First-time fathers' emotional wellbeing: Are father involvement and intergenerational father relationships predictors of postnatal depressive symptoms?

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THESIS PORTFOLIO: CANDIDATE DECLARATION

Title of degree programme	**Professional Doctorate in Clinical Psychology**
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Declaration and signature of candidate
I confirm that the thesis submitted is the outcome of work that I have undertaken during my programme of study, and except where explicitly stated, it is all my own work. I confirm that the decision to submit this thesis is my own. I confirm that except where explicitly stated, the work has not been submitted for another academic award. I confirm that the work has been conducted ethically and that I have maintained the anonymity of research participants at all times within the thesis. Signed: *M.Rehman* Date: 26/04/2024

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Contents

Thesis abstract

Paper one is a literature review that aims to scope the literature for father-specific interventions, to provide an overview of interventions that increase fathering self-efficacy. Ten relevant studies were identified following a systematic search of the literature. The review highlighted that interventions that are effective in increasing fathering self-efficacy are varied, including group discussions, experiential exercises, and video-feedback methods. The review also highlighted important factors to consider when developing father-specific programs including the facilitator, group attendees, content of sessions and father-targeted recruitment. Methodological limitations were highlighted, particularly issues around the recruitment of fathers to studies. Clinical and research implications are discussed.

The second paper describes a cross-sectional quantitative study, which investigates the relationship between father involvement, fathers' relationships with their own fathers (intergenerational relationships), and the impact of this on postnatal depression in first-time fathers to 0-2 year olds. Forty first-time fathers were recruited for the study. Multiple regression analyses were conducted. The results suggested that participants with a higher level of satisfaction with their relationship with their own father had a greater level of engagement in child-care related tasks, however intergenerational relationship satisfaction did not impact on any other aspect of father involvement. Father involvement and intergenerational father-son relationships did not predict postnatal depression in participants. The findings lend support to ideas that parenting patterns can be repeated across generations, by highlighting engagement as an important factor. Clinical implications and recommendations for future research are discussed.

The third paper is an executive summary of the research study carried out in this thesis and is written for first-time fathers, professionals involved in father-inclusive practice as well as anyone else who may be interested in this research. This paper received valuable consultation from three individual first-time fathers.

Paper one: Literature review

A literature review of father-specific interventions on fathering self-efficacy

Word count: 7999 (excluding title page, references and appendices)

This literature review is intended for publication in 'New Male Studies' journal.

The referencing style of this literature review is APA 7th Edition, in accordance with the journal requirements

Abstract

The roles of fathers have changed over the years such that fathers are increasingly involved in caregiving for their child; as such, father self-efficacy is important. This paper reviews studies on father-specific interventions to increase self-efficacy in fathers, and their effectiveness. A total of 10 empirical papers were identified in this review which covered individual and group-based interventions. The review identified that father-specific interventions are varied in their delivery, nuanced and have common aspects that support effectiveness; this includes a male facilitator, video-feedback, strength-based feedback, professional support, peer support, and experiential activities. Due to several methodological issues discussed in the review, the application and generalisability of the interventions should be done with caution. Future research should address recruitment issues, developing father-specific measures for self-efficacy and evaluating specific components of interventions that increase effectiveness.

Keywords: Fathers, self-efficacy, parenting interventions, self-confidence, men

A Literature Review of Father-specific Interventions on Fathering Self-efficacy

Fatherhood

The roles of fathers today are vastly different than previous generations (Yeung et al., 2001), influenced by socio-cultural context. Traditionally, fathers worked outside the home and mothers took primary responsibility of childcare (The Centre for Social Justice., 2020) however family structure has changed and as such fathers are expected to be increasingly involved in raising their children (Bianchi et al., 2006; Cornille et al., 2005). In previous generations, the main emphasis of father's contribution to the family was financial (Pleck et al., 1997), however, contemporary fatherhood focuses on caregiving and emotional labour (Pleck, 2010). Lamb et al. (1985) proposed a typology of father-involvement consisting of three parts: engagement, accessibility, and responsibility. Engagement involves the direct interaction of the father with the child, accessibility relates to both the physical and psychological availability of the father to his child, and responsibility refers to providing for the child.

Research has shown that father involvement and closeness positively contribute to the psychological well-being of their child (Van wel et al., 2000; Amato et al., 1999), independence (Rosenberg et al., 2006), cognitive development (Bronte-Tinkew., 2008) and academic success (Whitney et al.,2018; Anthes., 2010). Father-involvement has also been linked to intergenerational transmission of attitudes and behaviours (Giménez-Nadal et al., 2019, Pieroni et al., 2018), such as less stereotypical views of gender roles (Allgood et al., 2012), less risky behaviours and other externalising behaviours (Anthes et al., 2010; Su et al., 2017).

Self-efficacy

Self-efficacy can be defined as 'a situation specific form of self-confidence' (Stevenson, 2010). Despite the increased involvement of fathers in child-rearing, fathers continue to experience low self-efficacy in their role (Ferketich et al., 1995) and are underrepresented in parenting self-efficacy literature (Sevigny et al., 2010). One such reason for this is that current fathers were brought up in an era where their fathers were not expected to be involved in child-caregiving, as such, today's fathers have little understanding or experiences to draw upon (Henwood et al., 2003; Smith et al., 2014) which can result in

difficulties embodying a positive paternal role-model (Paschal et al., 2011). Additionally, although societal expectations have changed of fathers in their care-giving role, attitudes are incongruent; Featherstone (2009) stated that social and healthcare services perceive fathers as either absent or disinterested which could influence their treatment of fathers as secondary to mothers. Recent attitudes towards fathers are consistent with the above; for example, in the COVID-19 pandemic, fathers in the UK were excluded from maternity care (Andrews et al., 2022), leaving them feeling insignificant, excluded, and ostracised (Nespoli et al., 2021; Stacey et al., 2021; Vasilevski et al., 2021). This highlights the need for professionals and services to actively involve fathers in child-related experiences to improve their self-efficacy, as fathers' perceptions of their self-efficacy affect not only their parenting ability and acquisition of new skills (Bandura, 1977, 1982), but also satisfaction with the parenting role and as such the degree of effort put into parenting (Reece et al., 1998; Hudson et al., 2001).

Parenting programs

Parenting programs to increase self-efficacy have been widely researched (Begle et al., 2011; Webster-Stratton et al., 1996; Sanders, 2008). In a meta-analysis by Spencer et al. (2020), parenting programs significantly increased parents' self-confidence in their parenting as well as parent-child relationship, positive child behaviour and satisfaction with parenting. Historically, parenting interventions have focused on mothers' needs (Panter-Brick et al., 2014) and where interventions have been targeted for both parents, fathers' attendance has been low in comparison to mothers (McKee et al., 2021; Lundahl et al., 2006). This may be because fathers feel the interventions are not targeted for them (Sicouri et al., 2018) which may be a result of intervention material and recruitment strategies using general approaches, rather than father specific. Whilst father-specific interventions exist, they are rarely reported (Havighurst et al., 2019).

Current Review

Objectives

This review aims to scope the literature for father-specific interventions, to provide an overview of interventions that increase fathering self-efficacy. Previously reported father-specific interventions have focused on a 'deficit' view, where the primary aim of the

intervention has been to reduce violence, domestic abuse or substance abuse (Cowan et al., 2019; Holden et al., 2010); the current review seeks to review studies, including the methodological quality, where the primary goal of the intervention is to increase fathers' self-efficacy. Research on parental self-efficacy has just recently begun to include fathers and although it has indicated that fathers' parenting self-efficacy coincides with mothers' parenting self-efficacy, important differences exist (Gross et al., 1994; Reece et al., 1998; Leerkes et al., 2007)

The questions to be answered in this review are 'What father-specific interventions are available in the peer-reviewed literature and what is the evidence for their effectiveness?'. Clinical implications and recommendations for future research will be discussed along with strengths and limitations of the studies.

Methods

Search Strategy

An electronic search was conducted using 5 databases including MEDLINE, Cumulative Index to Nursing and Allied Health Literature Plus with Full Text (CINAHL), SPORTDiscus with Full Text, APA PsycInfo and APA PsycArticles on 30th January 2023.

A Boolean search was conducted using the text '(Father OR Dad) AND Group Intervention' to include studies involving groups or individual interventions. The term 'Father' was selected to ensure there was a broad definition (e.g., biological, father figures, and father surrogates). The term 'AND' was used to combine relevant search terms. To match the aims of this review, only peer-reviewed articles were included in this study from 2002 – 2023. The time-period limiters were put in place due to the changes in the conceptualisation of fatherhood over the last two decades, and the growing body of literature supporting the importance of fathers' active involvement in their children's lives (Lamb, 2010).

Selection of studies

A total of 964 studies were identified (MEDLINE=397, CINAHL=272, APA PsychInfo=265, SPORTDiscus=18, APA PsychArticles=12). After initial scoping of study titles, it was identified that some articles included animals, children, irrelevant studies and

studies in languages other than English therefore the following limiters were applied to automatically exclude such papers:

- English language
- Age: 18 years and over
- Gender: Male
- Population: Human male (other population options included animals, females and inpatients)

Following the application of the above limiters, a total of 202 articles were identified, of which 12 were duplicates; the remaining 190 were then screened by their title and abstract to identify if they met the review's criteria. Microsoft OneNote was used to group together unsuitable articles, based on the exclusion criteria in Table 1.

The 190 paper's title and abstract were read to identify relevant papers. Of the 190 papers, 174 were excluded due to reasons such as not being relevant to the topic e.g. encouraging dads to support in breastfeeding or reducing smoking (n=47), interventions were not specific to the father e.g. couple-based (n=55), the study reported child outcomes or family outcomes only (n=27) and studies in which there was no intervention, or in which there was no measure of parenting confidence (n=16), these studies included those in which parenting skill may have been measured, but not parenting confidence. It was important to make this distinction as the current study is interested in the appraisal of the father's capability to engage in parenting tasks after the intervention, rather than skill acquisition or improvement in skill only, as confidence cannot be implied through skill acquisition. Parenting confidence and parenting self-efficacy are internal attributions about ability to engage in parenting behaviours, whereas skill suggests the concept of competence, which should be objectively measured by someone other than the parent (Vance et al., 2017).

This left a total of 16 articles for full-text review. Using the Staffordshire University electronic search, the 16 full-text articles were extracted into a folder and their references were downloaded; all except 2 articles were readily available to download, Staffordshire University librarians were utilised for locating the remaining 2 articles. Microsoft excel was used to extract information about the interventions and measures used in the studies, during this process, a further 6 were excluded due to either no relevant information on parenting skills or measure of confidence (n=3), primary aim of the intervention was not improving

parenting skills or confidence (e.g., communication about sex and vagal flexibility) (n=2) and duplicate (n=1). This left a total of 10 studies for this review.

