ease of filming and selection of clips during viewing.
- Staff filmed only individuals for whom informed consent had been received
- Staff deleted or edited out (through cutting and deleting sections) accidental recordings of individuals for whom informed consent had not been received.

- Staff organised the selection of clips to be reviewed using a 'Video log'. The log identified the date, basic context is (e.g. 'after break in Mathematicsa'), verified consent and highlighted the section to present in the session itself.

Before filming commenced, staff were requested to tell the focus pupils' class or peer group, that some short clips of the class will be taken to help staff to learn of ways to support the learning of pupils. At this point, pupils were given the opportunity to ask questions and to express any concerns. Whilst the filming was not a covert process, it was planned to be as discreet as possible. During filming, staff followed the Summary of Do's and Don'ts highlighted in Table 3-5.

*Table 3-5: **Do's and Don'ts Summary Staff Followed in Relation to Stimulus Video Data Collection***

Summary – DO's and DON'T's when FILMING	
DO's	**DON'T's**
Film context around pupil – **About 3-5** individuals in the shot is okay.	Film from too afar or zoom into one pupil.
Ensure the microphone and camera lens is not covered and consider the placement of the iPad/tablet in terms of lighting and sound	Place anything in front of the camera lens or the microphone
Place/Use the camera discreetly	Place the camera directly in front of a pupil
Stop filming if a child looks agitated or asks you to	Continue to film if despite a safeguarding concern or emergency protocol (e.g. fire drill)
Remind pupils that filming is to help staff to learn ways to support pupils	Name a specific pupil or groups of pupils as a focus
Store and lock the device AND any logs securely and safely	Leave the device or log unattended at any time
Let staff know that you cannot share the clips outside of the consent of parents.	Show or discuss the clips with staff (besides as planned within the group session). However, if there are safeguarding concerns follow the necessary school protocol
Store the clips only in one folder on the file	Make any duplicates, either on the device or off it, for example, by copying it or sending it anywhere

3.4.4.3 Pupil Stimulus Data: Written Observations - Comparison Condition

The comparison group collected written-observations via an Antecedent-Behaviour-Consequences log (ABC). An ABC log enables staff to describe the *antecedents* and *consequences* to a particular *behaviour* shown by the focus pupil. ABC logs aim to enhance staff insights into the *function* of an observed behaviour, in order to explore ways to encourage more appropriate behaviours (Steege & Watson, 2009). The employed Steege and Watson

(2009) version is an extended form of the ABC and gives the reader some information on the context of the behavior as described by staff. It is recognised that the ABC and video-excerpts provide dissimilar detail however, the ABC log is commonly used by the educational psychology services (EPS) where the study was set and so was considered a useful comparative tool. Similar to above, the staff were given guidance on the aim, practical and ethical considerations of the ABC log data collection. Staff were also given a Do's and Don'ts checklist which was created to closely resemble the checklist given to staff in the experimental condition (Appendixx-8)

3.4.5   Treatment integrity

The integrity with which a particular intervention is delivered impacts the reliability of findings (Kazdin, 2003). Steps taken to achieve integrity included:

- The researcher acted as PF in all sessions
- All GFs had attended training and practice sessions to enhance GF consistency
- The same record template was used in all sessions
- All eight sessions were audio recorded; four were randomly selected for integrity checks (Appendix-9). Two raters referred to the CoA process (Appendix-6) used by the PF in all sessions. The raters listened for two aspects per step namely, the timing and content (i.e. what was said and how long was spent on each step).
- Overall 48 aspects per session were compared across Rater 1 and 2.

Rater-1 found the PF facilitator went over the time-frames on two occasions (Problem-Presentation & Exploring-Relationships) and thus rated PF integrity as 96%

Rater-2 calculated an integrity percentage of 94%, finding the same errors as above plus an additional error where the PF spent less than the minimum expected time (Ground-Rules).

Until CoA theories develop greater sophistication, checking for the presence of gross features is one way of establishing the level of integrity achieved. Inter-rater agreement, which accounted chance, via Cohens Kappa (Vassar-Stats) elicited a value of 0.79, indicating good agreement (Peat, Mellis & Williams, 2002).

3.4.6 Stakeholders

There were a range of stakeholders whose presence shaped this study, these include:

3.4.6.1 The University of Nottingham

Throughout the completion of this study the researcher was undertaking professional training for the Doctorate in Applied Educational Psychology at the UoN. This study therefore had to commensurate with the institution's research and ethical guidelines.

3.4.6.2 The Educational Psychology Service

The researcher is currently working as a trainee educational psychologist (TEP) in an EPS interested in the outcomes of the study and where the use of CoA and video-frameworks are not uncommon.

3.4.6.3 Participating schools and their staff

Involved were schools and school staff who were happy to take part in a video-enhanced group-problem solving activity around a focus pupil's behaviour. Thus, negotiating staff commitments impacted timetabling of the intervention, stimulus data and pupil consent collection.

3.4.6.4 Parents

Although not involved in the study directly, the parents of focus pupils consented to their children becoming subjects of the CoA discussion. Whilst the researcher did not invite parents or focus pupil to the CoA session, the outcomes of the CoA would be of interest to them.

3.4.6.5 Researcher

The researcher's interest in the potential impact of video on consultative practice and, aim to conduct this research in a systematic, ethical and unbiased manner was central throughout.

3.4.7 Participant Selection and Sampling Strategy

3.4.7.1 Recruiting Participants

The researcher asked EPs in two urban Local Authorities to identify any schools who may be happy to be approached by a researcher interested in facilitating a staff group-problem solving session around a focus pupil. The EPs were familiar to the researcher as she was undertaking placement training in these LAs during Years 2 and 3 of her doctoral training. Information packs

containing study details, methods of pupil stimulus and participant data collection as well ethical considerations (Appendix-10) were sent to eleven mainstream primary schools who indicated initial interest. A total of nine schools expressed interest via email responses. An initial meeting with senior leadership team (SLT) members was arranged in each school.

3.4.7.2   Initial Meeting with Senior Leadership

At the initial meeting, the study processes and requirements were revisited and shared in more detail. Schools were required to have in place a policy on video use, and this was checked at this first meeting. SLT staff were asked to mention the study to appropriate staff and identify a potential focus pupil, aged between 5-14 years and presenting with some CBs which their staff would normally like to problem-solve around. SLTs were told not to change any normal intervention, support or aids and to avoid selecting pupils who were considered especially vulnerable, (e.g. those with multiple or profound difficulties or, in need of immediate specialist support).

SLTs were asked to identify staff who may be willing to take part. Information packs containing ethical rights, study details, consent slips and information on the CoA process as well as written and video stimulus data collection (Appendix-11) were given for SLTs to disseminate to potentially interested staff. Information packs and consent letters for parents of potential focus pupils (Appendix-12; written-data; Appendix-13 video-data) as well as staff (Appendix-14) and parents of pupils (Appendix-15) who may be incidentally filmed were also shared. The SLT agreed to hand these out accordingly, once staff had agreed to take part and once school were notified of which condition participating staff were assigned to (see Section 3.4.7.3).

3.4.7.3   Random Allocation

As stated above, once SLTs had confirmed the school's likely participation, they were asked to indicate whether they had 4-6 staff interested in taking part. One school dropped out as the potential focus pupil was excluded. Eight schools agreed to take part and were randomly assigned a condition dependent on their order of joining, through a lottery method where the researcher drew 10 slips from a box (5 labelled 'written', 5 'video') and assigned them a number as they were drawn.

3.4.7.4   Introductory Staff Meeting

Introductory meetings with participant-staff were arranged to restate staff ethical rights, answer queries, collect staff consent and arrange a propositional date for the CoA. The SLT contact then sent letters inviting informed parental consent and organised the consent for classmates and staff who may be incidentally filmed (Appendices 13-14).

3.4.7.5   Pre-intervention Data Collection and Follow-up Support

Approximately 1-3 weeks before the CoA took place, the researcher attended the schools to collect consent slips and pre-test measures (AttQ & SDQ). During this visit, participants and school staff were offered another chance to ask questions regarding participation or stimulus data collection. The researcher was also available for such queries via phone or email at any point.

3.4.8   Staff Sample Characteristics

3.4.8.1   Sample Ratio

Forty-one staff gave consent to participate. Two staff could not attend their CoA session and so were removed from the study. A total of thirty-nine participants formed the experimental (n=20) and comparison (n=19) conditions. According to SLTs, none of the participants had attended a video-enhanced group problem-solving session before.

3.4.8.2   Sample Equivalency – Age and Gender

The age range and gender ratio across both conditions were moderately equivalent. Comparisons are visually depicted in Figure 3-5 and Table 3-6.

Figure 3-5: Gender of Staff Participants
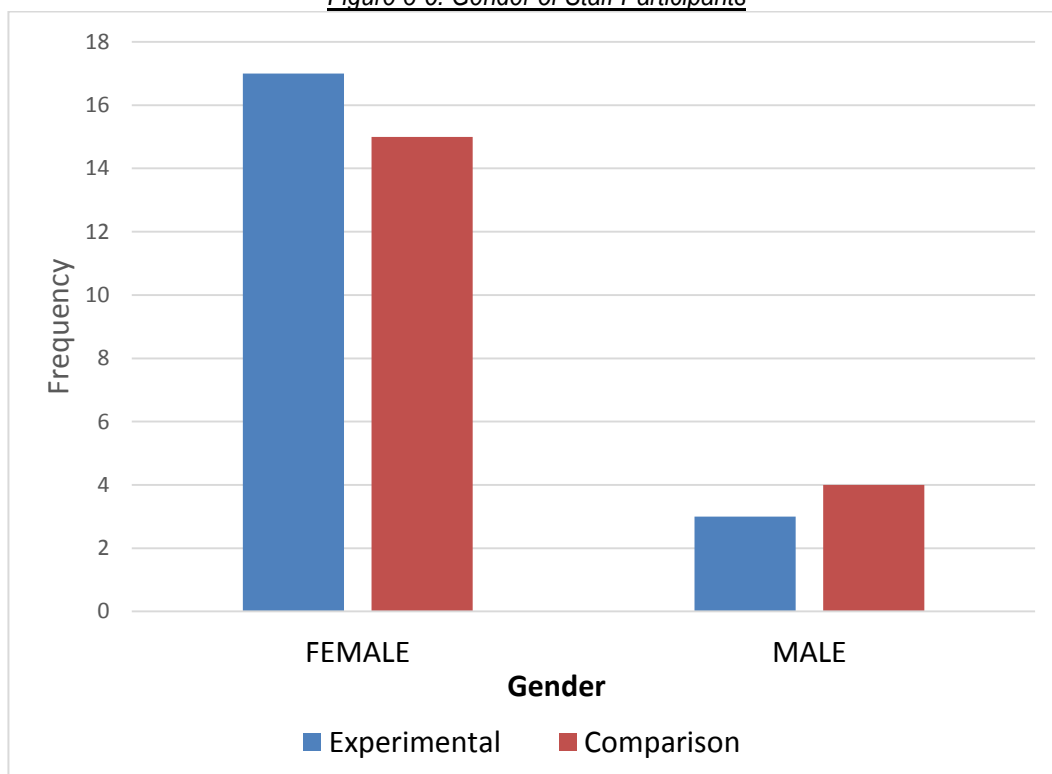
The preponderance of female staff demonstrated in both conditions is common to the field of education (DfE; SFR-21/2015).

Table 3-6: Age Ranges of Staff Participants

N	Range	Minimum	Maximum	Mean	SD
Experimental N=20	40	18	58	37.9	11.2
Comparison N=19	39	22	61	41.4	11.1
Total (Overall) N= 39	43	18	61	39.6	11.6

Both groups remained quite close to the overall mean age. The overall range was large; this remained the same across both groups.

The professional roles of the participants ranged widely indicating that participants across both groups experienced different relationships and interactions with the focus pupils. For ease of comparison, the variety of professional roles were coded over three categories; *Leadership* (e.g. SENCo, Head-teacher etc.) *Teacher* and *Non-teacher* (e.g. TA, mentor etc.). The majority of staff were non-teacher roles, with equal numbers in both conditions (Figure 3-6).

Figure 3-6: Staff Professional Roles
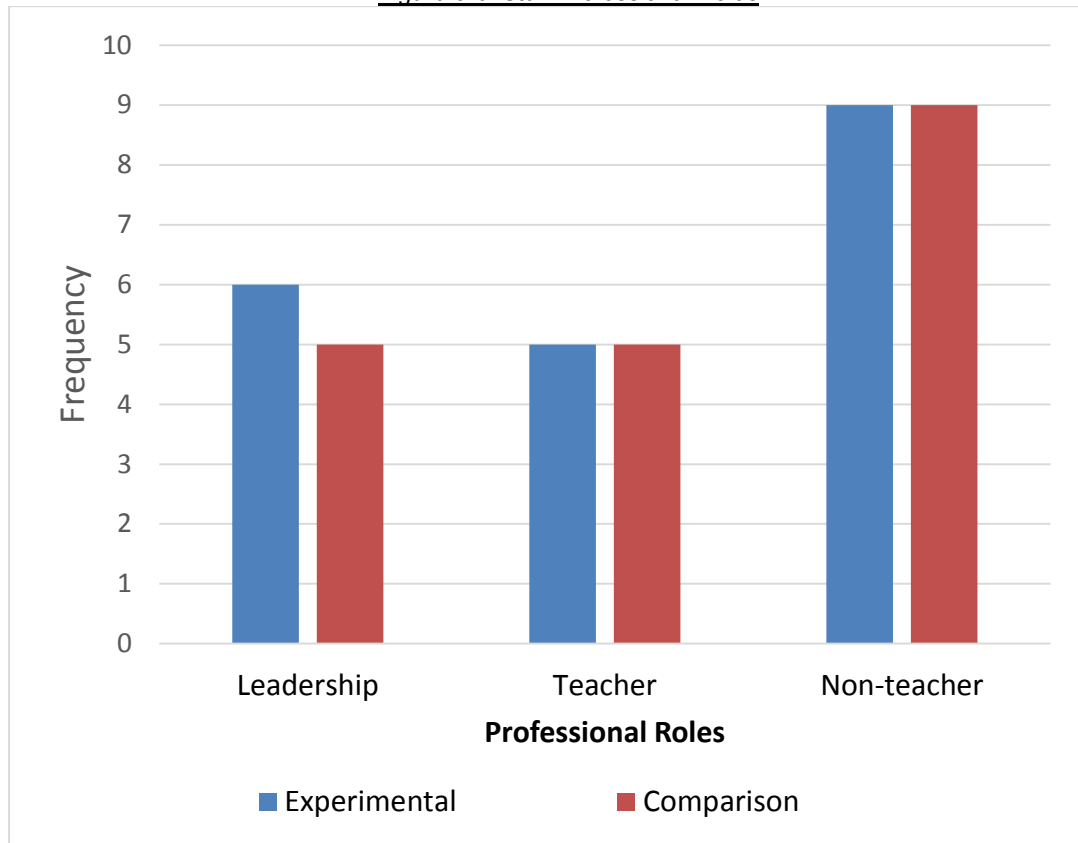
3.4.9 Focus Pupil Characteristics

The video and written-ABC data were used as stimuli within the intervention thus; demographic data pertaining to the focus pupils was limited to year group and gender (see Table 3-7).

Table 3-7: Gender and Year Group of Focus Pupils

	Gender (M:F)	Year Group		
Total Sample	*7:2*	*Yr2:2*	*Yr4:4*	*Yr5:2*
Experimental	**4:0**	**Yr2:1**	**Yr4:2**	**Yr5:1**
Comparison	**2:2**	**Yr2:1**	**Yr4:2**	**Yr5:1**

Out of eight, there were two female focus pupils, both in the comparison condition. The conditions had equal numbers of focus pupils from Years 5, 4 and 2.

3.4.10 Piloting Phase

No studies fusing EP-facilitated group consultation with video data were found during the narrative and systematic literature review for this study. Therefore limited methodological and practical information was available. It was not considered ethical to generate video clips of a 'real' child purely to learn about pragmatic aspects however, the researcher did undertake some piloting activities which carefully considered ethical aspects and risks to validity and reliability.

3.4.10.1 First Piloting Activity

The first pilot session was a simulated version of the 12-step CoA, where the stimulus data were examples written by the researcher based on an anonymised case study. The pilot was conducted at the EPS where the TEP was placed in her second year and included six EPs and TEPs, all of whom were experienced in facilitating group-consultation. Prior to the session, participants were given a mock written description of pupil 'Harry' and ascribed roles such as 'teacher' head-teacher' with brief cameos of their role. All participants presented as their role and completed all measures (including consent letters) under their pseudonyms. An informal joint meeting to discuss participants' views on being part of the process, the measures used and the researcher's facilitation delivery was held. The feedback led to the following:

- After the data section, the PF should ask simple questions across both conditions (e.g. 'Is there anything to add to our set of theories/hypotheses?') and should avoid pressurising participants into saying anything.

- Addition of an open-ended item to the Attribution measure allowing participants to identify attributions aside from the thirty listed.

- Ensure parameters of the ground rule 'Confidentiality' is clear - participants must respect confidentiality but should appropriately share information where there is a safeguarding concern.

- Ensure that participants complete the individual measures in silence to avoid group discussion contaminating individuals' responses.

3.4.10.2 Second Piloting Activity

The second session was to provide the GFs opportunity to practice graphic facilitation, familiarise themselves with the adapted process and enhance consistency across GF in this study. Similar to the first pilot session, cameos of roles and the information on 'Harry' was shared prior to the session. Instead of written-examples, publicly available documentary programmes aired on TV (e.g. 'Educating Yorkshire') were watched and the GFs were then asked the questions on the 'script'. Throughout the CoA, GFs took turns to graphic the responses of participants. Subsequently, the layout of the visual record was agreed with reference to Wilson & Newton (2006). GFs were given two further 'opt-in' sessions to go over the CoA, underlying theory, graphic recording and raise any concerns.

3.4.11 Measures

For ease of reference, individual participants' measures are presented prior to group measures.

3.4.11.1 Attribution Questionnaire

Available attribution measures are lacking in ecological validity (Section 2.3.6). Researchers looking at causal factors in new contexts are encouraged to develop different attribution measures (Giavrimis & Papanis, 2009; Carter et al., 2015). This study employed a pre-existing Attribution Questionnaire (AttQ) developed by one EPS where the researcher attended placement. The AttQ captures attributions in relation to real life contexts (Appendix 16i-ii). The reliability of AttQ is arguably limited due to no attempts at standardisation. Due to the stimulus being data from 'real' focus pupils, the appropriateness of applying standardisation processes was debatable.

The AttQ assesses three factors; 'Home', School' and 'Within-child', each represented by ten items and presented in a mixed order. Respondents indicate the extent to which they believe the focus pupil's behaviour is explained by rating each item using a five-point Likert-scale. Responses are then compared using the coding key below:

VERY UNLIKELY	UNLIKELY	EQUALLY UNLIKELY/LIKELY	LIKELY	VERY LIKELY
-2	1	0	1	2

Likert-scale measures are common in the field of attribution however they have mainly been used in conjunction with artificial vignettes as stimulus data (Andreou & Rapti, 2010; Poulou & Norwich, 2002) and thus have constrained ecological validity (Grey et al., 2002). Despite limited construct validity (Kazdin, 2003), self-report methods are commonly used to measure cognitive phenomena (Ayers et al., 2015). Currently no published reliability information for the AttQ is available. The reliability of AttQ stems from:

- The factor-items were based on literature (e.g. A.Miller, 1995; S.Miller, 1995; Miller et al., 2000; Miller at al., 2002; Lambert & Miller, 2010) which identified home, school and within-child causal ascriptions in relation to pupil CB from sources including teachers, pupils and parents.

- Internal consistency was assessed by the researcher using Cronbach's alpha coefficient for each of the three subscales. The analyses produced Cronbach alpha coefficients of: School: 0.79, Home: 0.84 and Within-child: 0.67. These alpha levels suggest moderate to good level of reliability per subscale (Pallant, 2013).

- During piloting activities (Section-3.4.9), EPs and TEPs reviewing the AttQ felt it was user-friendly.

- To avoid practice and order effects, items were counterbalanced.

- Finally, to minimise demand characteristics and group conformity, participants were asked not to discuss thoughts when observing data (Step8). The AttQ was completed immediately after the data was shared and *before* the group started discussion.

3.4.11.2 Strength and Difficulties Questionnaire

The SDQ (Goodman 1997; Appendix-17) is a widely used behavioural screening tool for children and adolescents and investigates twenty-five positive and negative attributes, over five subscales. The scores can be used to categorise the perceived level of difficulties, for example 'normal' 'borderline' and 'abnormal' (Table 3-8). Participants respond along three points 'Not true', 'somewhat true' and 'certainly true' thus the scoring key ranges from 0-2 with some items being reverse scored. The pro-social scale is excluded from the total-difficulties score and is calculated separately. Teacher, self-report and parent report forms are available; this study used the teacher version.

Table 3-8: Teacher SDQ Ranges for Total Scale and Subscales

Subscale (Teacher)	Normal	Borderline	Abnormal
Total-Difficulties	0-11	12 to 15	40
Emotional-problems	0-4	5	10
Conduct-problems	0-2	3	10
Hyperactivity	0-5	6	10
Peer-problems	0-3	4	10
Prosocial	10 to 6	5	0

The SDQ at pre-test/post-test data was used as a between and within-group measure to tentatively compare and measure the impact of the adapted CoAs on teachers' scaling (and thus perceptions) of the focus pupil.

Goodman (2001) contends that the reliability of all three SDQ forms is generally satisfactory across measures of internal consistency (mean Cronbach α: 0.73), cross-informant correlation (mean: 0.34) and retest stability after 4-6 months (mean: 0.62). Reliability of the teacher form has received further support (Muris, Meesters, Eijkelenboom & Vincken, 2004). Due to the 2-3 week gap between pre-post testing, confounding variables (e.g. changes in context or pupil behaviour) may have impacted participants' perceptions.

3.4.11.3 Evaluation Questionnaire

A secondary aim of this study was to allow all participants to share their perceptions of the CoA process (Bozic &Carter, 2002) and video or, written observational data. A semi-structured staff questionnaire (Appendix-18) was completed anonymously immediately after the CoA. Three questions were relevant:

Q1a: Participants indicated the 'helpfulness' of the CoA session, using the above-described five-point Likert-scale ('*Very Helpful'* to *'Not Helpful at all')*

Q1b: To appreciate the relative helpfulness of the data and using the same scale, participants rated the following individual elements:

- *Group discussion*
- *Allocated time to process/think*
- *Use of data (video or ABC log)*
- *EP facilitation*
- *Graphics/ visuals record*
- *Going through steps of adapted Circle of Adults Process*

Q2. Participants responded 'Yes' or 'No' to*: 'Did you see/read anything that made you think differently about the origins of pupil behaviour'?*

Participants could provide a narrative comment explaining their choice. The researcher analysed the narrative comments using coding frames as part of basic content analysis as described in Sections 3.4.11.5 and 4.6.5. Other items were not analysed as they did not directly relate to the RQs.

3.4.11.4 Group-level Data: Group Theories

Audio-recorded group theories (staff perceptions regarding causes of CB), generated before (Step-7) and after data review (Step-9), were transcribed and coded using basic content analysis (Drisko & Maschi, 2015). Prior to the content analysis and in-line with other basic content analysis approaches (Drisko & Maschi, 2015), a-priori coding frames classified as 'home', 'school' or 'within-child' (Appendix-19) were created with reference to attribution literature, theory and items within the AttQ. This approach enabled consistency, manageable analysis of qualitative data (Driscoll et al., 2007; Drisko & Maschi, 2015; Zhang & Wildemuth, 2010) as well as triangulation between the individual and group data. Thus, in line with mixed methodologies, qualitative data could be

compared quantitatively; using content analysis to perform pre-post comparisons on the type*frequency of theories.

In response to criticisms describing content analysis as subjective (Clark-Carter, 1997), codes were developed alongside another TEP to minimise researcher bias. Robson's (2011) recommendations were used to enhance replicability and transparency such that codes were:

- *Focused:* each code clearly relates to 'home', 'school' or 'within-child' dimensions.
- *Objective*: codes enabled inter-raters to independently match the 'theory' to the codes
- *Explicitly defined*: sufficient detail minimised blurring across codes
- *Exhaustive*: the many possibilities of theories within the code are clarified

Codes were then checked by two other EPs who were asked to apply the codes to a mix of items within the AttQ and other fabricated attributional-statements (e.g. 'he is born naughty' or, 'school work is too hard'). Subsequent changes included; placing written instructions before the code descriptions and, the addition of a statement which asked coders to identify theories that clearly contained two observations and must be split. Subsequently, two raters applied the codes to all the transcribed theories. Interrater agreement is discussed in Chapter 4.

3.5 Validity and Reliability

Risks to validity and reliability can threaten the integrity of a study and lead to contestable findings (Cohen et al., 2011) hence the following steps were taken to minimise these risks.

3.5.1 Establishing Trustworthiness of the Qualitative Data

Stemming from the pragmatic epistemological stance employed, qualitative data was analysed quantitatively. Teddlie & Tashakkori, (2009) suggest that qualitative or inquiry-based research, analysed in whatever form, must follow a set of principles in order to establish 'trustworthiness' (see Table 3-9).

Table 3-9: Actions Taken to Establish Trustworthiness of Qualitative Data

Principle of trustworthiness	Related to desired research quality of:	Actions taken in this study
Credibility	Internal validity: data is representative of the participants involved.	Study processes and instructions made clear. Individual measures filled in independently. Responses taken at face value and not re-interpreted.
Transferability	External validity: inferences can be transferred from one context to another.	Representativeness of staff sample to common mainstream primary school. Random cluster assignment. Detailed description of adapted CoA processes.
Dependability	Reliability: process of inquiry is dependable.	Detailed description of the adapted CoA processes. Good treatment integrity. Use of research journal and reference to audio recording.
Confirmability	Objectivity: results are logical, grounded in data and bias is acknowledged.	Data checked and re-checked. Good inter-rater agreement. Supervision and professional support regarding coding. Codes grounded in literature.

3.5.2 Internal Validity

Internal validity is achieved when changes observed in the DV are attributable to the effect of the IV and not to other extraneous variables (Cohen et al., 2011). Table 3-10 describes the risks pertaining to internal factors and counter-measures taken to minimise these.

Table 3-10: Identified threats to Internal Validity and Counter-Measures taken to Minimise these.

Threat	Risk	Counter-measure
History/ Maturation:	Post-intervention, staff attribution scores in the experimental group may be susceptible to incidental learning unrelated to the intervention.	• Study limited pre and post test data distance to 2-3 weeks. • Random assignment and inclusion of comparison group however, these risks cannot be completely countered.
Instrumentation:	Unreliable measures and scoring processes may produce inaccurate results. It is difficult to be clear about the construct validity of the non-standardised measures which are susceptible to subjectivity and misunderstanding.	• Measures delivered in the same manner across both groups • Data entry double-checked. • Inter-rater checks on qualitative data performed. • To improve construct validity, AttQ tool was piloted and adapted to respond to limitations. • Cronbach alpha coefficients reported moderate-good internal consistency of the AttQ.
Testing: Practice and order effects	Pre-test phase may have made participants more aware of researcher's aims.	• Individual measures and items were counterbalanced. • Measurement limited to pre-post-test only.
Mortality:	Participants who could not attend CoA were removed from the study. Mortality causes data attrition; this can skew findings and impact effect size.	• Mortality was low and the study benefitted from a moderately sized sample to continue with.
Regression:	Statistical regression is a risk where measures are repeated or where participants who have extreme scores at pre-test are likely to obtain scores closer to the mean at post-test.	• Satisfactory test-retest reliability reports of the SDQ will reduce this. For SDQ and AttQ, counterbalancing of items will reduce practice and order effects. • Pre-analysis checks of normal distribution performed and appropriate statistical tests selected.

3.5.3 External Validity

External validity refers to the degree to which findings can be generalised to the wider population (Cohen et al., 2011). This study benefits from being set in diverse mainstream primary schools. The range of CBs described across the focus pupils may pose a risk to external validity; however this is accepted as part of the pragmatic and applied-research approach taken. Table 3-11 describes steps taken to reduce risks to external validity.

Table 3-11: Identified Threats to External Validity and Counter-Measures taken to Minimise these.

Threat	Risk	Counter-measure
Respondent bias:	Due to self-report, transparent nature of measures, staff may have responded to please researcher or show pupil progress. Subjectivity of teacher responses also limits external validity.	• Participants told that there are no right or wrong answers, all responses are anonymous, and were encouraged to give honest answers. Participants made aware their views did not impact intervention process.
Selection and Setting:	Whilst study setting may be representative of primary schools within the LAs, findings cannot readily be generalised to schools set in various social, cultural, socio-economic contexts or, schools outside of city.	• Variety of primary schools took part across two LAs with a wide range of staff with various experience. • Reported detail on the intervention supports replication.
Researcher bias:	Researcher-facilitator may unknowingly communicate expected study outcomes, influencing teachers to conform. Can affect objectivity of analysis.	• Careful wording of variety of outcomes possible; value in both EH and NH shared to participants in a neutral manner. • An awareness of this potential bias supported the researcher to maintain objectivity. Researcher also utilised supervision with a researcher and GFs.

3.6   Ethical Research

3.6.1   Ethical Guidelines and Approval

Ethical research strives to protect and respect participants and those associated with the research (Francis, 2010). Ethical guidelines and standards related to research and EP practice were adhered to including those of the (UoN, 2015) and the British Psychological Society's (BPS, 2002; 2014). The researcher received ethical approval from the UoN's Ethics Committee (Appendix-20). Steps taken to address pertinent ethical considerations are described below:

3.6.2   Obtaining Informed Consent and Avoiding Deception

- All staff participants provided written informed consent.

- Although pupil stimulus data (video or written) was not the focus of the study nor was it taken off-site, parental consent was still achieved so that data on their child could be discussed in the presence of facilitators. Furthermore, only schools where there was an existing policy on use of video for purposes of pupil progress and assessment were approached.

- Written pupil consent was not sought as the pupils were under the age of 14 and were not present or participating directly. This process mirrored the practice of EPS's across both participating LAs.

- Consent was obtained from staff and parents of pupils who may have been incidentally filmed. Without consent, no clips containing recognisable pupils or staff were shown.

- All participants and parents received detailed information letters on the research aims, CoA processes, and the stimulus data collection and deletion processes. This included information on confidentiality and the right to withdraw (Appendices 10-15)

- Prior to data collection, the focus pupil's class or group were informed (by familiar staff) that recordings will be randomly taken of the lesson over a two week period to support staff understanding and skills.

- Pupils were also told they could ask questions at any time, can say they don't want to be filmed and can speak to key staff members and/or their parents about the process.

3.6.3 Right to Withdraw

- All participants and parents of pupils were given the opportunity to ask questions or withdraw at any time throughout the study without reason or reproach.

- On the day of the CoA participants were reminded that they did not need to watch videos or read the logs that included them or that were written by them and that this would not impact on the facilitators' willingness to continue with the CoA.

3.6.4 Confidentiality

- Agreement to keep all participant data confidential and anonymised was established at the outset with school, participants and parents. All names were anonymised and coded.

- The researcher required school to keep the stimulus data secure, safe and for this to be destroyed post-session.

- During the Ground Rules, the PF explicitly requested participants to respect each other's views as confidential and to not mention names of pupils or staff for whom consent was not obtained.

- The iPad device was linked to a screen via a VGA adapter so footage could not be sent/copied.

- Audio-recorded consultations were stored on a single password encrypted memory stick and securely locked in a cabinet at the EPS.

- Whilst the researcher supplied parental letters, the SLT arranged the sending and collection of returns, thus no personal address details were shared with the researcher.

- The GF read the information sheets on the CoA processes and were familiar with CoA and facilitator roles as well as all the ethical requirements.

3.6.5 Sensitive or Distressing Topics: Avoiding Harm

- Despite the strong emphasis on confidentiality, participants were told to adhere to the school safeguarding policy for serious concerns.

- There was a low risk that some of the participants may find parts of the group discussion worrying or a negative experience. However, the CoA process has a track record of positive qualitative evaluations from participants (Newton, 1995; Bennett & Monsen, 2011).

- The PF-researcher had training at the UoN in consultative skills and was sensitive to the effects of group dynamics and any changes in participants' mood throughout the process.

- The PF-researcher ensured ground rules were explicitly stated including: confidentiality, respectful listening, breaks whenever needed and the sharing of debriefing processes.

- Participants were given details of debriefing session following the CoA (Appendix-21). Contact details of the researcher and a key person in school were also given for participants to privately discuss concerns or queries throughout the study duration.

- If participants were concerned about other participants' welfare within the circle, they were told to check-in with this participant first before raising it elsewhere to ensure confidentiality and respect of each other's feelings.

- The focus pupils' classmates were told that short clips within the class to support staff were to be made. Pupils who stated they were unhappy or looked anxious about this were not to be filmed (see guidance given in Appendices 7-8).

3.6.6   Withholding Positive Interventions

The SLT of all schools were offered access to the alternate condition should there be positive effects (Appendix-10).

Chapter 4: Results

4.1 Introduction

The aim of this study was to explore the impact of video-data on staff attributions and perceptions of challenging behaviour (CB) within group consultation (GC). A secondary aim was to seek participants' views on the processes within the adapted CoA and, whether the video-data supported their perceptions or attributions regarding pupil behaviour. Research questions (RQs), hypotheses (experimental; EH and null; NH) and related dependent variables (DVs) are presented in Table 4-1 followed by the approaches to analyses. Analyses and interpretations are then presented in order of RQ, with further inferences and conclusions being discussed in Chapter 5.

Table 4-1: Dependent Variables and Corresponding Measures and Research Questions

RQ	DVs	Measures	EH and NH
1 Will exposure to video examples of a pupil's behaviour, in comparison to written observation data, influence greater change in the types of attributions made by staff?	Staff attributions regarding focus pupil's CB	**Attribution Questionnaire (Researcher EPS)** Factors: *Within-Child Home School Total-Score*	**EH1**: Post-intervention**,** there will be a statistically significant difference in the **types of attributions** made by individual participants in the experimental versus the comparison condition. **NH1**: Post-intervention**,** there will be no statistically significant difference in the **types of attributions** made by individual participants in the experimental versus the comparison condition.
2 Will exposure to video-examples, influence greater change in staff perceptions of a pupil's strengths and difficulties in comparison to written-observation logs?	Staff perceptions regarding focus pupils behavioural qualities	**Strengths-Difficulties Questionnaire; Teacher-Form (Goodman, 1997)** Factors: *Emotional-problems Hyperactivity Conduct-problems Peer-problems Pro-social skills Total-SDQ Score*	**EH2**: Post-intervention**,** there will be a statistically significant shift in the **perception of the focus pupil's strengths and difficulties** of individual participants in the experimental versus the comparison condition. **NH2**: Post-intervention**,** there will be no statistically significant shift in the **perception of the focus pupil's strengths and difficulties** of individual participants in the experimental versus the comparison condition.

RQ	DVs	Measures	EH and NH
3 Will participant groups, in the experimental (video) condition donate more school-oriented theories compared to participant groups in the comparison (written) condition?	Staff theoretical statements regarding attributions of focus pupil's behaviour	**Group Theories:** Transcript explored via Content analysis for a-priori codes: *Within-Child Home School*	**EH3:** Post-intervention, compared to the comparison group, the experimental group will donate **more school-oriented theories/attributions** **NH3:** Post-intervention, compared to the comparison group, the experimental group will not donate **more school-oriented theories/attributions**
4 Will participants who view video-data indicate, to a greater degree than participants who view written-data, that the element of data was helpful and insightful when considering pupil behaviour?	Staff perceptions of the adapted CoA – specifically the data element.	**Evaluation questionnaire:** Responses to 1a/b) *How helpful did you find the COA and separate elements (including data)* = 5-point Likert-scale *2) Did you see/read anything that made you think differently about the origins of pupil behaviour?* = 'YES' versus 'NO' responses and, Content Analysis of narrative comments	**EH4:** Participants in the experimental group will to a greater degree, indicate that they found **the element of 'data' helpful** and that the **data made them 'think differently'** about the origins of pupil behaviour. **NH4:** Participants across conditions will indicate no or, very little difference in relation to helpfulness and the impact of the data on their thoughts regarding the origins of the pupil behaviour.
RQ	DVs	Measures	EH and NH

4.2 Approaches to Analysis

4.2.1 Descriptive Statistics and Visual Analyses

Descriptive statistics and visual analyses are used for multiple purposes (Pallant, 2013; Wright, 2003), and are considered here alongside findings that may warrant further analyses.

