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Links between parental affect, cognitions, parenting, and child outcomes

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Abstract

Parental attributions of problematic child behaviour appear to mediate the impact of parental affect on parenting practices, which, in turn, appear related to child behaviour. Engagement in behavioural-based parenting interventions for child behavioural problems may be impacted by parent and family contextual factors. This study explored the relationship between parental affect (stress, anxiety, and depression), with attributions for child behaviour (child-responsible and parent-causal attributions) and inept discipline (parenting laxness, overreactivity and verbosity) in a community sample of parents commencing a behavioural parenting intervention. Telephone interviews explored parents' perspectives of what contextual factors impacted on their parenting. High levels of these parental attributions, and positive correlations between parental affect, parental attributions, and parenting style were found. Mediational analyses indicated that the positive association between stress and overreactivity may be mediated by parent-causal attributions, while the relationship between anxiety and verbosity may be mediated by child-responsible attributions. Parental interviews indicated awareness of factors which impact on parenting, including parent and child factors, level of support, family factors, employment, and wider contextual factors. The findings emphasise the importance of assessing and addressing parental attributions and parent and family contextual factors in order to tailor parent-training interventions for parents of children with problematic behaviour.

Introduction:

It is well established that parenting has a crucial impact on child development. The main aim of this study is to explore a number of different but converging lines of evidence which might explain how parental mood can lead to child misbehaviour via cognitive or attributional behavioural parenting processes. This work extends previous empirical studies by using a novel and relatively new measure of parent-causal and child-responsible attributions in a single measure. A secondary aim of this study is to examine parent and family contextual factors which parents indicate impact on their parenting competence.

Research examining parenting practices in daily life, especially when parents are dealing with problematic child behaviours, has focused on the role of parent cognitions in response to their child's behaviour, and the emotions elicited by this. A large literature examines the processes outlined above, particularly with reference to parental mood and depression. Dix and Meunier (2009) systematically reviewed the literature to examine the cognitive, affective, and motivational processes thought to underlie the effect of depressive symptoms on parenting. They presented a five-step, action control model, involving goal processing, input processing, appraisals, emotion activation, and response processing. They identified 13 regulatory processes involved in this model, and found that depressive symptoms impact on parenting through reducing: child-oriented goals, attention to child input, and positive emotion; and increasing: negative appraisals of child and self-competence, positive evaluations of coercive parenting, and negative emotion. Depressed parents' cognitive appraisals were most widely studied

with a total of 168 papers included in the review emphasising their importance and salience as proximal influences on parenting behaviours. Across these studies research has mainly focused on two types of child-related appraisals: negative attributions about the intentions and causes of children's behaviour (why) and global judgements about children's feelings and behaviour (how). Such appraisals may mediate associations between parental depressive symptoms and negative parenting styles.

Parental attributions, affect, parenting style and child behaviour:

The majority of process-oriented research on maternal depressive symptoms has addressed appraisal and attributions. Parental attributions are proposed to mediate the relationship between child misbehaviour and parental response to that behaviour (Slep & O'Leary, 1998). Parent attributions about specific child behaviours are primarily predicted by parents' schemas about what the parental role entails, about disciplinary strategies, expectations about child ability throughout development, and whether parental anxieties about child misbehaviour are primarily child-, or alternatively, parent-focused (Azar, 2002; Dix, 1991). "Online" parental attributions are likely to be influenced by parental mood (Bugental et al. 2010; Leung & Slep, 2006), child affect (Arnold & O'Leary, 1995; Dowdney & Pickles, 1991), the history of the parent-child relationship (Patterson, 2002), and perceptions of intent (Azar, 2002). In turn, parenting practices "in-the-moment" are argued to be driven primarily by "online" parental emotions, which are elicited by a number of factors, including parental attributions about whether child behaviour is intentional, any discrepancy or agreement between

child concerns and parental concerns, whether the parent feels in control, and whether these concerns are child-, or parent-oriented (Dix, 1991).

Research indicates that more dynamic mood states have a similar impact on parental attributions and parenting as enduring negative mood states like depression. Research by Dix and colleagues has shown that parental attributions of child behaviour change in response to parents' own changing affective states (Dix 1991). Lorber and colleagues (Lorber, 2007; Lorber & O'Leary, 2005; Lorber & Slep, 2005) found that negative maternal affect was significantly associated with negative appraisal bias, with mothers appraising neutral and/or positive child behaviour negatively, and then over-reacting in their discipline. Increased volatility of maternal negative emotions and/or being closely linked to child negative affect, resulted in harsh/overreactive or lax parenting. Similarly, Smith and O'Leary (1995) found that maternal negative arousal and child-blaming attributions predicted harsher parenting strategies.

Therefore, negative parental mood appears to result in increased likelihood of interpretations of children's difficult behaviour as intentional, dispositional, and blameworthy. These negative attributions are then more likely to result in parents reacting with increased negative affect, and harsher disciplinary strategies (Dix, 1993). Different types of attributions appear to lead to different parenting styles. Leung & Slep (2006) found that parental depressive symptoms predicted parent-causal attributions which were stable, global and dispositional, and associated with lax parenting; and also child-responsible attributions which were intentional, controllable and negative, and

related to over-reactive parenting. They found that parental anger was directly associated with over-reactive parenting. These studies suggest that parental mood has a clear impact on parenting, which appears to be mediated by attributions of child behaviour. However, parenting style may also exacerbate difficult child behaviour. Callender, Olson, Choe and Sameroff (2012) examined the cognitive-behavioural pathway proposed by Dix and Meunier (2009). They found that negative parental attributions mediated the association between depressive symptoms and physical punishment. Frequent physical punishment, in addition, predicted increases in child externalizing behaviour at the second assessment period.

This link between parenting and child behaviour is fundamental to interventions for child problematic behaviour. As such, the role of cognitions and appraisal are relevant in terms of behavioural-based parenting programmes aimed at helping parents manage their child's oppositional behaviour. The National Institute for Health and Clinical Excellence (NICE, 2013) advise on parent training programmes for parents of children aged 3–11 who display oppositional behaviour. A strong evidence base supports the use of parent training programmes, particularly the Webster-Stratton Incredible Years Parenting Programme (IY; Webster-Stratton & Hancock, 1998; Brestan & Eyberg, 1998; Mihalic, Fagan, Irwin, Ballard, & Elliot, 2002). Improving the parent-child relationship using strategies based on Social Learning Theory (SLT) are central to recommended interventions for helping parents deal with oppositional behaviour (Kazdin, & Rotella, 2005). Scott and Dadds (2009) suggest that while SLT remains the core of effective parent training programmes, cognitive attribution theory has also

contributed significantly to inform alternative therapeutic approaches and influence outcomes.

Measurement of Parental Attributions

The measurement of parental attributions is an important area of study, which has been broadly divided into instruments which ask respondents to rate their agreement with attributional statements, and others which ask respondents for attributions elicited by a hypothetical vignette (see for review, Bugental, Johnston, New & Silvester, 1998). Snarr, Slep & Grande (2009) developed a self-report measure called the Parent Cognition Scale (PCS) which is unique as a measure of negative parent attributional style and links both parent-causal and child-responsible attributions in a single measure. This is crucial, as it considers the possibility that child behaviour may be attributed by parents to their own behaviour and qualities, and that some forms of these attributions may be non-conducive to healthy family functioning, predicting parental emotional problems, ineffective discipline, parent-child physical aggression and low parenting satisfaction (Snarr et al. 2009).

Parent and Family Contextual Factors and Parenting:

Parental attributions clearly have a crucial impact on parenting style, a factor increasingly taken into account in parenting interventions designed to target child behaviour problems (for example, Sanders et al. 2004). However, other contextual factors which impact on parenting appear vital for the integration of evidence-based practices (EBP) into community settings for services delivered to children (Chorpita,

Bernstein, & Daleiden, 2008; Herschell, McNeil & McNeil, 2004; Silverman & Hinshaw, 2008). The following parent and family contextual factors (P/FCFs) may have an impact on community-based interventions: culture and ethnicity, parental psychopathology, substance abuse, marital conflict, domestic violence, family functioning, contextual and parental stress, social support, socioeconomic status, and treatment expectations (Beauchaine, Webster-Stratton, & Reid, 2005; Chronis, Chacko, Fabiano, Wymbs, & Pelham, 2004; Cobham, Dadds, & Spence, 1998; Eyberg et al. 2001; Friars & Mellor, 2009; Fossum et al., 2009; Kazdin, 1995; Kazdin & Crowley, 1997; Kazdin & Wassell, 1999; Prinz & Miller, 1996; Reyno & McGrath, 2006; Southam-Gerow, Kendall, & Weersing, 2001; Webster-Stratton & Hammond, 1990). Knowledge of such contextual factors may also assist engagement of 'hard to reach' families who do not always avail of service provision.