Table 1

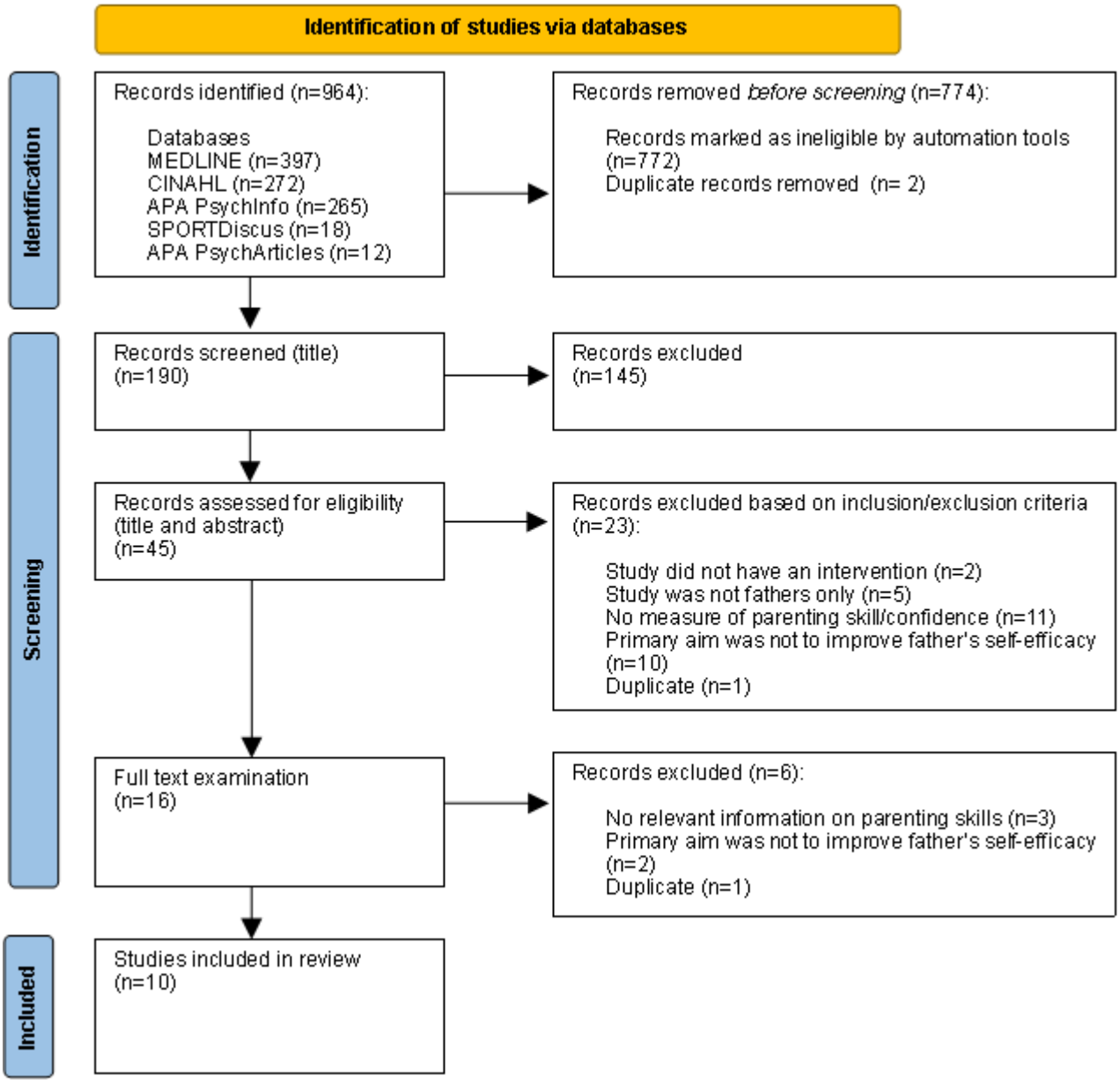
Exclusion and inclusion criteria

Inclusion	Exclusion
Must include an intervention	Grey literature and systematic reviews
Intervention must be targeted specifically for fathers	Results from intervention focus on child-outcomes or family-orientated outcomes e.g. child behaviour or relationship between father and partner
Must include a measure of parenting confidence	Primary aim of intervention is to reduce risk behaviours of father
Primary aim must be to improve fathers' confidence in parenting abilities	Couple-based interventions or interventions in which fathers and other caregivers attended the group together
Peer-reviewed articles in English language	

Figure 1 highlights the search strategy and details of excluded papers

Figure 1

PRISMA Flow Diagram



Quality Review

Consideration was given for using one quality appraisal tool across all studies, however, as there is there is no quality assessment tool that can be applied equally well across

all study types (Katrak et al., 2004), two quality appraisal tools were used, Down's and Black checklist for quantitative studies (1998) (appendix 1) and the Mixed Methods Appraisal Tool 'MMAT' for all other methods (Hong et al., 2018, appendix 2). Although the MMAT considers all the methodological designs in this review, it only consists of 7 questions per study type, 2 of which are screening questions. In comparison, the Down's and Black (1998) consists of 27 questions about the studies' internal and external validity, selection bias and power, offering a more thorough quality analysis. Further, 7 out of 10 of the studies in this review use quantitative methods, therefore the Down's and Black (1998) tool was used for a comprehensive analysis of these papers, and the MMAT covers all other methodological designs (n=3) in this review.

For the current review, question 8 of the Down's and Black (1998) tool was removed across all 7 quantitative studies (appendix 1) as this is related to clinical trials which is not applicable to any of the studies in this review. For ease of interpretation, all 'yes' responses were given a score of 1, including the final question related to power which in the original checklist ranges from 0-5 depending on the sample size, therefore the maximum score was 26, instead of 32. Gearing et al (2009) and Raouna et al (2021) did not have control groups, therefore questions related to a control group were removed for these studies (Q5, Q13 and Q20-23), which gave a total score of 20; yes (1), no (0) and unable to determine (0). The following scores have been suggested for the quality of the study: excellent (26-28); good (20-25); fair (15-19); and poor (14) (Hooper et al., 2008), however, as the overall score varies for each study, a percentage score based on the number of checklist criteria satisfied has been assigned in place of a quality label ranging from poor to excellent.

For three studies (Lucas et al., 2021; Cornille et al., 2005; Gamboa et al., 2019) the Mixed Methods Appraisal Tool MMAT, (appendix 2) was utilised (Hong et al., 2018). As suggested by the MMAT guidelines, relevant questions for each study were considered, giving a total score of 7. A summary of all study scores in this review can be found in table 2 and appendix 3.

Results

Overview of the studies

Ten of 202 articles met the inclusion criteria. Of these, 7 were quantitative (Lee et al., 2012; Gearing et al., 2008; Raouna et al., 2021; Chacko et al., 2018; Hudson et al., 2003; Havighurst et al., 2018; Magill-Evans et al., 2007), 1 was a case study (Gamboa et al., 2005), 1 used a mixed methods approach (Cornille et al., 2005) and 1 was qualitative thematic analysis (Lucas et al., 2021).

Eight of the interventions were group based (Gearing et al., 2008; Raouna et al., 2021; Chacko et al., 2018; Havighurst et al., 2018; Lucas et al., 2021; Cornille et al., 2005., Gamboa et al., 2019), with fathers having face-to-face access to other fathers. One of the interventions was based online and included a discussion forum where fathers could interact with other fathers about the intervention material (Hudson et al., 2003) and only one did not include any access to other fathers (Lee et al., 2012). Of all interventions, only two were completely individual based (Lee et al., 2012; Magill-Evans et al., 2007), with fathers being given material to consume individually (videotape feedback or booklet), however both had access to a professional to discuss the information i.e., home visitor and a nurse.

The studies in this review focused on interventions designed to improve fathering self-efficacy, which covers fathers' confidence and fathers' parenting skills. Many of the studies utilised newly developed interventions, however Raouna et al., (2022) used a well-established program 'Mellow Babies', which had previously been used for mothers. Cornille et al. (2005) also used a well-established program, 'The Dad's Project' however it had not previously been used for fathers in a prison setting. All other interventions were newly developed for the purpose of their study.

Table 2 presents an overview of the studies.

Table 2

Summary of studies and findings

	Authors	Age of child	Sample size (intervention = I and Control = C)	Setting	Measures for self-confidence	Effect size	Results summary	Quality score (%)
Quantitative	[1] Hudson et al., (2003)	4-8 weeks	I=14 C=20	Internet based (individual)	Infant Care Survey (Froman and Owen, 1989) 52 item likert scale	*Cohen's d=-0.05	Significant improvement in the intervention group for the Infant Care Survey.	12/26 (46%)
	[2] Magill-Evans et al (2007)	5 months	I=84 C=85	Home visits (individual)	Parenting sense of competence scale (PSOC; Johnston and Mash, 1989) 16 items rated on a 6-point scale and Nursing Child Assessment Teaching Scale	Cohen's d= 0.06 (satisfaction subscale) Cohen's d= 0.2 (efficacy subscale)	Only significant main effect for PSOC was the efficacy subscale but no significant interaction with time or either PSOC subscale. Significant increase in NCATS scores post intervention.	20/26 (77%)

				(NCATS) 73 behaviours, measures parenting skill and scored by observers.			
[3] Gearing et al., (2008)	Not reported	I=29 C=0	unspecified - groups lead by 2 professionals	Subscale 'role performance' of the Family Assessment Measure and Parenting Stress Index (120 item self-report) subscale includes competence	*Cohen's d= 0.9	Significant difference in 'role performance' scale between time point 1 and time point 3. Results were not maintained at 3 months follow up.	13/20 (65%)
[4] Lee et al., (2012)	"New-born"	I=34 C=35	NICU (individual)	Fathering ability in the Neonatal ICU 18 item scale 5-point likert scale	*Cohen's d= 2.11	Fathers in intervention group scored significantly higher in fathering ability than control group.	15/26 (58%)
[5] Chacko et al., (2018)	"Young children"	I=64 C=62	Head start centres (group based, mix of small and	Dyadic Parent-child interaction Coding System-R (Robinson and Eyberg, 1981), focused on positive parenting, negative	Cohen's d= 0.6	Significant improvement in parenting skills in the intervention group post intervention, with a moderate effect size.	24/26 (92%)

			large groups)	parenting and child problems both self-reported and observed			
[6] Havighurst et al., (2018)	4-5 years	I=87 C=75	Community centre, local library, researcher's onsite training venue	Parenting sense of competence scale (PSOC; Johnston and Mash, 1989) no. of items not noted.	Cohen's d = 0.3 (satisfaction subscale) cohen's d = 0.5 (efficacy subscale)	Significant increase in PSOC scores in the intervention group.	21/26 (81%)
[7] Raouna et al., 2021 [3]	Mean age of 8.5 years	I=19 C=0	Group based environment	The Karitane Parenting Confidence Scale (15 item self-reported)	Cohen's d= 0.5	Significantly increased parenting confidence. But no longer reached significance level during Intention to treat analysis. (e.g., people who dropped out scored higher on pre scores for confidence than people who completed Mellow Babies).	18/20 (90%)

Qualitative	[8] Lucas et al., (2021)	1-16 years	I=7 C=0	Family Centre, in the community in a deprived area	Focus group discussion	N/A	Qualitatively reported improvement in confidence in modern parenting, providing financially and meeting fatherhood expectations through adversity. Skills improvement included tasks such as settling child at night, reading stories and affection.	6/7 (86%)
Mixed methods	[9] Cornille et al., (2005)	Not reported	I=63 C=0	Prison (3 different facilities)	Qualitative feedback and eight subscales from the Parental Attitude Research Instrument (Schuldermann and Schuldermann, 1977)	No means, SDs or effect sizes reported.	No significant improvements in subscales related to parenting self-efficacy. Authors state there was an improvement in parenting skills however no such thing has been reported qualitatively in the study.	5/7 (71%)

Case study	[10] Gambo a et al., (2019)	Majority aged 2-5	I=4 C=0 (Pilot study)	Specific setting not reported, but participants were recruited from a large urban area.	Qualitative description from reflections during interview	N/A	Qualitatively reported improvement in parenting skills related to communication styles, balancing life with active parenting, confidence in being a 'good father' (e.g., involvement, providing financially, disciplining and nurturing)	6/7 (86%)

Note. * Effect size was not reported in studies therefore it has been calculated by author from reported Mean and Standard Deviation using formula d = $(M_1 - M_2) / SD_{pooled}$

Study 1 effect size has been calculated from Mean and SD of groups at 8 weeks (second time point)

Study 2 effect size was reported in partial eta squared; this has been converted to cohen's d for standardised effect size reporting using Means and SD from 8 months (second time point)

Small effect size 0.2
Medium effect size 0.5
Large effect size 0.8

Critical Appraisal

Design and methodology

Quality ratings of the studies ranged from 46% to 92%, with seven studies scoring 70% or above (table 2). Designs of the studies included historical comparison (Lee et al., 2012), randomised controlled trial (Chacko et al., 2018; Havighurst et al., 2019; Magill-Evans), pre-experimental designs (Cornille et al., 2005; Gearing et al., 2008), quasi-experimental repeated measures design (Hudson et al., 2003) focus group (Lucas et al., 2021) and secondary data analysis (Gamboa et al., 2019).