4.2.2 Inferential Statistics

4.2.2.1 Level of Measurement: Research Questions 1, 2 and 4

The terms nominal, ordinal, interval, and ratio are used to describe a hierarchy of measurement scales for which certain statistical procedures are classified as permissible (Velleman & Wilkinson, 1993). The measures used in this study (AttQ, SDQ & Evaluation Questionnaire) obtained staff responses via Likert-scales where statements are assigned numbers (e.g. -2, -1, etc.). Whilst the aim is to reflect equivalent intervals, the value or perception of a response (e.g. 'Agree') may differ across participants (Jamieson, 2004). Likert-scale data is often treated as ordinal data (Coolican, 2014), commonly leading to the employment of non-parametric statistics where analysis is performed on medians and ranks and, the proscription of parametric statistics, which draw on means and standard deviations (Pallant, 2013). Scale-driven statistical testing, where the reflex is to select non-parametric methods is criticised, as these tests may lack power and be poorly adapted to explore the RQs at hand (Velleman & Wilkinson, 1993).

Within the field of psychology (Dancey & Reidy, 2011) and studies exploring the impact of CoA, Likert-scale data has been treated as interval and has been analysed using parametric tests (Jones et al., 2013; Dempsey, 2012). Velleman and Wilkinson (1993) argue that meaning in statistical analysis is grounded in the data but also stems from the questions being investigated (Velleman & Wilkinson, 1993). Therefore, provided the necessary assumptions of the statistical tests were met, parametric analyses were considered appropriate.

4.2.2.2 Level of Measurement: Research Question 3 and 4

For RQ3, staff group theories (i.e. perceptions about causes of behaviour) were audio-recorded pre and post written or video data-review (in Step-8). Theories were then transcribed and coded via basic content analysis (Drisko & Maschi, 2015) using three a-priori coding frames (Appendix-19, Section 3.4.11.5). Frequency counts were established per code enabling comparisons of proportion of theories between and within-groups. This quantification of qualitative data supported the aim of

clarifying broad patterns within the data, and also allowed for triangulation between individual and 'group' attributions.

Basic content analysis data can be analysed using inferential analyses (Driscoll et al., 2007; Drisko & Maschi, 2015; Zhang & Wildemuth, 2010). Socio-cultural variables are likely to have impacted theories generated in the group-setting (Farouk, 2004). These confounds are difficult to measure and control (Pallant, 2013). Therefore this data was analysed per group, rather than by individuals, resulting in n=4 per condition. Because of the small sample size, normal distribution checks were problematic (Tabachnick & Fidell, 2013), therefore parametric tests were ruled out. For RQ4, participants provided narrative comments for one of the evaluation questions. To organise and interpret these, the coding frames were applied.

4.2.2.3   Statistical Significance

NH testing is a commonly used method of analysis in psychological experiments (Howell, 2013) and assumes that any difference found between experimental and comparison group means is due to sampling fluctuation (Dancey & Reidy, 2013). In psychological research, the critical probability value is commonly considered ≤ .05 or, less than 5% (Pallant, 2013) where a p value of >.05 is considered statistically insignificant, making it difficult to reject the NH (Pallant, 2013). As larger sample sizes will more easily surpass this value, the practical value of the 'statistically significant' result is questionable (Lambdin, 2012). Therefore, researchers must consider how they set the bar for 'statistical significance' to inform the interpretation of results (Nakagawa, 2004). Consequently, this study presents the actual p value as this presents a clearer picture of relationships observed (Wright, 2003).

4.2.2.4   Post-Hoc Power analyses and Effect Sizes

Studies employing a large number of separate analyses may apply post-hoc Bonferroni corrections to reduce the probability of incorrectly identifying an effect that may have occurred due to chance (Type I error; Pallant, 2013). Bonferroni or post-hoc corrections are usually applied where the IV has more than two levels (Brace, Kemp & Snelgar, 2009); this study only had two. Furthermore, there is no formal consensus for when Bonferroni procedures should be applied. The use of these procedures increase the risk of rejecting effects that do exist (Type II error) especially where samples are relatively small (Field, 2013).

Difficulties in avoiding Type I and Type II errors may stem from an overemphasis on statistical significance (i.e. reporting of p values) rather than practical values of *effect size* (Nakagawa, 2004). Standardised effect sizes are considered useful as they demonstrate degrees of experimental effect and are comparable across studies with different sample sizes, providing a fuller reflection of the results than just the p value (Lambdin, 2012). Consequently, Bonferroni corrections were not deemed appropriate, instead effect sizes and confidence intervals (where possible) are provided.

As mentioned above, to indicate a statistically significant main or interaction effect, the F ratio levels were set at $p < 0.05$. Due to the paucity of similar research, prior effect sizes were unavailable therefore a medium effect size detectable by partial eta squared, was desired (Cohen, 1988). As effect sizes vary in unit and scales depending on the tests used (Field, 2013), these will be reported with the respective test applied.

4.3 Research-Question 1: Individual Staff Attributions

4.3.1 Introduction

RQ1 aimed to explore the influence of video (experimental condition) versus written (comparison condition) on individual staff attributions. Participant attributions were measured using the AttQ. It was hypothesised that post-intervention, scores from the experimental condition would demonstrate a greater, statistically significant change in the types of attributions (AttQ) staff make.

4.3.2 Descriptive Analyses

Table 4-2 and Figure 4-1 presents the measures of central tendency for the AttQ pre and post-intervention data. The mean is the most popular measure, however the median is less sensitive to outliers (Dancey & Reidy, 2011) thus both are provided. Raw data is in Appendix-22.

Table 4-2: Measures of Central Tendency Pre and Post Intervention for Attribution Variables

| | | Measures of Central Tendency | | | | | | | | | |
| | | COMPARISON-WRITTEN | | | | | EXPERIMENT-VIDEO | | | | |
	VARIABLES	Valid n:	Mean	Median	SD	Range	Valid n:	Mean	Median	SD	Range
ATTRIBUTION	pre Total Attribution Score	19.00	-4.37	-5.00	10.97	39.00	20.00	5.45	8.00	11.68	45.00
	post Total Attribution Score	19.00	-4.53	-2.00	12.62	45.00	20.00	10.40	9.00	12.62	50.00
	pre WITHIN CHILD Attribution	19.00	2.95	3.00	5.14	20.00	20.00	6.15	6.50	4.78	19.00
	post WITHIN CHILD Attribution	19.00	4.79	5.00	4.45	17.00	20.00	4.85	4.50	3.82	15.00
	pre SCHOOL Attribution	19.00	-7.42	-7.00	5.60	23.00	20.00	-3.70	-2.00	6.14	26.00
	post SCHOOL Attribution	19.00	-8.74	-8.00	6.16	24.00	20.00	-2.85	-1.50	6.67	24.00
	pre HOME Attribution	19.00	0.11	0.00	8.18	31.00	20.00	3.00	2.50	4.45	19.00
	post HOME Attribution	19.00	2.05	-1.00	8.92	27.00	20.00	6.15	7.50	6.05	25.00

Figure 4-1: Median Scores for Attribution Variables for both Comparison and Experimental Groups at pre and post Intervention
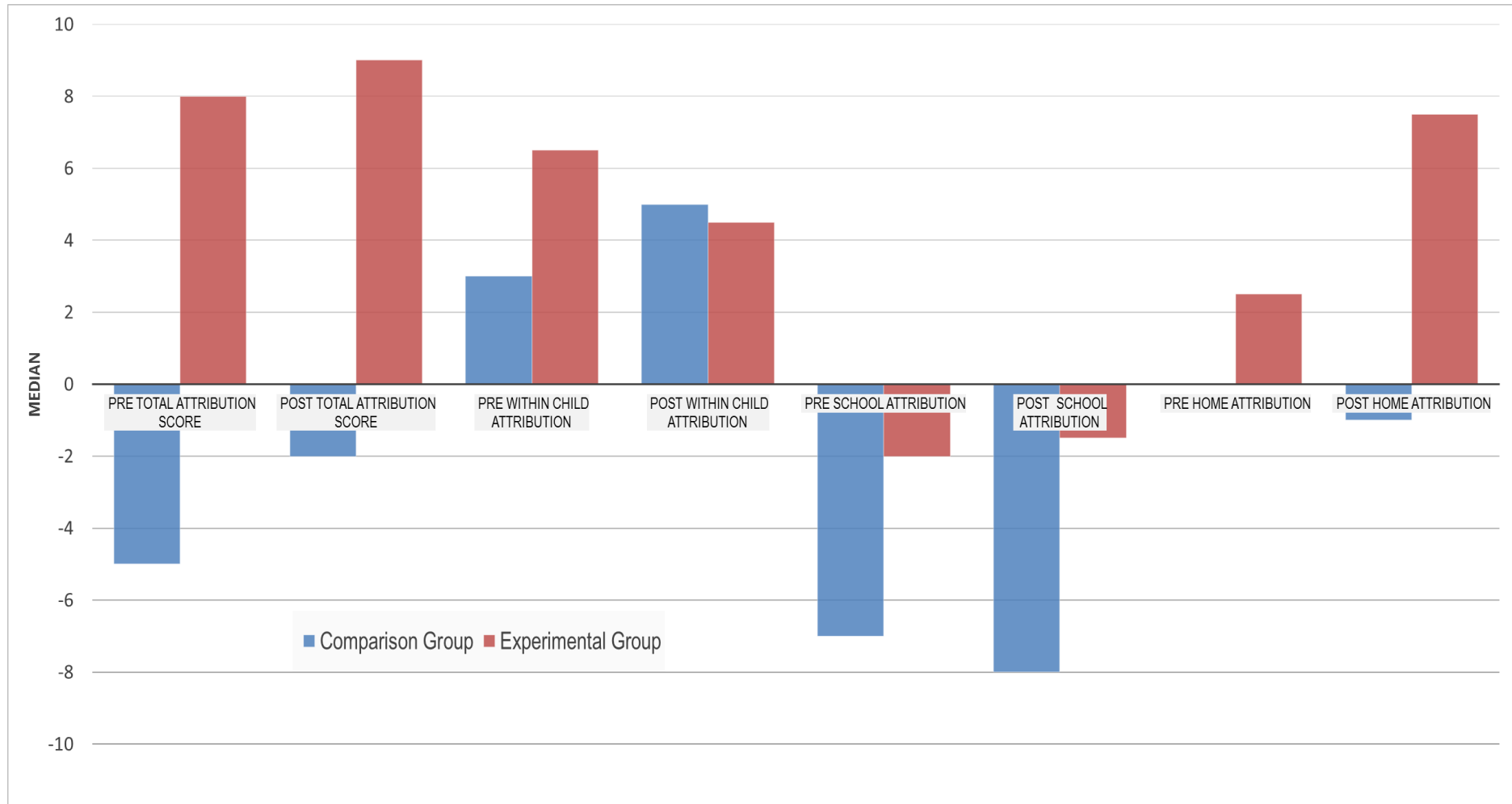
At pre-intervention, the comparison and experimental group were non-equivalent; the experimental group generated higher scores on total attribution score and all sub-factors. Post-intervention, there were some noticeable shifts for both groups across all the DVs. To compare the type and proportion of changes further visual exploration of mean scores was conducted.

4.3.3 Visual Analyses

4.3.3.1 Total Attribution Scores

Pre-intervention, the comparison group's Total Attribution score suggests that they attributed a much smaller range or degree of overall causes than the experimental group (Figure 4-2). Post-intervention, the comparison group remained relatively stable with their low scores becoming slightly lower however, the experimental group's scores increased which in turn enlarged the gap between the groups.

Figure 4-2 Comparing Total Mean Attribution Scores Pre and Post Intervention for both Groups
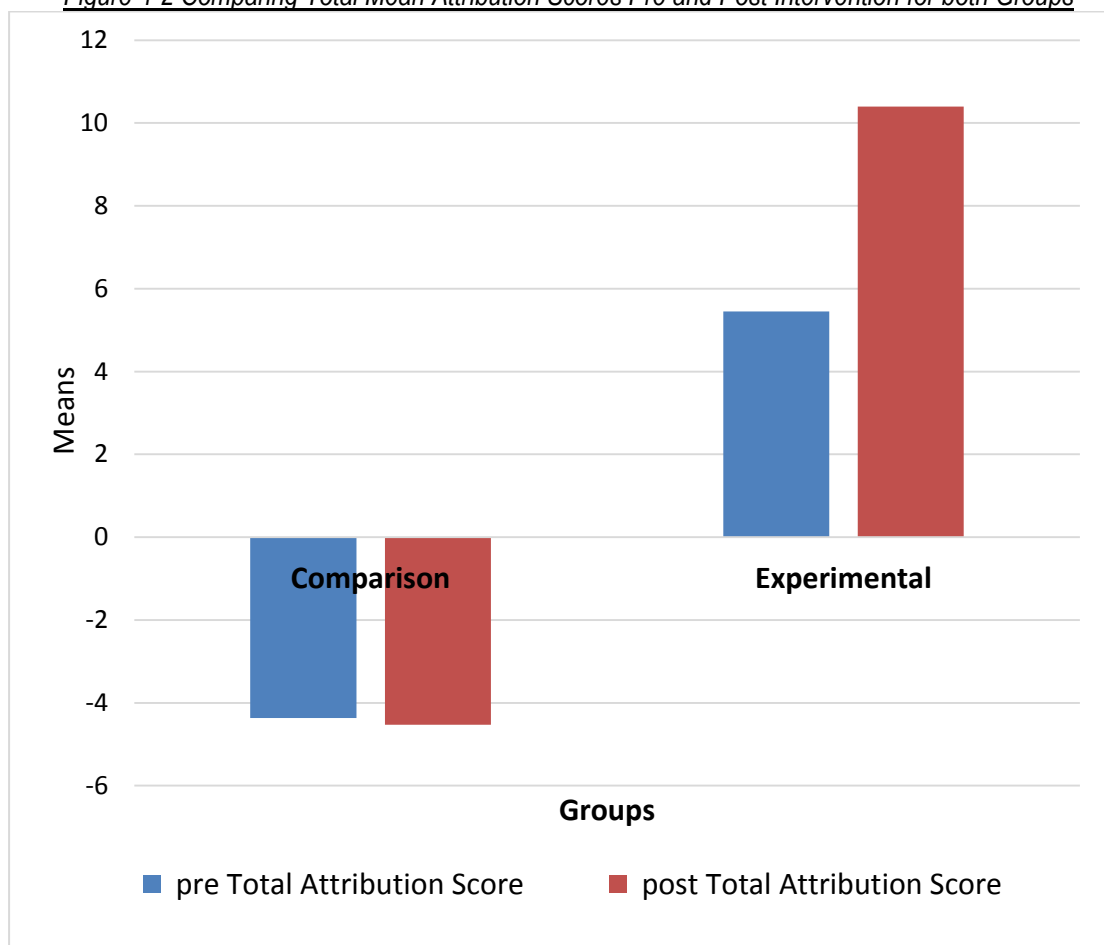
4.3.3.2 Between and Within-Group Comparisons

Pre and post mean score comparisons across the three attribution sub-factors are provided in Figure 4-3. The pre-intervention means scores demonstrate the experimental group rated all three factors higher than the comparison group. Post-intervention, this gap increased further for school and home factors. The gap for scores for within-child factors decreased; both groups appeared to score these factors similarly in particular, the experimental groups scores decreased and the comparison group's scores increased.

Pre-intervention, both groups ascribed most cause to within-child factors and then, to a lesser degree, home factors. Post-intervention, this trend changed; both groups now ascribed most cause to home factors followed by within-child factors. Pre and post-intervention, both groups rated school factors as the lowest contributors to CB. Post-intervention, the experimental group's scores for school factors increased whereas the comparison group's scores decreased. In order to make inferences, statistical tests, which accounted for the non-equivalence of groups pre-intervention, were required.

Figure 4-3 Comparison of Pre and Post-Intervention Attribution Mean Scores
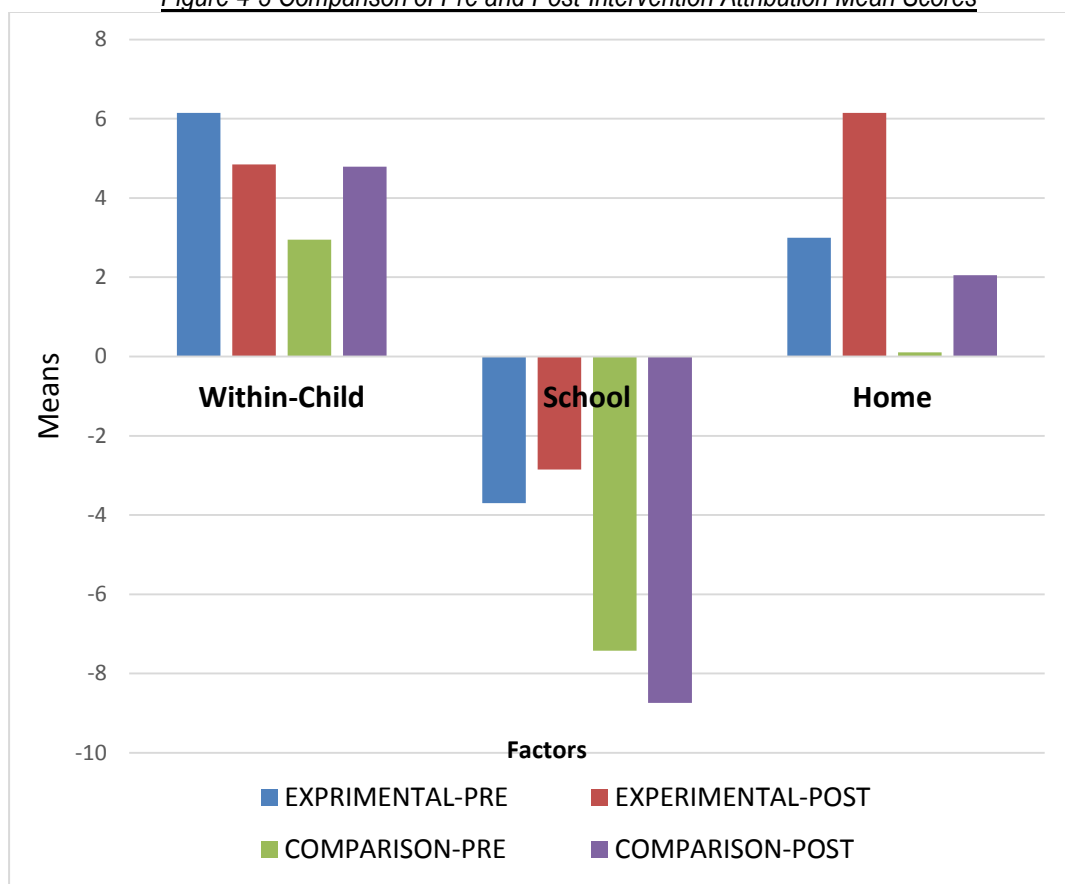
4.3.3.3 Summary of Descriptive and Visual Analyses

At the outset, the experimental group rated all factors highly compared to the comparison group. There were some similar trends between the groups pre and post intervention including, higher scores for within-child factors, relatively lower scores for home factors and the inverse of this trend post-intervention. Post-intervention, the experimental group's scores for school-factors increased whilst the comparison group's scores decreased. To identify whether inferences could be made, statistical tests of significance were appropriate.

4.3.4 Inferential Statistics

Prior to undertaking inferential analyses, pre-analysis checks were necessary. For ease of reference, between-group comparisons are followed by within-group comparisons.

4.3.4.1 Normal Distribution

To inform the type of statistical test suitable, the distribution of the data was analysed (Appendix-23). Histograms, Box and Q-Q plots were visually analysed. Statistical analyses included skew and kurtosis where values above 1.96 or below -1.96 suggest data is not normally distributed. Shapiro-Wilk statistical analyses were also performed as this is arguably the most robust method to test normality (Razali & Wah, 2011).

Apart from school-attribution factor for the comparison group, skewness and kurtosis scores for the 10 variables indicated normal distribution. Beside the experimental group scores on school-attribution factor, all Shapiro-Wilk scores indicated normality ($p > .05$). Overall majority (81%) of statistical and visual checks suggested normality. Parametric tests like the analysis of covariance (ANCOVA) are reasonably robust to violations of normal distribution (Dancey & Reidy, 2011; Pallant, 2013). Therefore, provided data met other necessary test assumptions, parametric tests for between-group comparisons were employed.

4.3.4.2 Between-Group Comparisons

4.3.4.2.1 Selecting Tests

Brace, Kemp and Snelgar (2009) state a 2x2 ANOVA would simultaneously allow for examining main effects and interactions for within and, between group factors. Thus, ANOVAs were preferred to separate t-tests, as performing numerous statistical analyses would increase the risk of a Type-I error. As participants were assigned conditions via cluster randomisation, some

imbalance in pre-interventions scores was expected as schools involved were all concerned with different focus pupils and thus various behaviours. The descriptive and visual data suggested the groups were non-equivalent prior to intervention, as the ANOVA test does not adequately control for this, ANCOVA tests were selected. The ANCOVA test provides a way of statistically controlling the (linear) effect of pre-test scores by treating these as covariates and providing an adjusted mean per group (Leech, Barrett, & Morgan, 2005). Compared to other tests, the ANCOVA provides best estimates of how the groups would have performed if they possessed identical (statistically equivalent) means on the covariate (Tabachnick & Fidell, 2013).

A multivariate-ANCOVA (MANCOVA) was considered inappropriate - this procedure performs a step-down analysis where covariates (i.e. the pre-test scores across the DVs) are prioritised for their overall and, subsequent impact (Tabachnick & Fidell, 2013), such comparisons were irrelevant to the RQs studied. Therefore, separate ANCOVAs were conducted.

4.3.4.2.2   *ANCOVA Assumption Testing*

To perform ANCOVA, a number of assumptions must be met (Pallant, 2013) which are discussed below (see Table 4-3 for a summary).

Linearity: If the relationship between the covariate (pre-test score) and DV is nonlinear, the adjustments made in the ANCOVA will be biased. To investigate the nature of this relationship, scatter-plots were used (Appendix-24). None of DVs produced a curvilinear or non-linear relationship, thus this assumption was satisfied.

Homogeneity of Regression slopes: The relationship between the covariate and DV for each group must be the same and not interactive, hence similar slopes in the regression line are required. This was tested statistically within SPSS where $p<0.05$ was required, all the DVs produced non-significant results hence this assumption was met.

Homogeneity of Variance: Homogeneous variability between-groups is generally a requirement for ANCOVAs. The Levenes Test of Homogeneity was performed. This assumption was met as all attribution DVs were non-significant ($p>0.05$).

Multicollinearity: ANCOVA is sensitive to multicollinearity among the covariates and also loses statistical power as redundant covariates are added to the model. Relationships between the covariates were not of interest, and separate analyses (per covariate) were performed thus this check was irrelevant.

Table 4-3: Calculations and Checks in Relation to the ANCOVA Assumptions for Attribution DVs

Attribution DVs	ASSUMPTION TYPE		
	Homogeneity of variance	Linearity: (Appendix-24)	Homogeneity of regression slopes
Total Score	$F(1,37)=.665, p=.420$	✓ Linear	$F(1, 35)=.914, p=.346$
School	$F(1,37)=1.056, p=.311$	✓ Linear	$F(1, 35)=.68, p=.413$
Within-Child	$F(1,37)=.185, p=.669$	✓ Linear	$F(1, 35)=.004, p=.952$
Home	$F(1, 37)=.006, p=.939$	✓ Linear	$F(1, 35)=.324, p=.573$

4.3.4.2.3   Analyses

The equations, effect sizes and respective marginal means for all ANCOVAs are provided in Table 4-4. Statistically significant results are emboldened.

Table 4-4: ANCOVA Equations, Effect Sizes and Means for Attribution DVs

Attribution DV	Equation	Effect size (partial eta squared)	Adjusted Means per group *(95% confidence interval)*	
			Experimental	Comparison
Total Score	$F(1, 36)=5.336, p=.027$	**.129-medium**	**7.060** **(2.328-11.793)**	**-1.011** **(-5.877-3.856)**
School	$F(1, 36)=3.805, p=.059$	.96-large	-4.104 (-6.449-1.760)	-7.417 (-9.825- -5.008)
Within-Child	$F(1, 36)=.691, p=.411$	.019-smal	4.301 (2.530-6.071)	5.368 (3.549-7.187)
Home	$F(1, 36)=.899, p=.349$	.024=small	4.938 (.894-5.764)	3.329 (2.566-7.309)

4.3.4.2.4   Outcomes

One-way, between-groups ANCOVAs were conducted on the Attribution DVs. The IV was the type of data staff reviewed (written or video) during the COA process. Participants' pre-intervention scores were used as a covariate in the analyses. After adjusting for pre-intervention scores, statistically significant differences were found for the Total-Attribution Score. The adjusted means for the Attribution score suggest that post-intervention, the experimental group attributed a larger range and/or degree of attributions overall than the comparison group. Partial eta-squared values (Cohen, 1988) demonstrate a medium effect size (0.12 or 12%) suggesting that the difference between-groups is not likely to be due to chance. For sub-factor of school, the experimental group's scores appeared to be higher than the comparison group however, this difference narrowly missed statistical significance ($p=.059$). For the remaining DVs, no statistically significant differences were found.

4.3.4.3 Within-Group Comparisons

4.3.4.3.1 Selecting Tests

To answer RQ 1 within-group changes from pre to post-intervention were also explored. Where data was normally distributed (Appendix-23), paired-sample T-tests were conducted. For non-normally distributed data, the non-parametric alternative, the Wilcoxon Signed-Ranks (WSR) was selected. The WSR test converts mean scores into ranks, adjusted data is then compared. However it must be noted that non-parametric tests are not 'assumption-free' and are at times, less likely to find a difference in the population should one exist; increasing susceptibility to Type-II errors (Pallant. 2013).

4.3.4.3.2 Analyses

The equations and effect sizes per group from the WSR and paired-samples T-tests are provided in Tables Table 4-5Table 4-6. Statistically significant results are emboldened.

Table 4-5: T-test Equations, Effect Sizes and Means for Attribution DVs

Attribution DV	Group	Equation	Mean change from pre to post (SD)	95% Confidence interval	Effect size (eta squared)
Total Score-	*Experimental*	$t(19)=-1.873, p=.077$	-4.95 (-11.82)	-10.48- 0.58	0.14-small
	Comparison	$t(18)=.079, p=.938$	-.15 (8.67)	-4.02-4.33	0.00-small
Within-Child	*Experimental*	$t(19)=1.248, p=.227$	1.30 (-4.65)	-.87- 3.47	0.07-small
	Comparison	$t(18)=-1.53, p=.141$	-1.84 (5.22)	-4.35- .67	0.10-small

Table 4-6: Wilcoxon-Signed Rank Equations, Effect Sizes and Medians for SDQ DVs

Attribution DV	Group	Equation	Median at 50th quartile		Effect size (Cohen's r)
			Pre intervention	Post intervention	
School	*Experimental*	$z=-1.236, p=.216$	-2.0	-1.5	0.28-small
	Comparison	$z=-.852, p=.394$	-7.0	-8.0	0.27-small
Home	***Experimental***	$z=2.540-, p=.011$	**2.5**	**7.5**	**0.19-small**
	Comparison	$z=-1.550, p=.121$	0.0	-1.0	0.35-small

4.3.4.3.3 Outcomes

The WSR comparisons demonstrate a statistically significant increase, post-intervention, in the experimental group'scores for Home-attributions with a small effect size (0.19 or 19%). T-test comparisons did not elicit statistically significant changes.

4.4 Research-Question 2: Staff Perceptions

4.4.1 Introduction

RQ2 aimed to explore the influence of video-data (experimental condition) versus written-data (comparison condition) on individual staff perceptions in relation to a focus pupil presenting with CB. Staff perceptions of a focus pupils strengths and difficulties was measured using the SDQ which is commonly used to understand the nature of a child's difficulties (Goodman, 2001). It was hypothesised that post-intervention, scores from the experimental condition would demonstrate a greater, statistically significant change in the types of **perceptions** staff held.

4.4.2 Descriptive Analyses

Table 4-7 presents the measures of central tendency for the SDQ pre and post-intervention data. The medians are graphically provided in Figure 4-4. Raw data is in Appendix-22.

Table 4-7: Measures of Central Tendency for SDQ Variables Pre and Post-Intervention

		COMPARISON-WRITTEN				EXPERIMENT-VIDEO				
VARIABLES	Valid n:	Mean	Median	SD	Range	Valid n:	Mean	Median	SD	Range
pre Total SDQ (minus prosocial)	19.00	19.42	16.00	6.43	21.00	20.00	23.25	23.00	5.20	21.00
post Total SDQ (minus prosocial)	19.00	20.05	19.00	6.96	23.00	20.00	24.25	24.50	4.51	18.00
pre SDQ Prosocial	19.00	4.63	4.00	1.50	6.00	20.00	3.70	4.00	2.18	9.00
post SDQ Prosocial	19.00	4.16	4.00	2.06	6.00	20.00	3.10	3.00	2.29	9.00
pre SDQ Hyperactivity	19.00	7.79	8.00	1.78	6.00	20.00	9.05	10.00	1.32	4.00
post SDQ Hyperactivity	19.00	6.95	8.00	2.57	8.00	20.00	9.05	9.50	1.15	4.00
pre SDQ Emotional Problems	19.00	1.89	1.00	2.02	7.00	20.00	3.70	3.00	3.11	9.00
post SDQ Emotional Problems	19.00	3.05	3.00	2.63	9.00	20.00	4.15	4.00	3.23	10.00
pre SDQ Conduct Problems	19.00	6.00	5.00	2.75	8.00	20.00	6.50	7.00	1.96	8.00
post SDQ Conduct Problems	19.00	5.26	5.00	2.77	8.00	20.00	5.90	6.00	1.71	6.00
pre SDQ Peer Problems	19.00	3.74	4.00	1.45	5.00	20.00	4.00	4.00	1.72	7.00
post SDQ Peer Problems	19.00	4.79	4.00	1.93	6.00	20.00	5.15	5.50	2.08	6.00

Measures of Central Tendency

STRENGTHS AND DIFFICULTIES

Figure 4-4: Median Scores for all SDQ Variables for both Comparison and Experimental Groups at Pre and Post Intervention
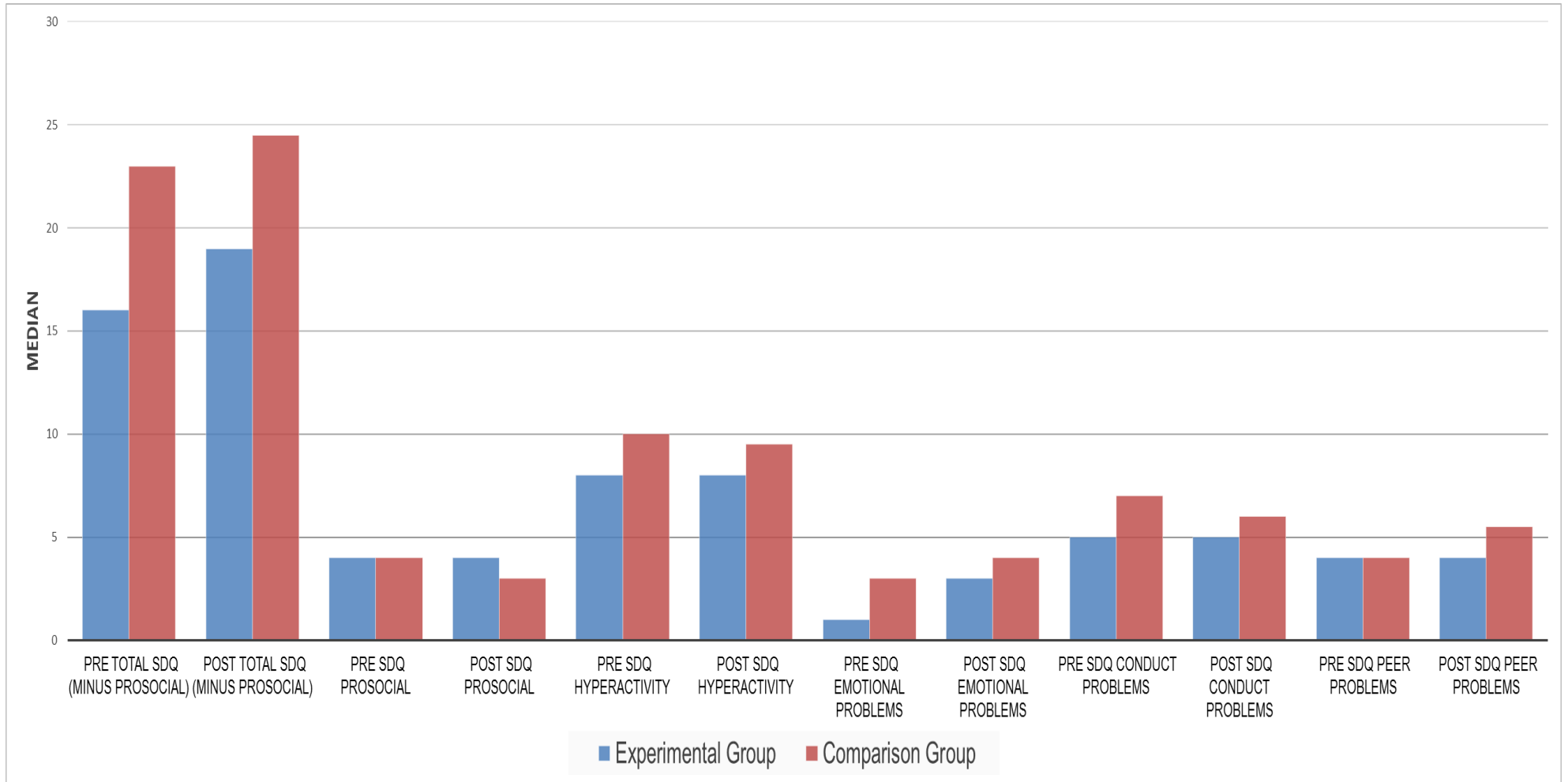
The pre-intervention data demonstrates non-equivalency between the experimental and comparison groups regarding Total SDQ scores and to a lesser degree, sub-scales of hyperactivity, emotional-problems, conduct-problems and peer-problems scores. Post-intervention, there were some noticeable shifts for both groups. Further visual analyses of mean scores were used to identify the need for inferential testing.

4.4.3   Visual Analyses

4.4.3.1   Overall SDQ Scores

Both groups overall SDQ scores (i.e. range and degree of pupil's difficulties) increased post-intervention (Figure 4-5). From this it appears that the experimental group identified a wider variety and/or degree of difficulties compared to strengths pre and post intervention.