Achieving a clear understanding of the context of community mental health services is vital for successful implementation of EBPs, in ensuring the practicality, efficiency and cost-effective delivery of services, as well as allowing identification and manipulation of factors which may mediate or moderate implementation (Hoagwood & Kolko, 2009). Parent and family characteristics form the context for community interventions, and Kazdin and Weisz (1998) argue that all child-targeted interventions are some form of "family context" therapy. Baker-Ericzen, Jenkins and Brookman-Frazee (2010) examined the context of community services which may have implications for EBP implementation from the perspectives of parents and clinicians. Parents described salient factors which impacted on treatment for children with behaviour problems, including parental stress and inadequate social support. In terms of enhancing current

interventions for oppositional behaviour, knowledge of both parental attributions and perspectives on factors likely to impact parenting competences are viewed as salient and important variables.

Objectives and hypotheses of the current study:

Given the importance of parenting in relation to child development outcomes and the maintenance of child problematic behaviour, it is important to gain a clear understanding of how parents interpret their child's behaviour and approach their parenting task. Parents' beliefs about their child's presenting difficulties (including dimensions such as causes, diagnoses, consequences and the extent to which these can be alleviated or controlled) can significantly impact on their coping ability and child behaviour (Slep & O'Leary, 1998). These factors are also likely to impact on parents' ability to implement recommended behavioural parenting interventions. This study seeks to explore the relationship between parental affect, attributions for child behaviour, and inept discipline in a community sample of parents commencing the IY parenting programme. In this study, parental affect encompasses stress, anxiety, depression, and a combination these, general negative affectivity or psychological distress. Attributions for child behaviour include child-responsible attributions, where misbehaviour is believed to be intentional and controllable by the child; and parent-causal attributions, where parents believe that the child's difficult behaviour is due to parental characteristics which are stable and global. Inept discipline is characterised in this study as lax or permissive, overreactive or harsh parenting, and parental verbosity during discipline situations. Generally attributions are proposed to mediate the

relationship between parental affect and inept discipline, with the focus of analysis on the particular subscales of the measures used. The following hypotheses were made:

(Figure 1 here)

Hypothesis 1: Parental affect (depression, anxiety, stress, and negative affectivity) is positively associated with parenting style (overreactivity, laxness, verbosity, and Total score); while parental cognitions (parent-causal and child-responsible attributions) are positively associated with: a) parental affect (depression, anxiety, stress, and negative affectivity); and b) parenting style (overreactivity, laxness, verbosity, and Total score).

Hypothesis 2: Parental cognitions (parent-causal and child-responsible attributions) mediate a positive association between parental affect (depression, anxiety, and stress) and parenting style (overreactivity, laxness, and verbosity) as depicted in Figure 1.

While Leung and Slep (2006) propose a model in which parent-causal attributions mediate a relationship between depressive symptoms and lax parenting, and child-responsible attributions mediate a relationship between depressive symptoms and overreactive parenting, little existing research has examined how parent-causal and child-responsible attributions may mediate a relationship between parental stress or anxiety, and measures of parenting behaviour. Each factor was therefore examined individually as a possible mediator, and a total of two meditational models are proposed.

As outlined previously, P/FCFs, such as psychological and social functioning are important for the implementation of EBP including behavioural interventions for child problematic behaviour (Chronis et al., 2004; Reyno & McGrath, 2006; Schoenwald, Brown, & Henggeller, 2000; Sexton & Alexander, 2005). In order to examine the role of P/FCFs in community settings, both clinician and parental perspectives are important, but very little research examines parental perspectives in this way. This study aimed to further explore what other possible environmental factors impact on parents' ability to cope with problematic child behaviour from parents' perspectives.

Method

Participants:

Parents of children aged 1-10 were recruited via IY courses across North Wales. The majority of courses were community-based groups run by Barnardos Charity, where parents were referred by Tier 1 professionals, while several were run by Child and Adolescent Mental Health Services. 110 parents agreed to participate in the questionnaire part of the study, and 58 parents agreed to participate in the telephone interview. 49 parents returned completed questionnaires. See Table 1 for description of sample characteristics.

(Table 1 here)

22 parents also took part in the interview, 6 of whom did not complete the demographic questionnaire. Table 2 shows the demographic information which is available for the 16 participants who did complete the questionnaires.

(Table 2 here)

Procedure:

This study was approved by Bangor University School of Psychology Ethics Committee, and NHS North Wales Ethics Committee, and received Research and Development approval. Parents were informed of the study during a break on one of the first sessions of the IY course, and given consent forms. If interested in participating, parents returned signed consent forms on the subsequent session. Participants were given a questionnaire pack containing the four measures and a demographic questionnaire, which they completed in their own time. All questionnaire packs were distributed before parents had attended four IY sessions. 47% of questionnaires were returned. Of the 52 returned questionnaires, 3 were incomplete, leaving a sample size of 49 parents.

Of the 58 parents who agreed to participate in the telephone interview, 34 could not be contacted, or the interviews arranged in the available time frame, and 2 decided not to participate, leaving a sample size of 22 parents. Parents were contacted by telephone to

arrange a suitable time to conduct the interview. All interviews were conducted towards the end of the IY course, or following its completion.

Design:

This study utilised a mixed design approach, involving both quantitative, questionnaire-generated data, and qualitative, interview-generated data which was analysed with content analysis.

Measures:

Demographic Information was collected including information on parent gender, age, education, employment, marital status, ethnicity, relationship to child; partner's involvement with child, partner's employment, partner's ethnicity, language spoken at home; child gender, child age, child diagnosis, number of siblings, sibling ages, and whether the child had ever been in foster care.

The Parent Cognition Scale (PCS; Snarr et al. 2009) is a self-report measure designed to assess dysfunctional parental child-responsible and parent-causal attributions for child misbehaviour. It has been validated for use with parents of children aged three to seven, although no indication is given that it should not be used with a wider age range. It is composed of 30 items, which are statements of causes for child misbehaviour. Respondents are asked to rate each item on a six point Likert scale according to how

true it is for their child over the past two months (1 – Always true; 6 – Never true). Items are reverse-scored so that higher scores are indicative of greater endorsement of each statement. 9 items form the Child-Responsible Attributions (CRA) subscale, including items such as, "My child won't listen", and 7 items form the Parent Causal Attributions (PCA) subscale, including items such as, "I don't give my child enough attention", with the remaining 14 items not included in scoring. The PCS demonstrates promising convergent validity, good discriminant validity, and good reliability for both subscales (CRA, r=0.68, PCA, r=0.76). In this sample, internal consistency was acceptable (α=0.63).

The O'Leary Parenting Scale (PS; Arnold, O'Leary, Wolff, & Acker, 1993) is a widely used self-report measure of parental discipline practices and parenting style. Although originally validated for use with parents of children aged one-and-a-half to four years old, it is frequently used over a much wider age range. It consists of 30 items, where parents indicate their response to a parenting situation by choosing between an "effective" and "ineffective" course of action positioned at alternative ends of a 7 point Likert scale, for example, "when my child misbehaves:" (1) "I do something right away", to (7) "I do something later". "Ineffective" discipline practices include permissive or inconsistent discipline, coercive discipline, and emotional discipline. The scale consists of three subscales, Laxness, Verbosity, and Overreactivity, and a Total score. It demonstrates good content and construct validity, adequate internal consistency and test-retest reliability (Arnold et al., 1993). In this sample, the PS had high internal consistency (α=0.86), and the internal consistency of each subscale was acceptable to high (α=0.59 to α=0.98).