Of the qualitative studies, Gamboa et al. (2019) clearly reported the procedure and attempts made to ensure internal and external validity e.g., coding and comparisons completed by two researchers and discrepancies discussed, further, this study used triangulation for increased validity, digital recordings of discussions and written reports of father's experiences. However, there was no mention of reflexivity.

In comparison, Lucas et al. (2021) reported reflexivity and focused on being female when conducting research on fathers. In both studies, a qualitative approach was appropriate to answer the research question. In Cornille et al. (2005) mixed methods study, the authors state that the Parental Attitude Research Instrument (Schluderman et al., 1977) was used, however no descriptive statistics are reported except z scores; the authors state significant differences were found pre and post intervention, but no such evidence has been presented for readers to investigate subjectively. Furthermore, themes or direct quotations from the semi-structured interviews or detail where these can be found are not reported, raising questions on validity.

Participants and recruitment

Five out of ten studies recruited fathers of children aged between 0 and 5 years (Lee et al., 2012; Hudson et al., 2003; Havighurst et al., 2018; Magill-Evans et al., 2007; Gamboa et al., 2019), one stated the children were 'young' (Chacko et al., 2018), one reported the fathers in the study had children aged between 1 and 16 years (Lucas et al., 2021), one study's

fathers had children with a mean age of 8.5 years (Raouna et al., 2021) and two did not report on the ages of the children (Cornille et al., 2005; Gearing et al., 2008). As interventions were aimed at improving father's self-efficacy, it is perhaps not unusual that six of the studies in this review recruited fathers of young children. Gamboa et al. (2019) deliberately invited a more experienced father to the groups for father knowledge-transmission, though the age of the child of this father is not reported. Eight of the ten studies used a community sample of fathers, whereas two used more specific samples; Cornille et al (2005) study recruited incarcerated fathers as the intervention was run across prison sites and Lee et al. (2012) recruited fathers from a NICU setting, as such, most of the samples in this review are representative of the target population, except the aforementioned two studies. However, caution needs to be applied when generalising results as only two studies (Gamboa et al., 2019; Cornille et al., 2005) used a non-white population, the remaining eight studies used a majority white sample and all participants in the studies in this review, except one (Chacko et al., 2018) spoke English as their main language. In more diverse fathers, intersections of identity, such as culture, gender roles and interpretations of masculinity, may affect group engagement and relatability to facilitators, which subsequently may impact fathering self-efficacy.

Quantitative sample sizes ranged from 14 – 87; studies with larger sample sizes (Havighurstet al., 2018; Magill-Evans et al., 2007; Coornille et al., 2005) were recruited from services with access to many fathers e.g., three male prisons, schools and links with healthcare professionals who delivered routine home visits after the birth of the child. Despite larger sample sizes in these studies, the maximum in any intervention group was 87 in an RCT (Havighurstet al., 2018). Of the eight studies delivered in a generic community setting, four used recruitment strategies which would indicate low generalisability of the sample of participants. For example, participants were recruited from an existing men's group (Gearing et al., 2008), parent support groups, prenatal classes (Magill-Evans et al., 2007), and existing family support services (Chacko et al., 2018; Lucas et al., 2021). Recruiting from these groups induces issues of selection bias; participants are not representative of 'general' fathers as they are already seeking a form of support, this indicates they may already be open and more willing to improve their fathering skills or engage in the intervention.

Four out of ten studies did not recruit a control group due to difficulties with recruitment of fathers (Gearing et al., 2008; Raouna et al., 2021; Cornille et al., 2005; Gamboa et al., 2019). Raouna et al., (2021) intended and attempted to recruit a control group, however due to a low number of participants, this was not achievable. Gearing et al (2008) reported a change in recruitment strategy from 'passive marketing' to 'active community outreach' as they too struggled with recruitment.

Lucas et al. (2021) conducted a focus group for people who attended the Dads Group. It is likely that fathers who agreed to attend the focus group already found the intervention helpful. It may have been more useful to collect quantitative responses from all participants of the group or use a combination of subjective and objective measures of self-efficacy post intervention.

In Cornille et al. (2005) study, prison officers selected participants for the intervention, no other details about the selection of participants are given such as informed consent, therefore this raises concerns about ethics and biases in responses due to potential power dynamics in a prison setting. Power dynamics may also have played a role in the responses of participants from Raouna et al. (2021) study in 'Mellow Babies'. Fathers in this study were deemed 'at risk' (poor mental health and substance abuse), and recruited by healthcare professionals, indicating a likelihood of them being open to safeguarding services for their child. Subsequently, this raises questions of social desirability in engagement of the intervention and self-reporting outcomes. The remaining eight studies reported that participants provided informed consent and did not appear to have confounding factors to participation.

Measures

Measures were varied across the studies and included the following; Fathering Ability in NICU (Lee et al., 2012), Family Assessment Measure (FAM-III) (Gearing et al., 2008), The Karitane Parenting Confidence Scale (Raouna et al., 2021), Dyadic Parent-child interaction Coding System-R (Chacko et al., 2018), Infant Care Survey (Hudson et al., 2003), Parenting Sense of Competence Scale (Havighurst et al., 2018; Magill-Evans et al., 2007), Nursing Child Assessment Scale (NCATS), an observer rated questionnaire, sub-scales from

Fathers' Parental Attitude Research Instrument and a semi-structured interview (Cornille et al., 2005). Lucas et al., (2021) utilised 2 focus group for The Dad's Group and Gamboa et al. (2018) used thematic analysis to measure fathering self-efficacy after the Building Bridges to Fatherhood Program. Validated and widely used questionnaires were used across all quantitative and mixed-methods studies, except for Lee et al. (2012) who used a uniquely developed questionnaire for the purpose of their study.

Eight of the ten studies used self-report questionnaires and two used a combination of observer rated and self-report (Chacko et al., 2018; Magill-Evans et al., 2007). Self-report measures raise the question of bias, therefore potentially limiting the validity of the results. Social desirability may influence participant's responses, particularly in Magill-Evans et al. (2007), Lucas et al. (2021) and Cornille et al. (2005) in which the success of the intervention was being discussed directly with the participants and conclusions were being drawn about the fathers' confidence in their role as a father from their responses. Nonetheless, self-report measures could be seen as an integral part of father-inclusive practice and using other forms of measures, such as partners' ratings, may undo the work of validating the importance of the role of the father. Partners of fathers have previously rated father outcomes in studies (Opondo et al., 2016), one of which is from this review (Havighurst et al., 2018); this can perpetuate low self-efficacy in fathers as they may perceive their partners/mother of their child as more knowledgeable about their role as fathers than them.

Data analysis

In quantitative studies, the statistical tests used to assess main outcomes were appropriate. All studies stated the significance level and the actual probability values, except in Hudson et al. (2003) who did not report exact probability values, highlighting lack of transparency. Of the seven quantitative and one mixed methods study, four did not report an effect size (Gearing et al., 2008; Lee et al., 2012; Hudson et al., 2003; Cornille et al., 2005) however all except one (Cornille et al., 2005) provided data on means and standard deviations from which the effect size was calculated by the author. For consistency, all studies effect sizes have been converted to Cohen's d.

In the two qualitative and one mixed method studies, only one reported reflexivity (Lucas et al., 2021). The lack of a statement of reflexivity in Gamboa et al. (2019) and Cornille

et al. (2005) study raises questions about the credibility of the findings and further does not allow deeper understanding of the work (Dodgson, 2019). Cornille et al. (2005) is particularly poor in quality due to the lack of transparency in their results including themes, quotations and general lack of rigour in reporting results.

Publication Bias

Although studies from grey literature were not included in this review, a search was conducted to compare the literature to that of peer-reviewed articles. Searches indicate that a variety of father-specific interventions are being conducted, for example, digital parenting interventions for dads (Xie et al., 2023) and theses on play-based interventions, attachment-based parenting programmes, and interventions for disadvantaged fathers. When compared with studies in the current review, similar techniques are being used, such as experiential learning and video-feedback. Consistent with findings in the current review, often it can be difficult to recruit to interventions targeting fathers.

In addition to this, many programs exist in the UK for improving fathers' self-efficacy in parenting such as 'Dadvengers', 'Dads Rock', 'Leeds Dads', 'Dangerous Dads', 'This Dad Can', 'National Fatherhood Initiative' and 'The Fathers Right Movement', many of which are already using techniques employed in the studies in the current review. In line with the findings of Lee et al (2020), many father-specific interventions are being conducted but not reported, as such, there is a need for standardised evaluations and reporting of these programs.

Synthesis of Findings

The use of a narrative synthesis was deemed appropriate for this literature review as all studies entailed a varied approach to the intervention, characteristics of the fathers and outcome measures used to measure parenting skills and confidence. Father-specific interventions are still in their infancy, as such, a narrative synthesis approach allows one to focus on a wide range of questions and discussion points, not just the effectiveness of the intervention (Popay et al., 2006). Across all studies, three prominent areas were identified

which will be discussed: 1) Delivery (including format) of the interventions 2) Activities within intervention to increase self-efficacy and 3) Effectiveness of the intervention.

Delivery of interventions

The studies were conducted in various countries, four of which were based in USA (New York, Nebraska, Chicago and Florida), two in the UK (Scotland and England), two in Canada, one in Australia and one in Taiwan. Although the interventions in which the countries were conducted were varied, the methods used in the interventions were similar as described in table 2.

Eight out of 10 of the interventions were delivered to fathers in 'generic' community settings, whereas two of the interventions were delivered to a specific group; one to fathers of babies in Neonatal Intensive Care Unit (Lee et al., 2012) and one to prison inmates (Cornille et al., 2005).

Five of the eight group-based sessions specified the number of sessions in the intervention, which ranged from 7 sessions to 12 sessions, with each session ranging from 2-2.5 hours. All interventions were delivered by professionals such as nurses, unspecified 'clinical professionals', unspecified practitioners, teachers, social workers and assistant teachers and program-trained individuals with a masters or PhD in Psychology or Social work. Gamboa et al. (2019) used peer-led African American fathers and Cornille et al. (2005) did not report who delivered the intervention. Eight out of ten interventions were purposefully led by male facilitators so that participants could relate to the facilitator and as such feel comfortable engaging in the intervention and disclosing personal information.

In manualised programs, facilitators received training before delivering the intervention. Father-to-father local knowledge-transmission was used as an important tool within the interventions and as such group discussions were encouraged by facilitators, even if the groups were more task-focused.

Group-based interventions with other fathers are a strength in the eight studies of this literature review. Bennett et al. (2013) found that the 'group-based' element played an important role in improving the psychosocial functioning of parents. This is also supported by a systematic review of qualitative studies, where it was found that feeling accepted and

supported by other parents, acquiring new skills and understanding in a psychologically safe environment led to increased confidence in dealing with challenging behaviour of their child and a reduction in feelings of guilt and shame (Kane et al., 2007). Peer support is a valued aspect of parenting programs.