Figure 4-5: Comparing Total Mean SDQ Scores (Minus Prosocial Scale) for both Groups Pre and Post Intervention
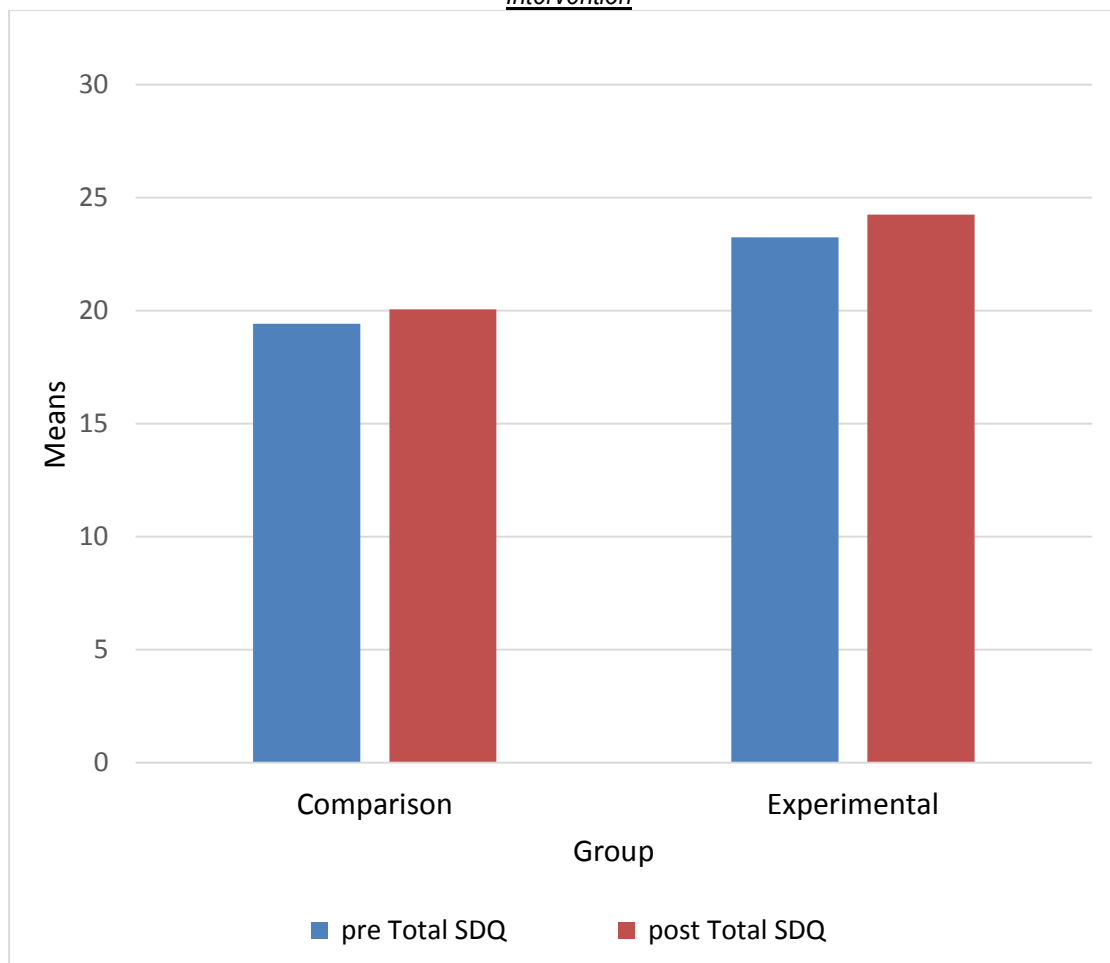
4.4.3.2   Between and Within-Group Comparisons

Pre and post comparisons (

Figure 4-6) suggest that the experimental group identified their pupils to display greater difficulty across all of the difficulties subscales, particularly the subscales of hyperactivity and emotional-problems. The experimental group considered their focus pupils to have relatively less prosocial skills, at both time points, in contrast to the comparison group.

Post-intervention, there were some relatively similar trends across both groups with scores for emotional and peer problems increasing, and scores for conduct-problems and prosocial skills decreasing. Both groups generated highest scores on the hyperactivity subscale, however the comparison group's scores appear to have decreased post-intervention. For all differences observed, it is unclear whether the effects or changes demonstrated are statistically significant, this required clarification.

Figure 4-6: Comparing Mean Scores across SDQ Subscales for both Groups, Pre and Post Intervention
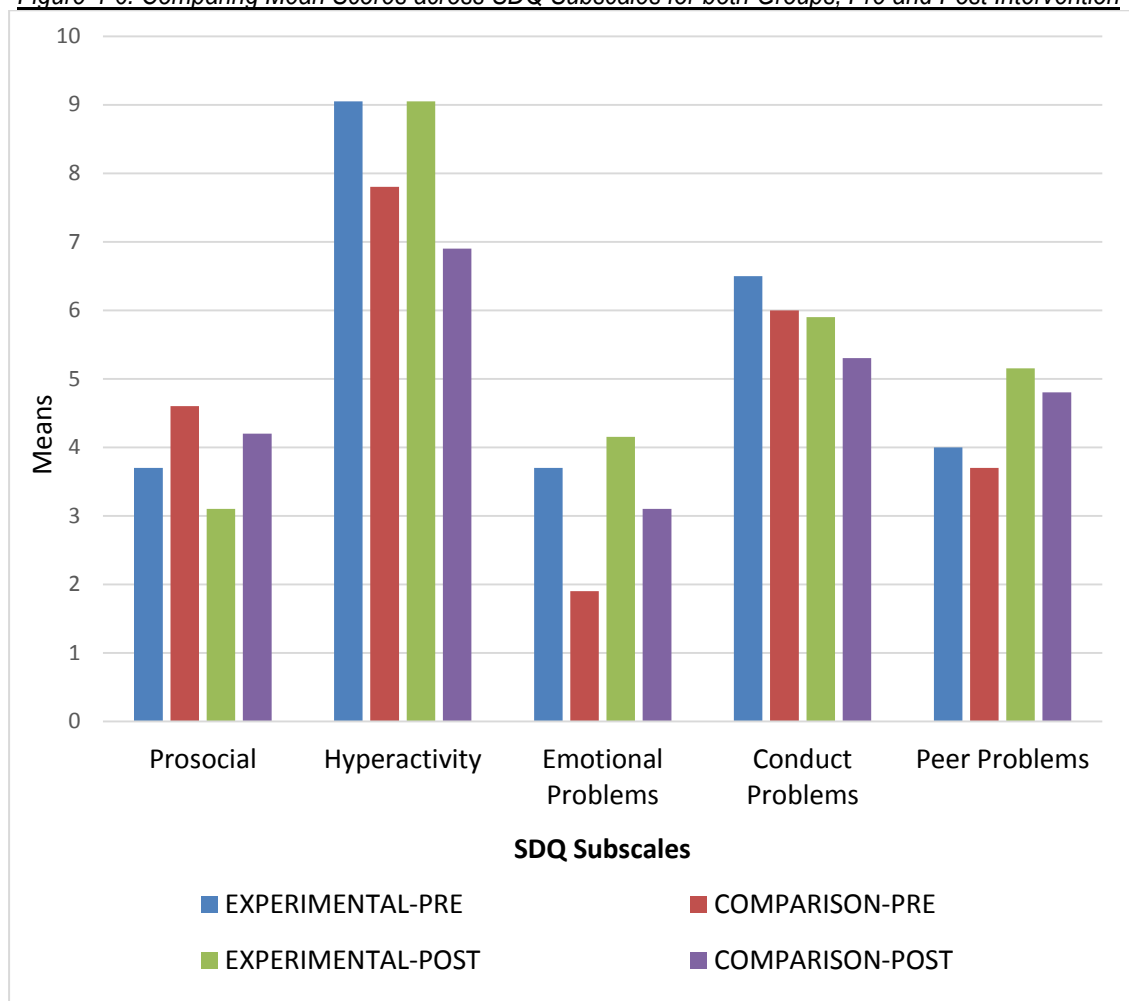
4.4.3.3 *Summary of Descriptive and Visual Analyses*

The descriptive and visual analyses demonstrate the experimental group had higher total SDQ scores pre and post-intervention. More specific visual analyses highlighted that for some subscales, the groups appeared to be non-equivalent. Some similar changes were observed for both groups post-intervention, including a decrease in prosocial and conduct-problems scores. Pre and post-intervention, both groups perceived hyperactivity as the strongest area of difficulty for their pupils however, the comparison group's scores decreased post-intervention. To be able to make inferences and identify the impact of the intervention (i.e. video vs written data) further statistical tests were planned.

4.4.4 Inferential Statistics

Pre-analysis checks are presented before analyses. Between-group comparisons are followed by within-group comparisons.

4.4.4.1 *Normal Distribution*

Some normal distribution checks indicated that the comparison group's data for total-score (Shapiro-Wilk and histogram), conduct-problems (Q-Q plot, Box-plot) and emotional-problems (Shapiro-Wilk, histogram, Q-Q plot, Box-plot) were not distributed normally. For the experimental group, hyperactivity (histogram), emotional-problems (Shapiro-Wilk, histogram, Q-Q plot) and conduct-problems (Shapiro-Wilk, histogram, Q-Q plot, Box-plot) were not normally distributed.

Similar to Attribution data, overall majority of statistical and visual checks suggested normality (Appendix-23) and as explained, ANCOVAs are reasonably robust to violations of normal distribution (Dancey & Reidy, 2011; Pallant, 2013). Therefore, provided data met other necessary test assumptions, ANCOVA tests were conducted. Due to the similar nature of the data between RQ1 and RQ2, the reader is referred to Sections 4.3.4.2.1 and 4.3.4.3.1 regarding considerations pertaining to selection of appropriate statistical tests.

4.4.4.2 Between-group Comparisons

4.4.4.2.1 ANCOVA- Assumption Testing

Out of all SDQ DVs, Hyperactivity violated the assumption of homogeneity of variance. Since cell sizes were almost equal (19 & 20) and the sample > number of DVs, this violation is not problematic thus it was permissible to continue with ANCOVA tests (Leech et al., 2005). All other assumptions were met and are illustrated in Table 4-8.

Table 4-8: Calculations and Checks in Relation to the ANCOVA Assumptions for SDQ DVS

SDQ DVs	ASSUMPTION TYPE		
	Homogeneity of variance	Linearity: (Appendix-24)	Homogeneity of regression slopes
Total SDQ Score	$F(1, 37)=1.130, p=.295$	✓ Linear	$F(1, 35)=2.675, p=.111$
Prosocial	$F(1, 37)=1.922, p=.174$	✓ Linear	$F(1, 35)=2.373, p=.132$
Hyperactivity	**$F(1, 37)=7.731, p=.008$**	✓ Linear	$F(1, 35)=3.042, p=.090$
Emotional Prob's	$F(1, 37)=1.271, p=.267$	✓ Linear	$F(1, 35)=1.245, p=.272$
Conduct Prob's	$F(1, 37)=1.130, p=.295$	✓ Linear	$F(1, 35)=1.165, p=.481$
Peer Prob's	$F(1, 37)=2.113, p=.155$	✓ Linear	$F(1, 35)=.501, p=.484$

*violations are emboldened.

4.4.4.2.2 Analyses

The equations, effect sizes and respective marginal means for are provided in Table 4-9. Statistically significant results are emboldened.

Table 4-9: ANCOVA Equations, Effect Sizes and Means for SDQ_DVs

SDQ DV	Equation	Effect size (partial eta squared)	Adjusted Means per group *(95% confidence interval)*	
			Experimental	Comparison
Total Score	$F(1, 36)=1.651, p=.207$	.044-small	23.270 *(20.926-25.613)*	21.085 *(18.677-23.492)*
Prosocial	$F(1, 36)=.667, p=.419$	.018-small	3.363 *(2.480-4.247)*	3.881 *(2.974-4.788)*
Hyperactivity	**$F(1, 36)=5.251, p=.028$**	**.127-medium**	**8.731 *(7.871-9592)***	**7.283 *(6.398-8.168)***
Emotional Prob's	$F(1, 36)=1.299, p=.262$	.035-small	4.152 *(2.788-5.515)*	3.051 *(1.652-4.450)*
Conduct Prob's	$F(1, 36)=.312, p=.580$	.009-small	5.722 *(5.307-6.406)*	5.451 *(4.749-6.153)*
Peer Prob's	$F(1, 36)=.196, p=.661$	.005-small	5.112 *(4.212-6.012)*	4.830 *(3.906-5.753)*

4.4.4.2.3   Outcomes

One-way between-groups ANCOVAs were conducted on all SDQ-related DVs. The IV was the type of data staff reviewed (written or video) during the COA process. Participants' pre-intervention scores were used as a covariate in the analyses. After adjusting for pre-intervention scores, statistically significant differences were found for hyperactivity. The adjusted means suggest that post-intervention, the experimental group considered their focus pupil to have a higher degree of hyperactivity than the comparison group. Partial eta-squared values (Cohen, 1988) demonstrate a medium effect size (0.12 or 12%). No other statistically significant differences were found.

As hyperactivity was the variable that violated homogeneity of variance, a Quade Rank ANCOVA was also performed (Quade, 1967). Despite being dissimilar, the result suggested the same statistically significant result: $F(1,38)=4.368$, $p=.044$ with a medium effect-size 0.11 (eta-squared). Therefore, there was no impact of the heteroscedasticity of variance.

4.4.5   Within-Group Comparisons

Within-group changes were also explored. Similar to Attribution DVs, paired-sample T-tests were conducted for normally distributed data, where this assumption was violated (Appendix-23) the test WSR was employed.

4.4.5.1.1   Analyses

The equations and effect sizes per group from the WSR and Paired-Samples T-tests are provided in Tables Table 4-10 andTable 4-11. Statistically significant results are emboldened.

Table 4-10: T-test Equations, Effect Sizes and Means for SDQ DVs

SDQ DV	Group	Equation	Mean change from pre to post (SD)	95% Confidence interval	Effect size (eta squared)
Prosocial	*Experimental*	*t*(19)=-.771, *p*=.450	-1.00(5.80)	-3.71- 1.71	0.02-small
	Comparison	*t*(18)=.873, *p*=.394	.47(2.36)	-.66- 1.61	0.04-small
Peer-Problems	*Experimental*	*t*(19)=-2.059, *p*=.053	-1.15(2.49)	-2.31- .01	0.17-small
	Comparison	***t*(18)=-2.344, *p*=.031**	**-1.05(1.95)**	**-1.99- -.10**	**0.22-small**

Table 4-11: Wilcoxon-Signed Rank Equations, Effect Sizes and Medians for SDQ DVs

SDQ DV	Group	Equation	Median at 50th quartile		Effect size
			Pre intervention	Post intervention	(*r*)
Total Score	***Experimental***	***z=-1.999, p=.046***	**23.0**	**24.50**	**0.44-medium**
	Comparison	*z*=-.153, *p*=.878	16.0	19.0	0.03-small
Hyperactivity	*Experimental*	*z*=-0.40, *p*=.968	10.0	9.5	0.08-small
	Comparison	*z*=-1.519, *p*=.129	8.0	8.0	0.34-medium
Emotional-Problems	*Experimental*	*z*=-1.493, *p*=.135	3.0	4.0	0.33-medium
	Comparison	*z*=-1.831, *p*=.067	1.0	3.0	0.41-medium
Conduct-Problems	*Experimental*	*z*=--1.780, *p*=.0.75	7.0	6.0	0.39-medium
	Comparison	*z*=-1.759, *p*=.073	5.0	5.0	0.40-medium

4.4.5.1.2 Outcomes

Within-group comparisons were conducted on all DVs for both groups where independent variable was Time (pre vs. post intervention). The t-test comparisons demonstrate a statistically significant decrease in Peer-Problems scores for the comparison group from pre to post-intervention however the effect size was small (eta-squared: 0.22); this study sought medium effect sizes.

The WSR comparisons demonstrate a statistically significant increase in post-intervention Total-SDQ scores for the Experimental group. The effect size was medium (r: 0.44). This indicates changes observed are not likely to have occurred due to chance. No other comparisons elicited statistically significant changes.

4.5   Research-Question 3: Group Theories

4.5.1   Introduction

RQ3 was interested in the types of theories (i.e. perceptions about causes of behaviour) generated by the groups after watching video clips or, reading written observation data in relation to a focus pupil's behaviour. It was hypothesised that post-intervention, and compared to the comparison condition, groups in the video-condition would suggest more school-oriented theories. To support reliability of analyses, coded theories were inter-rated. This information is provided prior to analyses.

4.5.1.1   Interrater-Agreement Checks

With reference to the coding frames, two TEPs from the same cohort, coded all theories. Eight of the 168 theories were two-tailed, that is the theories either suggested adults across 'home' *and* 'school' contexts as reinforcers of the pupil's behaviour or, suggested 'within-child' *and* school factors to be attributable for the pupil's behaviour. These theories were treated as two units of data, with the original single theory split into two, and coded twice accordingly. A total 171 codes were generated (Appendix-25).

Raters disagreed on three occasions. Rater-1 codified three theories as 'within-child'. Rater-2 coded two of these as 'home' and one as 'school'. Post-discussion, these differences were resolved. To account for agreement due to chance, the initial ratings were compared. A Cohens Kappa statistic of 0.97, based on the initial coding per rater, suggested 'very good' agreement (Peat, Mellis & Williams, 2002).

4.5.2   Descriptive Analyses

Findings from basic content analysis are commonly analysed using descriptive analyses (Drisko & Maschi, 2015). Descriptive analyses enable the establishment of trends as a result of the manipulated variable (Wright, 2003). Table 4-12 and Figure 4-7 present the measures of central tendency for the coded theories for the group-level data, pre and post intervention.

Table 4-12: Measures of Central Tendency for the Group-Level data across Conditions

Time	Code	Condition	Mean	Median
Pre-intervention (Step-7 Group Theories 1)	Within-Child	Experimental	7.50	6.00
		Comparison	8.50	8.50
	School	Experimental	1.75	1.50
		Comparison	2.00	2.00
	HOME	Experimental	3.75	3.50
		Comparison	4.75	4.50
Post-intervention (Step-9 Group Theories 2)	**Within-Child**	Experimental	2.50	2.50
		Comparison	3.50	3.00
	School	Experimental	5.50	5.50
		Comparison	2.75	3.00
	HOME	Experimental	0.00	0.00
		Comparison	0.25	0.00

Figure 4-7: Measures of Central Tendency for Attribution Codes Ascribed to Theories Generated Pre and Post Intervention
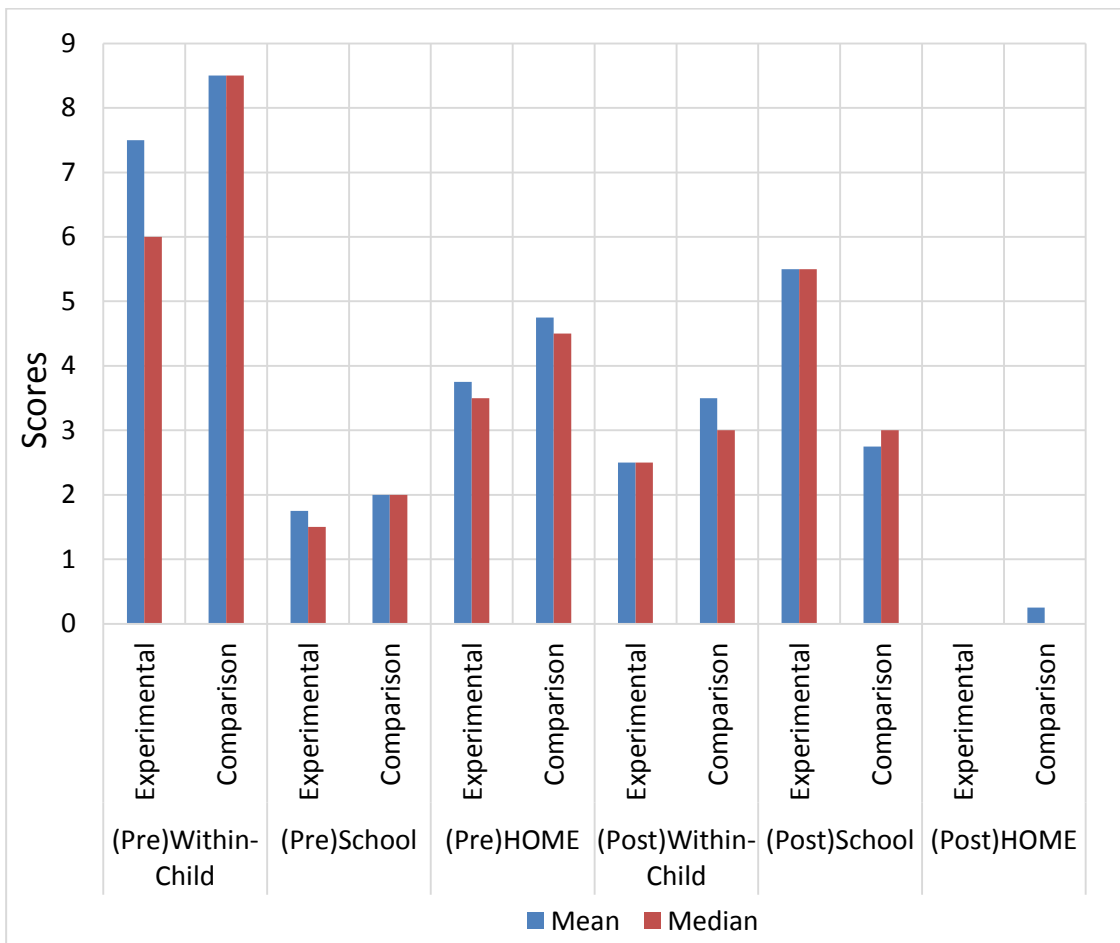
The pre-intervention data demonstrates some differences between the experimental and comparison conditions with the comparison condition donating comparatively more of all three types of theories. Post-intervention a noticeable increase in school theories and, decrease in within-child as well as home theories was true for both conditions. However, the observed changes were more pronounced for the experimental condition.

4.5.2.2   Descriptive data – Frequencies and Percentages

Frequency and percentage figures are commonly presented for data derived via content analyses (Drisko & Maschi, 2015). In the current study, this data (Table 4-13) suggests that both groups donated fewer theories post-intervention. This was predicted by the different question asked of the groups in Step 9 whereby, after reviewing the data, participants were asked; "is there anything we can add to our set of theories/hypotheses?" The percentage *differences* per code between the comparison and experimental groups (indicated within brackets) pre-intervention ranged amid 0.4-2.3%. However, post-intervention the percentage differences were greater with the experimental group donating approximately 26% more *school*, 22% less *child* and nearly 4% less *home* theories than the comparison group.

Table 4-13: Frequencies and Percentages Pre and Post Intervention across both Conditions

Group	Time	1=Pre-intervention Step7-Group Theories1; before observing data		2=Post-intervention Step9-Group Theories2; after observing data			%age CHANGE Time1-2	
	Code	Frequency	Percent	Frequency	Percent		Frequency	Percent
Comparison	within-child	34	*55.7*	14	*53.8*		*-20*	*-1.9*
	home	19	*31.1*	1	*3.8*		*-18*	*-27.3*
	school	8	*13.1*	11	*42.3*		*+3*	*+29.2*
	Total	61	*100.0*	26	*100.0*	Within-group difference		
Experimental (Between-group difference)*	within-child	30	**57.7**	10	**31.3**		*-20*	*-26.4*
		-4	(+2)	+4	(-22.5)			
	home	15	**28.8**	0	**0**		*-15*	*-28.8*
		-4	(-2.3)	-1	(-3.8)			
	school	7	**13.5**	22	**68.8**		*+15*	*+55.3*
		-1	(+0.4)	+11	(+26.5)			
	Total	52	*100.0*	32	*100.0*			
		-11		+8				

*Brackets indicate a proportion of change when Comparison condition score is compared to Experimental condition score

Within-group comparisons (see '%age Change' column) suggest that post-intervention, the increase in *school* theories was much larger in the experimental (55%) than the comparison condition (29%). The decrease in *child* theories was more pronounced for the experimental (26%) than the comparison (nearly 2%) condition. Both groups demonstrated fairly similar decrease in *home* theories *(27-28%)*. As the theories donated by staff held a meaning and not a value, this data must be interpreted with caution.

4.5.3   Visual Analyses

Figure 4-8 illustrates the frequency per coding frame (i.e. theory-type) pre and post data review.

Figure 4-8: Comparison of Group Theories in Both Conditions Generated Pre and Post Data Review

Pre-intervention, similar trends across conditions are noted. Theories donated in both conditions mostly related to *within-child* factors, then to a lesser degree, *home* factors. *School* factors were raised the least, the latter finding was slightly more pronounced for the experimental condition. Post-intervention and for both conditions, there was a marked decrease of *home*-related theories with the experimental condition donating none at all. There was a drop in number of

within-child ratings and an increase in *school*-related theories for both conditions, this was more marked in the experimental condition.

Post-intervention, the majority of experimental conditions' theories considered *school*-related factors whereas for the comparison condition, theories regarding causes of pupil behaviour tended to be mostly related *to within-child* factors.

4.5.3.1   Summary

The descriptive and visual analyses demonstrated similar marked patterns of change across both conditions including, a post-intervention increase in school-related theories and a simultaneous decrease in home-related theories. However for the experimental condition, these trends are more marked. The data also suggest that post intervention, the experimental condition generated fewer within-child theories.

4.5.4   Inferential Analyses

Attempts to assess the statistical significance and make inferences from the descriptive data are explored in the sections below.

4.5.4.1   Between-Group Comparisons

4.5.4.1.1   Selecting Tests

Basic content analysis data can be analysed using inferential analyses (Drisko & Maschi, 2015). For explanations alluding to the inappropriateness of parametric tests, the reader is referred to Section 4.2.2.2.

As groups could make more than one observation or, more than one theory during Steps 7 (before) and 9 (after data review) a Chi-square independence test was inappropriate – this test assumes that participants can only make one observation at a time whereas in the current study, each type of code (i.e. theory-type) received a frequency score.

The RQ was interested in comparing the difference in school-oriented theories *between-groups* post-intervention however to explore this, pre-intervention scores had to be accounted for. To achieve this, a new scaled 'difference score' was calculated by calculating the difference between the post-intervention and pre-intervention raw scores across all three codes. Such 'scaling' of scores provides researchers with a way to enhance consistency in reporting and

interpretation (Tan & Michel, 2011). Following this, non-parametric Mann-Whitney analyses were performed on the scaled difference score on all three codes. Instead of comparing means, as would be the case when using the parametric t-tests, the Mann-Whitney U test compares medians (Pallant, 2013). As three separate tests had to be performed, the researcher recognises the risk of a Type-I error.

4.5.4.1.2   Analyses

Table 4-14 displays the equations and effect sizes. Medians of the original post-intervention scores and the difference score are also presented. Statistically significant results are emboldened.

Table 4-14: Mann-Whitney U Statistics, Scaled and Original Medians per Condition Post-intervention

Code / Theory-Type	Equation	Effect size (Cohen's r)	Original Median *(Scaled Median)*	
			Experimental N=20	**Comparison N=19**
School	*U=.000, z=-2.337, p=.019*	**.83-large**	**5.5** **(3.5)**	**3.0** **(1.0)**
Within-Child	*U=6.500, z=-.436, p=.663*	.15-small	2.50 (-4.5)	3.0 (-4.5)
Home	*U=8.000, z=.000, p=1.000*	.00-none	0.0 (-3.5)	0.0 (-4.5)

4.5.4.1.3   Outcomes

A Mann-Whitney U Test revealed that post-intervention, participants in the experimental condition donated significantly more school-oriented theories than participants in the comparison condition. The effect size was large (Cohen's *r*: 0.8). This finding supports the descriptive, frequency and percentage data.

For the within-child and home codes, no statistically significant differences were found.

4.5.4.2.1   Selecting Tests

The descriptive analyses suggested similar pre to post-intervention changes across conditions, within-group comparisons were also performed using the WSR test.

4.5.4.2.2   Analyses

The equations and effect sizes per group from the WSR tests are provided in Table 4-15

Table 4-15: Wilcoxon-Signed Rank Equations, Effect Sizes and Medians per Dependent Variable

Theory codes	Condition	Equation	Median at 50th quartile		Effect size (*r*)
			Pre intervention	Post intervention	
School	*Experimental*	z=-1.841, p=.066	1.5	5.50	0.46-medium
	Comparison	z=-1.134, p=.257	2.0	3.0	0.28-small
Home	*Experimental*	z=-1.826, p=.068	3.5	0.0	0.46-medium
	Comparison	z=-1.826, p=.068	4.5	0.0	0.46-medium
Within-Child	*Experimental*	z=-1.826, p=.068	6.0	2.50	0.46-medium
	Comparison	z=-1.826, p=.068	8.5	3.0	0.46-medium

4.5.4.2.3   Outcomes

WSR comparisons demonstrated no statistically significant changes pre to post intervention for either condition. Given the small sample sizes per condition, these results are not surprising.

4.6   Research-Question 4: Staff Evaluation

4.6.1   Introduction

RQ4 concerned the secondary aim of the study, to explore and compare perceptions of the participating staff across the experimental and comparison conditions. Using a semi-structured questionnaire, participants rated the helpfulness of the CoA sessions and the separate elements, including the element of 'data' (video vs. written observation). This aimed to enhance available knowledge regarding the likely effective mechanisms within the process.

It was hypothesised that post-intervention, the experimental condition would indicate to a greater degree, that the element of 'data' (i.e. video-data) was helpful and, that it supported them to think 'differently' in relation to the causes of pupil behaviour. Questions 1a, 1b and 2 on the evaluation questionnaire were analysed (Appendix-18).

Q1a: How (helpful) did you find the group session (CoA)?

Q1b: How helpful did you find the elements? Including:

- *Group discussion*
- *Allocated time to process/think*
- *Use of data (video or ABC log)*
- *EP-facilitation*
- *Graphics/ visuals record*
- *Going through steps of adapted Circle of Adults Process*

Q2. 'Did you see/read anything that made you think differently about the origins of pupil behaviour'? YES/NO (Please explain)

4.6.1.1   Normal Distribution

Visual (histogram) and statistical (Shapiro-Wilk) checks demonstrated that data were not normally distributed (Appendix-26) therefore where inferential analyses were appropriate, non-parametric statistical tests were employed.

4.6.2 Descriptive and Visual Analyses – Evaluation Questions 1a and 1b

Table 4-16 present the measures of central tendency for the data from Questions 1a and 1b.
Figure 4-9 presents the mean and median scores. Raw data is in Appendix-27.

Table 4-16: Measures of Central Tendency-'Helpfulness' Ratings of CoA Session and Separate Elements

ELEMENT	COMPARISON-WRITTEN (N=19)				EXPERIMENT-VIDEO (N=20)			
	Mean	Median	Std. Deviation	Range	Mean	Median	Std. Deviation	Range
OVERALL SESSION	1.5789	2.0000	.60698	2.00	1.7000	2.0000	.47016	1.00
1. GROUP DISCUSSION	1.7895	2.0000	.53530	2.00	1.8000	2.0000	.41039	1.00
2. TIME TO THINK/PROCESS	1.7368	2.0000	.56195	2.00	1.5500	2.0000	.51042	1.00
3. DATA	1.3684	1.0000	.68399	2.00	1.6000	2.0000	.50262	1.00
4. EP FACILITATION	1.7368	2.0000	.56195	2.00	1.7500	2.0000	.44426	1.00
5. VISUAL RECORD	1.3158	1.0000	.67104	2.00	1.8000	2.0000	.41039	1.00
6. CoA PROCESS	1.7895	2.0000	.41885	1.00	1.6500	2.0000	.48936	1.00

*6. Refers to= **Steps (structure) of** the CoA Process*

Figure 4-9: Mean and Median Scores -'Helpfulness' Ratings of CoA Session and Separate Elements

COMPARISON GROUP MEAN   COMPARISON GROUP MEDIAN
EXPERIMENTAL GROUP MEAN   EXPERIMENTAL GROUP MEDIAN
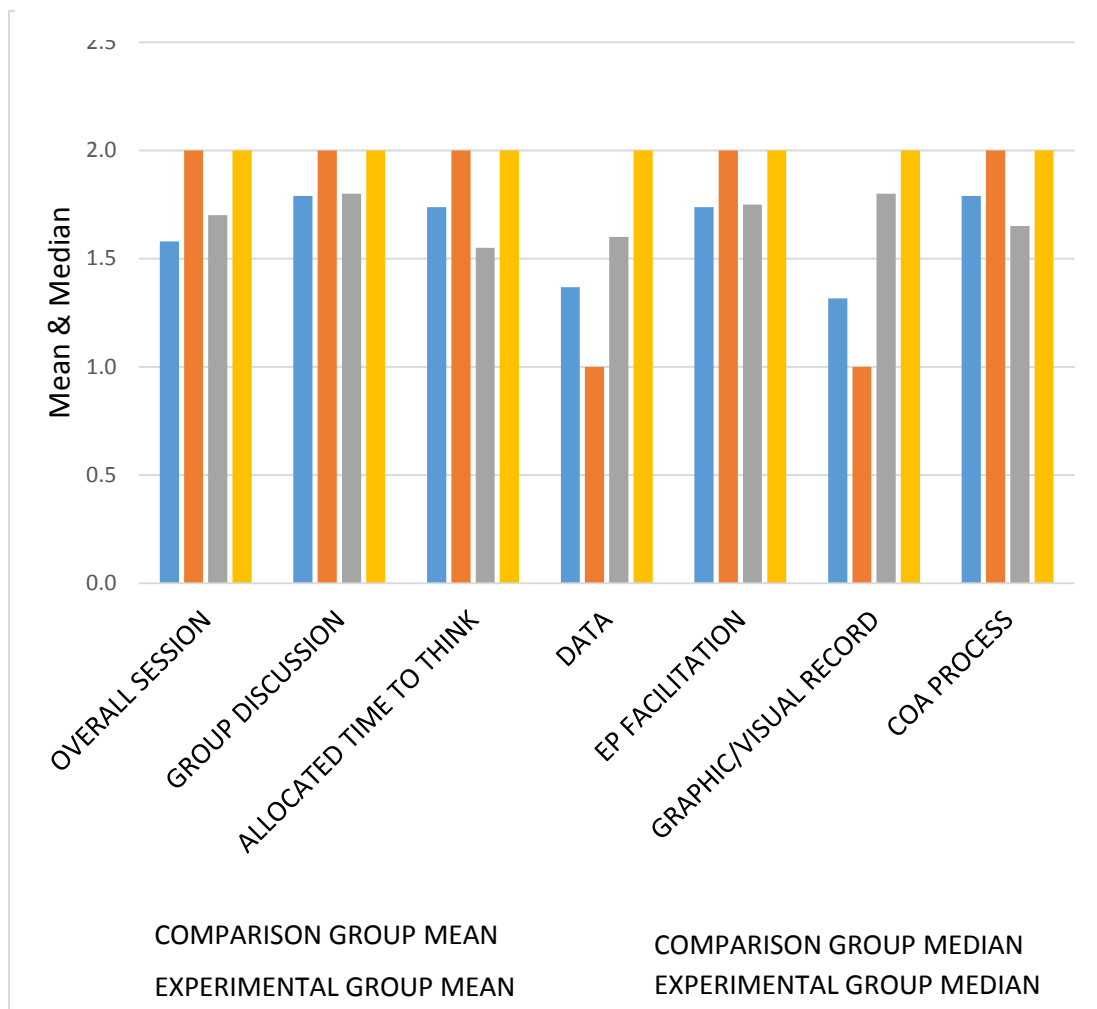
The descriptive data show similar responses from participants in the experimental and comparison conditions. Mean scores suggest participants in the experimental condition rated the overall CoA session as slightly more helpful. Regarding the separate elements of the CoA intervention, mean scores show higher ratings from the experimental group for some elements; *Group Discussion, EP-facilitation* and the *Graphic/Visual Record* and, lower ratings for other elements; *CoA Process* and *Allocated Time to Think*. Both conditions rated *Group Discussion* as most 'helpful'. Differences observed are very small for all with the largest difference for the *Graphic/Visual Record.* Median scores suggest cross-condition equivalency for these elements.

The experimental group rated the element of *Data* (i.e. video) as more helpful than the comparison group. While this was the second largest difference observed, the relative difference between groups was small. The element of *Data* was selected for further analyses as it was pertinent to RQ4.

4.6.3   Inferential Analyses

4.6.3.1   Test Analyses and Outcomes

A Mann-Whitney U test was performed. No significant differences between the comparison (*Md*=1) and experimental group (*Md*=3) were found; *U*=1.88, *z*=-.80, *p*=.936, *r*=.-0.12 (small effect-size).

4.6.4 Descriptive and Visual Analyses – Question 2

Figure 4-10 presents the mean and median of responses to Q2 where participants indicated whether the video or written data (Yes=1, 0=No) supported them to 'think differently' about the causes of their focus pupil's behaviour. Raw data is in Appendix-27.