The Depression, Anxiety and Stress Scale - 21 (DASS-21; Lovibond, & Lovibond, 1995**)** is an abbreviated version of the DASS, a self-report measure of affect. It measures general negative affectivity or psychological distress, and is broken down into subscales of depression, anxiety and stress. Each subscale contains 7 items, where participants rate the extent to which each statement applied to them over the past week on a four point severity scale. For example, "I found it hard to wind down". The DASS-21 appears to be equivalent to the DASS, with good reliability, high internal consistency, adequate construct validity, and good convergent and discriminant validity (Henry and Crawford, 2005). In this sample, the DASS-21 had high internal consistency (α=0.93), and high internal consistency for each subscale (α=0.81 to α=0.88).

The Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997) is a widely used screening measure which assesses behavioural and emotional problems in children aged 4-16. It consists of 25 statements, which parents rate on a three point Likert scale: "never", "sometimes" or "always". These items are divided into five subscales, Emotional Symptoms, Conduct Problems, Hyperactivity, Peer Problems, and Pro-social behaviour. A further Impact supplement was used, consisting of five items which assess the impact of child difficulties (if any) on home life, academic achievements, peer relationships and leisure activities. It demonstrates good internal consistency, acceptable test-retest reliability, good discriminant validity, and strong correlations with other measures of psychopathology (Stone, Otten, Engels, Vermulst, & Janssens, 2010). The SDQ3-4 was recently validated with 3-4 year olds (Ezpeleta, Granero, la Osa, Eva Penelo, & Domenech, 2012), and found to have similar properties to the SDQ4-16. In this sample, the SDQ had good internal consistency (α=0.80).

Brief Interview with parents:

Interviews took place over the telephone, lasting on average 13.75 minutes, ranging between 4.30 (an interview which had to be ended by the interviewee due to their familial responsibility) and 23.55 minutes. Participants were asked "What things might influence or affect the way that you parent your child?" Participants were prompted when appropriate, "Can you think of any other factors which might have an influence on the way that you parent your child – in a negative or a positive way?" Where necessary, "tiredness" was used as an example. Further clarification of themes was sought from parents when necessary, with probes such as, "Can you explain more about how ….. could have an impact on your parenting?". The content of each interview was summarised for parents and an opportunity given to clarify any themes, to correct the interviewer, or to add any more information or other factors. Interviews were recorded, and a sample of 5 (23%) were transcribed in full, with the remaining 17 transcribed in abbreviated form.

Analytic Strategy:

In order to address the first hypothesis, the quantitative data was analysed using a correlational matrix to identify significant associations between the key variables. Hypothesis two was addressed through mediational analysis, using Baron and Kenny's (1986) four steps for the two mediators, Parent-Causal Attributions (PCAs) and Child-Responsible Attributions (CRAs). First, a significant association between the Independent Variable (IV; parental affect, specifically depression, anxiety and stress) and Dependent Variable (DV; parenting style, specifically overreactivity, laxness and

verbosity) must be established[1]. Second, a significant association between the mediator (CRA or PCA) and DV (parenting style) must be established. Third, a significant association between the IV (parental affect) and mediator (CRA or PCA) must be established. Finally, when the mediator (CRA or PCA) is added to the model, the association between the IV (parental affect) and the DV (parenting styles) should lessen. This suggests the existence of a mediation effect, which is proposed in Figure 1.

Data reduction of interviews:

Content analysis was used to analyse the qualitative data generated by the telephone interviews. Analysis of interviews involved examination of the underlying categories apparent in parents' interviews, and quantification of the data through the use of content analysis, as outlined by Dey (1993): i) data was divided into manageable parts; ii) responses relating to relevant themes were collected together; iii) categories were created which describe these themes; iv) categories were adjusted to best describe the data. Familiarity with the subject area prior to analysis of interviews generated general themes which were anticipated to emerge through analysis of the interviews. Each idea, sentence, or partial sentence uttered by parents formed a unit for examination. Five full transcripts were reviewed where units related to the research question were highlighted as and when they occurred. Similar themes were then grouped together to establish the basic categories. The remaining transcripts were then reviewed for any new idea, or any reference to an identified category. Novel themes which emerged were noted, and

[1] Mediational analyses focused on DASS-21 parental affect and PS parenting subscales rather than including the total composite scores of these variables.

grouped together when appropriate to form new categories. Similar categories were collapsed, and renamed when appropriate. All transcripts were then reviewed for reference to the newly defined categories. Individual transcripts were checked against the categories to identify which categories had been mentioned during each interview. The definition of categories formed an evolving process, and as such, each transcript was examined with regards to the categories on several occasions.

Reliability of interview analysis:

An independent rater was used to establish reliability of the interview data. 23% of the transcriptions (2 full transcriptions and 3 abbreviated transcriptions) were coded by a co-rater according to the final revised system of categories. The agreement between the two raters was calculated to be 95% using the formula [(agreements/(agreements+disagreements)]x100%. All disagreements were discussed until agreement was reached. The following results are based on responses coded following this process.

Results

Missing Data:

For subscales on the SDQ and PS where <8% of data was missing, this was calculated and the mean subscale score inserted. Where more than the recommended number of items were missing, data was not prorated (>2 items for SDQ subscales or >3 items on

the PS). Means were inserted for 2 participants on the SDQ and 12 participants on the PS.

Descriptive statistics:

The means and standard deviations for each of the measures are presented in Table 3.

Child Outcomes:

British population norms for the SDQ (Meltzer, Gatward, Goodman, & Ford, 2000) indicate that this sample falls within the clinical range (>90th percentile) for Conduct Problems, Pro-social behaviour, Total difficulties, and Impact, while Hyperactivity symptoms and Peer Problems fall within the borderline range (>80th percentile). Mean scores on the Emotional symptoms subscale fell in the normal range (<80th percentile). 100% of parents rated their child in the borderline or clinical range on at least one subscale, while 83% of parents rated their child in the clinical range on at least one subscale. As such, this sample could be considered as a subclinical population in terms of child well-being and behaviour.

Parental Affect:

Population norms for the DASS-21 (Henry & Crawford, 2005) indicate that this current study falls within normal limits (<80th percentile) for all areas of parental affect. However, all scores were at the higher end of the normal range (>70th percentile), indicating that parents may experience reduced well-being and increased difficulties in

comparison with the general population. 43% of parents scored above "moderate"/borderline levels on at least one of the DASS subscales, while 29% scored above "severe"/clinical levels.

Parenting:

In comparison with the non-clinical population used to evaluate the PS by Arnold et al. (1993), participants scored within the borderline range (>80th percentile) for Laxness, Overreactivity, and Total score, while Verbosity was nearing the borderline range (79th percentile). This indicates that parents in this sample were using discipline strategies associated with negative child outcomes.

Parental Attributions:

In comparison with the sample used by Snarr et al. (2009), participants' scores indicated high levels of Parent-Causal and Child-Responsible Attributions. A paired-sample t-test showed that the Child-Responsible Attributions mean (M=4.05, SD=1.05) was significantly greater than Parent-Causal Attributions mean (M=2.97, SD=1.00), $t(46)=6.99$; $p<0.001$ (two-tailed). This indicates that participants were more likely to attribute responsibility to their child for difficult behaviour than to blame themselves.

(Table 3 here)

Hypothesis 1: Correlational Matrix (see Table 4)

1. *Associations between parental affect and parenting style:*

Pearson's correlational analysis showed a significant positive association between parental Anxiety and parenting Total score, $r(45)=0.29$, $p<0.05$; Overreactivity, $r(45)=0.30$, $p<0.05$; and Verbosity, $r(45)=0.29$, $p<0.05$. Parental Stress was positively associated with Total score, $r(45)=0.29$, $p<0.05$; and Overreactivity, $r(45)=0.42$, $p<0.01$. General parental negative affectivity (DASS-21 Total) appeared significantly positively associated with parenting Total score, $r(45)=0.30$, $p<0.05$; and Overreactivity, $r(45)=0.35$, $p<0.05$;. Depression was not found to be significantly associated with parenting style.

2. *Associations between parental attributions and parenting style:*

A significant positive association was also established between Parent-Causal Attributions and all ineffective parenting styles; on the PS Total, $r(44)=0.80$, $p<0.001$; Laxness, $r(44)=0.49$, $p<0.01$; Overreactivity $r(44)=0.84$, $p<0.001$; and Verbosity, $r(44)=0.60$, $p<0.001$.