Activities used to increase self-efficacy

The interventions used a variety of activities to increase fathering self-efficacy. These methods included discussions, for example about masculinity, fathers' roles within the family, how the participants themselves were fathered, the meaning of fatherhood for them, communication, emotions and the fathers' role in their child's development.

Experiential exercises were used in some programs once the group participants were comfortable with each other; these exercises involved interacting with their children during the session for example reading books, completing homework together, singing songs to younger children, whereas other experiential exercises were for fathers to bond with one another through go-karting, facials and reading books. Video-feedback methods were commonly used in all except 4 studies (Lee et al., 2012; Gearing et al., 2008; Hudson et al., 2003; Lucas et al., 2021) in two ways, one where fathers were video-taped interacting with their child and strength-focused feedback was given, and second where fathers watched videos of either positive parenting or exaggerated parenting mistakes to facilitate discussion on parenting skills.

Video-feedback is a recommended approach in the NICE guidelines (NICE, 2016) and is a widely used effective strategy (Fukkink., 2008), however, with fathers already being treated 'secondary' to mothers, their use with fathers may feel more disciplinary than supportive. In Magill-Evan et al. (2007) study, fathers were videotaped in their home with a 5-month-old; this transition period is already known to be stressful. The 'use-of-self' was also encouraged in facilitators e.g., sharing their own experiences of being a father, with the aim of role-modelling to the participants and encouraging a safe-space for self-disclosure.

A detailed description of interventions for each study can be found in table 3.

Table 3

Detailed description of interventions to increase fathering self-efficacy.

No.	Author, country	Intervention name	Intervention description
1	Hudson et al. (2003) Nebraska, USA	New Fathers Network	Internet-based intervention consisting of 3 sections: 1. A library of information about infant development and concerns of new fathers 2. Discussion forums 3. Email access to Advanced Practice Nurses. Primarily a social support intervention where new fathers could access support from other fathers and nurses, particularly to address any concerns or questions about their transition to fatherhood.
2	Magill-Evans et al (2007), Canada	N/A	The father was videotaped in his home (by a home visitor), teaching his baby to play with a toy. Immediately after, the tape was jointly reviewed by the father and home visitor, positive aspects of the interaction were praised and behaviour that needed refining was discussed.

			New information was shared in the form of a handout, followed by another scheduled visit (1 hour) one month later by the same home visitor. Handout one described the baby's cues and handout two was about how babies learn.
3	Gearing et al (2008). Canada	Re: Membering Fatherhood Group Program	Manualised program consisting of eight 2-hour sessions on consecutive weeks. Topics included: introduction to fathering, how we were fathered and how we father, co-parenting and fathering, life balance and fathering, separation, divorce and blended family issues, stages of human development, gender differences and similarities and finally positive fathering and group ending'. Sessions were delivered by two men who were trained in the delivery of the program and included dyadic presentations, experiential exercises and 'use of self'.
4	Lee et al (2012) Taiwan	N/A	The intervention compromised of 2 parts. Part 1) a 25-page booklet written in simple language and containing coloured illustrations of real NICU scenes. Content included: 'the equipment the baby used, developmental care, nutrition, appearance, what your baby is doing, what you can do with your pre-term baby when you are at NICU and relaxation tips for fathers'. Part 2) Nurse guidance. A nurse encouraging implementation of the booklet and supporting the father to use relaxation skills.
5	Chacko et al. (2018). New York	Fathers Supporting Success in Pre-schoolers: A Community Parent Education Program (FSSP)	Group-based, interactive, father-to-father local knowledge transmission. Sessions utilised videotaped vignettes of exaggerated errors to generate group discussion and shared book reading between father-child. Of particular importance for this program

			was combining Dialogic Reading (DR) and Behavioural Parent Training (BPT), targeting improvements in parenting behaviour. A strength-based approach was used for the program, focusing on meaningful father-child interactions that also address child outcomes.
6	Havighurst et al (2018). Australia	Dads Tuning in to Kids	Seven weekly 2-hour sessions in the evening and a 2 hour booster session. Structured sessions included watching videos of emotion coaching vs emotion dismissing, handout materials, practice exercises such as reading story books, role-plays, and group discussions.
7	Raouna et al. (2021) United Kingdom	Mellow Dads Program	14-week early parenting, group intervention program delivered by 2-3 practitioners, of which at least one is a male. Mellow babies is for mothers and fathers however the programs are gender-specific and have separate groups. A week-by-week description was not available; however, the sessions include personal videotaped feedback of activities such as feeding, "hands-on" practice during mealtime and playtime, quizzes, video discussions, joint activities for parent and babies including songs, water play, mirroring and outings to libraries. It targets parents experiencing psychosocial difficulties with children up to 18 months old. The program provides transport, childcare, meals and free or inexpensive materials for parent-child activities to practice at home.
8	Lucas et al (2021).	The Dad's Group	Weekly support, each session lasting 2 hours. Number of sessions not reported. Structured and unstructured group-based discussions about societal problems,

	Scotland		crime, and mental health. Input from practitioners and activities designed to enhance parenting skills and support wellbeing, such as go-karting, bowls and self-care activities such as pampering; facials and making bath-bombs.
9	Cornille et al (2005) Florida	The DADS Project (prison inmates) Number per group not reported	Eight, 2.5-hour sessions. Each session had a different topic: DADS Actively Developing: Self, Safety and Sensitivity, Play Skills, Communication Skills, Stress Management Skills, Effective Discipline Skills and 2 sessions at the end of Experiential Skills. Facilitators encouraged group interaction, modelling by facilitators, and verbal persuasion. Facilitators are encouraged to self-disclose. Role-plays and the use of multimedia resources (e.g., popular videos) were also utilised in the sessions.
10	Gamboa et al (2019). Chicago	Building Bridges to Fatherhood Program/ Pilot Group-based Fatherhood Intervention (PGFI)	12 sessions, split into 3 units with 3 sessions each. Unit 1 was 'Fatherhood' (sessions your children need you, a journey not a destination, know your rights) Unit 2 was 'Communication' (clear communication, keeping your cool, problem solving) and Unit 3 was 'Parenting' (understanding your children, nurturing your children, and guiding your children). The sessions involved psychoeducation, discussions of parenting style, watching videos and role-playing exercise.

Effectiveness of interventions

An effect size was calculated for all seven of the quantitative studies using Cohen's d, either by the authors of the study or the author of the current review (table 2). Of the studies that did report effect sizes, all but one used Cohen's d; Magill-Evans et al. (2007) used partial eta squared which was converted to Cohen's d through effect size automation tools.

Two reported a large effect size of d=2.1 (Lee et al., 2012) and d=0.9 (Gearing et al., 2018), three reported a medium effect size of d=0.5 (Raouna et al., 2021), d=0.6 (Chacko et al., 2018) and d=0.5 (Havighurst et al., 2018) and one reported a small effect size of d=0.2 (Magill-Evans et al., 2007). The PSOC measure is made up of two subscales, one for parenting satisfaction and one for efficacy; the effect size for the self-efficacy has been reported in this review as it related to the aims. Hudson et al. 2003 did not report an effect size, however through the current author's calculations, a cohen's d=-0.05 was identified in father self-efficacy measures.

Overall, seven out of ten studies reported that the intervention was effective in increasing fathering self-efficacy, five of these studies were quantitative (Lee et al., 2012; Raouna et al., 2021; Chacko et al.,2018; Hudson et al., 2003; Havighurst et al., 2018), and two qualitative (Lucas et al., 2021; Gamboa et al., 2019). Cornille et al. (2005) did not adequately report results on parenting confidence despite it being the main aim of the intervention, suggesting publication bias and Gearing et al (2008) and Magill-Evans et al (2007) studies reported non-significant results on one or more subscales measuring parenting skills or confidence. In Magill-Evans et al (2007) study using the PSOC measure, there was no significant improvement in parenting confidence after the intervention, however on an observer-reported measure (rated by 4 observers), parenting skills significantly improved after the intervention.

In Lucas et al (2021) and Gamboa et al (2019), authors reported an increase in skills in communication styles, balancing their life while being actively involved in their child's life, confidence in how to 'be a good father' (being present, providing financially, disciplining and

nurturing) and understanding how relationship dynamics between the father and mother can affect the father-child relationship. In addition to this, the men became 'more involved' fathers with an improvement in their confidence in modern parenting culture, 'providing' and meeting expectations of fatherhood through adversity e.g., capped benefits, cost of living, political and dealing with social pressures to be an ideal father. Skills were also improved in settling child at night, reading stories and being more affectionate. Participants in these studies also felt more confident in becoming emotionally closer to their children and showing their vulnerability.

In Lee et al (2012) and Hudson et al (2003), fathers were given material to read independently. Time spent engaging with the material was not recorded. Hudson et al (2003) used an internet-based approach where data on engagement with material may have been more readily available than in Lee et al (2012) study in which fathers were given physical copies of booklets. The increase in fathering self-efficacy in these studies does not specify which part of the intervention was most effective, e.g. the increase may have been due to factors such as discussion with other fathers, or observing other parents in the NICU setting, rather than engaging in material; this raises questions on validity. Furthermore, many of the study's participants were new fathers; an increase in confidence post intervention may be explained by maturation. As fathers' experiences of engaging in childcare increases, so too does their confidence in their skills (Bianchi et al., 2006) which suggests that caution should be taken when interpreting results.

Discussion

An increasing body of research proves the positive impact active fatherhood has in child development. With the increased involvement of fathers in active caregiving, it is important that father's feel confident in their parenting skills as research has shown that parenting self-efficacy is closely linked to proficient parenting behaviours (Jones et al., 2005)

This review explored father-specific interventions on increasing fathering self-efficacy and identified 10 peer-reviewed articles with a mixture of individual and group-based interventions. Although interventions were varied across studies, some important similarities were identified which could shape future father-specific intervention. These includes 'hands-on'

approach in which fathers are practising skills or learning through video-feedback or role-play, experiential exercises with children involved, strength-based feedback from professionals, access available to a professional, peer-support, father-exclusive interventions and facilitator self-disclosure/relatability e.g., male and/or father. Peer-support is of particular importance to fathers, distinctly because they are often overlooked by health and social care services and seen as secondary to mothers.

Most studies in this intervention reported effective interventions, with effect sizes ranging from d=0.2 to d=2.11, giving some insight into the effectiveness of the interventions, however this is broad and could benefit from further examination. Only 5 out of 10 studies incorporated a comparison/control group due to issues with recruitment, therefore results should be interpreted with caution, further, sample sizes were small for most of the studies with only 5 of the 10 studies recruiting more than 30 fathers. Issues with recruitment to interventions was a common theme throughout the studies, with larger sample sizes coming from well-established programmes for parents. Given that father-specific interventions are still new, recruitment strategies may be an important aspect to consider in the development and planning stages of further interventions, particularly consideration of funding. Additionally, more work is needed by researchers to evaluate specifically which components within these father-specific interventions are effective e.g. video-feedback, or not effective. This would allow a baseline for future work to assess relative effectiveness of these components.

Further, this review focused on fathers' self-efficacy; self-efficacy is a dynamic process shaped by various experiences (Bandura, 1997) and can increase or decrease as children grow (Jones et al., 2005). The review's studies primarily targeted fathers of young children, not all child ages were represented, therefore the application of these interventions may only be relevant for fathers of young children.