Figure 4-10: Mean and Median Scores for both Groups regarding whether Participants had Seen or Read anything that supported them to 'Think Differently' (0=No and 1=Yes)
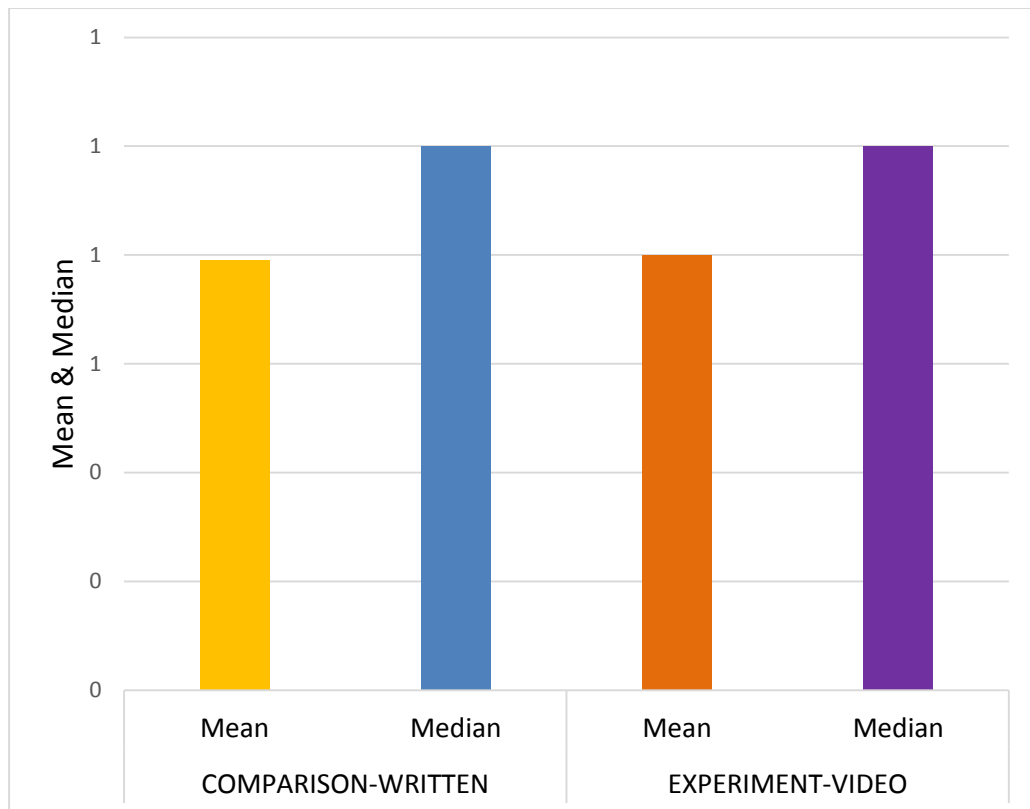
The majority of participants in both groups thought that they had seen or read something that supported them to think differently. Given the extremely close similarity of responses, further inferential analyses were considered irrelevant.

4.6.5 Narrative Comments – Question 2

4.6.5.1 Introduction

Participants were given the opportunity to provide a narrative comment to explain whether they felt they had read or seen anything that supported them to 'think differently'. For consistency and triangulation, content analysis was applied to comments using the coding frames created for the group theories. Some comments were unrelated to the purpose of the question (e.g. information was offered about the general process or suggestions for improvement), codes were not available for these aspects and so these are acknowledged but not analysed. Examples of comments are provided in Table 4-17, for the full set see Appendix-28.

Table 4-17: Examples of Comments generated for Codes from Experimental and Comparison Conditions

Comment Type	COMMENT EXAMPLES	
	Experimental	**Comparison**
Within-Child:	*"Possible ASD so shutting down"*	*"More focus on her need to control"*
Home:	*"Interesting to know background of child"*	*"Understanding of his home-life"*
School	*"I didn't think of the child as anxious but it is clear in class he has some anxiety issues"*	*"Increasing behaviour level with current class-teacher, not experienced when the pupil was in class the previous year"*
Process or Outcome related	*"Due to the inclusive nature of this school a lot of the issues had been identified, however the process helped to formulate strategies"*	*"It was useful to see it set out all in one place to compare"*

4.6.5.2 Interrater-Agreement Checks

Eight of thirty-nine participants provided no comment. Process or outcome related comments (n=9) were not coded. The remaining comments coded by two TEPs (including the researcher) in reference to the aforementioned coding frames. Four participants provided two-tailed comments; these were treated as two units of data, split into two, and coded twice accordingly. For example:

> "Hear and see how <u>his</u> (wirhin-child) ***and*** <u>our</u> (school) emotions both affect situation"
>
> *(Respondent in Experimental-Condition)*

A total of twenty-six codes were generated from twenty-two code-able comments (Appendix-28). The raters disagreed on one comment where Rater-1 treated the comments as non-codeable and process related but Rater-2 considered it to be codeable as 'Home'. It was agreed that due to the difficulty in interpreting the comment, it was not coded and was considered a process-

related comment. A Cohen's Kappa statistic 0.94 suggested 'very good' agreement (Peat, Mellis & Williams, 2002).

4.6.5.3 Descriptive and Visual Analyses

The comments from Question-2 are described in Table 4-18. Visually represented in Figure 4-11 are comments related to the coding frames of 'within-child', 'home; and 'school'.

Table 4-18: Frequency of Comment-types in relation to what Participants Read or Viewed that made them 'Think Differently'– including Percentages for Comments relating to Coding Frames

Condition	General information				CODES generated from Coding Frames						TOTAL	
	N	Participants with no data	Process or irrelevant comment	Comments coded	'Within-child'		'School'		'Home'			
					Freq	Per cent	Freq	Per cent	Freq	Per cent	Freq	Per cent
Experimental	20	3	6	11	4	28	4	29	6	43	14	100
Comparison	19	5	3	11	3	25	1	8	8	67	12	100

Key: Freq = frequency

Figure 4-11: Comparison of Frequency of Codes generated per Coding Frame
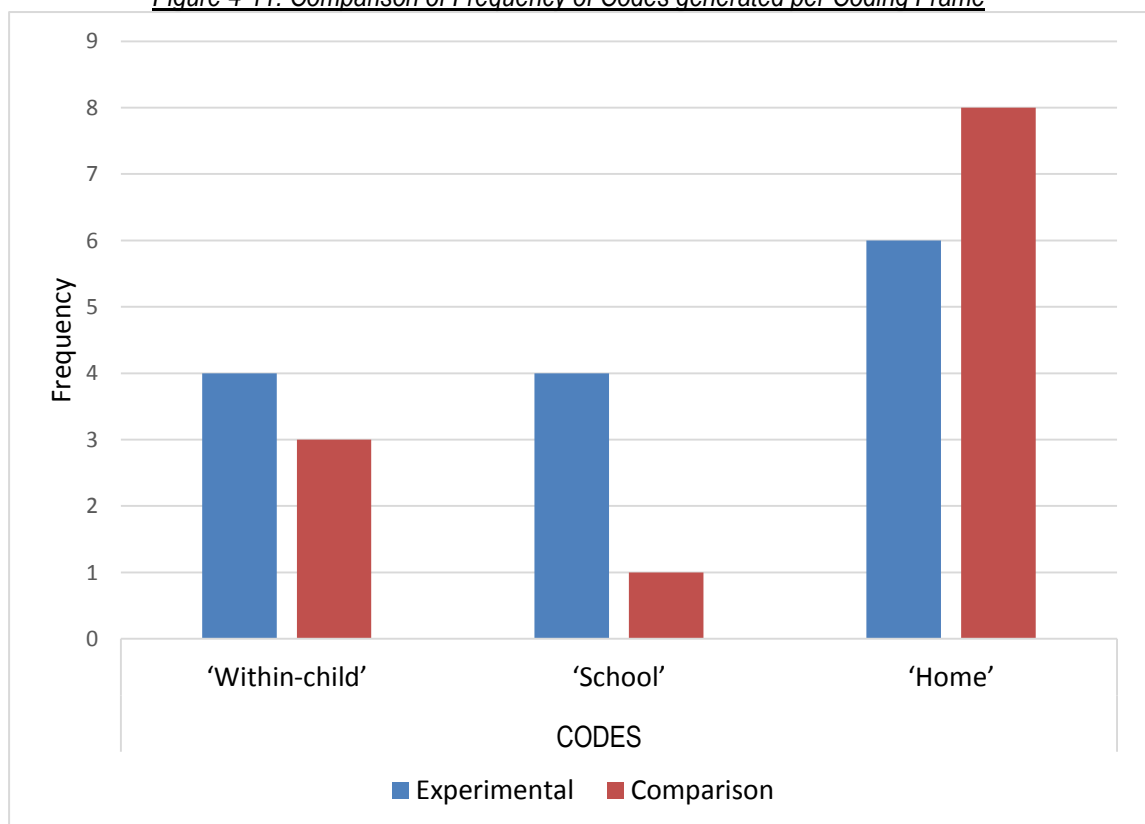
The comments for both groups suggest they saw or read something that supported them to think differently regarding all three aspects/codes. Whilst both conditions offered highest frequency of comments regarding the 'home' category, in *relative* terms, the comparison condition's comments were higher for the 'home' category. In *relative* terms, the experimental condition's comments relating to the 'school' category was higher.

4.6.5.4   Summary

Both conditions show greater focus upon home, but there are more comments upon 'school' for the experimental condition. Participants from the comparison group provided fewer comments, this may be an indication regarding a lower level of insight provided by the written versus video data. As numbers are small, these indications are tentative.

4.7   Summary of All Findings

Table 4-19 (overleaf) provides a brief synopsis of descriptive and statistical findings per RQ.

RQ	Descriptive/Visual Findings	Statistical/Inferential Findings
1 Individual Attributions	Pre-intervention groups were non-equivalent; the experimental group scored higher on all sub-factors. Post-intervention, the experimental group's scores for within-child factors decreased and scores for school-factors increased. The inverse was true for the comparison group. Both groups ascribed more cause to home-factors post-intervention	Between-Groups, Post-intervention: The experimental group attributed a larger range/degree of attributions (Total-Attributions)* *The experimental group higher scores for school-factors narrowly missed significance* Within-Groups: The experimental groups' score for 'Home' significantly increased pre to post-intervention.
2 Individual Perceptions	Pre-intervention groups were non-equivalent; aside from the pro-social subscale, the comparison group scored lower on all SDQ subscales. Post-intervention, the experimental groups' hyperactivity and emotional-problems scores were noticeably higher than the comparison group. Both groups identified their pupils to have relatively less prosocial skills post-intervention.	Between-Groups, Post-intervention: The experimental group Hyperactivity score was significantly higher* Within-Groups: The comparison groups' score for 'Peer-problems' significantly decreased post-intervention The experimental group considered a larger range/degree of strengths and difficulties (Total-SDQ) post-intervention
3 Group Theories	For both conditions, content analysis suggested pre-intervention theories related mostly to within-child and then, home-related factors. School factors were given least prominence. Post-intervention, both conditions markedly increased in school, and decreased in home-oriented theories. Within-child theories dropped, this was more marked for the experimental condition.	When accounting for pre-intervention proportions per theory-type, the experimental group significantly donated more school-related theories.
4 Evaluation - data-enhanced CoA	The experimental condition rated the *overall CoA session* and to a greater degree, the element of *data* as somewhat more 'helpful' than the comparison condition. Both conditions; other elements considered as more helpful than data – group discussion rated highest across conditions. Nearly all participants indicated they had 'seen' or 'read' something that led them to think differently about their focus pupil's CB Content Analysis indicated video-data generated slightly more school-oriented considerations than the written-data	CoA-session: Not appropriate Data: None Not appropriate Not performed

After adjusting for pre-intervention differences

Chapter 5: Discussion

5.1 Introduction

This chapter discusses this study's key findings (see Table 4-19) in relation to the literature presented in Chapters 2 and 3, with a specific focus upon the RQs addressed. Possible explanations for hypothesised, and unanticipated findings are considered. Methodological choices are critically reflected upon and include suggestions for future research followed by a range of professional implications. Prior to this, key reflections pertinent to the outcomes of the study are acknowledged. The study culminates in presentation of overall conclusions.

5.1.1 Key Considerations and Study Rationale

This study aimed to respond to the nationally recognised need to develop interventions which enhance staff attributions regarding CB in a manner which is supportive to inclusive practice, exclusion-prevention and staff problem-solving (see Section 2.2 for discussion). The overarching aim was to explore the influence of video on staff attributions and perceptions in relation to challenging pupil behaviour. To do this, the study adapted the CoA (Wilson & Newton, 2006) group consultation framework which aims to indirectly improve pupil outcomes through attempts to restore staff objectivity and generate holistic understanding regarding CB. However, the impact of the original CoA on staff attributions appears equivocal (Syme, 2011; Dempsey, 2012; Turner, 2014). Furthermore, there have been calls for more systematic research on the outcomes and processes of CoA (Bennett & Monsen, 2011; Gulifrod, 2015; Grahamslaw & Henson, 2015) and more generally, the processes (Nolan & Moreland, 2014; Truscott et al., 2014) and data-analysis mechanisms within psychological consultation (Nugent et al., 2014; Newell & Newell, 2011).

Studies researching video in education have found it to be a powerful medium aiding staff reflection of interactions with pupils (Gaudin & Chaliès, 2015; Tripp & Rich, 2012). Previous research has linked attributional theory within group problem-solving and staff responses to CB in educational contexts (Jones et al, 2013; Poulou & Norwich, 2002; Syme, 2011; Dempsey, 2012; Turner, 2014). These studies and one indicative prior case study conducted by the researcher, provided the basis for exploring the influence of video on staff attributions.

The current study attempted some systematic control and employed a mixed methodology to explore the RQs. The context of this study was mainstream primary schools across two LAs in the West Midlands. This aided the understanding of the impact of an intervention drawing on video-excerpts and GC such as CoA on primary school staff attributions. Every school provided a mixed sample of teaching, non-teaching and leadership staff with various professional experiences and familiarity with their focus pupil. This inevitably loosened the control of the study, yet aided ecological validity by resembling current school staff diversity in mainstream schools where non-teaching and auxiliary staff are increasingly responsible for managing CB (Higgins & Gulliford, 2014).

Behaviour is viewed and responded to differently depending on one's own understanding and perception (Armstrong, 2014). Proposing an intervention that would be received in the same manner by all is problematic; the use of dialogic shared space for staff to collaborate and co-construct behaviour is considered helpful to staff intervention (Millei & Petersen, 2014). Such interactionist or constructivist perspectives on CB constrain the generalisability of current findings, as each social setting or situation would be influenced by a unique range of socio-cultural and socio-political factors (Miller, 2003). Nevertheless, these phenomena impact schools generally, as an applied researcher, acknowledgement of the same is intended to aid transparency.

The two elements, video-data and CoA draw on a variety of theoretical underpinnings, some of which appear complementary and others, conflicting. Stemming from the literature review (Section 2.3.5.5) and the present study, Figure 5-1 presents hypothesised contradictions and complementary links between, and within the elements of video-data and CoA. This study does not intend to discuss all possible underlying mechanisms nor does it seek to verify or bridge these theoretical links, however it recognises that the theoretical framework scaffolding video-data can lead to different impacts on staff reflective ability and motivation to change practice (Gaudin & Chaliès, 2015). Given the lack of published rigorous research exploring the impact of CoA on staff-participant and pupil outcomes (Bennett & Monsen, 2011; Grahamslaw & Henson, 2015) relationships between these theoretical considerations may inform future research. These considerations are presented here as they are raised accordingly throughout this discussion.

Figure 5-1 Comparing the Complementary and Contradictory Principles of the Elements of Video and CoA Merged in the Current Study
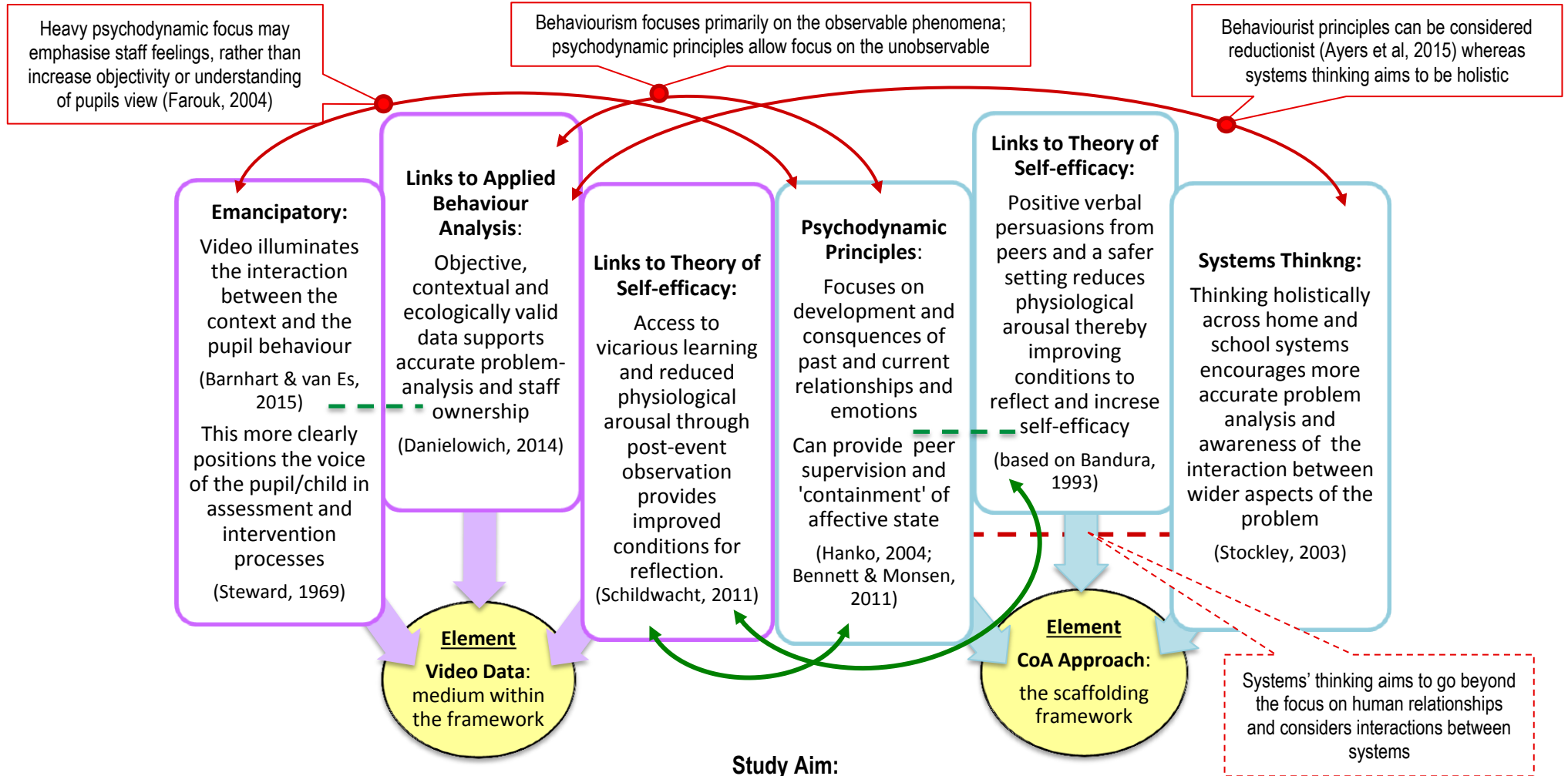
Heavy psychodynamic focus may emphasise staff feelings, rather than increase objectivity or understanding of pupils view (Farouk, 2004)

Behaviourism focuses primarily on the observable phenomena; psychodynamic principles allow focus on the unobservable

Behaviourist principles can be considered reductionist (Ayers et al, 2015) whereas systems thinking aims to be holistic

Links to Theory of Self-efficacy:
Positive verbal persuasions from peers and a safer setting reduces physiological arousal thereby improving conditions to reflect and increse self-efficacy
(based on Bandura, 1993)

Emancipatory:
Video illuminates the interaction between the context and the pupil behaviour
(Barnhart & van Es, 2015)
This more clearly positions the voice of the pupil/child in assessment and intervention processes
(Steward, 1969)

Links to Applied Behaviour Analysis:
Objective, contextual and ecologically valid data supports accurate problem-analysis and staff ownership
(Danielowich, 2014)

Links to Theory of Self-efficacy:
Access to vicarious learning and reduced physiological arousal through post-event observation provides improved conditions for reflection.
(Schildwacht, 2011)

Psychodynamic Principles:
Focuses on development and consquences of past and current relationships and emotions
Can provide peer supervision and 'containment' of affective state
(Hanko, 2004; Bennett & Monsen, 2011)

Systems Thinkng:
Thinking holistically across home and school systems encourages more accurate problem analysis and awareness of the interaction between wider aspects of the problem
(Stockley, 2003)

Element
Video Data: medium within the framework

Element
CoA Approach: the scaffolding framework

Systems' thinking aims to go beyond the focus on human relationships and considers interactions between systems

Study Aim:
To enhance reflection and problem-solving ability in order to facilitate staff (individuals and in groups) perceptions and attributions of pupil challenging behaviour.

Key:

Cross-element contradiction ⟷   Cross-element complementary link ⟷

Within-element contradiction ⤏   Within-element complementary link ⤏

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5.2 Key Findings of the Research

5.2.1 Research Question-1

"Will exposure to video examples of a pupil's behaviour, in comparison to written observation data, influence greater change in the types of attributions made by staff?"

In this study, video-data appeared to stimulate an increase in total-attributions scores, written-data did not. This indicates that video-data supported participants to think holistically. Holistic formulation, where staff consider the interacting impact of home and school subsystems, is considered supportive to accurate problem-analysis and subsequent intervention effectiveness (Dowling & Osborne, 1985; Miller, 2003). Studies specifically measuring impact of video-enhanced GC on staff attributions are unavailable for comparison however, studies exploring the impact of video-reflection report that participant understanding and perceptions of pupil behaviour and classroom interaction is broadened and deepened (e.g. Brophy, 2004; Danielowich, 2014; Rich & Hannafin, 2008; Rosaen, 2015; van Es & Sherin, 2005; 2009).

Pre-intervention descriptive data demonstrated that the experimental group considered all attribution sub-factors, including school-factors, to a greater degree than the comparison group. This could indicate sampling bias, whereby the experimental group had a tendency to think more holistically than the comparison group at the outset. Attempts to minimise any potential sampling bias included randomised cluster sampling and adjusting for pre-intervention differences. Other potential methodological influences are presented in Section 5.3. This could in part explain why the increase in school-related factors narrowly missed statistical significance, in line with Poulou & Norwich's (2002) study where participants already placed a high emphasis on the importance of school factors and inclusionary practice; resulting in less change post-intervention. One of the narrative comments provided by a participant in the experimental condition also tentatively supports this interpretation (Appendix-28):

> *'Due to the inclusive nature of this school, a lot of the issues had been identified'*

It is also possible that pre-intervention differences were a legitimate representation of the range of CBs displayed by the focus pupils (Jager & Denessen, 2015) across both conditions.

The CoA was treated as a scaffold for video through a set of scripted steps alongside prescribed facilitation. As suggested in Figure 5-1, the mechanisms of video and CoA may differentially influence staff perceptions in relation to CB. Thus, despite completing the individual measures (AttQ and SDQ) before the group discussed the video examples, the preceding discussion activity, and nature of facilitation (e.g. Steps 2-7) may have also contributed toward the participants responses. Given that the facilitation and process was kept largely similar between groups, the differences could be attributed to a combination of data (video or written) and the CoA processes. Exploratory CoA studies - where video-data is not featured - report elements such as 'peer supervision' as helpful to staff problem-solving (Bennett & Monsen, 2011; Brown & Henderson, 2012). Similarly, a significant number of video-feedback studies have demonstrated that human support, in the form of peers or facilitators, is more effective than video alone (Gaudin & Chaliès, 2015; Mechling, 2005; Rich & Hannafin, 2008; Seidel et al, 2013; Tripp & Rich, 2012; van Es & Sherin, 2005). Future studies should compare a variety of GC frameworks with and without video-data or, ask participants to review video-data immediately following the introduction of ground rules or, at other points in the CoA process.

Post-intervention, the experimental group significantly increased their consideration of home-related factors as possible causes for CB. According to attribution theory and literature (See Section 2.2), an increase in consideration of school-factors and a decrease in home or within-child factors encourages staff ownership and promotes inclusive practice. The eco-systemic perspective would argue an increase in the weighting given to home-related factors indicates a holistic view, and that awareness of the pupil's home context and early childhood factors may aid intervention outcomes (Dowling & Osborne, 1985). Given the video-clips of the pupil were all set in a school context, this finding requires reflection. As mentioned above, the CoA framework is underpinned by a strong psychodynamic focus (Bennett & Monsen, 2011), illustrated in its explorations of the child's pre-school experiences and existing relationships between the child, their family members and possible projections or transference of this onto staff members (see Appendix-2 for definitions of terms). Whilst Wilson and Newton (2006) state such explorations lend to the development of a 'rich picture' and serve to contain staff emotions (Hanko, 1999), a heavy emphasis on psychodynamic approaches may not be compatible with a holistic or systemic approach to problem-solving (Farouk, 2004).

The descriptive data demonstrate that post-intervention, the experimental group's scores for within-child attributions reduced whereas the comparison group's scores increased. However for both groups, within-child and home factors were given relatively more consideration than school-factors. This mirrors attributional literature suggesting that teachers may adopt a self-serving bias where staff are likely to attribute CB to factors outside of their control (e.g. Campbell & Sedikides, 1999; Jones et al, 2013; Kulinna, 2007; Medway, 1979; A.Miller, 1995). One modelled explanation might be that the video-data elicited an uncomfortable level of cognitive dissonance for some participants where they viewed themselves performing differently to their espoused practices, leading to a defensive response such as attributing causes of the CB externally (Bryan & Recesso, 2006). Responses may also reflect an individual's readiness to reflect amongst their peers (Borko et al., 2008; van Es & Sherin, 2009).

Dawson (2013) reported that staff who participated in her CoA interventions primarily alluded to attachment and psychodynamic theories to explain the behaviour of their focus pupils. Consequently Dawson concluded that the CoA provided certain insight into pupil behaviour. This partial or specific insight could arguably explain the increase in within-child attributions demonstrated by participants in Turner (2014) and Syme (2011). Syme's (2011) findings suggest that changes to within-child attributions can fluctuate from post-intervention to maintenance phase checks. Thus, longitudinal studies may provide a better insight into protracted and projected development of within-child attributions.

Given that video has the potential to illuminate the interactions between the pupil behaviour and their context (Barnhart & Van Es, 2015) it is perhaps not surprising that within-child factors were given consideration post video-review. Some authors suggest that staff who attribute CB externally, to within-child factors may be more inclined in some cases to consider punitive practices (Brady & Woolfson, 2008; Tait & Purdie, 2000; Mavropoulou & Padeliadu, 2002). Feeling like their pupils' behaviours are uncontrollable may also result in decreased perceived self-efficacy of staff who hold these views (Bandura, 1993). However other authors suggest no consideration of child-related factors may result in reductionist or non-empathetic staff views (Weare, 2015). Therefore, the extent to which no within-child attributions are supportive of inclusive practice, requires exploration. To gain more insight into the nature of video-data impact, a detailed exploration of within-child attributions made before, and after video review may be worthwhile.

In terms of the data-types, video reportedly provides concrete artefacts situated in learning contexts and so may be considered more objective and authentic than retrospective verbal or, written observation feedback (Schildwacht, 2012; World Bank, 2010). Jones and Hastings (2003) found that 'real incidents' (in vivo observation) appeared to be more influential in generating attributional change than matched vignettes. The authors suggest the topography of the behaviour in question could be differently perceived from visual to written information. Thus, it is possible that video-data offers insight which is different to that of written-data (Korthagen & Kessels, 1999) and that within this study this difference may have led to some finer changes in child-related attributions donated by staff. This study planned a relatively nomothetic approach; potential individual differences and fluctuations in sub-factors such as the within-child factors were not analysed - this may form part of a future study. Furthermore, research systematically exploring the types of video-data that may support the development of holistic formulation or encourage staff ownership, would be useful to the development of theory and practice in relation to the use of video-enhanced GC.

5.2.1.1 Summary

Video-data appeared to support a deeper and broader understanding of the nature of CB, this is useful to the aim of holistic formulation. An increase in school-related attributions missed statistical significance and an unexpected increase in home-factors was observed. These results are reflected upon in the context of the CoA framework, where the emphasis on psychodynamic principles and child-related factors may have outweighed the informational influence of video-data regarding the school context. Individual differences in the sampling may have impacted staff responses to some degree. Video-data was intended to enhance the participant's awareness of the school context when considering their pupil's behaviour; this may explain why participants continued to consider within-child attributions. The attributional literature and eco-systemic view appear to suggest a different impact of the awareness of child-related factors during problem-solving thus further research into the nature of within-child attributions, produced through video-reflection, is required.

5.2.2 Research Question-2

"Will exposure to video-examples, influence greater change in staff perceptions of a pupil's strengths and difficulties in comparison to written-observation logs?"

The SDQ is widely employed in UK-based educational contexts (Weare, 2015) and here served a dual-purpose. It was used to triangulate the AttQ data, it also served to highlight whether video-data, in comparison to written-data brought about greater changes in staff perception regarding the strengths and difficulties of their focus pupil.

Post-intervention and similar to the AttQ, total SDQ scores suggested that the experimental group considered a wider range of difficulties as part of their focus pupil's behaviour. The AttQ and SDQ therefore reflected similar trends in staff perceptions and attributions. This suggests the video-data may have provided insight into behaviours or difficulties that were previously less noticeable or less attended to by staff. When controlling for pre-intervention differences, the experimental group's scores for hyperactivity increased in a statistically significant manner, indicating that the staff noticed pupils' difficulties with behaviours such as sustained attention, organisation and physical self-restraint (Goodman, 1997). The finding is comparable to studies where video-data of oneself or peers (van Es & Sherin, 2008), appeared to enhance teachers' capacity to notice and attend to certain features of classroom interaction between pupils and staff (Sherin & van Es 2005; 2009). Interpretation of some of the narrative comments arising from the evaluation questionnaire also indicates that the video viewed supported staff to notice certain behaviours including physical behaviours (see Appendix-28 and Section 5.2.4). However, not all participants featured in the video-clips, nor the written-observational data. Thus, the immersion in and resonance of the data for individual participants in either condition may have differed, and this may have impacted responses (Kleinknecht & Schneider, 2013).

Within-group analyses demonstrated that the comparison group's consideration of their pupils' peer-problems statistically decreased post-intervention. Similar to the attribution data, participant responses may be indicative of the discussion preceding the review of written observation data, where potentially, the emphasis on home-related factors rather than school-related factors where peer-problems may be discussed, is relatively small. The responses may

be also indicative of the content of written-data. Therefore inferences in relation to the specific impact of written or, video data must be interpreted with some caution.

The descriptive data suggests participants' perceptions of their pupils prosocial skills reduced. These particular changes in the SDQ data, particularly the decrease in awareness of positive or strengths-based pupil behaviour warrant further discussion. It is possible that findings may be indicative of the valence (i.e. examples of desirable vs desirable behaviour) and subsequent selection of clips and data shared. Kennedy & Sked (2008) highlight that specifically adopting a strengths-based approach, where positive instances of classroom interaction are shared may enhance staff self-efficacy and approaches to reflection. Incorporating strengths-based objectives during data collection and review may result in a more positive attitude toward or, appreciation of pupils. This may be an ethical consideration when considering the development of video-enhanced frameworks to support staff in cases of challenging pupil behaviour, especially as these pupils can at times, be considered vulnerable to stigmatisation (Cullerton-Sen & Crick, 2005; Woods & Farell, 2006). In this study staff were asked to supply examples of typical and atypical behaviour and, the selection of clips to be reviewed was controlled by staff as this has been found to aid staff ownership and engagement (Danielowich, 2014; Tripp & Rich, 2012).

5.2.2.1   Summary

Similar to the data for individual attributions, there appeared to be more change in the perceptions of staff who reviewed video, rather than written data as measured by the SDQ. Some specific differences regarding perceptions of strengths and difficulties were found within both groups, suggesting the type and quality of data reviewed impacted what staff noticed and attended to in their responses. Caution is required when interpreting findings as the CoA discussion activity, which precedes the data review, may have also impacted participant responses.

5.2.3   Research Question-3

"Will participant groups, in the experimental (video) condition donate more school-oriented theories compared to participant groups in the comparison (written) condition?"

Section 5.2.1 discussed interpretations of evidence of staff attributional change, identified from the AttQ. This section discusses group theories, donated at Steps 7 and 9 in the CoA process: triangulation is attempted with data from the individual (AttQ) and group measures [content analysis of transcribed theories]. Due to the exploratory nature of this study, and the low level of experimental control inherent in observations generated in groups and small sample sizes (Pallant, 2013) inferences must be drawn with caution. Further discussion of the trustworthiness of this exploratory data is presented in Section 5.3.5. Triangulation between the data types is explored after preliminary findings are discussed.

Statistical analyses demonstrated video-data elicited significantly more school-oriented theories in comparison to the written data. This suggests the inclusion of video-data of a child in school contexts supported staff participants to think about factors that they are more able to respond to and, focus less on factors that *may* be out of their control (Chaplain, 2000). In the context of attributional theory and literature from the education field (e.g. Evans et al., 2004; Kulinna, 2007; Jager & Denessen, 2015; Mavropoulou & Padeliadu, 2002; Poulou & Norwich, 2002), this finding is noteworthy.

Research into the influence of video in educational contexts have found an improvement in school staff ability to notice, explain and predict specific classroom interactions (Gaudin & Chaliès, 2015). Video apparently aids higher levels of acceptance of the feedback presented (Danielowich, 2014) through drawing on examples of behaviour situatedr within meaningful and familiar contexts (Schildwacht, 2012). As stated in Section 5.2.2 the video-data reviewed featured only a subset of staff participants however, reflecting vicariously through observing the actions of colleagues appears to support the identification of inconsistencies between one's own espoused and actual practices (Bruce & Shively, 2015). This may explain why, despite not being featured in the video-data, some of the participants donated school-oriented theories.

Studies which research the impact of video within a group setting have suggested that video provides a dialogic stimulus, encouraging collaborative reflection and shared understanding

regarding practice (Borko et al., 2008; Borko et al., 2014; Seidel et al., 2013). Furthermore, video-data was collected prior to the study, allowing staff room to reflect from a distance (i.e. after the fact), outside of potentially emotional or physiologically arousing situations (Sherin & van Es, 2009) which is hypothesised to support the ability to critically reflect (Schön, 1987) and improve perceived self-efficacy (Bandura, 1993). This may explain why staff who were featured in the video, felt able to reflect on their own practice within the group discussion and at times, suggest school-oriented theories which related to their own practice. The descriptive data indicates that the comparison condition also noticeably increased the frequency of school-oriented theories. Therefore, the above postulated mechanisms may arguably apply to group reflection of written data too. However, the descriptive and statistical analyses suggest that the video-data generated more changes. As stated in Section 5.2.1, video-data apparently provides less analytical and more descriptive feedback, potentially increasing individuals' perceptions of its objectivity and authenticity (Rosaen et al., 2008; World Bank, 2010) resulting in more change in perception or attributions than achievable by written-data (Schildwacht, 2012).

For both conditions, post-intervention descriptive data demonstrated a noticeable decrease, but not a complete absence of, child-related theories. Hence the written and video data continued to encourage consideration of child-related factors. Section 5.2.1 considered some of the literature reporting the potential benefits of video-reflection in educational contexts, including an insight into the complex relationships between school contexts and pupil behaviour (Barnhart & van Es, 2015) and, an improved capacity to consider situations from the perspective of pupils being observed (Sherin & Han, 2004). This study did not conduct a thorough analysis of the discussion nor did it apply inductive or multiple coding of the group theories, the potential learning from such approaches is discussed in Section 5.3.5. The analyses of coded theories (Appendix-25) however, demonstrate a degree of change in how behaviour was constructed or described by staff groups post-intervention. This supports the notion that dialogic and group approaches to CB may be helpful to interventions targeting staff perceptions and attributions (Millei & Petersen, 2014; Miller, 2003).

There was a marked decline in home-related theories for both conditions. This suggests that the written and video data did not encourage participants to consider causes of behaviour that were related to factors within the pupil's home, care or upbringing (see coding frames Appendix-19). Section 5.2.1 discussed the value of a systemic perspective, therefore no consideration of home-related factors may not be ideal (Weare, 2015). Nonetheless, these findings do suggest

that video-data, to a greater degree than written-data, may guide staff to consider the influence of school and within-child factors on pupil behaviour. Section 5.2.1 discussed the emphasis on home and within-child factors generated by the nature of the CoA discussion activity. The combination of video and CoA *together* may therefore be helpful to holistic formulations. This data also reminds us that school-based video data cannot fully support staff understanding of home-related factors. Discussion stimulated through the processes of CoA or, the role of facilitation is therefore valuable (Brophy, 2004; Calandra et al., 2009).