Similarly, Child-Responsible Attributions were significantly positively associated with ineffective parenting on the PS Total, $r(44)=0.40$, $p<0.01$; Overreactivity, $r(44)=0.56$,

$p<0.001$; and Verbosity, $r(44)=0.39$, $p<0.01$, but was not significantly associated with Laxness.

3. *Associations between parental attributions and parent affect:*

Parental attributions were positively associated with some aspects of parental affect. The Parent-Causal Attributions subscale was significantly positively associated with parental stress, $r(45)=0.37$, $p<0.01$, and negative affectivity (DASS Total), $r(45)=0.31$, $p<0.05$. The Child-Responsibility Attributions subscale, in contrast, was positively associated with anxiety, $r(46)=0.30$, $p<0.05$.

(Table 4 here)

Hypothesis 2: Mediational analysis

(Figure 2 here)

Hypothesis 2 for this data set was that parent cognitions, whether in the form of parent-causal attributions[2] or child responsibility attributions[3] may mediate the relationship between parental affect (stress, anxiety, depression) and a parenting style characterised

[2] Example of parent-causal attribution: "I'm not structured enough with my child".

[3] Example of child-responsible attribution: "My child wants things his/her way."

by either laxness, overreactivity or verbosity, as illustrated in Figure 1. A series of regressional analyses (linear and hierarchical) were run to test the above meditational hypotheses.

The results summarised in Tables 5 and 6 demonstrate that the meditational hypothesis was supported. The independent variable of parental Stress as measured by the DASS-21 was significantly positively related to both the proposed mediator (Parent-Causal Attributions) (R = 0.37, $F(1,46)= 6.95$, $p<0.05$) and the dependent variable parenting Overreactivity (R= 0.42, $F(1,46) = 9.47$, $p<0.01$). Additionally, the mediator of Parent-Causal Attributions was significantly positively related to parenting Overreactivity (R=0.80, $F(1,46) = 101.36$, $p<0.01$). To test for mediation, a hierarchical multiple regression was performed and both parental Stress and Parent-Causal Attributions were entered as predictor variables at Blocks 1 and 2. The relationship between parental Stress and parental Overreactivity was no longer significant, $\beta =0.10$, $F =51.72$, $p=0.272$. These results suggest full mediation. See Table 5 and Figure 2 with beta coefficients reported.

(Table 5 here)

A second meditational hypothesis was tested where Child-Responsible Attributions formed the mediator, parental Anxiety the independent variable and parenting Verbosity formed the dependent variable. The results of this analysis are summarized in Table 6 and illustrated in Figure 3, and suggest that the meditational model was supported. Anxiety was a significant positive predictor of Verbosity (R=0.29, $F= 4.22$, $p<0.01$),

and of Child-Responsible Attributions (R = 0.30, F= 4.47; p< 0.05). Child-Responsible Attributions also significantly positively predicted Verbosity (R=0.36, F=8.01, p<0.05). When Anxiety and Child-Responsible Attributions were entered simultaneously as predictors of Verbosity, the regression coefficient for Anxiety dropped to 0.13 (ns). As the β for Anxiety, which was significant in the first step of analysis, (β =0.35, p<0.05) is no longer significant when controlling for the effects of the proposed mediating variable, child-responsible attributions, this suggests a full mediation effect.

(Figure 3 here)

(Table 6 here)

Thus the final condition for demonstrating mediation have been met and are illustrated in Figures 2 and 3 with the relevant beta coefficients and *p* values reported. Parent-Causal Attributions appear to mediate the positive relationship between parental Stress and parenting Overreactivity, while parent cognitions that focus on Child-Responsible Attributions mediate the positive relationship between parental Anxiety and a parenting style characterised by Verbosity.

Interviews

Descriptive statistics (see Table 7):

Of the 22 participants who completed an interview, questionnaire data was available for 16 participants.

Child Outcomes:

In terms of child outcome, in comparison with national norms available for the SDQ (Meltzer et al., 2000) this sample falls within the clinical range for Total Score, Conduct Problems, Pro-social behaviour, and Impact, while Hyperactivity Symptoms and Peer Problems fall in the borderline range. Emotional symptoms were in the normal range. 100% of parents rated their child in the borderline or clinical range on at least one subscale, while 70% of parents rated their child in the clinical range on at least one subscale.

Parental Affect:

In terms of parental affect on the DASS-21, a comparison with population norms (Henry & Crawford, 2005) indicate that scores on the Depression subscale and Total score fell within the borderline range, and scores on the Anxiety and Stress subscales fell within the higher end of the normal range (>70th percentile). These scores are slightly more severe than those obtained in the total sample, which should be taken into account when generalising results obtained during interviews to the total sample. 44% of interviewees scored above "moderate"/borderline levels on at least one of the DASS-21 subscales, while 38% scored above "severe"/clinical levels.

Parenting:

In terms of parenting, comparisons with normative data for the PS (Arnold et al., 1993) indicate that participants' scores fell within the borderline range for parenting Laxness,

Overreactivity and Total score, with Verbosity approaching the borderline range (75th percentile).

Parental Attributions:

In comparison with the sample used by Snarr et al. (2009), participants scored very highly on both Parent-Causal and Child-Responsibility Attributions. A paired-sample t-test showed that the Child-Responsible Attributions subscale (*M*=4.08, *SD*=1.12) were significantly greater than Parent-Causal Attributions subscale mean (*M*=3.07, *SD*=1.02), *t*(14)=2.81; p=0.01.

(Table 7 here)

Content Analysis of interviews

Table 8 shows the categories developed from interviews with parents, as well as the description of these categories, using parents' own words and some summative phrases. The percentage of parents who mentioned each theme, (and sub-divisions of these categories) are also depicted. Frequency of utterances are not reported. See Appendix B for quotes signifying categories.

(Table 8 here)

Parental Factors:

All interviewees (100%) mentioned parental characteristics as impacting on their parenting, with the three categories of parental factors mentioned by equal proportions of interviewees. Parental Affect/Mood not only encompassed low mood, impatience, anger and frustration, but also positive emotions such as satisfaction and pleasure related to the relationship with their child. Parents who discussed factors within the Health category frequently mentioned tiredness as having a significant impact on parenting, while participants with physical ill-health primarily discussed this in terms of their energy levels, and availability to their child. The Expectations category was based on participants' parenting experience, upbringing, expectations and cognitions related to their child and parenting.

Level of Support:

86% of parents reported that the level of available support impacted on their parenting. Social support was mentioned by 77% of interviewees, and included support from family, friends, and the marital relationship. The deficit of support experienced by single parents in particular was emphasised. Some interviewees discussed their partner's parenting style as creating some challenge and inconsistency when it came to parenting their children, while in other cases, partners' similar parenting style was helpful. Support located within the local community and services was mentioned by 68% of interviewees, with the IY course mentioned by the majority of parents, as well as other resources such as school, extra-curricular and sporting activities. Only one parent

discussed others' expectations as having an influence on her parenting, but this was clearly an important factor for her.

Child Factors:

Participants appeared to be very aware of child factors, which were mentioned by 73% of parents. 73% of participants mentioned the factors related to the child behaviour category, which encompassed child behaviour, and factors which impact on child behaviour, such as health and mood. Factors more intrinsic to the child, such as child character/temperament, and child diagnosis formed the child characteristics category, mentioned by 46% of participants. One parent mentioned child diagnosis, however, this was the only parent in this sample whose child had or was being assessed for a diagnosis.

Family Factors and Employment:

Participants discussed factors proximal to the parent, in terms of family factors, and parental employment. Family factors were mentioned by 46% of participants. The family parity category was comprised of number of children, siblings, and the competing demands of family life. Family structure was mentioned by 2 participants, for whom it appeared to be an important factor. 55% of participants mentioned employment factors, with a focus on the impact of busyness related to the competing demands of employment and family life, as well as financial concerns.

Wider Contextual Factors:

36% of participants discussed environmental and wider contextual factors. This encompassed the circumstances or situation in which the parent found themselves, life events such as pregnancy and the death of a loved one, wider society, in terms of current accepted parenting practices, the media and television, in terms of parental protectiveness elicited by coverage of crimes committed against children, and even the weather, which appeared to have an impact through parental and child well-being, and an increase in resources, by utilising the outdoors.