Clinical Implications

There is a continued need for father-only interventions to increase confidence and skills. Mazza (2002) reports that more helpful than simply providing parenting advice is direct practice and peer support. This finding is supported by other research showing that parents value group-based parenting programs as they offer a sense of community and support (Mueller et al., 2009; Law et al., 2009), this is particularly important for fathers who may otherwise feel isolated. Fathers' low self-efficacy and feelings of loneliness can be reduced by group activities, which also enable participants to see themselves as role models for other, not only as fathers or males, but as individuals worthy of respect (Mazza, 2002).

To overcome the difficulty of recruiting fathers to interventions, there is a need for father-specific 'hands-on' advertising (not passive), flexible service provision, and emphasising the value of father involvement (Bayley et al., 2009; Salinas et al., 2011). Additionally, it is vital to explore fathers' preferences for program content, delivery, or features. For example, fathers have reported that the most significant factors to their willingness to take part include male facilitators, face-to-face group delivery of information, details about intervention success and the use of practical skills-based activities in the intervention (Frank et al., 2015; Scourfield et al., 2016). Practical barriers to engagement in parenting interventions, such as work commitments, lack of time, and travel distance, should be considered when planning intervention delivery. (Salinas et al., 2011). Lee et al (2020) conducted a systematic review of father-inclusive perinatal parent education programs and created a list of recommendations which are pertinent to this review.

Limitations

There are several limitations to this review. Firstly, only peer-reviewed articles were included in this review; studies in grey literature were not included. This might have led to the omission of effective father-specific interventions, not yet subject to rigorous evaluation.

Second, most of the studies in this review used general parenting self-efficacy measures; as previous research has predominantly been conducted with mothers, these measures may not be appropriate for fathers e.g. Parenting Sense of Competence includes mother-specific statements

such as ‘my mother was prepared to be a good mother than I am’ (6 out of 17 items) and may therefore not accurately capture father’s self-efficacy.

The quality of studies varied in this review and as such replication of interventions is needed. At the same time, caution is needed when applying the interventions in different contexts.

Future research

Searches in grey literature, e.g., google scholar and Ethos indicate that there is much interest in fatherhood for example theses exist on identifying fathers’ needs for their wellbeing during the transition to fatherhood, father’s experiences of prenatal care, father’s mental health in the transition to fatherhood and reviews on ‘promising practices’ in fatherhood programmes (Bronke-Tinkew et al., 2012). As such, it is possible that grey literature could have added more information to this review. The quantity of grey literature indicates that there is a need for more rigorous research to be conducted in father-specific interventions, and their effect on father self-efficacy. Further, within future research, there is a need for larger, more diverse samples (e.g., gay fathers, ethnic minorities) and control groups are needed to confirm the effectiveness and generalisability of interventions. This could be achieved by detailed planning for recruitment and involving fathers in materials used to advertise.

The development of a new measure specifically designed to measure fathers' self-efficacy could be beneficial in father-specific interventions due to significant differences in variables associated with mothers' self-efficacy.

Conclusions

Overall, the evidence base for father-specific interventions is growing. Research in this area highlights the importance of considering nuance when recruiting and delivering interventions for fathers. Facilitator characteristics, group size and material of intervention should be given careful consideration as well as the importance of a group-based environment

for social support. The small sample sizes in this review are a limitation of the studies, however it draws important attention to the need to continue father-inclusive practice.

References

Allgood, S. M., Beckert, T. E., & Peterson, C. (2012). The role of father involvement in the perceived psychological well-being of young adult daughters: A retrospective study. North American Journal of Psychology, 14(1), 95-110. Retrieved from https://www.proquest.com/scholarly-journals/role-father-involvement-perceived-psychological/docview/927903913/se-2

Amato, P. R., & Gilbreth, J. G. (1999). Nonresident fathers and children's well-being: a meta-analysis. *Journal of Marriage and Family*, *61*(3), 557. https://doi.org/10.2307/353560

Andrews, K., Ayers, S., & Williams, L. R. (2022). The experience of fathers during the covid-19 UK maternity care restrictions. *Midwifery*, *113*, 103434. https://doi.org/10.1016/j.midw.2022.103434

Bandura, A. (1982). Self-efficacy mechanism in human agency. *American Psychologist*, *37*(2), 122–147.

Bandura, A. (1997). *Self-efficacy: The exercise of control*. Freeman.

Bayley, J., Wallace, L., & Choudhry, K. (2009). Fathers and parenting programmes: barriers and best practice. *PubMed*, *82*(4), 28–31.

Bennett, C., Barlow, J., Huband, N., Smailagic, N., & Roloff, V. (2013). Group-Based parenting programs for improving parenting and psychosocial functioning: a systematic review. *Journal of the Society for Social Work and Research*, *4*(4), 300–332. https://doi.org/10.5243/jsswr.2013.20

Begle, A. M., & Dumas, J. E. (2010). Child and parental outcomes following involvement in a preventive intervention: efficacy of the PACE program. *The Journal of Primary Prevention*, *32*(2), 67–81. https://doi.org/10.1007/s10935-010-0232-6

Bianchi, S. M., Robinson, J. P., & Milke, M. A. (2006). *The changing rhythms of American family life*. Russell Sage Foundation.

Biblarz, T. J., & Stacey, J. (2010). How does the gender of parents matter? *Journal of Marriage and Family*, *72*(1), 3–22. https://doi.org/10.1111/j.1741-3737.2009.00678.x

Bronte-Tinkew, J., Carrano, J., Horowitz, A., & Kinukawa, A. (2008). Involvement among resident fathers and links to infant cognitive outcomes. *Journal of Family Issues*, *29*(9), 1211–1244. https://doi.org/10.1177/0192513x08318145

Chacko, A., Fabiano, G. A., Doctoroff, G. L., & Fortson, B. L. (2017). engaging fathers in effective parenting for preschool children using shared book reading: a randomized controlled trial. *Journal of Clinical Child and Adolescent Psychology*, *47*(1), 79–93. https://doi.org/10.1080/15374416.2016.1266648

Cornille, T. A., Barlow, L. O., & Cleveland, A. D. (2005). DADS family project: an experiential group approach to support fathers in their relationships with their children. *Social Work with Groups*. https://doi.org/10.1300/j009v28n02_04

Cowan, P. A., Cowan, C. P., Pruett, M. K., & Pruett, K. D. (2019). Fathers' and mothers' attachment styles, couple conflict, parenting quality, and children's behavior problems: an intervention test of mediation. *Attachment & Human Development*, *21*(5), 532–550. https://doi.org/10.1080/14616734.2019.1582600

Department for Education. (2019, December 5). *Children looked after in England including adoption: 2018 to 2019*. GOV.UK. https://www.gov.uk/government/statistics/children-looked-after-in-england-including-adoption-2018-to-2019

Dodgson, J. E. (2019). Reflexivity in qualitative research. *Journal of Human Lactation*, *35*(2), 220–222. https://doi.org/10.1177/0890334419830990

Downs, S. H., & Black, N. (1998). The feasibility of creating a checklist for the assessment of the methodological quality both of randomised and non-randomised studies of health care interventions. *Journal of epidemiology and community health*, *52*(6), 377–384. https://doi.org/10.1136/jech.52.6.377

Featherstone, B. (2009). *Contemporary fathering: theory, policy and practice*. Policy.

Ferketich, S. L., & Mercer, R. T. (1995). Predictors of role competence for experienced and inexperienced fathers. *Nursing Research*, *44*(2), 89-95. https://doi.org/10.1097/00006199-199503000-00005

Frank, T. J., Keown, L. J., Dittman, C. K., & Sanders, M. R. (2014). Using father preference data to increase father engagement in evidence-based parenting programs. *Journal of Child and Family Studies*, *24*(4), 937–947. https://doi.org/10.1007/s10826-014-9904-9

Gamboa, C. J., & Julion, W. (2019). Group-based transmission of fatherhood among intergenerational African American fathers: A case study. *Journal of Child and Adolescent Psychiatric Nursing*, *32*(2), 73–79. https://doi.org/10.1111/jcap.12227

Gearing, R. E., Colvin, G., Popova, S., & Regehr, C. (2008). Re:Membering fatherhood: evaluating the impact of a group intervention on fathering∗. *The Journal for Specialists in Group Work*, *33*(1), 22–42. https://doi.org/10.1080/01933920701798539

Gimenez-Nadal, J. I., Mangiavacchi, L., & Piccoli, L. (2019). Keeping inequality at home: The genesis of gender roles in housework. *Labour Economics*, *58*, 52–68. https://doi.org/10.1016/j.labeco.2019.03.006

Gross, D., Fogg, L., & Tucker, S. (1995). The efficacy of parent training for promoting positive Parent—Toddler Relationships. *Research in Nursing & Health*, *18*(6), 489–499. https://doi.org/10.1002/nur.4770180605

Havighurst, S. S., Wilson, K. R., Harley, A. E., & Kehoe, C. E. (2019). Dads tuning in to kids: A randomized controlled trial of an emotion socialization parenting program for fathers. *Social Development*, *28*(4), 979–997. https://doi.org/10.1111/sode.12375

Henwood, K., & Procter, J. (2003). The 'good father': Reading men's accounts of paternal involvement during the transition to first-time fatherhood. *British journal of social psychology*, *42*(3), 337-355. https://doi.org/10.1348/014466603322438198

Holden, G. W., Barker, E. D., Appel, A. E., & Hazlewood, L. (2010). Partner-abusers as fathers: testing hypotheses about their child rearing and the risk of physical child abuse. *Partner Abuse*, *1*(2), 186–199. https://doi.org/10.1891/1946-6560.1.2.186

Hong, Q. N., Fàbregues, S., Bartlett, G., Boardman, F., Cargo, M., Dagenais, P., ... & Pluye, P. (2018). The mixed methods appraisal tool (MMAT) version 2018 for information professionals and researchers. *Education for information*, *34*(4), 285-291.

Hooper, P., Jutai, J. W., Strong, G., & Russell-Minda, E. (2008). Age-related macular degeneration and low-vision rehabilitation: a systematic review. *Canadian Journal of Ophthalmology*, *43*(2), 180–187. https://doi.org/10.3129/i08-001

Hudson, D. B., Campbell-Grossman, C., Fleck, M. O., Elek, S. M., & Shipman, A. (2003). Effects of the new fathers network on first-time fathers' parenting self-efficacy and parenting satisfaction during the transition to parenthood. *Issues in Comprehensive Pediatric Nursing*, *26*(4), 217–229. https://doi.org/10.1080/01460860390246687

Jones, T. L., & Prinz, R. J. (2005). Potential roles of parental self-efficacy in parent and child adjustment: A review. *Clinical Psychology Review*, *25*(3), 341–363. https://doi.org/10.1016/j.cpr.2004.12.004

Kane, G., Wood, V. A., & Barlow, J. (2007). Parenting programmes: a systematic review and synthesis of qualitative research. *Child Care Health and Development*, *33*(6), 784–793. https://doi.org/10.1111/j.1365-2214.2007.00750.x

Katrak, P., Bialocerkowski, A., Massy-Westropp, N., Kumar, S., & Grimmer, K. (2004). *A systematic review of the content of critical appraisal tools* (Vol. 4). Springer Science+Business Media. https://doi.org/10.1186/1471-2288-4-22

Labarre, M., Bourassa, C., Holden, G. W., Turcotte, P., & Letourneau, N. (2015). Intervening with fathers in the context of intimate partner violence: An analysis of ten programs and suggestions for a research agenda. *Journal of Child Custody*, *13*(1), 1–29. https://doi.org/10.1080/15379418.2016.1127793

Lamb, M.E., Pleck, J.H., Levine, J.A. (1985). The role of the father in child development. In: Lahey, B.B., Kazdin, A.E. (eds) *Advances in Clinical Child Psychology*. Springer.