Findings from AttQ and group theories data are dissimilar; a statistically significant increase in school-oriented *group theories* was found, but for *individual* participant's school-related attributions, the observed increase narrowly missed statistical significance. This resembles studies discussed in Tripp and Rich's (2012) meta-analysis, where reflecting on video-data in groups versus alone, has produced different outcomes in reflective thinking. It must be recognised that despite efforts to reflect the items from the AttQ sub-factors within the coding frames, theories and attributions cannot be called one and the same thing – in particular, the theories were generated and volunteered through group discussion whereas the AttQ items were predefined and rated by participants in an anonymised and private manner. This could mean that attributions an individual holds on a personal level may be different to those that they share or, are willing to share, in a group. Thus, the group theories may not be fully representative of all participants in the group. In this study, the AttQ was completed prior to recording group theories – if this process was reversed then the impact of theories constructed in group settings would have confounded individual responses to a greater degree. While this manipulation holds practical value, this would have confounded insight into the impact of video on an individual and group level. According to a number of studies, group reflection enhances the influence of video-reflection particularly where there is a shared socio-cultural understanding providing the basis (Danielowich, 2014; van & Sherin, 2005; 2009, Youens et al., 2014). Danielowich (2014) concluded that group video-reflection can enhance change-directed thinking via the group setting and the inclusion of video. This study appears to support this.

More classroom experience of CB on the part of staff appears to be inversely related to positive views toward pupils with SEBD within the context of achieving inclusion (MacFarlane & Woolfson, 2013). In contrast, experience of video-enhanced professional development programmes may be positively related (Borko et al., 2008; van Es & Sherin, 2009). Within the current study the distribution of professional roles were roughly equivalent across conditions,

and SLT links stated their staff had not previously participated in video-enhanced GC, however individual differences in the participants' familiarity of, and professional relationships with the focus pupil were evident. Controlling for all the above factors may not align with applied-research, particularly as CB is a socially constructed phenomenon where staff are likely to discuss and interpret their experiences together (Millei & Peterson, 2014; Miller, 2003). Furthermore, collaborative or group video-reflection may generate more impact than individual reflection (Youens, et al, 2014) thus exploring the impact of video on attributions within group settings is ecologically valid and may be helpful to staff intervention regarding CB.

Despite the positive results in the current study (in the context of attributional literature), and the positive findings in published studies cited above, there are risks relating to group reflection which can hinder holistic formulation and objectivity (Jay & Johnson, 2002; Farouk, 2004). MacFarlane and Woolfson (2013) found that a key predictor of teacher attitudes toward pupils displaying SEBD, included subjective norms borne from SLT's expectations of the pupils. Due to the mix of SLT, teacher and non-teacher staff participants, similar subjective norms may have contributed to the findings in the current study. As stated, greater shifts in the experimental condition were observed therefore in line with Schildwacht's (2012) discussion, the content of written-observations may be more susceptible to such subjective norms through a greater likelihood of analytical or inferential comments, in comparison to the more descriptive detail offered by video. Facilitation also appears to mediate the video-enhanced reflective discussion (Brophy, 2004; Calandra et al., 2009) and according to Schein (1988), the presence of external facilitators can minimise risks of group reflection. The facilitation delivered in the current study was relatively consistent between and within conditions and was not explicitly implicated in RQs. Studies replicating the study may choose to explore the impact of longer-term video-enhanced GC, as long-term projects appear to improve group cohesion and subsequently enhance group-reflection (Borko et al., 2008; van Es & Sherin, 2005).

5.2.3.1 Summary

The findings indicate that video-data can encourage staff to think of more school-related factors and comparatively less about home and child oriented factors than written-data. In the context of staff problem-solving interventions within school settings this finding is positive as it suggests that staff focused more on factors that they may be able to impact. Overall the results crudely resemble apparently 'desirable' trends within much of the attributional literature from educational contexts. However, the usefulness of these trends in relation to aims of systemic thinking is questionable. Triangulation suggests differences between group and individual data. Thus as well as the video-data, processes within the CoA, such as group discussion, may have encouraged staff to consider a variety of causes of pupil behaviour. Individual differences such as experience of video-enhanced group reflection or familiarity with pupil, and risk factors associated with group reflection may have contributed to findings. Findings require replication due to the small sample sizes and low experimental control available during group research.

"Will participants who view video-data indicate to a greater degree than participants who view written-data, that the element of data was helpful and insightful when considering pupil behaviour?"

As the adapted-CoA employed is novel to the EPS and the LAs in which it was employed, gaining participant views shaped a smaller evaluatory aim. Reasons included the potential of pragmatic and ethical considerations concerning the use of video in school contexts (Mesquita et al., 2010; Youens et al., 2014) and, the practical value in exploring the impact of mechanisms of CoA (Gulliford, 2015). The evaluation questionnaire aimed to identify what participants found helpful within the overall process and highlight any differences in participants' views relating to video versus written data. Questions regarding the reliability of the evaluation questionnaire are discussed in Section 5.3.5. Discussion is presented in order of questions.

Question 1a: How (helpful) did you find the group session?

The majority of all participants and, to a slightly higher degree, participants in the video condition, positively reviewed their experience of the adapted CoA. This resembles previous studies evaluating the CoA approach (Dawson, 2013; Dempsey, 2012; Syme, 2011; Turner, 2014; Wilson & Newton, 2006) or other facilitated GC or PC approaches (Bozic & Carter, 2002; Brown & Henderson, 2012; Farouk, 2004; Stringer et al., 1992). Frameworks using video-enhanced reflection have also received positive reviews from participants (Borko et al., 2008; Grant & Kline, 2010; Sherin & van Es, 2008) however much of the video-literature largely draws on teacher-only samples and thus comparisons are constrained. Nevertheless, the present findings are of practical value as they imply the inclusion of video did not negatively impact participants' views of the framework. Replication of this study and implementation of more robust evaluatory approaches is appropriate.

The GC and video-related studies described varied in methods and measures as well as sample sizes. Bozic & Carter's (2002) sample consisted of twenty-five participants who completed a voluntary self-report questionnaire, whereas Dawson (2012) interviewed three staff and Turner (2014) undertook focus groups with thirteen staff. Grant and Kline (2010) and van Es and Sherin (2008) employed questionnaires with differing sample sizes whereas Borko et al., (2008)

interviewed eight participants. Furthermore, comparisons to published studies are questionable due to the potential of publication bias where only positive or significant findings tend to be available (Hart, 2010b).

Question 1b: How helpful did you find the elements?

Similar to Syme (2011), the current study explored the perceived helpfulness of a number of CoA processes (Section 4.6.1); including the element of 'data' so that insight into the comparative 'helpfulness' of video-data within and between conditions could be explored. Descriptive data indicate the 'helpfulness' of stimulus data was rated relatively higher in the experimental than the comparison condition. This suggests that the video-data was received more favourably than the written ABC-data, supporting the findings of Schildwacht (2012). Jones and Hastings (2003) explored data-types on staff attributions; they found that changes in staff perception are greater when participants view live or 'real' incidents than when the same incident is reflected upon in writing (vignette). This resembles the current findings, which suggest visual versus written accounts may be more salient or influential. However, the level of scaffolding during video reflection (e.g. prompt-types; Danielowich, 2014), nature of data and, setting in which data is reviewed can influence participant responses and learning (Gaudin & Chaliès, 2015). Within the present study, the scaffolding of video and written data could be considered similarly loose (as per Tripp & Rich, 2012). The impact of the potentially wide-ranging content reviewed per focus pupil cannot be accounted for. As alluded to before, systematic manipulation of the minutiae of video-data would be valuable however; this would require special efforts to maintain ecological validity and ethical integrity in the context of applied research.

In comparison to the element of video-data, the elements of *group discussion, visual record* and *EP-facilitation* were deemed relatively more helpful however, the differences were quite small. Both the experimental and comparison condition rated *group discussio*n as one of the most helpful elements of the CoA. Moreover, the data tentatively demonstrates that participants in the experimental condition found the video clips helpful. This supports literature stating that group dialogic approaches are positively appraised and considered valuable by staff (Bennett & Monsen, 2011; Brown & Henderson, 2012; Grahamslaw & Henson, 2015) and, maintains Borko et al.'s (2008) conclusion where "viewing and discussing video was the most valuable aspect of participation" (p.434). Furthermore, two studies also employing diverse samples identified that

video can stimulate reciprocal and collaborative learning partnerships despite perceived hierarchies within staff groups (Yoeuns et al., 2014). Thus, the elements of video-data and group discussion appear to be mutually reinforcing. This is further supported by the aforementioned finding where participants in both conditions rated the CoA as helpful – regardless of type of data reviewed.

As demonstrated above, video alone may significantly influence staff perception. Grant & Kline's (2010) sample commented that video-reflection was beneficial to their practice however, a small subset of participants reported difficulty in guessing what pupils were thinking or feeling from viewing video alone, thus the authors suggest that facilitation or supervision may aid video-reflection. This has been supported elsewhere (e.g. Brophy, 2004; Calandra et al., 2009; van Es 2012). Prizing apart the impact of these separate mechanisms or elements is complicated but valuable (Gulliford, 2015) Thus future research could include inductive and richer approaches to gathering evaluative views.

Question 2: Did you see / read anything that made you think differently about the origins of pupil behaviour?

Nearly all participants stated 'yes' to the above question therefore, inferential analyses were inappropriate. Following this, participants were asked to volunteer narrative comments. Some comments suggested the process itself was influential (Appendix 26), this was also found by Syme (2011). Critical to this study was the impact of video-data on staff perceptions regarding causes of behaviour thus, content analysis using the same coding frames for group theories was performed on narrative responses to identify the frequency of comments generated regarding home, school or within-child factors. Exploratory analyses tentatively suggest the video supported participants to consider *relatively* more school-related factors than the written-data. A comment from one participant in the experimental condition demonstrates an increased awareness of the typography and context of the pupil behaviour:

"I didn't think of the child as anxious but it is clear in class he has some anxiety issues"

This resembles literature investigating a variety of video-frameworks. For example, Grant and Kline (2010) coded one-hundred and eighty participant questionnaires and also interviewed and observed ten volunteer teachers. Analyses demonstrated enhanced reflection of pedagogical style, subject knowledge and a "deeper understanding of student thinking" (p.75). This shift in reflection focus towards pupil perspectives mirrors previous studies examining the learning

derived from video (Danielowich, 2014; Sherin & van Es, 2005, 2009; Youens et al., 2014; Rosaen et al., 2008; van Es & Sherin, 2008). Participants have suggested the video enhanced their ability to selectively attend to and reason about aspects of classroom interaction (Kennedy & Sked, 2008; Sherin & van Es, 2005; 2009). As the objectives and scaffolds employed across these studies vary, replication of the current study and research of the current evaluatory questions via other approaches is worthwhile.

5.2.4.1 *Summary*

The majority of participants rated the CoA session as useful, this suggests that the inclusion of video does not negatively impact this framework. Participants in the video condition considered the data as slightly more helpful than participants in the comparison condition. Interestingly, responses from both conditions suggest that group discussion was most helpful in providing support for development of dialogic group interventions. Narrative comments suggest that participants reviewing video-data considered school-related factors as contributors to their focus pupil to a relatively greater degree than the participants who reviewed written-data however, this data is largely exploratory. Current findings tenuously resemble extant literature which suggests contextual learning and insight into pupil perspectives can be enhanced through video-enhanced reflection. Given the vast differences in research questions and methodological considerations, replication of the current study and exploration of more robust approaches to evaluation are desirable.

5.3 Methodological Review

5.3.1 Introduction

This study responded to the lack of empirical and controlled research into problem-solving groups such as CoA (Bennett & Monsen, 2011; Gulliford, 2015). Based on arguments challenging the ecological and face validity of vignettes to measure staff attributions and perceptions (Jones & Hastings, 2003; Grey et al., 2002), this study employed measures relevant to the LA and considered new ways to capture attributions and perceptions via group theories which are part of the CoA process and which directly feed into espoused strategies and next steps. By employing a comparison group, the study aimed to more rigorously measure the impact of video-data. Triangulation aimed to support the reliability of findings, thus individual and group measures were employed and the analysis of qualitative data was considered in relation to the quantitative data to support insight.

The study benefitted from a pilot phase which utilised the experience of TEPS and EPs in the field regarding CoA, attribution theory and data analyses presentation. The pilot phase allowed some piloting of measures and reflection on the processes and equivalency of both conditions (experimental and comparison). Furthermore, the presentation of video-data was considered in relation to meta-analyses studies (Gaudin & Chaliès, 2015; Tripp & Rich, 2012) and a SLR in order to be ethically sound and as comparative as possible. For qualitative data and the measuring of treatment integrity, inter-raters were employed to minimise bias and identify outliers in order to increase the reliability and validity of findings. The reader is referred to Section 3.5 for actions taken to support the validity and reliability of the study.

Notwithstanding the above, limitations of the measures and methodological decisions remain and are now discussed. References to how future studies can respond to issues raised are discussed concurrently.

5.3.2 Validity and Reliability of Self-Report Measures

The AttQ, SDQ and Evaluation Questionnaire are self-report measures. Self-report measures are commonly employed in educational research (Kazdin, 2003) and practice (Ayers et al, 2015). The validity of these measures hinges on the honesty and motivation of the respondents and the construct validity of the measure itself (Wigelsworth et al, 2010). Transparency, social desirability, demand characteristics and testing-effect may also affect responses with

participants believing that they must indicate a desirable or positive impact of the intervention (Robson, 2011). Shifts in attributions and perceptions may also have occurred simply due to participation in an activity (Robson, 2011). Steps were taken to support reliability; respondents were told there was no right or wrong answer and that all responses were confidential, anonymous and valid. To minimise testing effects, the items and order of the SDQ and AttQ were counterbalanced.

Internal consistency checks supported the face validity of the AttQ. For the SDQ, a published and widely used measure (Weare, 2015), data pertaining to the validity of this measure was found as satisfactory-good (Goodman, 1997; 2001). However the SDQ used was for teacher-use therefore, the published validity and reliability of this measure cannot be readily generalised to non-teaching staff.

Unlike some published measures (e.g. CHABA-Hastings, 1997; Attribution Inventory-Poulou & Norwich, 2000) the AttQ permitted participants to consider a known focus pupil within their school context. In this way, the attributions and perceptions measured are situated in real-contexts, enhancing the ecological validity of the measure. While this study found satisfactory-good internal consistency, further studies from different UK-based contexts as well as longitudinal studies would be required to provide insight on the generalisability and construct validity of the AttQ.

The AttQ is grounded in literature spanning two decades, thus the items may require updating, broadening and diversification. New items could be generated in a similar manner to the exploratory factor analyses studies that informed the current AttQ (Miller et al., 2000; Miller et al., 2002; Lambert & Miller, 2010). The transparent nature of the school-related items may have been deemed threatening to staff, resulting in skewed responses and magnifying the self-serving bias (Campbell & Sedikides, 1999). A further look at the quality of the language employed may support staff to respond with less negative affect or bias.

Requesting the participants to respond to all items across AttQ, SDQ and Evaluation Questionnaire and allocating a neutral mid-point on the Likert-scale measures may have encouraged participants to select this neutral point for items they were unsure about. Use of structured response categories and nomothetic approach to analysis, may have limited insight and discounted individual differences (Yin 2009). Comparatively, the group element allowed

participants more freedom to nominate a variety of attributions. It was possible that some participants may contribute less or more to the group theories steps thus, an individual measure was considered important and an adjustment - where participants could suggest other, non-listed attributions was made to the AttQ.

5.3.3 Internal Validity

This study designated 2-3 weeks between pre-post SDQ and AttQ data collection to minimise the number of confounding factors (e.g. history effects) and reduce risks of sample mortality. However, the SDQ is meant to be re-tested after a periods of 6 months, thus it is possible the post-data was collected too soon which confounded results; more time may have allowed changes in perception to develop. Given the differences between group and individual data, the relatively small gap between pre-post-intervention data collection may have also had some impact on AttQ findings. This could suggest that the different metrics of measurement across the qualitative and quantitative approaches obscured triangulation to some degree (Yeasmin & Rahman, 2012).

When designing the study, a maintenance phase was considered to allow more time for change, however the reliability of data stemming from repeated measurement and maintenance phases regarding staff attributions is questionable (Syme, 2011). Furthermore, another iteration of SDQ and AttQ would increase risks such as practice and testing effects, implicating the reliability of this data. Nevertheless, the value of longitudinal studies is recognised.

Across conditions, participants' ages, ratio of gender and types of professional roles were roughly equivalent and schools were randomly allocated to condition to aid validity (Fox, 2003). However analyses of pre-intervention data suggest groups were non-equivalent in their attributions and perceptions of their focus pupil. This could indicate a sampling bias *or*, that the staff responses represented true and incidental variance in the nature of behaviour of focus pupils across conditions *or*, a combination of both. Subsequently, statistical analyses accounted for pre-intervention scores to provide a picture of differences post-intervention. Good treatment integrity supports the internal validity of this study.

The post-intervention measures of AttQ and SDQ were taken after the first set of group theories (Step-7). The preceding CoA stages, including the first set of group theories may have impacted this data. This confounds the understanding of the specific impact of video. The different points

of data collection for the individual measures and group theories may partly explain why there were differences in the findings demonstrated across these approaches.

ABC-logs are not uncommon in educational practice (Weare, 2015). All schools were asked to follow the data-collection protocol. Guidance was kept intentionally loose and similar across conditions. Nevertheless, the comparability between the ABC and the video data is questionable but served the purpose of highlighting the impact of video versus written data.

5.3.4   External validity

Due to ethical guidelines, video-clips and ABC logs were not collected nor analysed by the researcher thus, potential differences in the quality and subsequent impact of the data within conditions are unavailable, constraining generlisability. Guidance was given to schools which stemmed from studies discussing common and good practice (Tripp & Rich, 2012). These considerations support the ecological validity of findings and aimed to aid replication.

Viewing video of oneself in comparison to viewing others may trigger different cognitive, affective and motivational processes which may be mediated further by the review of video alone or in groups (Kleinknecht & Schneider, 2013). Not all participating staff featured in the video-clips or ABC log; future studies may respond to this by incorporating some ethically sound auditing of data (e.g. the nature of the behaviour, the individuals in the clip) which enhances understanding of the impact of the specific nature of data recorded and, if organised before data collection, aid control.

Variables such as socio-cultural context differ across schools (Miller, 2003) and are difficult to measure or control. As part of the applied research ethos and pragmatic epistemology, the constraint this places on external validity has been openly acknowledged throughout this study and responded to via triangulation of measures and cluster randomisation. Given the potentially strong influence of these phenomena (Farouk, 2004; Miller, 2003), researchers may take case study approaches that provide rich cultural and socio-political data to aid interpretation (Yin, 2009).

5.3.5   Trustworthiness of Qualitative Data

The group theories were qualitative data, interpretation of which is susceptible to bias or subjectivity (Mertens, 2014). To aid objectivity inter-raters were employed and good

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concordance was found in the coding. To support replication and triangulation and, reduce data into manageable mass, a-priori coding frames were created alongside EPs familiar with attribution theory. This approach was in line with the pragmatic epistemology and the RQs of the study. However, some theories and comments were split into two suggesting that the coding frames may have been overly simplistic. An inductively derived or, multiple coding system may have increased the depth and breadth of findings, however it is recognised that even the most carefully comprised codes may prove to be limited in real-world application (Drisko & Maschi, 2015).

Weiner's (1979) attributional theory provides three dimensions of attribution –this study categorised the content according to loci such as within-child, home or school. In retrospect, the *stability* and *controllability* theories were not adequately measured. This is demonstrated in the following two within-child pre-intervention theories (comparison condition):

- *"He has ADHD"*
- *"He displays attention-seeking behaviour"*

Both theories are coded as within-child, however the first suggests a diagnosis which can be deemed relatively stable and uncontrollable, whereas the second implies that adults may be able to alter the pupil behaviour through providing reassurance, and that there may be relatively more control exercisable on behalf of the child. Differences here may have elicited different levels of sympathy and empathy (Weiner, 2001) and therefore impacted staff perception of their ability to make a positive impact (Brady & Woolfson, 2008). Future studies should distinguish between these dimensions in order to identify implications on staff practice and pupil outcomes.

According to sport-psychology researchers Finlay and Faulkner (2003), attributions arise through a process of social interaction, rather than being the reflection of inner states or deeply held beliefs. The authors argue measuring attributional change via content analysis is limited as this focuses on the outcome (i.e. attribution-type) and fails to measure the "slipperiness" (p.10) of attributions within interaction. Thus, future studies may adopt discursive approaches such as conversational analysis of attributions which also consider the language of the facilitator and the type of video data used. Measuring the interaction between participants and of all three dimensions of attribution may highlight *how* video-data within group discussion influences attribution change. This could further inform facilitators about the effectiveness and efficacy of video-data type and scaffolding in order to aid problem-solving in relation to CB. On the other

hand, replication with larger numbers of groups would add further weight to findings of the current study.

As part of the evaluation, participants could provide a narrative explanation regarding whether they had 'seen or read anything that made them think differently about the origins of the pupil behaviour'. Due to a number of process-related responses, the face validity of the question is arguable. In hindsight the question would have benefitted from the explicit mention of the word 'data'. However, the majority of responses were relevant and codeable. To provide further insight, future studies may benefit from focus groups or semi-structured interviews which allow participants to give more detailed responses, explain vague or conflicting comments and importantly, identify mechanisms of video-enhanced group problem-solving that supported or hindered different types of attributional change. Richer data may also improve the robustness of the design.

Due to ethical considerations such as the sensitive and confidential nature of the group discussion, the activity of transcription was completed by the researcher only. Researcher interference and bias during the transcription of the group theories was responded to through the use of member-checks and inter-rating. Nevertheless, inferences from this data and the narrative comments from the evaluation questionnaire are constrained as the data is exploratory. Replication of the current study, with larger samples and tighter controls, including improved measures, would aid the reliability of findings.

Triangulation of the quantitative and qualitative data was attempted via the AttQ, group theories and narrative evaluation comments in order to widen and broaden understanding of the impact of video on attributions and perceptions. However the measures applied varied in sensitivity, reliability and metric of measurement thus, comparisons of outcomes are not conclusive (Yeasmin & Rahman, 2012).

5.3.6   Reflexivity

The researcher was closely linked to the study through previous experience working with pupils displaying CB and as a practitioner interested in video-enhanced consultation. Given the duality of the researcher's role, regular supervision with Supervisory EP, and other EPs and TEPs aimed to aid objectivity and rigour. This assisted the researcher to deliver facilitation in a consistent manner across schools, whatever their allocated condition. The piloting phase,

regular debriefing with the GFs and use of a research journal promoted reflexivity and highlighted threats regarding the reliability and validity of the study. Consequently, the researcher-TEP has been able to bridge her experience with learning derived from the current research including theoretical mechanisms underlying video-reflection and group-problem solving as well as enhanced insight into impacts of CB on pupil and staff.

5.3.7   Ethical Considerations

Ethical approval from the UoN was achieved. Participant and focus pupil ethical rights were reiterated to stakeholders throughout the study. The level of control with the collection and selection of video and written data was considered in line with ethical principles.

While participants were aware of their ethical rights and volunteered to participate, it is possible that the enthusiasm of their SLT may have influenced some participants' decision to take part. Through facilitating the CoAs, the researcher heard comments which suggested some participants may have been a little apprehensive to hear or see themselves on the video-clips in front of others. Some 'practice' viewing of participants by themselves and with peers prior to the CoA, may have supported them to feel more comfortable.

5.4 Future Research

5.4.1 Introduction

Research is a key activity for EPs and supports moves toward evidence-based practice (Farrell et al., 2006). CB is a key and current correlate of exclusion rates (DfE SFR 28/2015) and negative attitudes toward pupils perceived to be presenting CB has been considered harmful to inclusive practice (Tait & Purdie, 2000). Thus research into how staff view and construct the concept of CB remains necessary. Suggestions for future research have been presented throughout this discussion in relation to findings (Section 5.2) and methodological considerations (Section 5.3). This section summarises aforementioned, alternative approaches to explore the current RQs and, extends this further through research approaches which may provide insight into the impact of *similar interventions* on staff and pupil outcomes.

5.4.2 Suggestions for Future Research

- Employment of measures building upon the AttQ and coding frames sensitive to all dimensions of attributions suggested by Weiner, such as Stability and Controllability. Analyses may then highlight the impact of video on the *types* and *dimensions* of attributions generated through self-reflection or through dialogue.

- Qualitative case studies, discursive or other idiographic approaches (e.g. conversational analysis; Finlay & Faulkner 2003), could build on the current research and provide a wider, more contextually poignant *range* of possible attributions and, highlight *how* attributions are formed in group settings using video examples situated in schools. This resonates with Gulliford (2015) who highlights the importance of measuring the complex, dynamic and interactive chains of causality characteristic of consultative frameworks such as CoA.

- Comparisons of different types of feedback on staff attributions and perceptions of the same pupil or, pupils displaying a range of behaviours. The types of feedback could be video, written and verbal within sub-conditions such as individual, supervisory and, peer feedback. This may provide insight into the relative merit of video or other types of feedback in different conditions.

- Studies may compare the impact of video versus written data without the impact of CoA. Participants could be split into 2-3 groups with the presentation of the different types of data being counter-balanced and where pilot studies confirm that the content of the written data resembles the video data. However, the ecological validity of findings would be constrained if video-samples are not based on pupils familiar to staff. Research into the context-relevant and common patterns of CB may support ecological validity and inform the selection of CB examples presented.

- The presentation of video-data within different frameworks, guided by alternate principles or theoretical underpinnings may impact attributions (Gaudin & Chaliès, 2015). Comparing different frameworks with CoA would provide support for the types and processes of consultation which are complementary to video. Similarly, the positioning of video at different points within the CoA such as before Problem Presentation or before the Voice of the Child steps may provide insight into changes in mechanisms and subsequent impact on attributions. Also as studies suggest longer-term exposure to video as part of learning communities enhances video-reflection (van Es & Sherin, 2008), studies could compare the impact of video within CoA or other facilitated GC over a period of time. The emotional and cognitive effects of this and, reports of staff intentional practice could provide insight into the development of staff professional development programmes within UK-based school settings.

- In response to studies highlighting impact of individual differences, participant features or professional characteristics such as experience of CB, experience of video-enhanced reflection and group cohesion may be controlled or identified to ascertain potential correlations between these differences and the impact of video on attributions.

- Within the CoA, strategies are linked to the theories donated therefore, analysis of the impact of video on staff theories, attributions and strategies as well as a follow-up maintenance phase to monitor integrity and efficacy of suggested strategies would provide insight into pupil outcomes. Related to this, staff could identify their own learning goals where specific target behaviours are monitored and supported by self-report learning logs (see Danielowch, 2014). Pupil outcomes could also be ascertained through semi-structured interviews where pupils discuss their experience of implemented strategies alongside objective measures such as rigorous target behaviour observation, attendance records or academic progress.

5.5   Implications of Study

5.5.1   Introduction

This section summarises some of the wider implications of the outcomes of the current study.

5.5.2   Implications for EPs or Facilitating Consultants

In order to enhance consultative practice, studies have called for researcher-practitioners to investigate ways to improve problem-analysis processes within psychological consultation (Newell & Newell, 2011; Nolan & Moreland, 2014; Nugent et al., 2014; Truscott et al., 2015). This study found that video supported some staff to consider interactions between school-related and child-related attributions regarding CB. This suggests video may be useful to school-based consultants (e.g. EPs) and practitioner-researchers when supporting staff to gain deeper insights into classroom interactions and behaviours (Steward, 1969; Forsyth, 2014; Rush, 2012).

This study found that facilitator-researchers may guide staff with pragmatic and ethical considerations pertaining to the collection and review of the video clips regarding CB. This resonates with studies documenting the need for external consultants or facilitators to enhance the outcomes of video-reflection (Brophy, 2004; Grant & Kline, 2010) and authors who state EPs are well positioned to support staff problem-solving ability (Annan et al., 2013; Hart, 2010a)

The study also highlighted some considerations for practitioners and consultants interested in facilitating staff attributions. First, the framework or scaffold underpinning video-reflection must be carefully considered in relation to what is considered desirable attributions to the school staff or, the focus pupil in question. Second, facilitators and consultants may need to consider conditions of group and sole reflection. These decisions are important to practice as they may differentially influence staff attributions and perceptions.

Video is not a panacea – when framed in group reflection, facilitators and practitioners should be curious and responsive to the nature of the group's cohesion with special attention to potential risks such as group conformity and group polarisation as these may interfere with the aim for an objective and holistic formulation of the 'problem' (Farouk, 2004).

Facilitators and EPs should know that despite the positive literature and current findings, video is still open to bias through the collection and selection of clips. Thus part of a facilitator's role may involve guiding staff during the collection of video-data on aspects such as the content and quality of clips. For example, facilitators may suggest a selection of positive instances or mixed clips of typical and atypical behaviour or support individuals readiness for group reflection (Bryan & Recesso, 2006). This would be informed by the learning objectives of the staff group, the school context and a need to be ethical and representative of the child (Youens et al., 2014).

5.5.3   Implications for Policy

The current and published research suggest complexity in how attributions may be formed in relation to a particular pupil's behaviours and, in how they made response to different kinds of information including group discussion, video-data and processes within a given framework. These findings might be recognised by policymakers and practitioners aiming to facilitate attributions in relation to CB.

The importance of involving children and young people (CYP) in decision making around their SEN has been recently restated (DfE, 2015). Thus, policy and guidance may consider the ethical and appropriate use of video-data in a bid to involve CYP in processes similar to CoA.

5.5.4   Implications for Local Authorities

LAs aiming to maximise resources, may consider indirect delivery EP services such as facilitated GC frameworks as they aim to support the problem-solving ability of staff as well as seek to encourage inclusive practice in response to challenging pupil behaviour. Through the use of video equipment, it is possible for EPs to collaboratively conduct and reflect on observations of pupils across several contexts in a relatively shorter space of time compared to in-vivo observations. In some ways then, video-enhanced GC approaches could mutually support the aims of indirect service delivery.

5.5.5   Implications for Schools

The video-enhanced CoA was positively appraised. This suggests that staff respond positively to such interventions and may be engaged and feel supported by the same. This finding is relevant in the current climate where schools are required to be self-improving and where staff

are encouraged to increase ownership and engagement in problem-solving around CB (Ainscow et al., 2016; Evans et al., 2004).

This study found that video-observation was more powerful in influencing staff attributions than written ABC logs. In light of the requirements for schools to be self-improving (Ainscow et al., 2016) schools may benefit from a review of the types of observation or feedback procedures as part of their staff professional development programmes and interventions related to CB. However, video-data collection and conditions for review would need to be carefully considered in light of structural (Cherrington & Loveridge, 2014), pragmatic (Mesquita et al., 2010) and socio-political factors (Brophy, 2004). This may implicate the need for further training and/or an external consultant or facilitator (Borko et al., 2014).

5.5.6   Implications for Pupils and Individuals Featuring in Video-clips

The CoA has been criticised for disingenuously considering the 'voice' of the child being discussed (Dawson, 2013). This study here suggests that video-data may have supported an increase in staffs' awareness of the pupil's behaviour within the school context. This supports Steward's (1969) view that through video-based observational approaches, the perspective of the child may be positioned more fairly and accurately. This aligns with current policy (DfE, 2015) and may improve the efficacy of interventions for pupils with SEBD (Weare, 2015).

5.5.7   Implications for the CoA Approach

The CoA process intends to enhance staff objectivity and provide a systemic perspective (Wilson & Newton. 2006). This study found that video-data can support this aim. This is made possible through the current CoA processes where staff are explicitly encouraged to suggest theories regarding the causes of pupil behaviour that draw on the information shared in the discussion activity. Staff are also asked to consider strategies that they intend to use to support desirable pupil behaviour and again, these are linked to the theories provided and thus also stem from the preceding discussion activity. Therefore, the prompts or data used to stimulate staff discussion and guide their thinking around how a behaviour is triggered or reinforced can be an influential source of information in the steps of theory or strategy.

Through providing the staff with video-clips of the child based in school contexts, this study found that staff were able to consider the interaction between school and child related factors on the child's behaviour. Thus, video-data may be used within the discussion activity as a way of

providing 'data' or information which is not solely based on staff views or secondary and retrospective perspectives. Literature stemming from the field of education suggests that the inclusion of video-data may be viewed as a means to encourage dialogue and joint reflection between staff members. Thus, when attending a video-supported CoA session staff may be able to share views and co-construct behaviours in the dialogic space which is created by the CoA and further enhanced by the use of video as an artefact situated in school contexts. Therefore the authors Wilson and Newton (2006), through development of the CoA framework, may consider the inclusion of video-data in a manner which is deemed complementary to the CoA's underlying theoretical viewpoints and aims.

Chapter 6: <u>Conclusion</u>

6.1 Introduction

A synthesis and reflection upon findings and related implications is presented below. For this purpose, a synoptic reminder of the study's rationale and unique contribution is offered.

6.2 Revisiting the Rationale, Aims and Unique Contribution

Schools are increasingly being required to take ownership of and respond to national drives (Ainscow et al., 2016) to prevent exclusion, boost inclusionary practices and cultivate staff professional development programmes in relation to challenging pupil behaviour. EPs are implicated in the above through supporting staff to problem-solve and cogitate underlying causes of CB that may enhance their perceived and, actual ability to respond in a manner that supports pupil outcomes (Miller, 2003; DfE, 2015).

The primary purpose of this study was to explore changes in school staff perceptions and attributions of behaviour following participation in a video-enhanced CoA intervention. The inclusion of video-data stemmed from literature demonstrating the positive impact of video-enhanced frameworks on staff reflective and reasoning abilities, as well as cultivating a heightened awareness of pupil perspectives. Furthermore, despite positive staff reviews the processes within CoA framework require attuning (Gulliford, 2015). This study appears the first attempt to explore the influence of video within GC such as CoA and aimed, through merging these elements to identify the value of video-enhanced GC frameworks.

This study employed a mixed-methodology involving individual and group measures, and triangulated quantitative and qualitative data. Gaining participant views incorporated a smaller evaluatory aim. The design and implementation of this research inevitably influenced the findings (see Methodological Review; Section 5.3). Nevertheless, the current study led to a number of tentative conclusions which are detailed below. Due to the methodological considerations and novel approach applied, these conclusions require further support through replication of the current study and research using inductive lines of enquiry (see Future Research Section 5.4).

6.3 Conclusions Drawn

Video-data can support holistic formulation within CoA and, can highlight particular aspects of behaviour.

Comparisons of pre and post individual measures found that video-data aided staff holistic formulation. Findings demonstrated increased attention to aspects of behaviour that were perhaps previously unnoticed or maybe only tacitly known. The written-data elicited one specific change in staff perception and no changes in staff attributions were found. Thus, video-data appears more able to generate holistic thinking than written ABC-data. Given the requirement of 'good' quality data for accurate problem-analysis and subsequent intervention efficacy (Newell & Newell, 2011; Nugent et al., 2014) this result is key.

Video-data and CoA processes influence attributions in different ways: for holistic formulation, both may be beneficial.

The individual measures demonstrated an unexpected relative increase in home-related attributions for the experimental group. Given that the video-data contained no information relating the pupils' the home context, this finding may have stemmed from the discussion borne out of the CoA process. Thus, it is possible that the informational influence of the group discussion within the CoA is salient and, may be greater than that originating from the video-data. Potential conceptual pulls between the psychodynamic processes of CoA and situated, contextual examples of pupil-behaviour within school are tenuously deliberated throughout the discussion. Thus an awareness of *school plus child-related* factors may have stemmed from school-based video-data whereas awareness of *home plus child-related* factors may have arisen from the CoA discussion activity or, the participants' prior knowledge. While attributional literature suggests staff emphasis on home or, child related attributions reduces the likelihood of inclusionary practice, an understanding of the same may, to some degree, be beneficial to the aim of holistic thinking and increase empathy for the pupil being discussed (Weare, 2015). Based on attributional literature then, the video-data holds practical value whereas in light of systemic views, the combined impact of these elements are significant. This is not to undermine the value of attribution theory in relation to CB but to consider other current perspectives on interventions which value systemic thinking (Weare, 2015).

Video-data differentially influences individual versus group consideration of CB.