Discussion:

The goals of the present study were to examine parental attributions both in relation to parental affect and parenting style. A second focus of the study was to explore parental perspectives on parenting through interview data which was analysed using content analysis. In terms of the quantitative study, parent-causal attributions (PCAs) and child-responsible attributions (CRAs) were examined, while parental affect encompassed depression, anxiety, stress, or a total composite of these variables, and parenting style was characterised by overreactivity, laxness, verbosity, and a total composite score of these variables. In this sample of parents commencing the IY programme in North Wales, high rates of both PCAs and CRAs were demonstrated, which co-occurred with moderate/borderline levels of ineffective parenting techniques, and above-average rates of depression, anxiety and stress symptomology. More CRAs were made than PCAs, indicating that parents were more likely to blame their child than themselves for child misbehaviour.

Hypothesis 1: Parental cognitions, parental affect and parenting style are positively associated

Hypothesis 1 was addressed through correlational analyses which suggested a significant, positive association between parental anxiety and ineffective parenting, in terms of verbosity and overreactivity, and parenting Total score. Parental stress was also positively associated with parental overreactivity and parenting Total score. In terms of parental cognitions, PCAs were positively linked with ineffective parenting, in terms of verbosity, overreactivity, laxness, and parenting Total score. CRAs were positively associated with parenting over-reactivity, verbosity and Total score, but not parenting laxness. Parental attributions also appeared to be significantly positively associated with some aspects of parental affect, including a link between PCAs and stress, and general negative affectivity; and a positive link between CRAs and anxiety. Parental depression was not found to correlate significantly with either of the parental attributions or parenting style.

Associations between parental affect and parenting:

The study findings of the apparent positive association between parental attributions and parental affect are in agreement with previous research, as outlined previously, and in Dix's (1991) affective model of parenting. Dix (1991) suggested that parental emotions have a central role in parenting competence, and that while positive emotions support effective parenting, negative emotions are central to ineffective parenting, particularly with regards to harsh/overreactive parenting. This link between parental affect and parenting is most widely studied with regards to parental depression in clinical samples

(see for example, Downey & Coyne, 1990; Lovejoy, Graczyk, O'Hara, & Neuman, 2000), although the link between parental affect and parenting has also been identified in non-clinical samples. For example, Rueger, Katz, Risser and Lovejoy's (2011) meta-analysis established a reliable relationship between parental affect and harsh/overreactive parenting in a non-clinical sample. However, depression was not found to be significantly associated with parenting in this community study.

The significant positive associations between stress and overreactive parenting found in this study reflect a wider literature which suggests that parental stress has an impact on parenting style, particularly with regards to harsh, and erratic parenting (e.g. Crnic, Greenberg, Ragozin, Robinson, & Basham, 1983; Emery; 1982; Hetherington, Cox, & Cox, 1978; Jouriles, Barling, & O'Leary, 1987; Mash, Johnston, & Kovitz, 1983; McLoyd, 1990; Passman & Mulherin, 1977; Weinraub & Wolf, 1983; Zussman, 1980; Deater-Deckard & Scar, 1996; Emery & Tuer, 1993; Martorell & Bugental, 2006; Shea & Coyne, 2011). Parental anxiety has also been linked to problematic parenting practices, such as parenting which is high in expressed emotion (Hirshfeld, Biederman, Brody, Faraone, & Rosenbaum, 1997), more controlling of child behaviour, and demonstrating less acceptance and warmth (Whaley, Pinto & Sigman, 1999). Robinson and Cartwright-Hatton's (2008) investigation of the relationship between parental anxiety and parenting style in a non-clinical sample of parents of children aged two to four showed that parental anxiety was significantly associated with parenting overreactivity and laxness, but not parenting verbosity. The findings of the current study agreed with the positive association between parental anxiety and overreactivity, but contrast in terms of the positive relationship indicated between anxiety and parenting

verbosity. Although the current findings regarding anxiety and verbosity are not supported by existing research, it may be hypothesised that when parents are anxious or depressed they may be over-involved and protective in their parenting behaviours, which may result in increased verbosity. The results of the current study are thus in agreement with the findings relating to negative affectivity in general, as certain parenting styles appeared to be associated with both parental affect and parental attributions; but contrasted with the existing research concerning parental depression and parenting, and the specific positive association between parental anxiety and parenting verbosity.

Associations between parental attributions and parenting:

Links between parental attributions and parenting practices have also been established in previous research, as outlined previously. More specific comparisons utilising the Parent Cognition Scale can be made with Snarr et al. (2009), and Leung and Slep (2006). Snarr et al. (2009) made comparisons between the PCS and two aspects of parenting practices: overreactivity, and laxness, as measured by the PS in a community sample of mothers and fathers. They found a moderately significant positive association between CRAs and overreactivity, and a small positive association between CRAs and laxness. PCAs were moderately positively associated with overreactivity, and weakly/moderately positively associated with laxness. Stronger associations were found in the current study, where PCAs were strongly positively associated with overreactivity and laxness, as well as verbosity and general parenting practices, which were not examined in Snarr et al. (2009). In the current study, CRAs were found to be strongly

positively correlated with overreactivity, while moderate positive associations were found with verbosity and general parenting. Additionally, no significant association was found between CRAs and laxness. The apparent lack of association between CRAs and parenting laxness may be in agreement with the model proposed by Leung and Slep (2006), where parenting laxness was associated with PCAs.

Associations between parental attributions and parental affect:

In addition to the apparent non-significant relationship between parental depression and parenting styles, no significant associations were found between either of the parental attributions and parental depression symptomology. This finding contrasts with existing research into the relationship between parental depression and parental cognitions, such as Dix and Meunier (2009), who examined the role of maternal depression and parental cognitions in great detail, reporting 168 studies which suggest these are linked. In terms of links between parental depression and PCAs and CRAs specifically, Snarr et al (2009), and Leung and Slep (2006) found depressive symptoms in a community sample of both mothers and fathers to be significantly positively correlated with both parental attributions. However, the findings of the current study are in agreement with existing research parental stress is positively related to parental attributions of child behaviour (e.g. Harrison & Sofronoff, 2002; Smith & O'Leary, 1995), and research examining parental anxiety and cognitions (e.g. Gallagher & Cartwright-Hatton, 2009), although neither of these have been examined with relation to PCAs and CRAs directly prior to the existing study.

Hypothesis 2: Parental cognitions mediate a positive association between parental affect and parenting style

The model proposed by Hypothesis 2 (as illustrated in Figures 1 and 2) was assessed through two mediational analyses which examined PCAs and CRAs as mediators of the positive association between parental affect (stress, anxiety and depression) and parenting style (overreactivity, laxness and verbosity). This hypothesis was supported, and Figure 2 depicts the mediational model of the relation between parental stress and parenting overreactivity, which analysis indicated was mediated by PCAs. CRAs, on the other hand, appear to mediate the positive relationship between parental anxiety and parenting verbosity, as depicted in Figure 3. However, no evidence was found to suggest that PCAs mediate parenting processes where parental depression or anxiety is present, or when parenting is lax or verbose, although positive correlations exist between PCAs and these parenting styles. Similarly, although positive correlations exist between CRAs and parenting overreactivity, no evidence was found to suggest that CRAs mediate parenting processes where parental depression or stress is present, or when parenting is lax or overreactive.

Parental attributions as mediators:

Previous research has also indicated that parental cognitions and attributions are mediators of the relationship between parental depression and parenting style. Gerdes et al (2007) examined the links between maternal depression and parenting behaviour in a sample of mothers of children with Attention Deficit Hyperactivity Disorder, and found that general cognitions such as maternal locus of control and self-esteem mediated this

association. Leung and Slep (2006) utilised a version of the PCS in their model of associations between parental affect and parenting, which is mediated by dysfunctional parental attributions. This model was similar to the model proposed by Hypothesis 2, although they proposed separate pathways for parental depression and anger. They proposed that PCAs mediated the positive link between depressive symptoms and laxness, while CRAs mediated the link between depressive and anger symptoms and overreactive parenting. In this way, CRAs were not thought to relate directly to parenting laxness. As such, the findings of the current study are in agreement with this aspect of the model. However, as discussed previously, depression was not found to be significantly associated with either parental attributions or parenting style in the current study, and no measure of parental anger was utilised. It is also interesting to note that the significant, positive association in this study between a measure of parental affectivity, in terms of stress, and parenting, in terms of overreactivity, was mediated by PCAs, rather than CRAs, which is in contrast to the model proposed by Leung and Slep (2006). It is possible that the pathways mediating the association between stress and overreactivity may be different to those of depression or anger. Deater-Deckard (1998) proposes that parents and children affect each other in a reciprocal way, through parental stress, as difficult child behaviour increases parental stress, which means that parents are more likely to utilise certain parenting styles in response, which then serve to reinforce child behaviour. Research examining parental stress in particular suggests (similar to Leung and Slep's model) that CRAs play a greater role in the positive association between parental stress and parenting overreactivity than PCAs (Smith & O'Leary, 1995).