Lamb, M. E. (2010). *The role of the father in child development*. Wiley.

Law, M., King, S., Stewart, D., & King, G. (2002). the perceived effects of parent-led support groups for parents of children with disabilities. *Physical & Occupational Therapy in Pediatrics*, *21*(2), 29–48. https://doi.org/10.1300/j006v21n02_03

Lee, T. Y., Wang, M. M., Lin, K. C., & Kao, C. H. (2012). The effectiveness of early intervention on paternal stress for fathers of premature infants admitted to a neonatal intensive care unit. *Journal of Advanced Nursing*, *69*(5), 1085–1095. https://doi.org/10.1111/j.1365-2648.2012.06097.x

Lee, J. Y., Knauer, H. A., Lee, S. J., MacEachern, M. P., & Garfield, C. F. (2018). Father-inclusive perinatal parent education programs: a systematic review. *Pediatrics*, *142*(1), e20180437. https://doi.org/10.1542/peds.2018-0437

Leerkes, E. M., & Burney, R. (2007). The development of parenting efficacy among new mothers and fathers. *Infancy*, *12*(1), 45–67. https://doi.org/10.1111/j.1532-7078.2007.tb00233.x

Lucas, S. E., Mirza, N., & Westwood, J. L. (2020). 'Any d*** can make a baby, but it takes a real man to be a dad': Group work for fathers. *Qualitative Social Work*, *20*(3), 718–737. https://doi.org/10.1177/1473325020909431

Lundahl, B., Risser, H., & Lovejoy, M. (2006). A meta-analysis of parent training: Moderators and follow-up effects. *Clinical Psychology Review*, *26*(1), 86–104. https://doi.org/10.1016/j.cpr.2005.07.004

Magill-Evans, J., Harrison, M. J., Benzies, K., Gierl, M. J., & Kimak, C. (2007). Effects of parenting education on first-time fathers' skills in interactions with their infants. *Fathering*, *5*(1), 42–57. https://doi.org/10.3149/fth.0501.42

Magill-Evans, J., Harrison, M. J., Rempel, G. R., & Slater, L. (2006). Interventions with fathers of young children: systematic literature review. *Journal of Advanced Nursing*, *55*(2), 248–264. https://doi.org/10.1111/j.1365-2648.2006.03896.x

Mazza., C. (2002). Young dads: The effects of a parenting program on urban African American adolescent fathers. *Adolescence 37*(148): 681–693

McKee, K., Cabrera, N., Alonso, A., Turcios, M., & Reich, S. (2020). Determinants of fathers' and mothers' involvement in a parenting intervention. *Psychology of Men & Masculinities*. https://doi.org/10.1037/men0000320

Mueller, T. G., Milian, M., & Lopez, M. I. (2009). Latina mothers' views of a parent-to-parent support group in the special education system. *Research and Practice for Persons with Severe Disabilities*, *34*(3-4), 113–122. https://doi.org/10.2511/rpsd.34.3-4.113

National Institute for Health and Care Excellence. (2016). *Children's attachment* [NICE Guideline No. QS133]. https://www.nice.org.uk/guidance/QS133/chapter/Quality-statement-3-Video-feedback-programmes

Nespoli, A., Ornaghi, S., Borrelli, S. E., Vergani, P., & Fumagalli, S. (2022). Lived experiences of the partners of COVID-19 positive childbearing women: A qualitative study. *Women and Birth*, *35*(3), 289–297. https://doi.org/10.1016/j.wombi.2021.07.006

Opondo, C., Redshaw, M., Savage-McGlynn, E., & Quigley, M. A. (2016). Father involvement in early child-rearing and behavioural outcomes in their pre-adolescent children: evidence from the ALSPAC UK birth cohort. *BMJ open*, *6*(11), 1-9. http://dx.doi.org/10.1136/bmjopen-2016-012034

Panter-Brick, C., Burgess, A., Eggerman, M., McAllister, F. E., Pruett, K. D., & Leckman, J. F. (2014). Practitioner Review: Engaging fathers – recommendations for a game change in parenting interventions based on a systematic review of the global evidence. *Journal of Child Psychology and Psychiatry*, *55*(11), 1187–1212. https://doi.org/10.1111/jcpp.12280

Paschal, A. M., Lewis-Moss, R. K., & Hsiao, T. (2011). Perceived fatherhood roles and parenting behaviors among african american teen fathers. *Journal of Adolescent Research*, *26*(1), 61–83. https://doi.org/10.1177/0743558410384733

Pieroni, L., & Lanari, D. (2018). the role of fathers in the criminal careers of juveniles in italy. *Journal of Demographic Economics*, *84*(4), 419–445. https://doi.org/10.1017/dem.2018.12

Pleck, E.H., & Pleck, J.H. (1997). Fatherhood ideals in the United States: Historical dimensions. In M.E. Lamb (Ed.), *The role of the father in child development* (pp. 33-48). John Wiley & Sons, Inc.

Pleck, J. H. (2010). Fatherhood and masculinity. In M.E. Lamb (Ed.), *The role of the father in child development* (pp. 27-57). John Wiley & Sons, Inc.

Popay, J., Roberts, H., Sowden, A., Petticrew, M., Arai, L., Rodgers, M., & Britten, N. (2006). Guidance on the conduct of narrative synthesis in systematic Reviews. A Product from the ESRC Methods Programme. Version 1. *A Product From the ESRC Methods Programme Version*. https://doi.org/10.13140/2.1.1018.4643

Raouna, A., Malcolm, R., Ibrahim, R., & MacBeth, A. (2021). Promoting sensitive parenting in 'at-risk' mothers and fathers: A UK outcome study of Mellow Babies, a group-based early intervention program for parents and their babies. *PLOS ONE*, *16*(2), e0245226. https://doi.org/10.1371/journal.pone.0245226

Reece, S. M., & Harkless, G. (1998). Self-Efficacy, stress, and parental adaptation: Applications to the care of Childbearing families. *Journal of Family Nursing*, *4*(2), 198–215. https://doi.org/10.1177/107484079800400206

Rosenberg, J., & Wilcox, W. B. (2006). The importance of fathers in the healthy development of children [Dataset]. In *PsycEXTRA Dataset*. https://doi.org/10.1037/e624452007-001

Salinas, A., Smith, J. C., & Armstrong, K. (2011). Engaging fathers in behavioral parent training: listening to fathers' voices. *Journal of Pediatric Nursing*, *26*(4), 304–311. https://doi.org/10.1016/j.pedn.2010.01.008

Sanders, M. R. (2008). Triple P-Positive Parenting Program as a public health approach to strengthening parenting. *Journal of Family Psychology*, *22*(4), 506–517. https://doi.org/10.1037/0893-3200.22.3.506

Scourfield, J., Allely, C., Coffey, A., & Yates, P. (2016). Working with fathers of at-risk children: Insights from a qualitative process evaluation of an intensive group-based intervention. *Children and Youth Services Review*, *69*, 259–267. https://doi.org/10.1016/j.childyouth.2016.08.021

Sevigny, P. R., & Loutzenhiser, L. (2010). Predictors of parenting self-efficacy in mothers and fathers of toddlers. *Child: Care, Health and Development*, *36*(2), 179–189. https://doi.org/10.1111/j.1365-2214.2009.00980.x

Sicouri, G., Tully, L., Collins, D., Burn, M., Sargeant, K., Frick, P., Anderson, V., Hawes, D., Kimonis, E., Moul, C., Lenroot, R., & Dadds, M. (2018). Toward father-friendly parenting interventions: a qualitative study. *Australian and New Zealand Journal of Family Therapy*, *39*(2), 218–231. https://doi.org/10.1002/anzf.1307

Smith, T. K., Tandon, S. D., Bair-Merritt, M., & Hanson, J. L. (2014). Parenting needs of urban, African American fathers. *American Journal of Men's Health*, *9*(4), 317–331. https://doi.org/10.1177/1557988314545380

Spencer, C. M., Topham, G. L., & King, E. L. (2020). Do online parenting programs create change?: A meta-analysis. *Journal of Family Psychology*, *34*(3), 364–374. https://doi.org/10.1037/fam0000605

Stacey, T., Darwin, Z., Keely, A., Smith, A., Farmer, D., & Heighway, K. (2021). Experiences of maternity care during the COVID-19 pandemic in the North of England. *British Journal of Midwifery*, *29*(9), 516–523. https://doi.org/10.12968/bjom.2021.29.9.516

Stevenson, A. (2010). *Oxford Dictionary of English* (3rd ed.). Oxford University Press.

Su, L., Kubricht, B. C., & Miller, R. B. (2017). The influence of father involvement in adolescents' overall development in Taiwan. *Journal of Adolescence*, *59*(1), 35–44. https://doi.org/10.1016/j.adolescence.2017.05.010

The Centre for Social Justice (2020). *Family Structure Still Matters.* https://www.centreforsocialjustice.org.uk/wp-content/uploads/2020/10/CSJJ8372-Family-structure-Report-200807.pdf

Van Wel, F., Linssen, H., & Abma, R. (2000). The parental bond and the wellbeing of adolescents and young adults. Journal of Youth and Adolescence, 29(3), 307-318. https://doi.org/10.1023/A:1005195624757

Vance, A. J., & Brandon, D. H. (2017). Delineating Among Parenting Confidence, Parenting Self-Efficacy, and Competence. *ANS. Advances in nursing science*, *40*(4), E18–E37. https://doi.org/10.1097/ANS.0000000000000179

Vasilevski, V., Sweet, L., Bradfield, Z., Wilson, A. N., Hauck, Y., Kuliukas, L., Homer, C., Szabo, R. A., & Wynter, K. (2022). Receiving maternity care during the COVID-19 pandemic: Experiences of women's partners and support persons. *Women and Birth*, *35*(3), 298–306. https://doi.org/10.1016/j.wombi.2021.04.012

Webster-Stratton, C. & Spitzer, A. (1996). Parenting a young child with conduct problems: new insights using qualitative methods. In eds T. H. Ollendick & R. J. Prinz (Eds.), *Advances in Clinical Child Psychology (*pp. 1–62). Plenum Press.