A greater consideration of school factors appeared more prominent in group than individual measures of attribution and perception. The group measures showed that post video-review, participants discontinued consideration of home-related factors and simultaneously increased consideration of school-related factors. Awareness of child-related factors continued. The individual measures showed participants pointedly considered home-related factors. This triangulation suggests that during the group activity participants did not 'forget' home-related factors but that the manner of video-reflection during group discussion led to an increased recognition of school-factors. This would also support situated and socio-constructivist perspectives where inter-level or socially constructed examinations of behaviour can be more influential than examinations on the intra-level (Vygotsky, 1978).

The inclusion of video-data may enhance the positioning and voice of the child regarding the school context.

The group data demonstrates an increased awareness of the interaction between the school and child related factors; this is a favourable finding in light of guidance (DfE. 2015). Considering prior criticisms of the CoA approach, including the inauthentic attempts at positioning the voice of the child (Dawson, 2013; Turner, 2014) this finding may inform development of the CoA or, similar GC frameworks. As the CoA framework explicitly asks participants to devise strategies and identify their next steps on the basis of theories, there is merit in considering video-data to influence theories in order to empower staff and aid awareness of the child's perspective. Thus, despite difficulty in exercising experimental control, studying attributional shift in groups of staff is worthwhile and requires further more robust approaches.

Video is not a panacea

Unexpected findings in the current study suggest that the CoA discussion may hold a strong influence over perceptions. The clips were collected and selected by staff, whilst this may encourage staff ownership and ecological validity (Tripp & Rich, 2012), it highlights the potential of subjectivity and bias regarding the content and quality of clips. Due to the different impacts of video on the individual versus group measures, video is best considered a tool and not the medium by which individual or group attributional and perceptual shift is powered. Furthermore, the framework or facilitation scaffolding video-reflection cannot be undermined. Research concerning the impact on pupils implicated in the video-data is also needed to inform ethical research and practice.

The inclusion of video in CoA does not negatively impact staff participants' experience of participation

Staff involved in the current intervention reported positive views, suggesting the inclusion of video-data was not detrimental to the generally positive staff feedback regarding CoA in extant literature (Brown & Henderson, 2012; Grahamslaw & Henson, 2015). Narrative commentary suggested that video-data provided staff some insight into school-related aspects contributing to the focus pupil's behaviour. Challenges in deriving inferences from the qualitative data and the potential presence of individual differences are acknowledged. Overall, the findings indicate that staff perceive video-data as helpful and that video-data may to some degree, support their insight into the causes of pupil behaviour.

Summative Conclusion

This study represents one of the first attempts to explore the impact of video-enhanced group consultation frameworks on staff attributions and perceptions of pupil behaviour. Findings demonstrate that the combination of school-based video-data and GC frameworks, such as the CoA, may provide insight into the causes of pupil behaviour within the school context without ignoring the potentially important influences of the home and early childhood context on that pupil's behaviour. Thus, when exploring challenging pupil behaviour, this study proposes that EPs and educational practitioners may find video-enhanced GC a useful addition to their repertoire of consultative approaches.

To optimise the influence of video on staff attributions on inter, and intra-psychological levels, replication of the current study is appropriate. Inductive lines of enquiry and long-term projects would aid and expound inferences. As a result, research measuring the impact of video-enhanced GC on staff practice and pupil outcomes is considered a valuable next step.

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Appendices

Appendix 1.   Espoused Benefits of Indirect and Collaborative Problem-solving Approaches used by Educational Psychologists when supporting School Staff

Indirect service delivery is a preventative as well as remedial measure - supports building of consultees' (teachers or school organisation) capacity (Truscott et al., 2012) thereby potentially targeting larger numbers of pupils	Collaborative working uncovers the attributions of teachers and pupils, this information can positively impact EP/consultant effectiveness in support; reframing problems can make them appear easier to manage and solve (Miller, 2003).

Collaborative working increases teachers' engagement as it allows EPs to frame the problem as teachers see it and generate a realistic account of resources and plausible solutions (Gillies, 2000). Furthermore, treatment integrity increases when staff perceive a 'fit' between the perceptions of the problem and the intervention (Schulte & Osborne, 2003).
This complements social learning and motivational theories which state in order to be successful, problem identification and interventions should be owned by the consultee (e.g. self-determination theory; Deci & Ryan, 1985)

Indirect service delivery allows an understanding of the ecology and socio-environmental situation of the 'problem' (Gutkin, 1999a).	Within some consultation processes, consultee objectivity is enhanced through access to consultants' knowledge base **and** process-based skills (West & Idol, 1987; Conoley & Conoley, 1982).

Collaborative working allows affirmations of the positive. By identifying and drawing on teacher's successes and strengths, rapport between EPs and teachers can improve (Wagner, 2000). In return, the perceived self-efficacy of staff can increase as they are given 'verbal persuasion' and experience of 'mastery' (Bandura, 1977).
As staff may experience positive affective states through empowering and collaborative feedback/consultation, they are likely to increase in their orientation toward feedback and reflection (Bandura, 1993).

Indirect service delivery model is beneficial for the EP Services, it allows best value & clarification of the EP role (Leadbetter, 2006) as well as opportunity to undertake joint working between EPs and staff in school (Gillies, 2000). Also, indirect service delivery can enhance school and parent ratings of the service (Wagner, 2000).	Research shows teachers' confidence about their ability to manage problems is significantly higher following consultation. (Wagner, 2000). Teachers support collaborative approaches over expert approaches (Babcock & Pryzwansky, 1983).

Containment

This describes a process where projections or emotions produced by an individual are 'held' or checked by the other. In doing so, the individual being contained is able to feel safer which may lend to better functioning. Within the CoA, the facilitator guides the staff through a process which aims to contain them.

Transference

Transference is the unconscious redirection of feelings from one person to another. This may stem from a repetition in the present of a relationship that was important in a person's childhood. Within the CoA, the facilitator asks questions around this phenomenon.

Counter transference

This is the occurrence of experiencing feelings and/or acting outside of your normal pattern of behavior as a response to one person's treatment of you. For example, a teacher may take up the role of a parent through responding to a pupil's behaviour and transference stemming from this relationship. Similar to above, the facilitator asks questions which brings out the awareness in the staff regarding any counter-transference they may be exhibiting.

Projection

In a general sense, psychological projection can mean that people assume that other people share their thoughts or beliefs, good or bad. Psychological projection is also considered a form of defence mechanism in which someone attributes thoughts, feelings, and ideas perceived as undesirable to someone else. For example, a pupil who may appear to struggle with containing their anger over an unjust situation, while believing that anger is socially undesirable might come to believe that their teacher is always angry thereby *projecting* his or her 'anger' onto the other person. During the CoA process, the staff participating may learn about the child's projection through the Voice of the Child step, or the projection of others onto the child via steps such as the Problem Presentation and Exploration of Relationships.

Appendix 3.　　　The Systematic Review Map; inspired by Gough (2007)

1. Formulate a clear review question

2. Define the studies required via inclusion (and exclusion) criteria

3. Apply a search strategy according to criteria

4. Screen studies to ensure criteria is fulfilled

5. Describe (map) the studies identified

6. Review quality and relevance of studies

7. Synthesise findings in relation to review question

8. Communicate and interpret application of review findings

Appendix 4.   <u>Rationale for Excluding Papers during the Systematic Literature Review</u>

Database	Study		Reason for exclusion	Stage of exclusion
ERIC	1	Graesser, Jeon & Duffy (2008)	Irrelevant sample and dependent variable: The study concerns the impact of a programme called Auto Tutor on pupil responses	Abstract
	2	Antle (2013)	Irrelevant sample and dependent variable: The study concerns the impact of audio-visual feedback on children's spatial puzzle solving	Abstract
	3	Molinari, Mameli & Gnisci (2013)	Irrelevant dependent variable: The authors use video recordings to identify and categorise different types of classroom discourse	Abstract
	4	Nixon & Helms (1997)	Paper is a narrative review which discusses traditional versus distance learning approaches	Abstract
	5	Topping, Peter, Stephen & Whale (2004)	Irrelevant outcome/independent variable: The use of video was for purposes of implementation integrity in the context of peer tutoring	Abstract
	6	Tanner & Jones (2007)	Irrelevant dependent variable: The study is concerned with the impact of video reflective dialogue on pupil in the context of ICT lessons	Abstract
	7	Bautista, Cañadas, Brizuela & Schliemann (2015)	Irrelevant dependent variable: The authors concerned with the way teacher's implement the use of graphs in Mathematics lessons	Abstract
	8	Sun, Wang & Chang (2013)	Irrelevant dependent variable and outcome: 8The study focuses on simulation-based design tools and their effects on pupil learning processes.	Abstract
	9	Bradburn (2013)	Irrelevant dependent variable and foci: The study describes a process a librarian discovered and implemented in regards to the changing role of one librarian and their library	Abstract
	10	Sue & Snyders (2014)	Irrelevant sample and dependent variable– This study explores the development of writing in kindergarten-age children	Abstract

11	Schäfer & Smith (1996)	Irrelevant outcome and dependent variable: Compares teacher versus pupil views regarding types of play-fighting	Abstract
12	Bakker, van den Hoven & Eggen, (2015)	Irrelevant foci: This study explores staff ability to focus attention via the concept of 'peripheral interaction' with technology	Abstract
13	Stamatis & Kontakos, (2008).	Irrelevant dependent variable and outcome: This study is concerned with staff classroom interaction, in particular staff tactile behaviour and their perceptions of the same	Abstract
14	Tripp & Rich (2012)	This study is narrative paper which discusses 63 studies using a variety of different video analysis processes.	Abstract
15	Hennessy & Deaney, (2009).	Irrelevant focus: The authors discuss the collaboration of researchers and practitioners in a participatory action research project where the use of video is being discussed, not the impact of video on perceptions	Full paper
Database	**Study**	**Reason for exclusion**	**Stage of exclusion**

The left side of the table is labelled vertically: OVID-PSYH-INFO

Appendix 5. <u>Tabulated Summaries of the SLR Papers</u>

Study	Aim and variables	Participants	Design	Analyses	Outcomes	Implications or conclusions
Danielowich (2014)	To examine the impact of two video-enhanced reflection conditions: self and group (identified as peer) before supervisor feedback on teacher's quality of change-directed thinking.	6 American pre-service, secondary school biology teachers placed in 6 different schools. All participants were supervised by the researcher during their training.	Opportunistic sample. Case study and action research designs informed the self and group video-reflection iterations. Study drew on previous (multiple case studies) data and altogether spanned one year.	The alone and group reflection data was transcribed and coded using a grounded theory approach. Eight journal entries were 'searched' for how teachers intended to change their practice and appraise pupil needs. Data were coded, triangulated and member-checked. Individual semi-structured interviews at the start, middle and end supported teachers to evaluate their strengths and weaknesses and refer to their goal development.	The group-video condition appeared to elicit more (and faster) development of richer interpretations of the video analysis than when in the self-video condition. Learning and change-directed thinking was inversely related to the degree of scaffolding	Video-enhanced reflective framework can support reflective ability. In particular, peer-video sharing context may help teachers to develop holistic formulations and see from the perspective of the pupil. Protocols across video-based reflective frameworks should be considered in relation to specific or individual professional development needs. For example, some teachers may benefit from private introspection and, loosely-scaffolded group contexts may enhance and diversify teacher perspectives on classroom interactions

Study	Aim and variables	Participants	Design	Analyses	Outcomes	Implications or conclusions
Kleinknecht & Schneider (2013)	To compare teachers cognitive, affective and motivational responses to watching footage of themselves versus others teaching.	Involved ten eighth grade mathematics teachers matched into five pairs on the basis of gender, subject taught, years of teaching experience and video observation.	Quasi-experimental study. Teachers were split into two conditions – watching self versus watching others. Teachers accessed computer-based online session which presented researcher selected-video excerpts, tutorial, general lesson details and information on impact of focused and unfocused questions. Sessions were split into two stages; first stage provided no foci for observation, and the second stage required teachers to focus on questions or interactions which elicited higher cognitive activation from pupils. Teachers asked mix of open and closed questions to tap into emotions, resonance and immersion per video-enhanced session.	Four coders coded data using pre-defined categories adapted from a pilot study. Twenty per cent of the data set was inter-rated; satisfactory to good accordance was demonstrated. Teacher comments and item-ratings were analysed using descriptive and statistical measures. Correlations between the cognitive, emotional and motivational processes were illustrated through quantitative analyses.	The authors found teachers watching their own videos were generally less critical and less able to identify alternatives to situations in the videos. Furthermore, watching videos of others' teaching more often activated negative emotions such as disappointment.	Different emotional and cognitive reactions appear to be implicated when watching videos of oneself versus others. Loose-ended and open-ended questioning or facilitation during reflective activities may present a relatively better opportunity to elicit a truer breadth of perceptions than closed or fixed questioning.

Adapted from Circles of Adults DVD – by Inclusive Solutions Ltd. Developed by Derek Wilson

and Colin Newton (Wilson and Newton, 2006)

STEP & TIMINGS	ELEMENTS & SUGGESTED SCRIPT: Check: 1.TIME & 2.Use of Prompts (content and order) ✚ : Objectives of step • :Script/Prompts	Verify NOTES -
PREAMBLE 5-8 minute	✚ Welcome group • Circles of support can make a difference to us all. We are here today to begin our circle of support for each other around one particular focus pupil. The task of understanding and coping with emotional turmoil and hard to manage behaviour is not an easy one. So the aim of CoA is to allow emotions, and reactions to be shared and to generate a deeper understanding of the individual pupil. Aspects of the system which help and hinder are explored, and detailed problem solving is engaged in. These groups are powerful and do make a difference. • Today we are focused on… • Introductions: name/what is your relationship to (focus pupil)	1: 2: Notes:
	✚ Share/point to the adapted process • You have been given copies of the process and so I am hoping there are not 'surprises'. • This is an adapted 12 stage CoA... • It includes data... • If you feel that there is anything that has caused you concern - either with the process or the content please raise it with me at the end or later if that feels safer. You can also let your link EPs know. • At one point we will retake the measures you completed individually – this is the part of my research. If you ensure your names then I will anonymise these tonight. • There may be times when we start drifting into other stages – please don't mind if I bring the focus back to the relevant stage – this is to ensure that we keep the process smooth. • Questions? ✚ Agree timings: to enable the process to be smooth, I have some time frames to stick to. Are there any special considerations?	1: 2: Notes:
	✚ Explain the role of the facilitators • We will facilitate the process. • We are going to keep a graphic representation of what is shared – this is for you. • Your role is to take part within the process…	1: 2: Notes:
	✚ Identify who will take the role of the 'problem presenter' and the 'voice of the child' • X will present the concerns/perspective around focus pupil… • Y will present the perspective of the child as if they were in the process…	1: 2: Notes:

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1.GROUND RULES
6-7 minutes
	⚜ Participants asked to suggest ground rules to enable them to feel safe to discuss the young person
	
	• Effective group work requires clear boundaries and one way pf providing these boundaries is by establishing a set of mutually agreed rules which help us to take ownership of the circle.
	
	• There are some ground rules already. This will make sure the process is safe. For example,
	
	▪ **Confidentiality** – no sharing of information unless agreed as part of the process/ we all own confidentiality outside of this room… unless safeguarding or in the best interest s of those it concerns – check in with them first – clarify the concern.
	
	▪ Participants to take a **'break',** choose to 'pass' as they wish or need.
	
	▪ Participants to **speak their own opinions** – allow **others to speak for themselves.**
	
	▪ Participants to ask any questions and **seek debriefing as required.**
	
	• Participants to **NOT mention names** of other pupils who are not the focus child.
	
	• One rule to add is to **avoid giving premature advice** –sometimes this may lead to one individual feeling disempowered or resistant or overloaded – so please speak from your own experience, provide positives along with negatives.
	
	⚜ What sort of ground rules would you like to add? (GF TO ADD SHORT SENTENCES)
	
	⚜ Ground rules will be visible & referred to if needed and other rules may be added as we go along, e.g.
	  ○ *Respect for one another's contributions/choices/actions*
	  ○ *Respect of our diversity: includes religious/moral stance, sexuality, ethnicity etc.*
	
	Graphic Facilitator – summarises ground rules (state key words only)
		1:
		2:
		
		Notes:

2. PRESENTATION OF PROBLEM **10-15 minutes**	✚ Problem presenter is asked to give the full story about the pupil ✚ Encouraged to include information about age, looks, family/home and school ✚ Encouraged to identify positives as well as concerns about behavior ✚ Rest of the group are invited to add further information. ✚ Opportunity for the group to ask the problem presenter any questions they might have about the pupil/situation • As X knows 'child' very well they will be asked to describe any information about the young person which they think may be relevant. • Following this, I will invite all of you to contribute any additional information about the young person's current situation so that a 'rich' picture of the young person is created. • Or, if you think of something you would like more info on, you can ask X for more information. ✚ *Address 'problem presenter'* • Can you share as much of the story as possible, for example -how old? What he/she looks like? What is the home/school situation? Also - what are you stuck with? • Whilst you share the full picture I will ask the rest of the group to just listen until I open it up. ✚ *Information Share* • Some of you may know (the child) here is an opportunity to share anything not yet mentioned. • Who has got something to share? • Anybody else? ✚ *Questions from Group* • This is a time for the group to ask questions. • Think about questions – are they helpful to explore the child? • Ask answerable questions and avoid giving advice/strategies at the moment - finding out about situation - Anybody else? **Facilitator** – Summarises what is shared- draws out themes. **Graphic facilitator records the responses using a combination of key words and graphics**	**1:** **2:** **Notes:**

3.EXPLORATION OF RELATIONSHIPS **10-15 minutes**	✚ Problem presenter is asked to describe the history/story of <u>their relationship</u> with the pupil. ✚ Through questions from the facilitator, this stage aims to encourage the problem-presenter and other members of the group to consider the quality of their relationship with the young person. ✚ **Address Problem Presenter:** • I'm going to ask you first about X's relationships, I would like you to describe your relationship with X. • Ask 'if I was a fly on the wall what would we see or say about your relationship?' • Ask 'if you were on a remote desert island with him/her how would it be?' ✚ **Ask the problem presenter and the group** • Ask 'in the entire world, who do you think loves _____?' • 'Does he/she remain you of anyone?' • Does X bring back feelings from your past? • Who or what situation are you reminded of? • Has there been any transfer of feelings generated by past relationships onto the child? • Does this experience remind you of any feelings you had with your own siblings/son/daughter? • Are there any projections of feelings onto the child? – are you being treated as if you were her dad/mum/friend/uncle etc. *(depends per case).* **Graphic facilitator records the responses using a combination of key words and graphics.**	1: 2: **Notes:**
4.ORGANISATIONAL FACTORS **6-8 minutes**	✚ **Explain that the group is now all invited to contribute to further discussions. Explain carefully and clearly** ✚ Highlight the **positive elements** particularly in relation to the **support of the problem presenter and group** if this is not identified by the group. • Now as a whole group we will collectively identify any **organisational** factors which may be 'helping' or 'hindering' the current situation. • I want you to consider the way the school, family system, local authority and other agencies are organised. • What is **helping and hindering** progress in this case in terms of the systems/organizational factors around the pupil? **Graphic facilitator records the responses using a combination of key words and graphics.**	1: 2: **Notes:**

5.VOICE OF THE CHILD **6-8 minutes**	⊕ **We are now are going to consider the situation from the child's perspective.** • At the beginning of the session I asked Y to volunteer to be the '**voice of the child'**. Imagine they were present during the **previous stages.** • Whilst you may **not be sure or agree** with their view, I want you to present: How would they be **feeling?** What would they **be thinking**? • **You can talk as if you are the child –use their language/voice or manner.** ⊕ Problem presenter is asked to clarify whether the representation 'fits' with their perception**.** • How does that fit in what you think they would think/say/feel? **Graphic facilitator records the responses using a combination of key words and graphics.**	**1:** **2:** **Notes:**
6.SYNTHESIS **4-6 minutes**	⊕ **The graphic facilitator is asked to:** ⊕ **Summarise** ⊕ **Make links/identify patters,** ⊕ **highlight parts that are hard to make sense or require further exploration** • I am now going to ask (name; graphic facilitator) to briefly highlight the comments made by the group so far and will try to identify patterns or conflicting elements of the 'story'.	**1:** **2:** **Notes:**

<table>
<tr><td rowspan="2" style="writing-mode: vertical-lr;">**7.Generation of HYPOTHESES/THEORIES**
8-10 minutes</td><td>

- Participants need to be led through a creative brainstorm of their understandings, and theories that might partly explain what is happening. The facilitator needs to avoid the thinking 'locking in' prematurely to a single way of understanding what is going on. Equally, **either/ors** need to be avoided, such as: "exclude him or give him one to one support all day long". Such thinking becomes rigid and unfruitful and will be unlikely to lead to practical educational responses to a young person's needs.
  Hypotheses might include the young person's need for love and attention, the impact of the loss of their father, perceived rejection from their mother, the influence of the peer group, lack of support at school and so forth.

- Members of the groups will be asked to offer any theories/hypotheses which they feel may be relevant to the situation. At this stage, the emphasis will be on the generation of any possible hypotheses which stem from the discussion thus far and there is no expectation for the group to agree on any one hypothesis. Prepare the group:

  - As a group we are going to identify **<u>specific factors</u>** that we think are contributing to the problem.
  - Look **<u>for connections between ideas and information</u>** you have listened to
  - Please share what are your theories/hypotheses about what is happening that will help to make sense of the problem?'
  - We can build on each other's hypotheses but also consider alternative hypotheses/we may not all agree but that's okay.
  - Keep your thinking loose.
  - Listen deeper, underneath the behaviour. What is being communicated?
  - Do not close down too soon.
  - <u>Keep an open mind.</u>
  - Speculate/explore.

  Theories /Hypotheses =prompts to help during generation
  - *What are the theories/hypotheses that best help understand the problem?*
  - *This is about trying to help understand what is happening / underpinning the issues.*
  - *Is it something about …*
  - *So your theory is ….*
  - *Can you explain what you mean/give us another example?*
  - *We are thinking there is a set of theories*
  - *If stuck give sentence stem: X's behaviour is happening because…*

    - Graphic facilitator records the responses using a combination of key words and graphics.
    - Process facilitator rephrases into a theory if necessary. May seek the key element/factor in a list but if the theory is quite complicated or not a clear theory we can make it clearer at this stage – i.e. You could say 'do you mean home environment or something in particular such as boundaries/structure/parent/siblings etc.'
    - Graphic facilitator gives an overview of the 'theories'

</td><td style="vertical-align: top;"></td></tr>
<tr><td style="vertical-align: bottom;">188</td></tr>
</table>

8.Presentation of DATA **10-12 minutes**	⬥ Members will be asked to read the ABC log or watch short video clips. ⬥ They will be asked to do this individually and then complete an attribution questionnaire which allows them an opportunity to share their views on the causes of behaviour (from the given list) ⬥ Staff will be reminded of ground rules ⬥ **Introduce Data** • We are going to watch some clips/read some examples of data that you have collected. This may not be the best or most typical example of the child – however, please watch/read carefully. • <u>Whilst we do this you can make mental notes but please just absorb the data and do not share views until we have had a chance to process individually and completed the questionnaires</u>. • We will get the chance to reflect after that. • You can request to watch a clip up to 3 times or read the log up to 3 times. • Please be mindful of ground rules including respect and confidentiality… ⬥ **DO AttQ AND SDQ – PF collects the questionnaires and place on different table**	
9.Revisit Theories **5-8 minutes**	⬥ PF asks for any new learning or suggestions based on what is read or watched. PF will not exclude any theories that seem to be unlinked to data • <u>After reviewing the data is there anything we can add to our set of theories/hypotheses?</u> • Please respect each other when you share. ⬥ Clarification prompts may be needed. Development of prior theories may demonstrated ⬥ GF could use arrows to link Step 7 and Step 9 theories. ⬥ REMINDER OF PROMPTS IF NEEDED: • Is it something about … • So your theory is …. • Can you explain what you mean/give us another example? • We are thinking there is a set of theories. • So is this theory after you've seen the data/related to the data?	

10. Generation of STRATEGIES 6-8 minutes	With support from the facilitator the group will be guided in developing possible strategies which explicitly link to the hypotheses which were generated in the previous stages. The group will be encouraged to elaborate, develop and strengthen each other's strategies. Care is needed to ensure that the problem presenter is not overloaded with or always only implicated in other people's strategies. 'Either/ors' need to be avoided at this time also. • Using theories you have developed, what strategies do you think may be relevant?' • Remember we are to link strategies with the theories and not select or state our 'favourite strategies'. • You can build on each other's ideas to get a clearer idea of what the strategy would look like. • Please don't say "that wouldn't work because…" Strategies might include: a special time for the young person with her head of year, a meeting with the pupil's parents to explore how she is being managed at home and to share tactics, a home-school diary, counselling, or an agreed action plan that all staff are aware of, agreed sanctions and rewards and so forth. Strategies may productively involve processes of restitution and restoration, when 'sorry' is not enough. Making it right, rather than punishments or rewards, may then become the focus. **Graphic facilitator gives an overview of the 'strategies' (lists them)**
11. Agreement of FIRST STEPS 6-8 minutes	The problem-presenter is invited to consider which two or three strategies could be implemented immediately or within the next week. The facilitators will support the problem-presenter in developing clear outcomes related to the agreed strategies. Other members of the group will be encouraged to support the problem-presenter in carrying out the strategies. Be very specific. Steps should be small and achievable: 'making a start'. A phone call, or making an agreement with a key other person not present at the meeting would be ideal examples. • **Ask the problem presenter: what do you want to take out of the strategies list?** • What outcome would • Specify first step – who can do what? • What can you/we do in the next few days? • Appoint buddy/coach so they can ask _how did it go?' – in 7 days **Graphic facilitator records the responses using a combination of key words and graphics.**

12 .Round of Words **3-4 minutes**	⊕ **All members of the group will be asked to describe their experience of the 'Circle of Adults' session using a one-word reflection on the process.** • Describe your experience of the CoA process in one word. ⊕ **Problem presenter goes last** ⊕ **Process facilitator thanks the group for participating** ⊕ **Graphic facilitator can share their word**	191
Closing and next steps **5-8 minutes**	⊕ **Evaluation Questionnaire is completed individually.** • Similar to the measures, this evaluation will be anonymized. Please take a few moments to complete this as it will help me understand how the session went for you and will help me reflect on the process. ⊕ **Reminder of ethical rights** ⊕ **The debrief sheet is handed out** • I am giving you a DEBRIEF sheet which briefly describes the study and shares my details in case you would like to contact me later about anything to do with the research. I hope to contact you in a few months to share findings – meanwhile you are welcome to email or call me or my supervisor. • Good luck with the strategies – I hope you continue supporting each other and that XXX situation improves with your help. ⊕ The participants are thanked **85 minimum to 128 minutes max**	

Further information on the 'Circles of Adults' process can be found at:
http://www.inclusive-solutions.com/problemsolving.asp

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STAFF GUIDANCE = FILMING
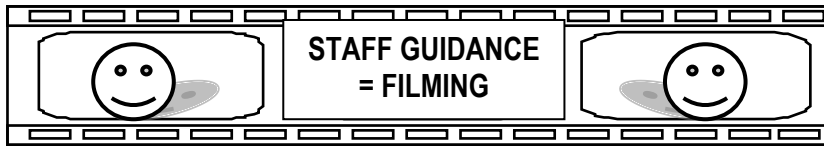
Objective: To help teachers and staff think of strategies which will support pupils to learn in school.

What are we looking for?

In relation to one pupil, we are looking to film some occasions which are considered typical and some which are considered less typical. This can be across contexts and lessons as long as it is on school site and it follows the school policy that allows filming of pupils and staff for learning and assessment purposes.

Why are we suggesting an IPad or a similar portable recording device?
- ✓ They are relatively easy to use
- ✓ You can easily and safely position and store it
- ✓ It offers onscreen timelines which display duration of the footage in hours, minutes, and seconds – so we can quickly view appropriate segments
- ✓ We can link it to a screen via a VGA adapter so you don't need to take the footage off
- ✓ Deleting footage is simple
- ✓ A video log will capture the context more objectively

Good practice and precautions:
- ❖ Recording images of adults and children is a **sensitive matter**. This requires the full and informed consent of parents of the children and, of the staff members who may appear in the video, using the consent letters for this study.
- ❖ Individuals without appropriate **informed consent** should not be filmed; they can be avoided by being positioned off camera.
- ❖ If **accidental recording** of individuals without consent is made the following steps should be taken:

➢ If individuals feature only momentarily during a point unrelated to the section you think is important, please note the clip number and approximate time this occurs. As we cannot view this is the group discussion, this section would have to be deleted/avoided. This can be done by knowing the time where this occurs and cropping the clip and deleting the discarded section.
➢ If the staff or pupil is in the clip for a more than a few seconds, comes in and out of the clip or, appears throughout the clip, then the whole clip must be deleted.

❖ As we do not want to cause pupils anxiety, we are seeking consent from parents as per school policy however, good practice also includes **obtaining assent** from children (even where parents have given consent) **before** they are included in filming.

❖ Therefore, before you commence filming for the first time, tell the whole class together that some short clips of the class will be taken to help staff to learn of ways to support the learning of pupils. Pupils should be given the opportunity to ask **questions and to express any concerns.**

❖ Please note, this is not a covert process where pupils are being filmed secretly, however the filming should be as **discreet** as possible and should not identify any particular pupil as this is likely to cause some undue and **unnecessary anxiety**.

The practical aspects:

o We only require 3-5 clips in the session but we recommend you take around 6-8 clips as some of these may need to be deleted if they feature individuals for whom consent has not been achieved (see above).

o Each clip in the session can be up to 5 minutes long however, it is expected that much shorter clips will be sufficient (e.g. between 1-3 minutes).

o If you do film longer chunks, make a note of the approximate times you think will be useful for staff to see (see above on what we're looking to capture) for example, minutes 5-8 or minutes 1-2. You can delete the rest and if there are no concerns regarding consent we can just present the suggested section.

o You could use the example log below to help you organise your clips - alternatively you can use a system that you prefer but please refer to the DO's and DON'T's to help you.

o Please note you must not mention any names or identities - as confidentiality is important.

o The main aim of the log is to ensure that no individuals without consent feature in the clips to be viewed thus, it is important that a quick check of consenting versus non-consenting individuals for each clip is made **prior to the group session**

Summary – DO's and DON'T's when FILMING	
DO's	**DON'T's**
Film context around pupil – **About 3-5** individuals in the shot is okay.	Film from too afar or zoom into one pupil.
Ensure the microphone and camera lens is not covered and consider the placement of the iPad/tablet in terms of lighting and sound	Place anything in front of the camera lens or the microphone
Place/Use the camera discreetly	Place the camera directly in front of a pupil
Stop filming if a child looks agitated or asks you to	Continue to film if despite a safeguarding concern or emergency protocol (e.g. fire drill)
Remind pupils that filming is to help staff to learn ways to support pupils	Name a specific pupil or groups of pupils as a focus
Store and lock the device AND any logs securely and safely	Leave the device or log unattended at any time
Let staff know that you cannot share the clips outside of the consent of parents.	Show or discuss the clips with staff (besides as planned within the group session). However, if there are safeguarding concerns follow the necessary school protocol
Store the clips only in one folder on the file	Make any duplicates, either on the device or off it, for example, by copying it or sending it anywhere

An example log:

Clip No	Date	Context (e.g time/activity - brief)	Consent achieved for all?	Minutes to present
1	*27.06.2015*	*Just before break during Maths*	*Yes*	*1-3*
2	*01.07.2015*	*Coming into English lesson*	*Cut off minute at 4 onwards as two pupils without consent walk by*	*3 to approx. 3:50s*
3	*01.07.2015*	*Group work in 4's – English*	*Yes*	*2-3*
4	*01.07.2015*	*End of lesson English*	*No – deleted : too many pupils w/o consent in and out the shot*	*N/A*

If you have any questions or queries – please contact Sofia Hussain at

lpxsnh@nottingham.ac.uk

One way to directly observe and record situational factors surrounding behaviour is to use an assessment tool called ABC data collection. ABC is considered a direct observation format because you have to be directly observing the behaviour when it occurs. Typically, it is a format that is used when an external observer who has the time and ability to observe, documents behaviours during specified periods of the day. How information is gathered and written up may be different for each person collecting the data and can also depend on the complexity of the situation. ABC refers to:

- **A**ntecedent- the events, action, or circumstances that occur before a behaviour.
- **B**ehaviour- The behaviour (objective and factual description)
- **C**onsequences- The action or response that follows the behaviour.

Overleaf is an extended ABC Assessment devised by Steege and Watson (2009). Please use this template to log some of the behaviours or situations that are considered typical and some that are considered less typical regarding one pupil. Altogether a range of 4-6 examples of behaviour will be needed. These can cover a short space of time (e.g. 1-5 minutes)

To support the understanding of staff and to maintain consistency, please first read and follow the summary of 'Dos and Don'ts' table to support the observations taken

DO's	DON'T's
Mention context and environment around pupil	Only focus on the observed pupil.
Observe in a discreet manner	Stand and notate directly in front of a pupil
Stop notating if a pupil looks agitated or asks you to	Continue to notate despite a safeguarding concern or emergency protocol (e.g. fire drill)
If asked, remind pupils that observations are made to help staff to learn ways to support pupils	Name a specific pupil or groups of pupils as a focus
Store and lock logs securely and safely	Leave the log unattended at any time or make any duplicates
Let staff know that you cannot share details of the log outside of the consent of parents.	Show or discuss the log (besides as planned within the group session). However, if there are safeguarding concerns follow the necessary school protocol

If you have any questions or queries – please contact Sofia Hussain at

lpxsnh@nottingham.ac.uk

Extended ABC Assessment from Steege and Watson (2009)
Please format accordingly

Date/time	Setting	Antecedent	Behaviour	Consequence	Effect
When did the target behaviour occur?	*Where did the target behaviour occur?*	*What happened immediately prior to the target behaviour?*	*Describe the target behaviour*	*What did you or others do, or what happened after the target behaviour occurred?*	*What effect did the consequence have on the frequency, duration, and/or intensity of the target behaviour?*

Appendix 9. <u>Inter-rater Treatment Integrity - Comparisons across four CoAs</u>

	Aspects Steps	Delivery and Process		Timing frame		Rater Agreement
		Rater1	Rater2	Rater1	Rater2	
1	Ground Rules	✓ 4/4	✓ 4/4	✓ 4/4	X 3/4	3 /4
2	Problem Presentation	✓ 4/4	✓ 4/4	X 3/4	X 3/4	4 /4
3	Exploring Relationships	✓ 4/4	✓ 4/4	X 3/4	X 3/4	4 /4
4	Organisational Factors	✓ 4/4	✓ 4/4	✓ 4/4	✓ 4/4	4 /4
5	Child's Voice	✓ 4/4	✓ 4/4	✓ 4/4	✓ 4/4	4 /4
6	Synthesis	✓ 4/4	✓ 4/4	✓ 4/4	✓ 4/4	4 /4
7	Theories 1	✓ 4/4	✓ 4/4	✓ 4/4	✓ 4/4	4 /4
8	Data	✓ 4/4	✓ 4/4	✓ 4/4	✓ 4/4	4 /4
9	Theories 2	✓ 4/4	✓ 4/4	✓ 4/4	✓ 4/4	4 /4
10	Strategies	✓ 4/4	✓ 4/4	✓ 4/4	✓ 4/4	4 /4
11	First Steps	✓ 4/4	✓ 4/4	✓ 4/4	✓ 4/4	4 /4
12	Round of Words	✓ 4/4	✓ 4/4	✓ 4/4	✓ 4/4	4 /4
	Totals	48/48	48/48	46/48	45/48	47/48
	Integrity Check result	100%	100%	96%	94%	98% Kappa: 0.79

The following Appendices are information packs and are locatable on the provided CD-ROM'

Appendix 10.   SLT Introductory Information Pack= Information letter, Adapted CoA Process, Consent Slip and Guidance on Collecting Written and Video Data (CD-ROM)

Appendix 11.   Staff participant Information Pack= Information letter, Adapted CoA Process, Consent Slip and Guidance on Collecting Written and Video Data (CD-ROM)

Appendix 12.   Parents of focus pupil in Comparison condition Information Pack = Information letter, Adapted CoA Process, Consent Slip and Guidance on Collecting Written ABC Observations (CD-ROM)

Appendix 13.   Parents of focus pupil in Experimental condition Information Pack = Information letter, Adapted CoA Process, Consent Slip and Guidance on Collecting Video Data (CD-ROM)

Appendix 14.   Staff who may be Incidentally Filmed Information Pack = Information letter, Adapted CoA Process, Consent Slip and Guidance on Collecting Video Data (CD-ROM)

Appendix 15.   Parents of Pupils who may be Incidentally Filmed Information Pack = Information letter, Adapted CoA Process, Consent Slip and Guidance on Collecting Video Data (CD-ROM)

Appendix 16. Staff Attribution Questionnaire (AttQ) Versions i-ii

Version i

Pupil name: (will be anonymised)	School Name (anonymised)		Your name: (will be anonymised)	Relationship to the pupil:
When do you have contact with the pupil? (e.g. Literacy, Playtime)			How long have you known this pupil?	