Child-responsible versus parent-causal attributions:

Parents in this sample were significantly more likely to make CRAs than PCAs, which is in agreement with the same patterns observed by Leung and Slep (2006). It is interesting that this was the case despite the young mean age of the children whose parents participated in this study. Child age is a potential factor which may impact on the likelihood of parents attributing responsibility for the child's misbehaviour to the child. The impact of child age on parental cognitions is currently somewhat unclear, but parental attributions about child behaviour is anticipated to alter alongside child development, with increasing parental expectations about their child's ability to comprehend the consequences of their actions (Del Vecchio, & O'Leary, 2008; Dix, Ruble, & Zambarano, 1989). While some research indicates that parents view older children's difficult behaviour as more intentional and controllable than that of younger children (Dix, Ruble, Grusec & Nixon, 1986), other research indicates that mothers of first-born children perceived more intentionality to younger infants (Zeedyk, 1997). In contrast, other research indicates that parental attributions remain stable across child development (e.g. Cote & Azar, 1997; Mills & Rubin, 1992).

Parent and Family contextual factors:

The data obtained from parental interviews indicated that parents are aware of a broad array of factors which impact on their parenting, not limited to parent and child factors, but including level of support, family factors, employment, and wider contextual factors. Factors which almost all parents appeared to be aware of included parental factors, such as affect, health and expectations; and level of support, including the

support of partners, family and friends, as well as community and services. Parents' responses generally appeared to reflect a "local" perspective, based mainly on their own personal experiences, although a couple of parents hypothesised what it might be like for other parents. Parents particularly emphasised support as an important factor, and the value of, or need for support from family members, the community and services. This is in agreement with previous research conducted with parents caring for children with disabilities, where parental perspectives indicated high levels of stress and the need for additional systemic support from services (Murphy et al., 2006).

These results may indicate areas which may require assessing, in terms of features of the parent and family's life which form the context for the child's specific difficulties (Kazdin, 2000). Additionally, intervention programmes could then address these issues in order to improve engagement in interventions for child behaviour, including targeting parental low mood, increasing social support, and even signposting to appropriate organisations for assistance with financial concerns.

Methodological Limitations:

The results of this study are limited by a relatively small sample size. Only N=49 completed the questionnaire with implications for the power of the study to detect for effects. 49 participants is a particularly small sample for mediational analyses. As such, results should be interpreted with particular caution. As the study was cross-sectional, no causal conclusions can be drawn from the results, nor can alternative models of possible relations among parental affect, parental attributions and parenting

style be precluded. Longitudinal studies are required to examine mediators across time in order to elucidate cause and effect.

Another important consideration is the age range covered in this study, and the ages for which each measure has been validated. The SDQ version for 4-16 year olds was used for all participants in the sample, however, a version is available for 3-4 year olds, which would have been more suited to the younger children in the sample. The PCS has been validated with parents of children 3-7 years, however, children in this sample ranged from 1-10 years old. There is no indication in Snarr et al. (2009) that the PCS should not be used for children outside this age range, and it appears to have good face validity, however, results should be interpreted cautiously with this limitation in mind. The PS similarly was originally used with a narrower age range, but has since been used much more widely, including the age range used in this study (e.g. Gardner, Burton & Klimes, 2006).

The links between parental depression, parenting style and parental attributions appear robust in the literature, yet the findings of this study are inconsistent with this. It is not clear why this may be the case, although several issues may be relevant. Although this appears to be a proxy clinical population in terms of child behavioural difficulties, the proportion of parents scoring medium to high on the DASS-21 was relatively low, especially depression, as only 9 (18%) parents scored above clinical levels for depression. This may account, in part, for the lack of strong associations between parental affect and other measures. A different measure of parental affect could have

been used which may have resulted in slightly different levels of depression being detected. For example, the Beck Depression Inventory (Beck, Steer & Brown, 1996) has been used in numerous previous studies, such as Snarr et al. (2009), and Leung and Slep (2006). However, the DASS-21 was chosen for brevity and simplicity and due to the fact that it covers more general areas of affect such as anxiety, depression, stress and general negative affectivity. The DASS-21 has been validated as an effective measure of depressive symptomatology, and as such, it is possible that the low rates recorded were a true reflection of depressive symptomatology within the sample.

While the links between parental depression and child behaviour difficulties have been well-established in the literature (e.g. Goodman et al., 2011; Gross, Shaw, & Moilanen, 2008), the fact that the parents in this sample had just commenced the IY parenting programme may have had an impact on their depressive symptomatology. Hutchings et al. (2012) identified a significant reduction in parental depression over the course of the IY programme, and it is possible that this effect may already have been in effect in the first few sessions of the group. While previous research with similar samples of parents who attended IY programmes (e.g. Gardener et al., 2006) have identified clinical levels of depressive symptomatology, the fact that they completed the measures of depression prior to commencing the programme may mean that the potential positive psychological effect may not have impacted on depression scores yet. Increased social support during the first few sessions may also have had an impact on parental affect, as low social support has been found to be associated with poor maternal mental health (Sheppard, 1994, 1997, 2009). Additionally, the praise, and experience of success associated with the first few sessions may have had a powerful impact on parental affect, and depression

in particular. Seligman (1975) suggests that "forced" exposure to success is effective in overcoming learned helplessness, which is thought to have a major role in depression. The group-based rehearsal and training for home tasks in the IY group may increase parents' experience of success. Further research is needed to explore parental perspectives of the experience of commencing a parenting intervention, and the impact on depressive symptomology.

The sample used was non-clinical in terms of parental affect, which may have had an impact on the results obtained. It may be that stronger associations would be observed between the variables had a clinical sample been utilised. However, it may be important to note that a number of influential studies (e.g. Snarr et al., 2009; Leung & Slep, 2006) similarly utilised community samples.

Although attempts were made to recruit as many fathers as possible, groups were comprised primarily, and sometimes solely of mothers, limiting opportunities for recruitment. As such, only 6% of participants in both parts of the study were fathers, limiting the applicability of findings to fathers. Leung and Slep (2006) included mothers and fathers in their research, and found similar patterns of relations among parental affect, parental attributions, and parenting style for mothers and fathers. As such, the results obtained may be applicable to fathers to a certain extent, although further research is required.

Face-to-face interviews may have been more appropriate for parents discussing a somewhat sensitive subject. This would also have allowed for longer interviews, which may have led to richer data. Focus groups, as utilised by Baker-Ericzen et al. (2010) could be considered for future studies, as it would allow discussions about factors between parents, perhaps leading to richer data.

Future research could involve clarification of the impact of children's developmental stage on parental attributions. Parenting competence can be viewed as a dynamic adaptational construct which changes as children grow (Teti & Huang, 2005). It is therefore important to gain a clear understanding of the impact of important developmental transitional periods in the child's life on the emotional processes involved in parenting.

Clinical Implications:

Parenting programmes involving behavioural family interventions appear effective and cost efficient interventions for parents of children with oppositional behaviour (Hutchings et al., 2007; Edwards, Céilleachair, Bywater, Hughes & Hutchings, 2007). However, it appears that a significant proportion, possibly a third of families do not experience improvement with this approach (Hartman, Stage & Webster-Stratton, 2003; Scott, 2001; White, McNally & Cartwright-Hatton, 2003). A number of studies endorse the recommendation that assessing and modifying unhelpful cognitions or beliefs may be an important component for families with disruptive children (Wilson & White, 2006; Bugental et al., 2002; Sanders et al., 2004). Sanders et al. (2004) incorporated

attributional retraining and anger management into a behavioural family intervention programme, and found it resulted in greater short-term improvement in parental attributions of child behaviour, potential for child abuse and unrealistic expectations, as well as improvements common to the behavioural training aspect of the programme (for example reduced disruptive child behaviour, improved parenting). Cognitive reappraisal is a key emotion-regulation skills relevant to parenting, may be seen as similar to attributional retraining. Research indicates that global cognitive reappraisal is associated with less overreactive and lax parenting, and reduced negative emotion in discipline situations (Lorber, 2012). The PCS could be used pre and post IY groups as a potentially useful outcome measure.