Whitney, S. D., Prewett, S., Wang, Z., & Chen, H. (2018). Fathers' importance in adolescents' academic achievement. *International Journal of Child, Youth and Family Studies*, *8*(3/4), 101-126. https://doi.org/10.18357/ijcyfs83/4201718073

Xie, E. B., Jung, J. W., Kaur, J., Benzies, K. M., Tomfohr-Madsen, L., & Keys, E. (2023). Digital parenting interventions for fathers of infants from conception to the age of 12

months: systematic review of mixed methods studies. *Journal of Medical Internet Research*, *25*, https://www.jmir.org/2023/1/e43219

Yeung, W. J., Sandberg, J. F., Davis-Kean, P. E., & Hofferth, S. L. (2001). Children's time with fathers in intact families. *Journal of Marriage and Family*, *63*(1), 136–154. https://doi.org/10.1111/j.1741-3737.2001.00136.x

Appendices

Appendix 1: Downs and Black Appraisal checklist

Appendix

Checklist for measuring study quality

Reporting

1. *Is the hypothesis/aim/objective of the study clearly described?*

yes	1
no	0

2. *Are the main outcomes to be measured clearly described in the Introduction or Methods section?*
If the main outcomes are first mentioned in the Results section, the question should be answered no.

yes	1
no	0

3. *Are the characteristics of the patients included in the study clearly described ?*
In cohort studies and trials, inclusion and/or exclusion criteria should be given. In case-control studies, a case-definition and the source for controls should be given.

yes	1
no	0

4. *Are the interventions of interest clearly described?*
Treatments and placebo (where relevant) that are to be compared should be clearly described.

yes	1
no	0

5. *Are the distributions of principal confounders in each group of subjects to be compared clearly described?*
A list of principal confounders is provided.

yes	2
partially	1
no	0

6. *Are the main findings of the study clearly described?*
Simple outcome data (including denominators and numerators) should be reported for all major findings so that the reader can check the major analyses and conclusions. (This question does not cover statistical tests which are considered below).

yes	1
no	0

7. *Does the study provide estimates of the random variability in the data for the main outcomes?*
In non normally distributed data the inter-quartile range of results should be reported. In normally distributed data the standard error, standard deviation or confidence intervals should be reported. If the distribution of the data is not described, it must be assumed that the estimates used were appropriate and the question should be answered yes.

yes	1
no	0

8. *Have all important adverse events that may be a consequence of the intervention been reported?*
This should be answered yes if the study demonstrates that there was a comprehensive attempt to measure adverse events. (A list of possible adverse events is provided).

yes	1
no	0

9. *Have the characteristics of patients lost to follow-up been described?*
This should be answered yes where there were no losses to follow-up or where losses to follow-up were so small that findings would be unaffected by their inclusion. This should be answered no where a study does not report the number of patients lost to follow-up.

yes	1
no	0

10. *Have actual probability values been reported (e.g. 0.035 rather than <0.05) for the main outcomes except where the probability value is less than 0.001?*

yes	1
no	0

External validity

All the following criteria attempt to address the representativeness of the findings of the study and whether they may be generalised to the population from which the study subjects were derived.

11. *Were the subjects asked to participate in the study representative of the entire population from which they were recruited?*
The study must identify the source population for patients and describe how the patients were selected. Patients would be representative if they comprised the entire source population, an unselected sample of consecutive patients, or a random sample. Random sampling is only feasible where a list of all members of the relevant

population exists. Where a study does not report the proportion of the source population from which the patients are derived, the question should be answered as unable to determine.

yes	1
no	0
unable to determine	0

12. *Were those subjects who were prepared to participate representative of the entire population from which they were recruited?*
The proportion of those asked who agreed should be stated. Validation that the sample was representative would include demonstrating that the distribution of the main confounding factors was the same in the study sample and the source population.

yes	1
no	0
unable to determine	0

13. *Were the staff, places, and facilities where the patients were treated, representative of the treatment the majority of patients receive?*
For the question to be answered yes the study should demonstrate that the intervention was representative of that in use in the source population. The question should be answered no if, for example, the intervention was undertaken in a specialist centre unrepresentative of the hospitals most of the source population would attend.

yes	1
no	0
unable to determine	0

Internal validity - bias

14. *Was an attempt made to blind study subjects to the intervention they have received ?*
For studies where the patients would have no way of knowing which intervention they received, this should be answered yes.

yes	1
no	0
unable to determine	0

15. *Was an attempt made to blind those measuring the main outcomes of the intervention?*

yes	1
no	0
unable to determine	0

16. *If any of the results of the study were based on "data dredging", was this made clear?*
Any analyses that had not been planned at the outset of the study should be clearly indicated. If no retrospective unplanned subgroup analyses were reported, then answer yes.

yes	1
no	0
unable to determine	0

17. *In trials and cohort studies, do the analyses adjust for different lengths of follow-up of patients, or in case-control studies, is the time period between the intervention and outcome the same for cases and controls ?*
Where follow-up was the same for all study patients the answer should yes. If different lengths of follow-up were adjusted for by, for example, survival analysis the answer should be yes. Studies where differences in follow-up are ignored should be answered no.

yes	1
no	0
unable to determine	0

18. *Were the statistical tests used to assess the main outcomes appropriate?*
The statistical techniques used must be appropriate to the data. For example non-parametric methods should be used for small sample sizes. Where little statistical analysis has been undertaken but where there is no evidence of bias, the question should be answered yes. If the distribution of the data (normal or not) is not described it must be assumed that the estimates used were appropriate and the question should be answered yes.

yes	1
no	0
unable to determine	0

19. *Was compliance with the intervention/s reliable?*
Where there was non compliance with the allocated treatment or where there was contamination of one group, the question should be answered no. For studies where the effect of any misclassification was likely to bias any association to the null, the question should be answered yes.

yes	1
no	0
unable to determine	0

20. *Were the main outcome measures used accurate (valid and reliable)?*

For studies where the outcome measures are clearly described, the question should be answered yes. For studies which refer to other work or that demonstrates the outcome measures are accurate, the question should be answered as yes.

yes	1
no	0
unable to determine	0

Internal validity - confounding (selection bias)

21. *Were the patients in different intervention groups (trials and cohort studies) or were the cases and controls (case-control studies) recruited from the same population?*
For example, patients for all comparison groups should be selected from the same hospital. The question should be answered unable to determine for cohort and case-control studies where there is no information concerning the source of patients included in the study.

yes	1
no	0
unable to determine	0

22. *Were study subjects in different intervention groups (trials and cohort studies) or were the cases and controls (case-control studies) recruited over the same period of time?*
For a study which does not specify the time period over which patients were recruited, the question should be answered as unable to determine.

yes	1
no	0
unable to determine	0

23. *Were study subjects randomised to intervention groups?*
Studies which state that subjects wererandomised should be answered yes except where method of randomisation would not ensure random allocation. For example alternate allocation would score no because it is predictable.

yes	1
no	0
unable to determine	0

24. *Was the randomised intervention assignment concealed from both patients and health care staff until recruitment was complete and irrevocable?*
All non-randomised studies should be answered no. If assignment was concealed from patients but not from staff, it should be answered no.

yes	1
no	0
unable to determine	0

25. *Was there adequate adjustment for confounding in the analyses from which the main findings were drawn?*
This question should be answered no for trials if: the main conclusions of the study were based on analyses of treatment rather than intention to treat; the distribution of known confounders in the different treatment groups was not described; or the distribution of known confounders differed between the treatment groups but was not taken into account in the analyses. In non-randomised studies if the effect of the main confounders was not investigated or confounding was demonstrated but no adjustment was made in the final analyses the question should be answered as no.

yes	1
no	0
unable to determine	0

26. *Were losses of patients to follow-up taken into account?*
If the numbers of patients lost to follow-up are not reported, the question should be answered as unable to determine. If the proportion lost to follow-up was too small to affect the main findings, the question should be answered yes.

yes	1
no	0
unable to determine	0

Power

27. *Did the study have sufficient power to detect a clinically important effect where the probability value for a difference being due to chance is less than 5%?*
Sample sizes have been calculated to detect a difference of x% and y%.

	Size of *smallest* intervention group	
A	$<n_1$	0
B	n_1–n_2	1
C	n_3–n_4	2
D	n_5–n_6	3
E	n_7–n_8	4
F	n_9+	5

Appendix 2: Mixed Methods Assessment Tool

Part I: Mixed Methods Appraisal Tool (MMAT), version 2018

Category of study designs	Methodological quality criteria	Responses			
		Yes	No	Can't tell	Comments
Screening questions (for all types)	S1. Are there clear research questions?				
	S2. Do the collected data allow to address the research questions?				
	Further appraisal may not be feasible or appropriate when the answer is 'No' or 'Can't tell' to one or both screening questions.				
1. Qualitative	1.1. Is the qualitative approach appropriate to answer the research question?				
	1.2. Are the qualitative data collection methods adequate to address the research question?				
	1.3. Are the findings adequately derived from the data?				
	1.4. Is the interpretation of results sufficiently substantiated by data?				
	1.5. Is there coherence between qualitative data sources, collection, analysis and interpretation?				
2. Quantitative randomized controlled trials	2.1. Is randomization appropriately performed?				
	2.2. Are the groups comparable at baseline?				
	2.3. Are there complete outcome data?				
	2.4. Are outcome assessors blinded to the intervention provided?				
	2.5 Did the participants adhere to the assigned intervention?				
3. Quantitative non-randomized	3.1. Are the participants representative of the target population?				
	3.2. Are measurements appropriate regarding both the outcome and intervention (or exposure)?				
	3.3. Are there complete outcome data?				
	3.4. Are the confounders accounted for in the design and analysis?				
	3.5. During the study period, is the intervention administered (or exposure occurred) as intended?				
4. Quantitative descriptive	4.1. Is the sampling strategy relevant to address the research question?				
	4.2. Is the sample representative of the target population?				
	4.3. Are the measurements appropriate?				
	4.4. Is the risk of nonresponse bias low?				
	4.5. Is the statistical analysis appropriate to answer the research question?				
5. Mixed methods	5.1. Is there an adequate rationale for using a mixed methods design to address the research question?				
	5.2. Are the different components of the study effectively integrated to answer the research question?				
	5.3. Are the outputs of the integration of qualitative and quantitative components adequately interpreted?				
	5.4. Are divergences and inconsistencies between quantitative and qualitative results adequately addressed?				
	5.5. Do the different components of the study adhere to the quality criteria of each tradition of the methods involved?				

Appendix 3: Summary of quality appraisal table

	Study number									
	1	2	3	4	5	6	7	8	9	10
Downs and Black Appraisal Checklist										
Reporting										
Is the objective of the study clear?	Yes	Yes	Yes	Yes	Yes	Yes	Yes			
Are the main outcomes clearly described in the introduction or methods?	Yes	Yes	Yes	Yes	Yes	Yes	Yes			
Are characteristics of the patients included in the study clearly described?	Yes	Yes	Yes	No	Yes	Yes	Yes			
Are the interventions clearly described?	Yes	Yes	Yes	Yes	Yes	Yes	Yes			
Are the distributions of principal confounders in each group of subjects clearly described?	Yes	Yes	-	Yes	Yes	UTD	-			
Are the main findings of the study clearly described?	Yes	Yes	Yes	Yes	Yes	Yes	Yes			
Does the study estimate random variability in data for main outcomes?	Yes	Yes	Yes	Yes	Yes	Yes	Yes			
Have all important adverse events that may be a consequence of the intervention been reported? [REMOVED]										
Have the characteristics of patients lost to follow up been described?	No	UTD	Yes	No	Yes	Yes	Yes			
Have actual probability values been reported for the main outcomes except probability <0.001?	No	Yes	Yes	Yes	Yes	Yes	Yes			
External validity										
Were subjects who were asked to participate in the study representative of the entire population recruited?	No	No	Yes	No	Yes	Yes	Yes			
Were those subjects who were prepared to participate representative of the recruited population?	No	No	UTD	No	No	No	Yes			
Were staff, places, and facilities where patients were treated representative of treatment most received?	Yes	Yes	UTD	Yes	Yes	Yes	Yes			
Internal validity										
Was an attempt made to blind study subjects to the intervention?	Yes	Yes	-	Yes	Yes	Yes	-			
Was an attempt made to blind those measuring the main outcomes?	No	Yes	Yes	UTD	Yes	UTD	Yes			
If any of the results of the study were based on data dredging was this made clear?	Yes	UTD	Yes	UTD	Yes	Yes	Yes			
Was the time period between intervention and outcome the same for intervention and control groups adjusted for?	Yes	Yes	UTD	UTD	Yes	No	UTD			
Were the statistical tests used to assess main outcomes appropriate?	No	Yes	No	Yes	Yes	Yes	Yes			