- Below are some statements representing possible origins of a pupil's behaviour?
- Please would you consider each and all of the statements and rate how likely each of them is as a possible origin of the pupil's behaviour.
- Your ratings should be based upon your knowledge of the pupil and your experience and feelings with the pupil.
- It is important that you complete the ratings on your own.
- Please note all responses will be anonymised and kept completely confidential. The above details will be completely destroyed in a safe and secure manner in accordance with the Data Protection Act.

Please indicate your answers by marking your chosen rating with a cross X.

Possible origin of behaviour	Very unlikely	Unlikely	Equally likely /unlikely	Likely	Very Likely
Because he/she is given work to do that is not at the appropriate level for her/him (too easy or hard).					
Because parents find it difficult to manage the pupils behaviour at home.					
Because of his/her ability levels.					
Because he/she is given work that is not interesting.					
Because he/she comes from a punitive/violent home.					
Because of a lack of respect for teachers and staff within school.					
Because he/she receives a lot of negative adult attention in school.					
Because he/she has an absent father.					
Because he/she has medical/physical needs/condition.					
Because adults who come into contact with him are anxious.					
Because he/she has a lack of attention at home.					
Because of his/her temperament/ personality.					

Possible origin of behavior	Very unlikely	Unlikely	Equally likely /unlikely	Likely	Very Likely
Because their family is separated/divorced – possibly including geographical problems.					
Because the level of work set is above his/her abilities.					
Because he/she doesn't feel valued/self-esteem (high or low)					
Because there is a lack of rewards or incentives in school.					
Because there is a lack of behaviour management at home.					
Because he/she is attention seeking.					
Because there is a lack of management techniques within school.					
Because his/her parents show a lack of encouragement.					
Because he/she has a lack of acceptance of school rules.					
Because staff in school have a lack of affection/sympathy for him/her.					
Because his/her parents or family member is ill.					
Because of his/her maturity.					
Because teachers do not make exceptions for his/her behaviour.					
Because parents show him/her a lack of affection.					
Because he/she has a short attention span.					
Because teachers are pressured by other parents.					
Because there is an atmosphere of disharmony at home.					
Because he/she has a lack of motivation towards school work.					

Feel free to share any other specific factors :

Thank you very much for your time.

Version ii

Pupil name: (will be anonymised)	School Name (anonymised)	Your Name: (will be anonymised)	Relationship to the pupil:
When do you have contact with the pupil? (e.g. Literacy, Playtime)		How long have you known this pupil?	

- Below are some statements representing possible origins of a pupil's behaviour.
- Please would you consider each and all of the statements and rate how likely each of them are as a possible origin of the pupil's behaviour.
- Your ratings should be based upon your knowledge of the pupil and your experience and feelings with the pupil.
- It is important that you complete the ratings on your own.
- Please note all responses will be anonymised and kept completely confidential. The above details will be completely destroyed in a safe and secure manner in accordance with the Data Protection Act.

Please indicate your answers by marking your chosen rating with a cross X.

Possible origin of behaviour	Very unlikely	Unlikely	Equally likely /unlikely	Likely	Very Likely
Because he/she has a lack of motivation towards school work.					
Because there is an atmosphere of disharmony at home.					
Because teachers are pressured by other parents.					
Because he/she has a short attention span.					
Because parents show him/her a lack of affection.					
Because teachers do not make exceptions for his/her behaviour.					
Because of his/her maturity.					
Because his/her parents or family member is ill.					
Because staff in school have a lack of affection/sympathy for him/her					
Because he/she has a lack of acceptance of school rules					
Because his/her parents show a lack of encouragement.					
Because there is a lack of management techniques within school.					

Possible origin of behaviour	Very unlikely	Unlikely	Equally likely /unlikely	Likely	Very Likely
Because he/she is attention seeking.					
Because there is a lack of behaviour management at home.					
Because there is a lack of rewards or incentives in school.					
Because he/she doesn't feel valued/self-esteem (high or low)					
Because the level of work set is above his/her abilities.					
Because their family is separated/divorced – possibly including geographical problems					
Because of his/her temperament/personality.					
Because he/she has a lack of attention at home.					
Because adults who come into contact with him are anxious					
Because he/she has medical/physical needs/condition.					
Because he/she has an absent father.					
Because he/she receives a lot of negative adult attention in school.					
Because of a lack of respect for teachers and staff within school.					
Because he/she comes from a punitive/violent home.					
Because he/she is given work that is not interesting.					
Because of his/her ability levels.					
Because parents find it difficult to manage the pupils behaviour at home.					
Because he/she is given work to do that is not at the appropriate level for her/him (too easy or hard).					
Feel free to share any other specific factors :					

Thank you very much for your time.

The University of Nottingham

UNITED KINGDOM · CHINA · MALAYSIA

Sofia N. Hussain: lpxsnh@nottingham.ac.uk
Anthea Gulliford: anthea.gulliford@nottingham.ac.uk

For each item, please mark the box for *Not True, Somewhat True* or *Certainly True.* It would help us if you answered all items as best you can even if you are not absolutely certain or the item seems daft! Please give your answers on the basis of the child's behaviour over the last six months or this school year.

Child's Name: .... Male/Female   Date of Birth/Year group..............

Class Teacher/Form Tutor/Head of Year/Other (please specify):................................

ITEM	Not True	Somewhat True	Certainly True
Considerate of other people's feelings			
Restless, overactive, cannot stay still for long			
Often complains of headaches, stomach-aches or sickness			
Shares readily with other children (treats, toys, pencils etc.)			
Often has temper tantrums or hot tempers			
Rather solitary, tends to play alone			
Generally obedient, usually does what adults request			
Many worries, often seems worried			
Helpful if someone is hurt, upset or feeling ill			
Constantly fidgeting or squirming			
Has at least one good friend			
Often fights with other children or bullies them			
Often unhappy, down-hearted or tearful			
Generally liked by other children			
Easily distracted, concentration wanders			
Nervous or clingy in new situations, easily loses confidence			
Kind to younger children			
Often lies or cheats			
Picked on or bullied by other children			
Often volunteers to help others (parents, teachers, other children)			
Thinks things out before acting			
Steals from home, school or elsewhere			
Gets on better with adults than with other children			
Many fears, easily scared			
Sees tasks through to the end, good attention span			

Do you have any other comments or concerns?

_____

Thank you very much for your help

For each item, please mark the box for *Not True, Somewhat True* or *Certainly True*. It would help us if you answered all items as best you can even if you are not absolutely certain or the item seems daft! Please give your answers on the basis of the child's behaviour over the last six months or this school year.

Child's Name .... Male/Female   Date of Birth/Year group..............

Class Teacher/Form Tutor/Head of Year/Other (please specify):.................................

ITEM	Not True	Somewhat True	Certainly True
Sees tasks through to the end, good attention span			
Many fears, easily scared			
Gets on better with adults than with other children			
Steals from home, school or elsewhere			
Thinks things out before acting			
Often volunteers to help others (parents, teachers, other children)			
Picked on or bullied by other children			
Often lies or cheats			
Kind to younger children			
Nervous or clingy in new situations, easily loses confidence			
Easily distracted, concentration wanders			
Generally liked by other children			
Often unhappy, down hearted or tearful			
Often fights with other children or bullies them			
Has at least one good friend			
Constantly fidgeting or squirming			
Helpful if someone is hurt, upset or feeling ill			
Many worries, often seems worried			
Generally obedient, usually does what adults request			
Rather solitary, tends to play alone			
Often has temper tantrums or hot tempers			
Shares readily with other children (treats, toys, pencils etc.)			
Often complains of headaches, stomach-aches or sickness			
Restless, overactive, cannot stay still for long			
Considerate of other people's feelings			

Do you have any other comments or concerns?

© Robert Goodman, 2005   **Thank you very much for your help**

The University of Nottingham

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Sofia N. Hussain: (0121 303 0100)
lpxsnh@nottingham.ac.uk
Anthea Gulliford:
anthea.gulliford@nottingham.ac.uk

Please circle the type of data that was reviewed today:

Video Clips	Written ABC Logs

1a. How did you find the group session? (Please circle)

1	2	3	4	5
Very helpful	Helpful	Neither helpful or unhelpful	Unhelpful	Very unhelpful

1b. How helpful did you find the elements below? (Please circle)

a) **Group discussion**	Very helpful	Helpful	Neither helpful or unhelpful	Unhelpful	Very unhelpful
b) **Allocated time to process/think**	Very helpful	Helpful	Neither helpful or unhelpful	Unhelpful	Very unhelpful
c) **Use of data (video or ABC log)**	Very helpful	Helpful	Neither helpful or unhelpful	Unhelpful	Very unhelpful
d) **EP facilitation**	Very helpful	Helpful	Neither helpful or unhelpful	Unhelpful	Very unhelpful
e) **Graphics/ visuals record**	Very helpful	Helpful	Neither helpful or unhelpful	Unhelpful	Very unhelpful
f) **Going through steps of adapted Circle of Adults Process**	Very helpful	Helpful	Neither helpful or unhelpful	Unhelpful	Very unhelpful

*Please comment on your answers to **Question 1***

_____

_____

If you found something else helpful or unhelpful you can share this here

_____

2. Did you see / read anything that made you think differently about the origins of pupil behaviour?

YES/NO (please circle as appropriate)   *Please explain:*

_____

_____

3. Would you participate in, or recommend, staff group sessions like this in the future?

YES/NO (please circle as appropriate)   *Please briefly state why: (whether yes or no):*

_____

_____

The debrief letter is attached– this contains my contact details, you are welcome to contact me for any queries or concerns that have arisen from your involvement in this research.
THANK YOU

Instructions:
- ✓ Read the definitions for the codes
- ✓ In the excel spreadsheet, read the statements donated by staff
- ✓ Next to each statement identify whether you think it is a Home, Within-Child or School factor/code being discussed (H,S,W) (see definitions below).
- ✓ Some theories may be split –as the statement refers to more than one separate factor/code, please indicate what the separate codes are in order
- ✓ Don't try to make inferences – just read and assign codes.

CODE	DEFINITION
WITHIN-CHILD	The statement refers something relating to, belonging to, produced by, or done by **the child/pupil factors.** In other words the hypothesis appears to describe a quality, characteristic or feature of the child themselves. For example, their temperament, ability, personal quality, behavioural tendency, personal motivational level or choice. This will include any biological, psychological, behavioural factors that appear to stem from within the child.
SCHOOL	The statement refers something relating to or belonging to, produced by, or resulting from: **school organisational factors.** **In other words the hypothesis appears to** describe a quality, characteristic or feature of the school. This would relate to school features including: environment, staff, system, structure, policy, curriculum or peers they encounter as part of attending the school. This also relates to exposure or lack thereof to any organisation or agency that typically works with the school such as Educational Psychologist, specialist behaviour team, specialist sensory team etc.
HOME/FAMILY	The statement refers something relating to or belonging to, produced by, or done by: **home/family factors.** **In other words the hypothesis appears to** describe a quality, characteristic or feature of the home or family set-up. For example this would relate to home: environment, systems, structures, family members (including extended family) or family friends. This may include family background features such as the physical home, socio-economic status, parenting, and family set-up. This may relate to the community around the home such as community facilities or lack thereof around the family or home. This also relates to exposure or lack thereof to any organisation or agency that typically works through parents/carers/guardians such as general practitioner, midwife, health visitor, hospital-based consultant.
ANOLMALIES	Please highlight any hypotheses which; • Are clearly split- i.e. appear to ascribe cause to more than one of the categories • are not clearly codeable or not codeable at all Please provide a comment to explain why

Appendix 20. <u>Ethical Approval from University of Nottingham Ethics Committee</u>

School of Psychology
The University of Nottingham
University Park
Nottingham
NG7 2RD

T: +44 (0)115 8467403 or (0)115 9514344

SJ/wb
Ref: 670R

Monday, 13 July 2015

Dear Sofia Noreen Hussain & Anthea Gulliford,

Ethics Committee Review

Thank you for submitting an account of your proposed research 'Can the use of video change the nature of staff attributions and theory-making within group consultation'.
That proposal has now been reviewed by the Ethics Committee and I am pleased to tell you that your submission has met with the committee's approval.

Final responsibility for ethical conduct of your research rests with you or your supervisor. The Codes of Practice setting out these responsibilities have been published by the British Psychological Society and the University Research Ethics Committee. If you have any concerns whatever during the conduct of your research then you should consult those Codes of Practice. The Committee should be informed immediately should any participant complaints or adverse events arise during the study.

Independently of the Ethics Committee procedures, supervisors also have responsibilities for the risk assessment of projects as detailed in the safety pages of the University web site. Ethics Committee approval does not alter, replace, or remove those responsibilities, nor does it certify that they have been met.

Yours sincerely

Professor Stephen Jackson
Chair, Ethics Committee

Appendix 21.   Debrief Letter for Participants

The University of Nottingham

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To the staff of (insert school name),

Thank you very much for agreeing to be part of my research. For your benefit, I have briefly stated what this involved below:

Title of study:
Can the use of video change the nature of staff attributions and theory-making within group consultation?

Background/Hypothesis:
The Circle of Adults process can support staff to generate strategies to help pupils in their class learn. This research proposed that including data into this process, whether written (ABC log) or visual (video) may support staff further with this aim by adding to their understanding of the context around a particular focus pupil.

Design and Dependent Measures:
We are looking at staff perceptions regarding causes of pupil behaviour before and after data is presented in an adapted Circle of Adults process. Therefore for each staff participant, we hope to measure any change in staff perceptions and theories before and after data presentation.
Furthermore we will also compare the level of changes across both conditions – the ABC log and the video.

Intended Analysis:
Questionnaire responses before and after the group consultation will be statistically analysed. Ideas generated in the group session will be coded with any single code representing a donated cause.

 If you or any other members of staff have any questions or concerns about any aspect of the group discussion, adapted Circles of Adults process or research activity then please get in touch with me or my supervisor using the details below:

Sofia Hussain	Anthea Gulliford
Email: lpxsnh@nottingham.ac.uk	Email: anthea.gulliford@nottingham.ac.uk
Telephone (0121 303 0100)	Telephone: (0115 951 5318)

After I have collected the final set of measures and after I have analysed the results of the study, I will feedback the findings via a summary report. I anticipate that I will be able to do this around May 2016

I would like to take this opportunity to thank you for volunteering to participate within this study.

Yours Sincerely,

Sofia Hussain
Trainee Educational Psychologist and Doctoral Researcher

Appendix 22. Raw Data –Means per Participant for each Dependent Variable from the Attribution and SDQ measures

Group	Participant Code	Pre-intervention Mean Scores										Post-Intervention Mean Scores									
		TotalAttribution	Within-Child	School	Home	Total SDQ	Prosocial	Hyperactivity	Emotional-Prob'	Conduct-Prob'	Peer=Prob'	TotalAttribution	School	Within-Child	Home	Total SDQ	Prosocial	Hyperactivity	Emotional-Prob'	Conduct-Prob'	Peer=Prob'
0	4WA	-5	2	4	-11	13	6	8	0	3	2	-2	5	5	-8	18	3	5	6	3	4
0	4WB	-13	4	-6	-11	12	6	8	0	2	2	-19	-6	-4	-8	13	3	3	3	3	4
0	3WD	-12	3	-6	-9	15	4	8	0	5	2	-19	-19	6	-4	16	1	7	0	5	4
0	3WE	-12	3	-8	-7	15	4	8	0	5	2	8	-3	6	5	10	6	4	1	3	2
0	1WA	-19	1	-14	-6	26	4	10	2	10	4	-26	-3	-6	-8	24	6	10	0	10	4
0	3WA	4	10	-1	-5	16	3	5	1	4	6	-7	-6	5	-5	15	2	2	5	3	5
0	4WD	-25	-7	-13	-5	7	7	4	0	2	1	-23	-11	0	-6	10	4	3	2	2	3
0	4WC	-1	9	-7	-3	26	5	9	3	9	5	4	-3	5	-1	19	7	7	4	3	5
0	1WB	-5	4	-9	0	16	4	7	1	5	3	-4	-6	6	1	19	1	10	0	5	4
0	1WC	-6	-1	-5	0	14	7	5	1	4	4	5	-3	3	7	14	5	7	1	3	3
0	2WC	-3	2	-5	0	16	4	6	0	6	4	0	-11	6	8	33	6	9	7	9	8
0	3WB	-6	3	-9	0	16	6	8	0	3	5	-14	-11	3	-4	13	1	5	1	2	5
0	1WE	6	9	-5	2	28	3	10	4	10	4	-8	-12	9	-6	25	4	10	4	9	2
0	3WC	-17	-1	-19	3	25	1	10	3	6	6	-18	-17	4	-1	18	2	8	0	3	7
0	1WD	12	13	-6	5	26	5	9	3	9	5	0	-14	10	6	22	6	8	3	8	3
0	2WB	2	5	-9	6	27	5	10	3	10	4	8	-16	11	17	28	6	10	3	9	6
0	2WE	13	0	2	11	26	4	8	5	8	5	12	-6	7	13	28	7	8	6	8	6
0	2WD	-10	-7	-15	12	19	6	8	3	5	3	-2	-16	4	14	25	5	8	3	6	8
0	2WA	14	4	-10	20	26	4	7	7	8	4	19	-8	11	19	31	4	8	9	6	8
1	1VC	-5	10	-8	-7	19	3	10	1	6	2	7	1	7	-3	24	2	9	4	5	6
1	1VD	-13	1	-13	-1	22	4	10	1	8	3	5	-7	2	7	24	3	10	1	7	6
1	1VE	11	8	3	0	29	6	9	8	8	4	-6	6	-3	-11	28	3	9	5	7	7
1	2VD	2	4	-2	0	23	2	10	6	5	2	28	2	11	12	28	0	10	9	6	3
1	3VA	-3	4	-7	0	15	5	6	1	5	3	-18	-17	1	-1	18	2	8	0	3	7
1	3VE	3	9	-6	0	21	5	10	0	8	3	17	-3	9	10	20	3	10	1	7	2
1	4VB	0	5	-5	0	22	6	8	3	6	5	0	-10	0	8	26	4	8	6	4	8
1	4VC	-6	1	-7	0	13	9	9	1	1	2	3	-6	1	5	21	9	10	2	3	6
1	3VC	8	7	-1	2	25	1	10	2	9	4	16	0	5	5	20	1	8	2	7	3
1	3VF	8	6	0	2	27	2	9	3	7	8	19	2	5	7	25	2	8	4	6	7
1	3VD	-24	-4	-23	3	20	0	7	0	9	4	-3	-18	3	9	21	0	8	0	9	4

Group	Participant Code	TotalAttribution	Within-Child	School	Home	Total SDQ	Prosocial	Hyperactivity	Emotional-Prob'	Conduct-Prob'	Peer=Prob'	TotalAttribution	School	Within-Child	Home	Total SDQ	Prosocial	Hyperactivity	Emotional-Prob'	Conduct-Prob'	Peer=Prob'
		Pre-intervention Mean Scores										Post-Intervention Mean Scores									
1	4VA	11	7	1	3	29	5	10	6	8	5	9	0	6	2	32	4	9	6	9	8
1	2VB	21	15	2	4	29	0	10	8	7	4	9	-7	4	10	29	1	8	10	7	4
1	3VB	4	5	-5	4	34	4	10	8	9	7	2	-3	4	1	14	2	6	1	5	2
1	3VG	18	12	0	6	25	3	9	3	7	6	28	4	12	9	27	1	10	5	7	5
1	1VA	8	5	-4	7	18	4	7	2	5	4	7	-6	6	7	21	6	10	2	6	3
1	1VB	21	12	2	7	23	4	10	5	7	1	32	6	10	13	24	6	10	5	6	3
1	4VD	16	11	-2	7	19	4	10	0	5	4	21	-1	7	11	26	6	10	2	6	8
1	2VA	18	7	0	11	28	2	10	9	5	4	10	-2	4	8	31	4	10	10	4	7
1	2VC	11	-2	1	12	24	5	7	7	5	5	22	2	3	14	26	3	10	8	4	4

KEY :
0 = Comparison group
1= Experimental group

**Appendix 23.** Normal Distribution Checks of the AttQ and SDQ Data – Research Questions 1 and 2

DEPENDENT VARIABLES		CONDITION	STATISTICAL CHECKS							VISUAL CHECKS		
			Skewness Statistic	Skewness Std. Error	Kurtosis Statistic	Kurtosis Std. Error	Shapiro-Wilk Statistic	df	Sig.	Histogram PASSABLE?	Q-Q plot PASSABLE?	Box Plot PASSABLE?
ATTRIBUTIONS	TOTAL ATTRIBUTION	COMPARISON-WRITTEN	0.102	0.524	-0.569	1.014	0.972	19	0.813	YES	YES	YES
		EXPERIMENT-VIDEO	-0.811	0.512	0.677	0.992	0.945	20	0.303	YES	YES	YES
	WITHIN-CHILD	COMPARISON-WRITTEN	-0.139	0.524	0.39	1.014	0.95	19	0.396	YES (some gaps)	YES	YES
		EXPERIMENT-VIDEO	-0.315	0.512	0.025	0.992	0.978	20	0.911	YES	YES	YES
	SCHOOL	COMPARISON-WRITTEN	0.059	0.524	0.44	1.014	0.968	19	0.74	YES (some gaps)	YES	YES
		EXPERIMENT-VIDEO	-1.794	0.512	4.218	0.992	0.838	20	0.003	NO: RIGHT skew	YES	YES
	HOME	COMPARISON-WRITTEN	0.773	0.524	0.496	1.014	0.947	19	0.351	NO: LEFT skew	YES	YES
		EXPERIMENT-VIDEO	0.155	0.512	0.565	0.992	0.943	20	0.275	YES (some gaps)	YES	YES
STRENGTHS & DIFFICULTIES	TOTAL STRENGTHS & DIFFICULTIES	COMPARISON-WRITTEN	-0.098	0.524	-1.317	1.014	0.875	19	0.017	NO: almost bimodal	YES	NO
		EXPERIMENT-VIDEO	-0.001	0.512	-0.122	0.992	0.985	20	0.983	YES (some gaps)	YES	YES
	PRO-SOCIAL	COMPARISON-WRITTEN	-0.394	0.524	0.524	1.014	0.928	19	0.16	YES	YES	YES
		EXPERIMENT-VIDEO	0.258	0.512	0.66	0.992	0.954	20	0.427	YES	YES	YES
	HYPERACTIVITY	COMPARISON-WRITTEN	-0.633	0.524	-0.201	1.014	0.903	19	0.056	NO: flattening	YES	YES
		EXPERIMENT-VIDEO	-1.176	0.512	0.056	0.992	0.74	20	0	NO: RIGHT skew	YES	YES
	EMOTIONAL PROBLEMS	COMPARISON-WRITTEN	0.967	0.524	0.544	1.014	0.852	19	0.007	NO: LEFT skew	NO skew	NO
		EXPERIMENT-VIDEO	0.404	0.512	-1.399	0.992	0.887	20	0.024	NO: almost bimodal	NO skew	YES
	CONDUCT PROBLEMS	COMPARISON-WRITTEN	0.179	0.524	-1.3	1.014	0.916	19	0.094	YES (some gaps)	NO skew	NO
		EXPERIMENT-VIDEO	-0.978	0.512	1.762	0.992	0.887	20	0.024	NO: RIGHT skew	NO skew	NO
	PEER PROBLEMS	COMPARISON-WRITTEN	-0.223	0.524	-0.815	1.014	0.931	19	0.179	YES	YES	YES
		EXPERIMENT-VIDEO	0.555	0.512	0.519	0.992	0.945	20	0.301	YES	YES	YES
TOTAL CHECKS (frequency)			20 +		20 +		20 =60			20 +	20 +	20 = 60

STATISTICAL

ASSUMPTION VIOLATED (7) 12%

ASSUMPTION MET (53) 88%

VISUAL

ASSUMPTION VIOLATED (16) 27%

ASSUMPTION MET (44) 73%

Figure 1: Total Attribution Score
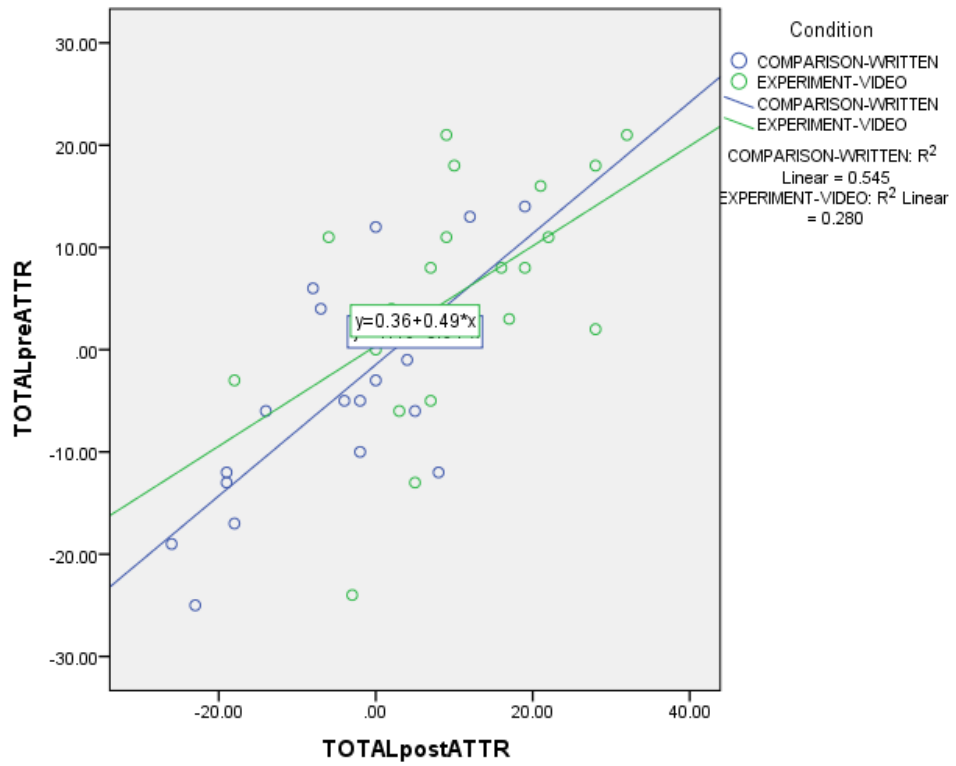
Figure 2: Within-Child Score