Many parent and family contextual factors also appear to negatively impact on treatment compliance, engagement and outcomes (Beauchaine et al., 2005; Chronis et al., 2004; Miller & Prinz, 2003; Reyno & McGrath, 2006; Southam-Gerow et al., 2001). As parent participation is the primary component of almost all evidence-based programmes for child behaviour problems (Eyberg, Nelson, & Boggs, 2008), parent and contextual factors are key to successful interventions. Having an understanding of these factors may inform interventions, increasing acceptability and the likelihood of engagement. Some advanced parenting programmes are designed to incorporate the context of child treatment, addressing factors such as parental coping, employment and relationship support, such as Multisystemic therapy, Triple P Enhancement programme and the Becoming Parents Programme (Sanders et al., 2002; Schoenwald, Foote, Eyberg, Boggs, & Algina, 1998; Tolman et al., 2008). However, these programmes

have not previously included or evaluated parental factors (including attributions, negative affect) which may serve as mediators or moderators of treatment outcome.

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Tables:

Table 1: Demographic information for sample (N=49)

Demographics (n=49)	**N (%)**
Parent Gender	
Male	3 (6.12)
Female	46 (93.88)
Parent's Age (years)	
Mean	30.27
SD	7.30
Child Gender	
Male	34 (69.39)
Female	15 (30.61)
Child's Age (years)	
Mean	4.06
SD	2.70
Previously in foster care?	
No	48 (97.96)
Yes	1 (2.04)
Siblings	
Mean	0.95
SD	0.94

Siblings Age (years)	
Mean	4.20
SD	5.42
Relationship to child	
Biological parent	47 (95.92)
Foster parent	1 (2.04)
Step parent	1 (2.04)
Child Diagnosis?	
None	44 (89.80)
ADHD	1 (2.04)
Assessed for ADHD	2 (4.08)
Assessed for ADHD and ASD	2 (4.08)
Ethnicity	
White British/European	48 (97.96)
Indian Subcontinent	1 (2.04)
Marital Status	
Single	8 (16.33)
Married	13 (26.53)
Separated	3 (6.12)
Widowed	1 (2.04)
Divorced	2 (4.08)
Living together	19 (38.78)
In relationship but living apart	2 (4.08)

Parent Education	
Left school at or before 16	18 (36.73)
Further Secondary (16-18)	16 (32.65)
College	1 (2.04)
Qualification without degree	10 (20.41)
Degree or PhD/Doctorate	4 (8.16)
Parent Employment	
Managerial and professional	1 (2.04)
Education and training	4 (8.16)
Skilled manual	2 (4.08)
Care and Support	11 (22.45)
Service and Catering	6 (12.24)
Retail	3 (6.12)
Unskilled manual	1 (2.04)
Not employed	21 (42.86)
Participant 1st Language	
English	36 (73.47)
Welsh	13 (26.53)
Father/Partner's involvement with child	
Not at all or no partner	8 (16.33)
Low	8 (16.33)
Mid	5 (10.20)
High	28 (57.14)

If Partner: (n=38)	
Ethnicity	
White British/European	38 (100)
Partner's relationship to child	
Biological child	31 (81.58)
Step-parent or living together	6 (15.79)
Foster parent	1 (2.63)
Partner Employed? (n=36)	
Employed	28 (77.78)
Not employed	8 (22.22)

Table 2. Demographic information for interview sample (n=16)

Demographics (n=16)	**N (%)**
Parent Gender	
Male	1 (6.25)
Female	15 (93.75)
Parent's Age (years)	
Mean	30.88
SD	7.78
Child Gender	
Male	12 (75.00)
Female	4 (25.00)
Child's Age (years)	
Mean	4.44
SD	3.09
Siblings	
Mean	0.81
SD	0.66
Siblings Age (years)	
Mean	4.13
SD	4.87
Relationship to child	
Biological parent	16 (100)

Child Diagnosis?	
None	15 (93.75)
Assessed for ADHD	1 (6.25)
Ethnicity	
White British/European	16 (100)
Marital Status	
Single	2 (12.50)
Married	6 (37.50)
Widowed	1 (6.25)
Living together	5 (31.25)
In relationship but living apart	2 (12.50)
Parent Education	
Left school at or before 16	4 (25.00)
Further Secondary (16-18)	4 (25.00)
Qualification without degree	6 (37.50)
Degree or PhD/Doctorate	2 (12.50)
Parent Employment	
Managerial and professional	1 (6.25)
Education and training	3 (18.75)
Care and Support	3 (18.75)
Service and Catering	2 (12.50)
Unskilled manual	1 (6.25)
Not employed	6 (37.50)

Participant 1st Language	
English	10 (62.50)
Welsh	6 (37.50)
Father/Partner's involvement with child	
Not at all or no partner	1 (6.25)
Low	3 (18.75)
Mid	2 (12.50)
High	10 (62.50)
If Partner: (n=13)	
Ethnicity	
White British/European	13 (100)
Partner's relationship to child	
Biological child	9 (69.23)
Step-parent or living together	4 (30.77)
Partner Employed?	
Employed	9 (69.23)
Not employed	4 (30.77)

Table 3. Descriptive statistics for whole sample (N=49)

Measure and Subscale	N	Mean	Standard Deviation
Parent Cognition Scale			
Child-Responsible Attributions	48	4.04	1.04
Parent-Causal Attributions	47	2.97	1.00
Parenting Scale			
Total	47	3.26	0.72
Laxness	47	3.15	1.03
Over-reactivity	47	2.99	1.02
Verbosity	47	3.85	0.92
Depression, Anxiety & Stress Scale			
Anxiety	49	7.27	11.62
Depression	49	11.18	12.08
Stress	49	14.04	12.40
Total	49	32.49	33.67
Strengths & Difficulties Questionnaire			
Emotional Symptoms Subscale	30	2.83	2.29
Conduct Problems Subscale	30	4.70	2.12
Hyperactivity Subscale	30	6.40	2.58
Peer Problems Subscale	30	3.27	2.02
Pro-social Scale	30	5.77	1.83

Total Difficulties Score	30	17.20	6.26
Impact Score	30	2.63	3.06

Table 4. Correlational matrix of associations between parenting style, parental affect, and parental attributions

Subscale	**1.**	**2.**	**3.**	**4.**	**5.**	**6.**	**7.**	**8**	**9.**	**10.**
1. PS Total										
2. PS Laxness	**0.80*** **									
3. PS Over-reactivity	**0.78*** **	**0.33***								
4. PS Verbosity	**0.82*** **	**0.55*** **	**0.63*** **							
5. DASS Anxiety	**0.29***	0.18	**0.30***	**0.29***						
6. DASS Depression	0.25	0.15	0.27	0.18	**0.76*** **					
7. DASS Stress	**0.29***	0.11	**0.42****	0.23	**0.79*** **	**0.86*** **				
8. DASS Total	**0.30***	0.16	**0.35***	0.25	**0.91*** **	**0.94*** **	**0.95*** **			
9. PCS Child-Responsible	**0.40****	0.06	**0.56*** **	**0.39****	**0.30***	0.07	0.21	0.20		
10. PCS Parent-Causal	**0.80*** **	**0.49****	**0.84*** **	**0.60*** **	0.19	0.28	**0.37****	**0.31***	**0.46****	

Note: *= $p < 0.05$; **= $p < 0.01$; ***= $p < 0.001$

Table 5. Table of Parent Causal Attributions as a mediator of DASS Stress subscale (independent variable) and Parenting Overreactivity subscale (dependent variable)

	Beta	R^2	R^2 change	F	P
Analysis 1: Overreactivity on DASS Stress	0.417	0.174		9.466	<0.01
Analysis 2: PCA on DASS Stress	0.366	0.134		6.952	<0.05
Analysis 3: Step 1: Overreactivity on PCA Step 2: Overreactivity on DASS Stress	0.799 0.099	0.697 0.706	 0.08	101.355 51.572	<0.001 0.272