Figure 3: School Score
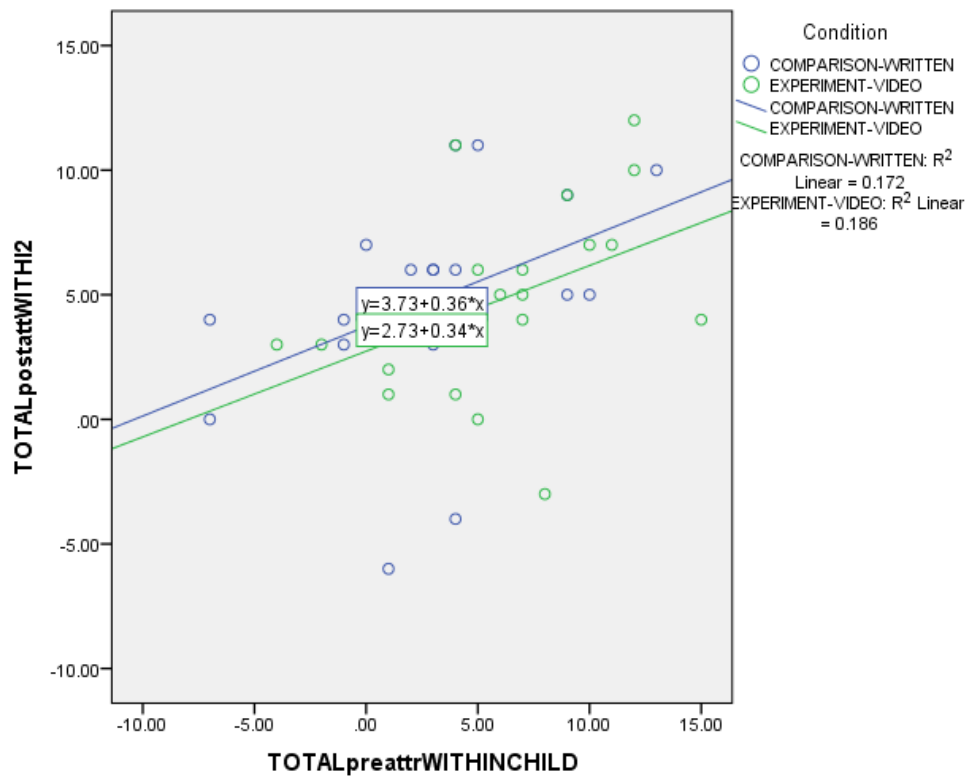

Figure 3: School Score

Figure 4: Home Scores
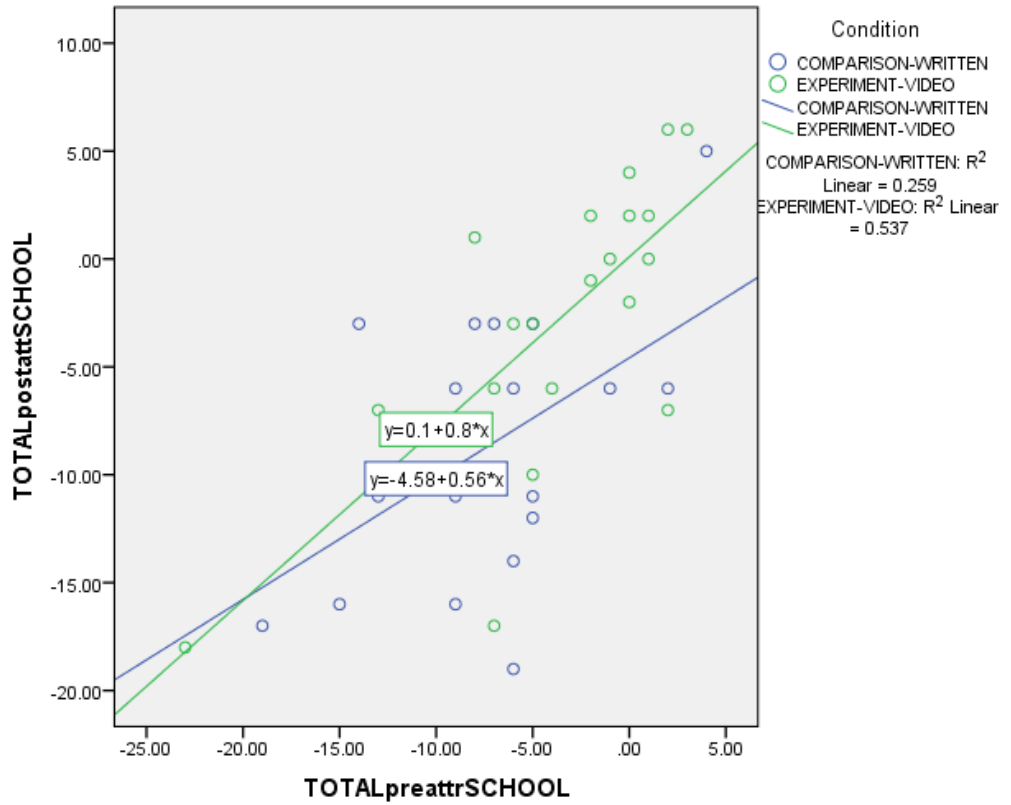
Figure 4: Home Scores
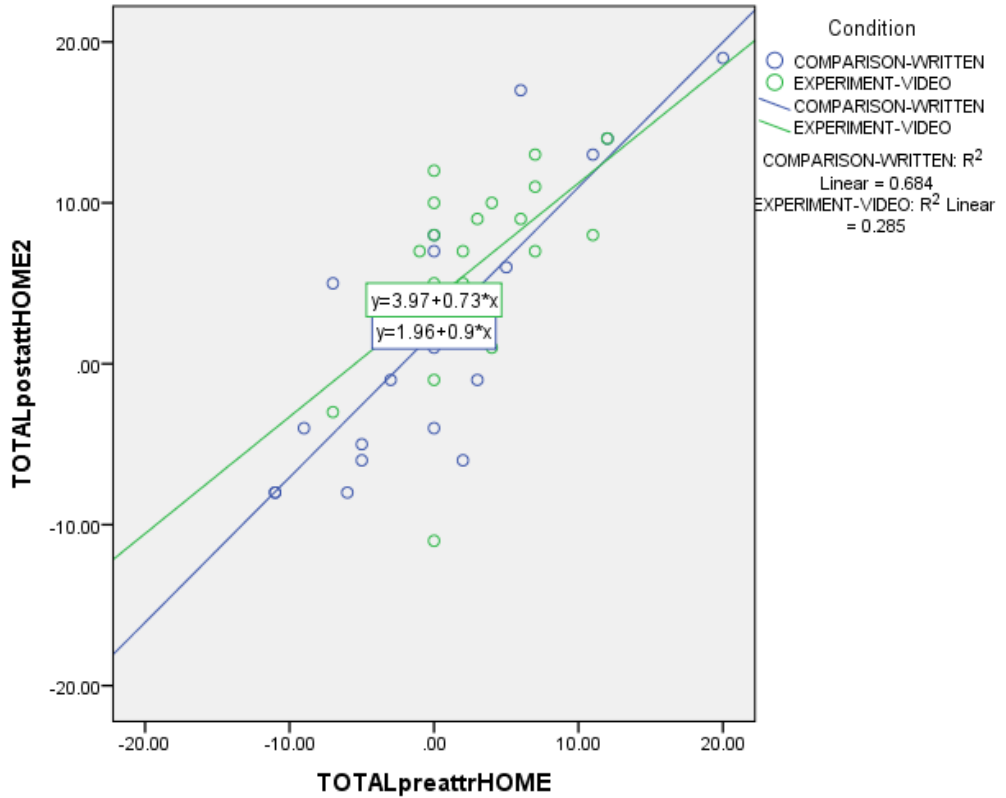
Figure 5: Total SDQ Score
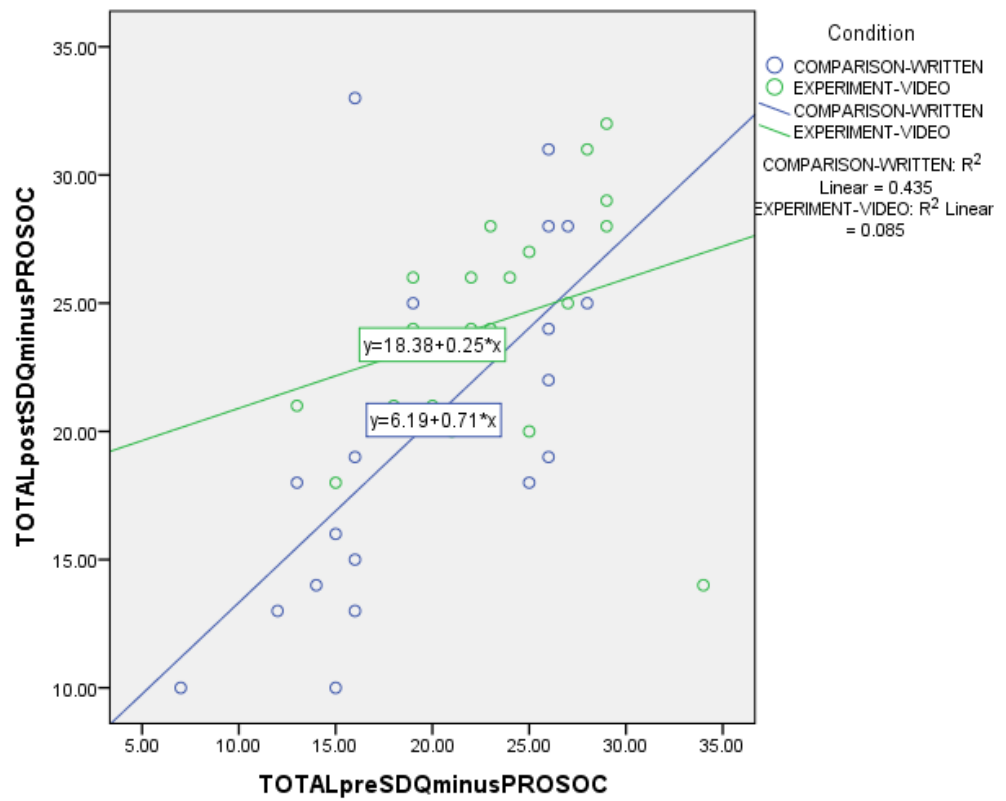
Figure 6: Prosocial Score
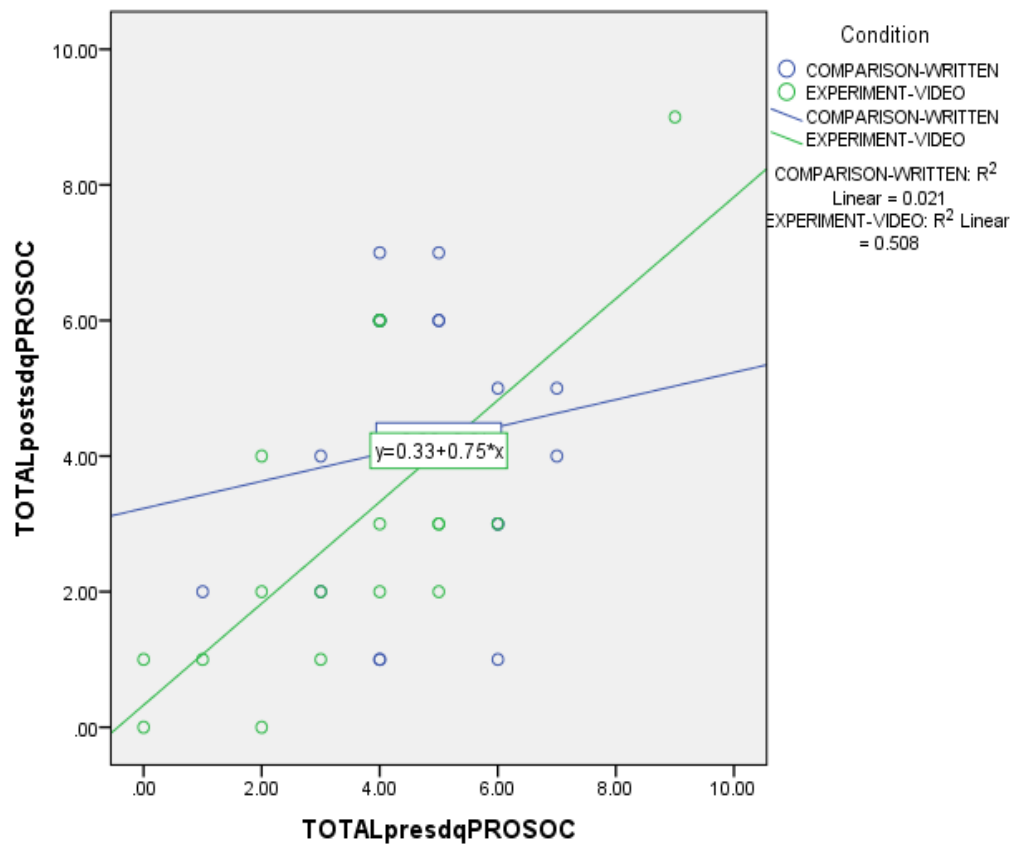
Figure 7: Hyperactivity Score
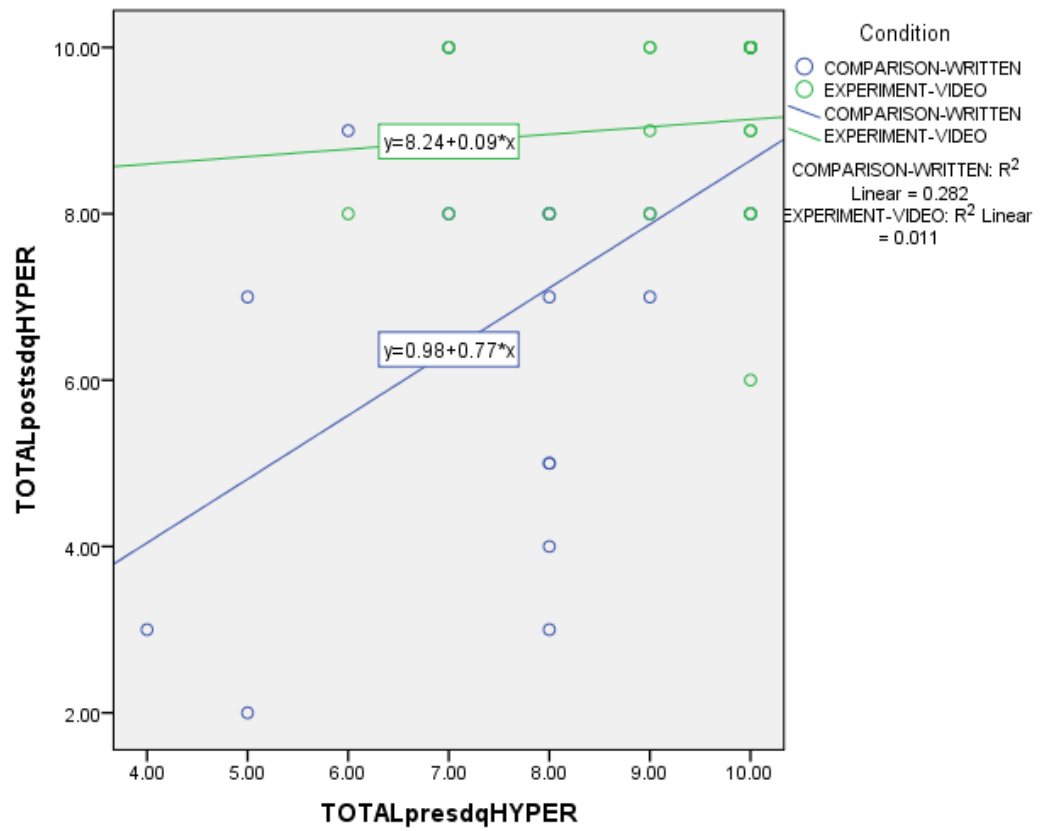
Figure 8: Emotional Problems Score
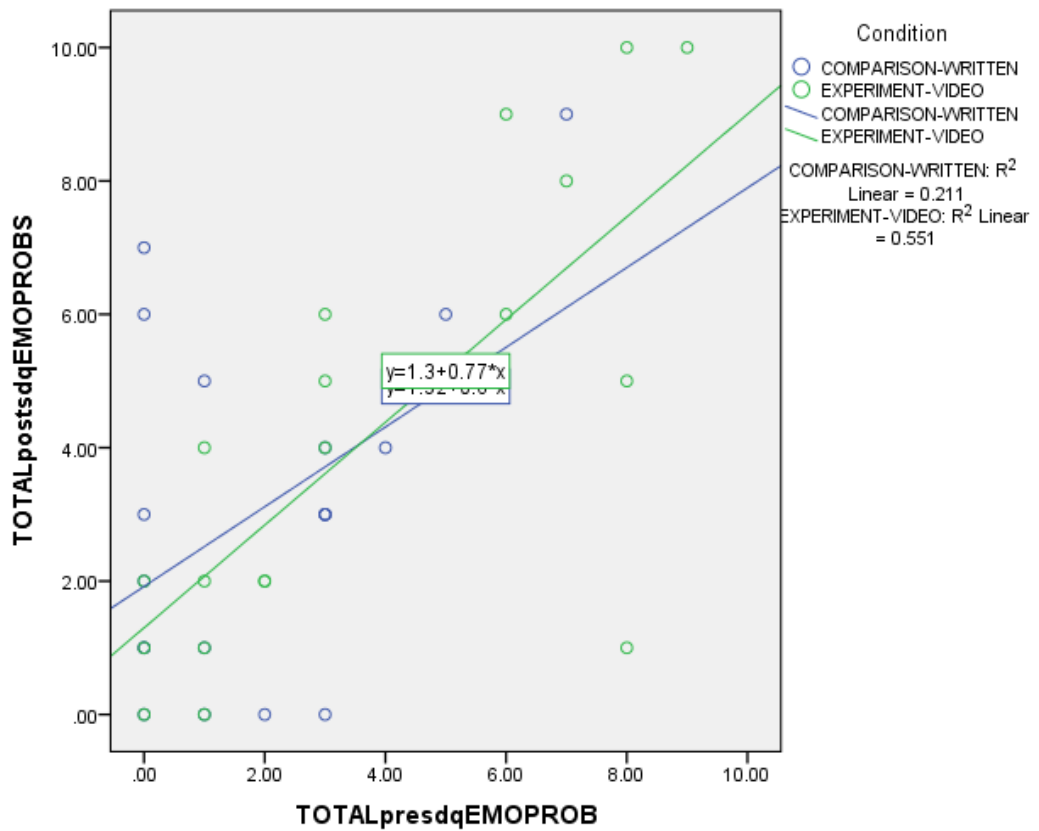
Figure 9: Conduct Problems Score
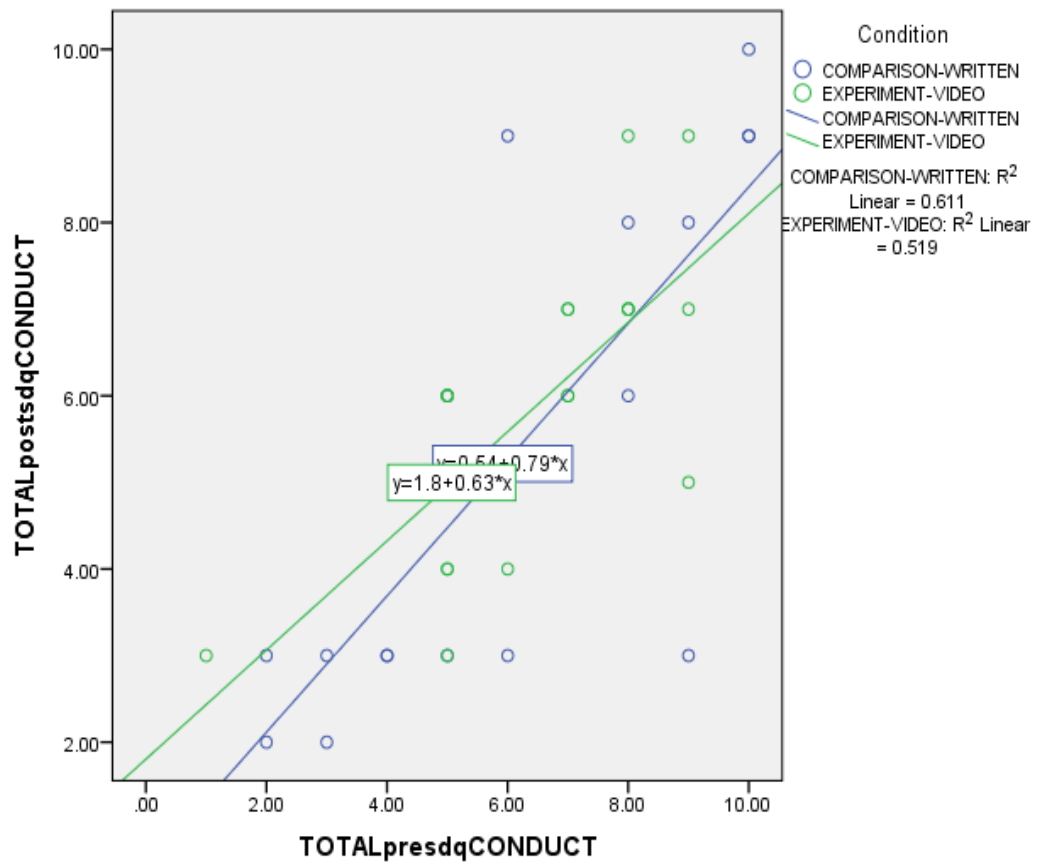
Figure 10: Peer Problems Score
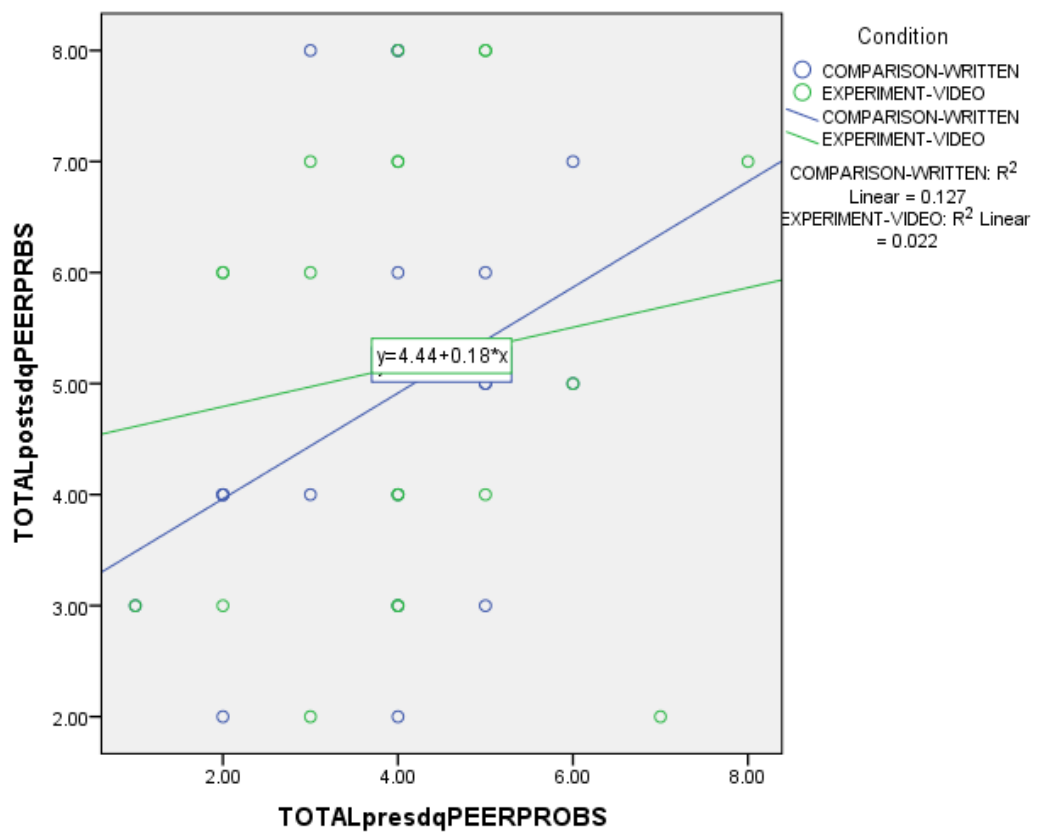
Group W1		
Pre or Post	Theory Inter-rater differences in blue highlight	Codes given by both raters Split theories are in yellow highlight
Pre1	He has a short attention span	WITHIN-CHILD1
Pre2	His fine motor skills are incongruent with his cognitive ability	WITHIN-CHILD2
Pre3	He is frustrated	WITHIN-CHILD3
Pre4	He attends school late and this impacts his ability to settle into work/learning	HOME1
Pre5	school staff have adopted a negative a narrative around him	SCHOOL1
Pre6	there's not enough support at home	HOME2
Pre7	he lacks appropriate attention at home	HOME3
Pre8	his brother has gone to uni - change in family structure has impacted him	HOME4
Pre9	there is now a lack of a male role model	HOME5
Pre10	he has ADHD	WITHIN-CHILD4
Pre11	he displays attention-seeking behaviour	WITHIN-CHILD5
Pre12	he needs adults to be reassuring	WITHIN-CHILD6
Pre13	he must feel like he is involved or held in mind	WITHIN-CHILD7
Pre14	he has difficulties with regulating his emotion	WITHIN-CHILD8
Pre15	he has an internal struggle to conform	WITHIN-CHILD9
Pre16	he is fatigued - by the attempts to cope and conform in school (school expectations are hard)	SCHOOL2
Pre17	he has no awareness of danger	WITHIN-CHILD10
	POST –STAGE	
	Theory	Type
Post1	changes in staffing impact his behaviour	SCHOOL1
Post2	changes in the class/school environment	SCHOOL2
Post3	when (at times) he doesn't perceive cover teachers to be the 'main teacher' his response/attitude will change	WITHIN-CHILD1
Post4	he hasn't got the ability to transfer learning from social situations	WITHIN-CHILD2
Post5	the language used with him is not supportive	SCHOOL3
		Total codes =22

Group W2		
Pre or Post	Theory Inter-rater differences in blue highlight	Codes Given by both raters Split theories are in yellow highlight
Pre1	Because she has some rigidity - she needs things to be 'perfect'	WITHIN-CHILD11
Pre2	She has some fixations which preoccupy her	WITHIN-CHILD12
Pre3	She receives a lack of attention from her family	HOME6
Pre4	She is seeking a reaction from adults around her	WITHIN-CHILD13
Pre5	She lacks of self-esteem	WITHIN-CHILD14
Pre6	There is a lack of affection for her from home	HOME7
Pre7	She is confused about her personal family situation	WITHIN-CHILD15
Pre8	She will not try/see no point because the adults at home and school around her expect negative behaviour	HOME8 and SCHOOL3
Pre9	She invests emotionally in objects - causing her to want to control objects	WITHIN-CHILD16
Pre10	she is missing her family members	HOME9
Pre11	when her mother 'disappoints' her she will display negative behaviours and emotions	HOME10
Pre12	she is lonely /detached from other children both at home or school	HOME11 and SCHOOL4
Pre13	cannot manage or cope with being blamed	WITHIN-CHILD17
Pre14	she behaves negatively as this she has been type-cast so fulfils this expectation	WITHIN-CHILD18
Pre15	she has learned to be helpless/lacks self-help	WITHIN-CHILD19
Post1	She is needing or trying to gain control over everything in her environment	WITHIN-CHILD3
Post2	Some of her inappropriate behaviours are because she wants to identify with and interact with pupil of same mixed heritage	WITHIN-CHILD4
Post3	playtime is a trigger point - especially end of playtime	SCHOOL4
Post4	she is looking for admiration /to be liked	WITHIN-CHILD5
Post5	pupils are not seeking her out	SCHOOL5
Post6	some of her undesirable behaviour is because she wants to seek interaction and have her say	WITHIN-CHILD6
Post7	she is jealous of her sister gaining admiration in school and home	WITHIN-CHILD7
Post8	she is struggling to sit as she is occupied	WITHIN-CHILD8
Post9	asking her to sit on the carpet is not supporting her behaviour	SCHOOL6
		Total codes=24

Group W3		
Pre or Post	Theory Inter-rater differences in blue highlight	Codes given by both raters Split theories are in yellow highlight
Pre1	His religion is isolating him	HOME12
Pre2	because of the religions values he has learnt to withdraw himself	HOME13
Pre3	he thinks he is better than some staff/pupils	WITHIN-CHILD20
Pre4	he thinks he more advanced than his peers leading to alienation	WITHIN-CHILD21
Pre5	he doesn't have the ability to make relationships	WITHIN-CHILD22
Pre6	his younger sibling 'took away' the attention from him	HOME14
Pre7	his mum gives him less attention - he is therefore jealous	HOME15
Pre8	he will not respond to unfamiliar adults because of his perceptions of hierarchy	WITHIN-CHILD23
Pre9	some of his behaviours are self-protective - he doesn't want to show he needs others	WITHIN-CHILD24
Pre10	his understanding of 'real' friendships is limited	WITHIN-CHILD25
Pre11	sometimes he wants to be a part of lessons but his religion/parents choices won't allow it	WITHIN-CHILD26
Pre12	he thinks he is different (height) causing limited interaction with his peers	WITHIN-CHILD27
Post1	his behaviour depends on who is addressing him - he doesn't value all staff the same way	WITHIN-CHILD9
Post2	he has a lack of respect for peers	WITHIN-CHILD10
Post3	some of his behaviours is just him testing boundaries with adults	WITHIN-CHILD11
Post4	adults reactions will reinforce some of his behaviours	SCHOOL7
Post5	the discipline processes at home are inconsistent and have added to his view of how to behave	HOME1
Post6	if staff openly challenge him or speak to him in a certain way he will refuse	SCHOOL8
		Total codes=18

Group W4		
Pre or Post	Theory Inter-rater differences in blue highlight	Codes given by both raters Split theories are in yellow highlight
Pre1	She wants to voice her views /have a voice	WITHIN-CHILD28
Pre2	Her understanding of the same in terms of social conventions/expectations in school is limited	WITHIN-CHILD29
Pre3	Her experience at home/how she comes into school - before school will impact her	HOME16
Pre4	Public embarrassment - when you reprimand her publicly/from afar can impact her responses	SCHOOL5
Pre5	At home she is competing for attention perhaps (sibling rivalry?) - that's why she behaves like that in school	HOME17
Pre6	The parents different behaviour management strategies are reinforcing the types of behaviour seen in school	HOME18
Pre7	She is projecting her role with her parents (i.e. dominant with father, not dominant with mother) onto the same gender staff at school	**WITHIN-CHILD30** vs HOME RESOLVED
Pre8	Her role identity - her position as mini adult in school who can demand attention, is learnt from home	HOME19
Pre9	She has a different understanding of what is acceptable behaviour	WITHIN-CHILD31
Pre10	She needs to know that adults/staff see her positively and love her therefore she craves attention through attention-gaining behaviours	WITHIN-CHILD32
Pre11	Some of her behaviour is a defence mechanism	WITHIN-CHILD33
Pre12	positively challenging staff (e.g. who provide external motivators) can support her behaviour	SCHOOL6
Pre13	Having opportunities for success (school) can impact her positively	SCHOOL7
Pre14	She wants staff to constantly acknowledge her/recognise she is there	WITHIN-CHILD34
Pre15	Clear expectations and boundaries are needed to be displayed by all staff - consistently	SCHOOL8
Post1	Maybe the work is boring for her (she finds it boring)	SCHOOL9
Post2	making her work independently can impact negatively - she needs support	SCHOOL10
Post3	the absence of scaffolding can lead to her misbehaving - she needs task slicing	SCHOOL11
Post4	relationships with staff and pupil impact her behaviour - how she views them or how she views they view her	WITHIN-CHILD12
Post5	she doesn't understand what she needs to do	WITHIN-CHILD13
Post6	she is acting the part in regards to her aspirations for life - or lack thereof	WITHIN-CHILD14
		Total codes=21

Group V1		
Pre or Post	Theory Inter-rater differences in blue highlight	Codes given by both raters Split theories are in yellow highlight
Pre1	Because of family and some staffs expectations to behave like a stereotypical boy	Home1 and school1
Pre2	Because he is not getting enough help with organisational skills from family	Home2
Pre3	Some of his behaviours are learnt from home	Home3
Pre4	Because he has not learnt the distinction between how to act with adults and how to act with children appropriately	Within-child1
Pre5	The adults (home) are displaying inappropriate modelling of behaviours	Home4
Pre6	He has a lack of appropriate male role models in his life	Home5
Pre7	his parents have a contrasting view of schools role in his life so this impacts what they expect school to do for him	Home6
Pre8	there is conflict between school and home expectations on him	Home7 and school2
Pre9	He is needing attention	Within-child2
Pre10	He is easily upset or sensitive to others reactions to him	Within-child3
Pre11	He cannot manage rejection (or when he perceives rejection)	Within-child4
Pre12	He has a short fuse	Within-child5
Pre13	when the curriculum does not match his 'preferences', he will choose to misbehave	Within-child6 and school3
Post1	The structure of settings impact - nurture group elicits more appropriate behaviour	School1
Post2	language is important - he needs supportive prompts and repeated direction/instructions	School2
Post3	language is important - breaking down of instructions to improve behaviour	School3
Post4	the number of children/size of class is too big in mainstream	School4
Post5	his level of motivation impacts behaviour	Within-child1
Post6	seating plan is important -	School5
Post7	opportunities to work with good peer models helps	School6
Post8	staff approach - staff must carefully choose what to ignore and what to focus on shapes behaviour	School7
Post9	he enjoys moving	Within-child2
Post10	he seeks eye contact and interaction	Within-child3
		Total codes=23

Group V2		
Pre or Post	Theory Inter-rater differences in blue highlight	Codes given by both raters Split theories are in yellow highlight
Pre1	There is overwhelming variety of problems around him and his home life	HOME8
Pre2	he also lacks the ability to respond to the variety of problems around him	WITHIN-CHILD7
Pre3	he is scared of failure and being rejected because of failure	WITHIN-CHILD8
Pre4	he is unaware of how to respond appropriately to praise	WITHIN-CHILD9
Pre5	he seeking attention which is different to what other children have so he feels valued	WITHIN-CHILD10
Pre6	inconsistencies or changes in school and home are a trigger	HOME9 and SCHOOL4
Pre7	he is fixated on how he is feeling physiologically - this makes him panic/act-out	WITHIN-CHILD11
Pre8	his perception of how he is being treated whether fairly/unfairly can impact his behaviour	WITHIN-CHILD12
Pre9	recent changes in his home environment means he is isolated and lacks normality	HOME10
Pre10	he is missing the interaction with his dog/missing his dogs unconditional love	WITHIN-CHILD vs HOME11 (interrater) RESOLVED
Pre11	he is sometimes not treated well at home/there is no affection	HOME12
	POST -STAGE	
	Theory	Type
Post1	particular threat from staff of leaving school/being sent home can be a trigger for panicky behaviours	SCHOOL8
Post2	there is a lack of interaction with him in the classroom	SCHOOL9
Post3	specific support from TA will keep him engaged when this is not there will cause him to disrupt	SCHOOL10
Post4	the approaches/understanding of staff regarding how to approach him is inconsistent or not always supportive	SCHOOL11
Post5	the language used by staff with him can be non-impactful	SCHOOL12
Post6	staff emotional responses can lead to further negative interaction and he feeds off this	SCHOOL13 and WITHIN-CHILD4
		Total codes=17

Group V3		
Pre or Post	Theory	Codes given by both raters Split theories are in yellow highlight
Pre1	he is seeking to/wants to leave the classroom or school	WITHIN-CHILD13
Pre2	he has no understanding of the school hierarchy or school system	WITHIN-CHILD14
Pre3	flexibility of thought is limited	WITHIN-CHILD15
Pre4	he is experiencing some attachment difficulties	WITHIN-CHILD16
Pre5	the behaviour is because is avoiding doing the task	**WITHIN-CHILD**17 vs SCHOOL (interrater) RESOLVED
Pre6	he acts this way because he is seeking attention	WITHIN-CHILD18
Pre7	he is rigid and dislikes change	WITHIN-CHILD19
Pre8	his self-perception is negative	WITHIN-CHILD20
Pre9	he would like and has a need for approval from peers/others	WITHIN-CHILD21
Pre10	he has no sense of belonging at the school because he doesn't connect	WITHIN-CHILD22
Pre11	he struggles with processing the language of instructions - he has Asperger's	WITHIN-CHILD23
Pre12	the current behaviour management strategy doesn't suit him	SCHOOL5
Pre13	he does not understand social cues and situations in the classroom	WITHIN-CHILD24
Pre14	he does not have access to appropriate examples of good behaviour from his family (males)	HOME13
Post1	he can't read and doesn't know how to respond to others facial expressions or emotional cues	WITHIN-CHILD5
Post2	he is insecure about his role and identity in the classroom	WITHIN-CHILD6
Post3	he has some negative appraisal from staff leading to negative responses and relationships	SCHOOL14
Post4	he is seeking interaction especially with a certain peer - (negative interaction)	WITHIN-CHILD7
Post5	when staff tell him off - he will shut down	SCHOOL15
Post6	he may be behaving like this as he is occupied with wider issues in school	SCHOOL16
Post7	he wants to show he is the 'man of the house' in this class	WITHIN-CHILD8
Post8	the language staff use can confuse him	SCHOOL17
		Total Codes=22

Group V4		
Pre or Post	Theory	Codes Given by both raters Split theories are in yellow highlight
Pre1	he finds his lessons boring	SCHOOL6
Pre2	he struggles to retain information	WITHIN-CHILD25
Pre3	accessing the curriculum is hard for him - especially writing	WITHIN-CHILD26
Pre4	he may have ADHD as he has a short attention span, hyperactivity and cannot focus	WITHIN-CHILD27
Pre5	he has anxiety - he is preoccupied with who is fulfilling his basic needs	WITHIN-CHILD28
Pre6	he has had limited opportunity to develop his social skills at home	HOME14
Pre7	peers view him negatively as they have seen his behaviours over time in school	SCHOOL7
Pre8	he does not want his parents to know he is struggling (worried about their reaction) so he will not pass on information	HOME15
Pre9	he is seeking positive relationships with staff but this can cause positive interactions to be instigated at inappropriate times	WITHIN-CHILD29
Pre10	he is seeking attention from certain staff in the class/school	WITHIN-CHILD30
	POST -STAGE	
	Theory	Type
Post1	the seating arrangements can cause him to behaviour in an undesirable manner	SCHOOL18
Post2	the absence of key staff can affect his behaviour	SCHOOL19
Post3	the noise in the classroom can cause him to react	SCHOOL20
Post4	some of his responses are due to him not having access/fair access to items in reality	SCHOOL21
Post5	sometimes he will misbehave because he doesn't want to miss out or when he feels his perceived needs are not being met	WITHIN-CHILD9
Post6	he hasn't got access to and has limited awareness of appropriate self-help strategies in school	WITHIN-CHILD10 and SCHOOL22
		Total Codes=17

EXPERIMENTAL GROUP TOTAL NUMBER OF CODES GIVEN 84			
	PRE	POST	Overall
WITHIN CHILD	30	10	40
SCHOOL	7	22	29
HOME	15	0	15
TOTAL	52	32	84

TOTAL COMPARISON GROUP NUMBER OF CODES GIVEN 87			
	PRE	POST	Overall
WITHIN CHILD	34	14	48
SCHOOL	8	11	19
HOME	19	1	20
TOTAL	61	26	87

| Question | Condition | Statistical Check | | | Visual Check |
| | | Shapiro-Wilk | | | Histogram |
		Statistic	df	Sig.	
1a OVERALL SESSION (helpfulness)	COMPARISON-WRITTEN	.685	19	.000	Not Normal
	EXPERIMENT-VIDEO	.580	20	.000	Not Normal
1b Focus: ELEMENT DATA (helpfulness)	COMPARISON-WRITTEN	.770	19	.000	Not Normal
	EXPERIMENT-VIDEO	.626	20	.000	Not Normal
3 SEE/READ ANYTHING (made you think differently)	COMPARISON-WRITTEN	.507	19	.000	Not Normal
	EXPERIMENT-VIDEO	.495	20	.000	Not Normal

Appendix 27. Raw Data Means per Participant for each Quantifiable Dependent Variable from the Evaluation Questionnaire.

Condition	Participant Code	Q1a.Helpfulness: Overall Session	Q1b.Helpfulness Elements						Q2.See/read: Think Different
			Group Discussion	Time to think/process	Data	EP-facilitation	Visual Record	Steps of Process	
0	1WA	2	2	2	2	2	2	2	1
0	1WB	2	2	2	2	2	2	2	1
0	1WC	2	2	2	2	2	2	2	1
0	1WE	1	2	2	1	2	1	1	1
0	1WD	1	1	1	0	0	1	1	1
0	2WC	2	2	2	1	2	1	2	1
0	2WB	2	2	2	1	2	2	2	1
0	2WE	2	2	2	2	2	0	2	0
0	2WD	2	2	2	1	2	1	2	0
0	2WA	1	2	2	1	2	1	2	1
0	3WD	2	2	2	2	2	2	2	0
0	3WE	1	1	2	2	1	1	2	1
0	3WA	2	2	2	1	2	2	2	1
0	3WB	1	2	1	2	2	1	1	1
0	3WC	2	2	2	2	2	2	2	0
0	4WA	2	2	1	1	2	1	2	1
0	4WB	2	2	2	1	2	2	2	1
0	4WD	1	2	2	2	1	1	2	1
0	4WC	0	0	0	0	1	0	1	1
1	1VC	2	2	2	2	2	2	2	1
1	1VD	2	2	1	1	2	2	1	1
1	1VE	1	2	1	2	1	2	1	0
1	1VA	2	2	2	2	2	2	2	1
1	1VB	2	2	1	1	1	2	2	1
1	2VD	2	2	2	2	2	2	2	1
1	2VB	2	2	2	2	2	2	2	1
1	2VA	2	2	2	1	2	2	1	1
1	2VC	2	2	2	2	2	2	2	0
1	3VA	2	2	2	2	2	2	2	1
1	3VE	2	1	1	1	1	1	2	1
1	3VC	1	1	2	1	1	2	2	1
1	3VF	1	2	1	1	2	1	1	0
1	3VD	1	1	1	1	1	1	2	1
1	3VB	1	1	1	2	2	2	1	0
1	3VG	1	2	1	2	2	1	1	1
1	4VB	2	2	2	2	2	2	2	1
1	4VC	2	2	2	2	2	2	1	1
1	4VA	2	2	1	2	2	2	2	1
1	4VD	2	2	2	1	2	2	2	1

Condition: Comparison- Written ABC behaviour logs

Participant	NARRATIVE COMMENT	CODE
1	I think as SENCO I probably had more information on him but fine motor skills was new- something we hadn't explored	WITHIN-CHILD
2	Understanding of his home life	HOME
3	How his relationship with his parent affects him	HOME
4	It was useful to see it set out all in one place to compare	PROCESS (not coded)
5	More focus on her need to control	WITHIN-CHILD
6	All of the different steps that are involved in this process and the overall outcome	PROCESS (not coded)
7	A better understanding as to why the child behaves the way she does	GENERAL OUTCOME (not coded)
8	No data	n/a
9	No data	n/a
10	Within the map I could see how religion was having an impact	HOME
11	Religious views of parents - the impact it has on him	HOME
12	No data	n/a
13	Childs home/family situation = I learnt how that may play a big part in his behaviour	HOME
14	More about child's home life and family relationships	HOME
15	Info about home, male versus females relationships was interesting	HOME
16	Only the idea that X is acts like little adult and they let her do this at home*	HOME
		WITHIN-CHILD
17	Increasing behaviour level with current class teacher- not experienced when the pupil was in class the previous year	SCHOOL
18	No data	n/a
19	No data	n/a

*Two-tailed comments – this comment was split into two and parts were coded accordingly

2   Condition: Experimental – Video Excerpts

Participant	NARRATIVE COMMENT	CODE
1	See how happy he is in the nurture group compared to when I see him	SCHOOL
2	Interesting to know background of child	HOME
3	His physical movement response to others in class	SCHOOL
4	More background information on child and good to hear others strategies	PROCESS (not coded)
5	Would appreciate any suggestions of materials which would help me to understand this in more detail	OUTCOMES (not coded)
6	Hear and see how his and our emotions both affect situation *	WITHIN-CHILD
		SCHOOL
7	Understanding that it is connected to home and his situation	HOME
8	Through discussion about elements of his home life	HOME
9	I now have an idea of his home life and how that affects his behaviour	HOME
10	No data	n/a
11	Process tended to point out issues we had already identified	PROCESS OUTCOME (not coded)
12	No data	n/a
13	Possible ASD so shutting down	WITHIN-CHILD
14	Peoples views	PROCESS (not coded)
15	Due to the inclusive nature of this school a lot of the issues had been identified, however the process helped to formulate strategies	PROCESS (not coded)
16	Clearly the child has many historical care-related challenges and,	HOME
	possibly medical ones that impact on how he presents*	WITHIN-CHILD
17	Male role models outside of school that he is attached to and,	HOME
	possible dyslexia/difficulty with task*	WITHIN-CHILD
18	Holistic mapping is useful	PROCESS (not coded)
19	No data	n/a
20	I didn't think of the child as anxious but it is clear in class he has some anxiety issues	SCHOOL

Two-tailed comments – this comment was split into two and parts were coded accordingly