Table 6. Table of Child-Responsible Attributions as a mediator of DASS Anxiety subscale (independent variable) and Parenting Verbosity subscale (dependent variable)

	Beta	R^2	R^2 Change	F	P
Analysis 1: Verbosity on DASS Anxiety	0.293	0.086		4.224	<0.05
Analysis 2: CRA on DASS Anxiety	0.298	0.089		4.469	<0.05
Analysis 3: Step 1: Verbosity on CRA Step 2: Verbosity on DASS Anxiety	0.355 0.130	0.154 0.170	 0.016	8.010 4.392	<0.05 0.373

Table 7. Descriptive statistics for interview sample

Measure and Subscales	N	Mean	Standard Deviation
Parent Cognition Scale			
Child-Responsible	15	4.08	1.12
Parent-Causal	15	3.07	1.02
Parenting Scale			
Total	16	3.27	0.84
Laxness	16	3.10	1.06
Over-reactivity	16	3.03	1.16
Verbosity	16	3.79	1.04
Depression, Anxiety & Stress Scale			
Anxiety	16	6.88	11.48
Depression	16	12.75	13.76
Stress	16	15.25	12.52
Total	16	34.88	34.01
Strengths & Difficulties Questionnaire			
Emotional Symptoms Subscale	10	2.40	1.90
Conduct Problems Subscale	10	5.20	2.30
Hyperactivity Subscale	10	6.60	2.76
Peer Problems Subscale	10	3.00	2.00
Pro-social Scale	10	5.20	1.62
Total Difficulties Score	10	17.20	6.88

Impact Score	10	2.50	3.17

Table 8. Parent and family contextual factors parents believe impact on their parenting.

Factors	**Description of category**	**Percentage of Interviewees who mentioned topic (n=22)**
Parental Factors		**22 (100%)**
Affect/Mood	"Bad mood", "low", "how you feel", "short-tempered", worry, stress, pride, rewarding.	17 (77.27%)
Health	Physical health, mental health, "tiredness", "lack of sleep", "lack of energy".	17 (77.27%)
Life experience and expectations	"How you were brought up". Parenting experience, learning from mistakes, "how to deal with it", understanding child behaviour, expectations, planning. Self-awareness, "learning how to calm myself down", confidence as a parent, cognitions.	17 (77.27%)
Child Factors		**16 (72.73%)**
Behaviour	Mood, physical health,	16 (72.73%)

	behaviour	
characteristics/personality	Diagnosis, ADHD, anxiety, low self-esteem. “Types of children”, “the way s/he is”. “S/he is stubborn”, “difficult”, “has a bad temper”. “Presses my buttons”. “He is helpful”.	10 (45.45%)
Family Factors		**10 (45.45%)**
Parity	Competing demands, older and younger siblings, “hectic”.	9 (40.91%)
family structure	Step-children	2 (9.09%)
Support		**19 (86.36%)**
Family and close friends	Partner characteristics/parenting, role models, marital status/relationship, single parent, support system, other’s influence, Role within the family.	17 (77.27%)
Wider community	Parenting course, other’s expectations in public,	15 (68.18%)

	school, activities, health visitor, services; after school clubs, books.	
Employment		**12 (54.54%)**
Finances	"Money troubles", "financial burden/stability".	7 (31.82%)
Employment	Competing demands, busyness, "juggling everything", work commitments.	8 (36.36%)
Wider Contextual Factors	Weather, society, government, media, TV. Circumstances and situation, life events such as pregnancy and death.	**8 (36.36%)**

Figures:

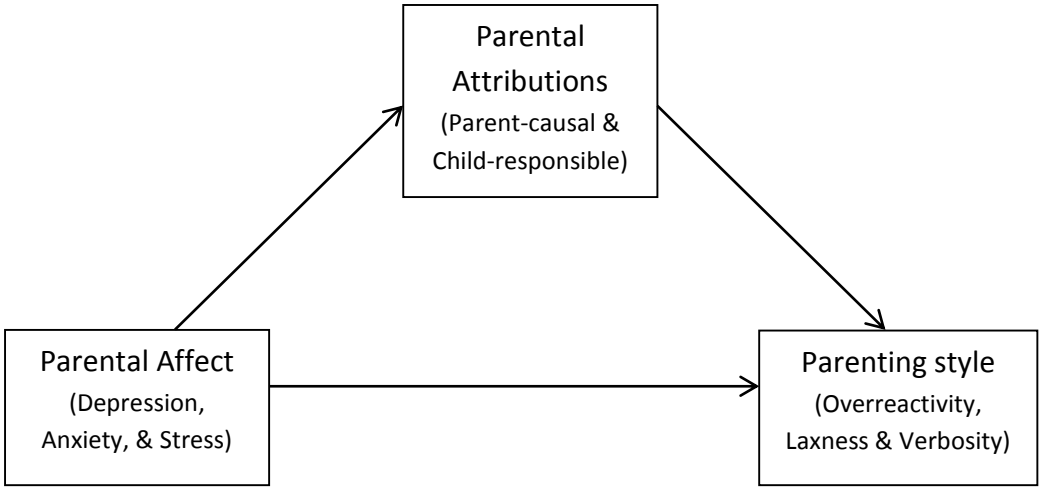
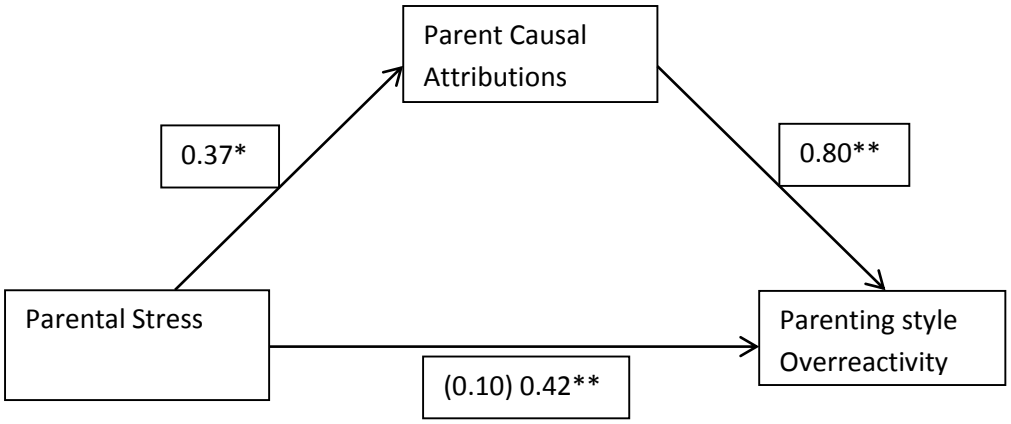
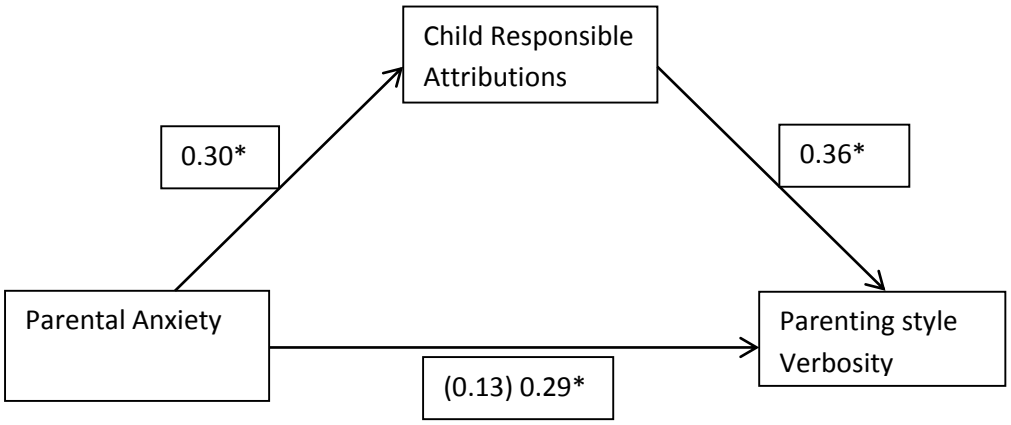


Figure 1.



Note: *= $p < 0.05$; **= $p < 0.01$.

Figure 2.



Note: *= $p < 0.05$; **= $p < 0.01$.

Figure 3.