Was compliance with the interventions reliable?	UTD	Yes	Yes	Yes	UTD	Yes	UTD			
Were main outcome measures used accurate? (valid and reliable)	Yes	Yes	Yes	Yes	Yes	Yes	Yes			
Internal validity- confounding (selection bias)										
Were patients in different intervention groups recruited from the same population?	No	Yes	-	Yes	Yes	Yes	-			
Were study subjects in different intervention groups recruited over the same period of time?	No	No	-	No	Yes	Yes	-			
Were study subjects randomized to intervention groups?	UTD	Yes	-	No	Yes	Yes	-			
Was the randomized intervention assignment concealed from the patients and staff until recruitment was complete?	No	Yes	-	No	Yes	UTD	-			
Was there adequate adjustment for confounding in the analyses from which main findings were drawn?	No	UTD	Yes	Yes	Yes	Yes	Yes			
Were losses of patient to follow up taken into account?	UTD	Yes	Yes	UTD	Yes	Yes	Yes			
Power										
Was the study sufficiently powered to detect clinically important effects where probability value for a difference due to chance is <5%	UTD	Yes	UTD	Yes	Yes	Yes	Yes			
Total score (out of 26):	12	20	13/20	15	24	21	18/20	-	-	-
Mixed Methods Appraisal Tool (MMAT)										
Qualitative										
Screening Q1: Are there clear research questions?								Yes	Yes	Yes
Screening Q2: Do the collected data allow to address the research questions?								Yes	Yes	Yes
1.1 Is the qualitative approach appropriate to answer the research question?								Yes		Yes
1.2 Are the qualitative data collection methods adequate to address the research question?								Yes		UTD
1.3 Are the findings adequately derived from the data?								UTD		Yes
1.4 Is the interpretation of results sufficiently substantiated by data?								Yes		Yes
1.5 Is there coherence between qualitative data sources, collection, analysis and interpretation?								Yes		Yes
Total score (out of 7):	-	-	-	-	-	-	-	6	-	6
Mixed methods										
5.1 Is there an adequate rationale for using a mixed methods design to address the research question?									Yes	

5.2 Are the different components of the study effectively integrated to answer the research question?									Yes	
5.3 Are the outputs of the integration of qualitative and quantitative components adequately interpreted?									UTD	
5.4 Are divergences and inconsistencies between quantitative and qualitative results adequately addressed?									Yes	
5.5 Do the different components of the study adhere to the quality criteria of each tradition of the methods involved?									No	
Total score (out of 7):	-	-	-	-	-	-	-	-	5	-

Scoring Yes= 1, No= 0, Unable to determine (UTD)= 0
= Not applicable to the study e.g. a question related to control groups where there were none used.
= Checklist questions not used for this study

Paper 2: Empirical Paper

First-time fathers' emotional wellbeing: Are father involvement and intergenerational father relationships predictors of postnatal depressive symptoms?

Word count: 7382

(Excluding the title page, references and appendices)

This empirical paper is intended for publication in the journal 'new Male Studies'. The referencing style of this paper is APA 7th edition. Author guidelines for the journal can be found in Appendix A. Amendments will be made prior to submission to the journal to ensure the paper adheres to all submission guidelines.

Abstract

Postnatal depression affects 1 in 10 fathers but is still under-researched. As a result, not much is known about the predictors of postnatal depression in new fathers. Research has shown that modern-day fathers are more involved in the upbringing of their child than their fathers may have been with them. This study explores this further by looking at two potential predictors of postnatal depression in first-time fathers: father involvement in childcare (1) and father's relationships with their own father (2) (intergenerational father-son relationship).
A cross-sectional, online, multiple regression design was utilised to investigate if father involvement and intergenerational father-son relationships predicted postnatal depression in first-time fathers from the United Kingdom (UK).

Forty participants completed demographic questions and likert scale questionnaires on their level of involvement in the care of their child, their relationship with their own father and postnatal depression. The father involvement scale was split into 3 subscales (father engagement, positive emotional responsiveness, and security in the role as a father/partner) and investigated together and separately from one another.

Participants' relationship with their own father was a significant predictor of father engagement, suggesting participants who viewed their relationship more positively with their own father were more likely to engage in direct-care related tasks with their child. However, when combining the 3 subscales, father involvement and relationship with own father were not significant predictors of postnatal depression. The current study lends support to ideas that parenting behaviors can repeat across generations, highlighting engagement as particularly important.

First-time Fathers' Emotional Wellbeing: Are Father Involvement and Intergenerational Father Relationships Predictors of Postnatal Depressive Symptoms?

Fatherhood

Fatherhood is a multifaceted and ever-changing concept (Lamb., 2000), influenced by sociocultural context (Perez-Brena et al., 2015). Historically, the primary focus of a father's role within the family predominantly pertained to financial provision and being a disciplinarian figure (Pleck et al., 1997). However, modern-day fatherhood encompasses the traditional roles of provision, but now adds greater emphasis on responsibilities of caring for and nurturing the child (Brannen et al., 2006; Linn et al., 2015; Pleck., 2010). Modern-day fathers are expected to actively participate in child-rearing, seek work-life balance, prioritize quality time with their children, and contribute to household responsibilities, therefore challenging traditional gender roles and views of fatherhood (Yeung et al., 2001; Machin et al., 2018).

Research suggests men wish to be more involved in nurturing and caring for their children than their fathers were with them (Bolzan et al., 2004; Bolzan et al., 2013), influenced by personal characteristics and circumstances, beliefs, social relations and individual differences (Cabrera et al., 2014). Time-use studies reveal that modern fathers are more involved in child-care (Cabrera et al.,2014; Monna et al., 2008) and fatherhood now extends beyond being present in the home to the quality of time spent with the child, which includes aspects such as bathing, changing nappies, domestic chores, and grocery shopping, among other tasks (Opondo et al., 2016). The change of fatherhood reflects evolving societal norms, such as women's participation in the workforce, greater recognition of the importance of paternal involvement in child development and in family systems, and a growing emphasis on gender equality (Bianchi et al., 2006; Cornille et al., 2005).

Although role expectations of fathers have changed, policies encouraging equitable fatherhood have progressed at a slower pace. This is evident in, for example, disparities between maternity and paternity leave in the UK (NHS., 2021; Banister et al., 2022) and gendered assumptions of parenting amongst healthcare professionals (Lucas et al., 2020). Whilst fathers are now expected to take on an active parenting role, their treatment as 'secondary parents' in family services has not reflected this change (Dailey., 1980; Wolins., 1983). This has resulted in fathers feeling uncertain in their role (Andrews et al., 2022; Steen et al., 2012) and marginalized (Daniel et al., 1999; Lazar et al., 1991). This is mirrored by research which suggests that professionals feel unconfident in supporting fathers (Wynter et al., 2020). Such mismatches in father involvement expectations and systemic issues can create a dissonance between the desire for a father to be involved in their child's upbringing, and the reality of fulfilling the role.

Father involvement

Father involvement encapsulates many aspects, from direct father-child interactions such as play and feeding, to the responsibility of managing tasks such as medical appointments and child social interactions (Diniz et al., 2021). Building on Lamb's (1985) original 3-dimension fatherhood model, Pleck (2010) has proposed a recent model of fatherhood with 5 dimensions. These include direct and active *positive* engagement (1), warmth and responsiveness, in relation to engagement, physical proximity and psychological openness of the father to the child (2), control e.g. managing child activity (3), indirect care e.g. financial provision for the child's needs (4) and process responsibility e.g. taking initiative and being a conscious parent by monitoring what is needed for the child's care (5). Additionally, research in fatherhood involvement also suggests that paternal involvement extends beyond direct childcare, to associated activities and fathers' attitudes towards the child and themselves as parents (Opondo et al., 2016).

Research in early childhood has tended to use broad dichotomous measures of involvement, such as father-absence or father-presence, which have not reflected contemporary models of fatherhood, nor captured specific components of fathers' involvement, (Parke, 2000; Veneziano et al., 1998). Further, mothers have by default completed parent-related measures, even when measuring fathering aspects (Henshaw., 2014; Golding et al., 2001). As such, little

comparison can be drawn from such studies. Authors have called for more work using fathers' self-report of their involvement to reduce the potential for information bias that may arise with mother-reported measures (Opondo et al., 2016).

Intergenerational father-son relationships

Identity theory by Kohut (1977) suggests that the way in which a father embodies their fatherhood role is influenced by how one was fathered themselves, and the man's relationship with his own father (Dick., 2011). A father's relationship with his father, might serve as inspiration for the effort he makes to create a relationship or be involved with his own child (Beaton et al., 2007; Floyd et al., 2000; Hofferth et al., 2012). For example, research has shown that men who had either very close or very distant ties with their own fathers had the strongest attitudes towards fatherhood (Beaton et al., 2007). Floyd et al (2000) found that men who felt close to their fathers during their childhood emulated this closeness with their own children, and men who did not feel close to their fathers or perceived their relationship as unfulfilling, compensated for this by creating close-knit bonds with their own children. Further, Jessee et al (2018) found that patterns of father involvement and the quality of father–child relationships are passed down across generations. In this study, paternal grandfathers' involvement with fathers was associated with greater father involvement with their own children.

Research has found that parental practices are influenced by attachment style (Doinita et al., 2015) and are strongly related to the individuals' development, wellbeing and relationships throughout the lifespan (Candel., 2022). Bowlby's (1982) work on attachment emphasizes the importance of a secure attachment. Collins et al (2010) suggest that insecure attachment is associated with lower levels of responsive caregiving; being a responsive caregiver may be difficult for parents who themselves struggle with emotional expression and other behaviours associated with attachment insecurity. Furthermore, parents with an insecure attachment style experience less joy and pleasure in parenting than secure parents (Howard., 2010; Rholes et al., 2006). Literature on new parents, including father-specific research, suggests that parents with attachment difficulties experience greater stress, less satisfaction and less meaning in their parenting roles, and had less desire to become parents (Rholes et al., 2006; Howard., 2010).

Attachment theory and Bandura's Social Learning Theory (1977) highlight how today's fathers may find themselves navigating the complexities of modern fatherhood without the benefit of a clear fathering role model from their own upbringing. Many fathers grew up in households where their own fathers may have adhered to more conventional gender norms, emphasizing the provider role over emotional connection or caregiving. Therefore, it is important to consider intergenerational relationships in the context of modern-day father involvement.

Child outcomes

In line with Family Systems Theory, research suggests that individual members of a family are all interdependent, with each member influencing the other (Cox et al., 1997; Goodman., 2008), therefore a father's involvement will affect the mother and the child. Positive father involvement is crucial in many areas of child development throughout all stages of childhood (Downer et al., 2008). In an integrative review by Henry et al (2020), father involvement positively affected child cognitive and socioemotional development. Father involvement also positively influenced children's psychological wellbeing (Van wel et al., 2000; Amato et al., 1999), independence (Rosenberg et al., 2006), cognitive development (Bronte-Tinkew., 2008), academic success (Allen et al., 2007) and reduced the likelihood of engagement in risky behaviours (Su et al., 2017). Positive father involvement also acts as a mediating factor between economic disadvantage and child achievement (Baker et al., 2018). Additionally, fathers who share childcare equally in the first year are more likely to remain involved when their child is three (Norman et al., 2017). Fathers also play an important role in maternal wellbeing when in a relationship with the mother (Martin et al., 2022; Holopainen., 2002), however, little is known about the impact of father involvement on their own emotional wellbeing.

Paternal post-natal depression (PPND)

PND is an episode of major depressive disorder occurring soon after birth (Scarff., 2019) and has previously only been associated with mothers (DeMontigny et al., 2013). Research suggests that up to 16% of fathers experience depression up to 2 years following the birth of their child (Pinheiro et al., 2005), with first-time fathers being especially vulnerable. A meta-analysis

found that 10.4% of new fathers experience depression in comparison to 4.8% of men from the general population (Paulson et al., 2010). PPND is often missed in fathers due to the misinterpretation of symptoms (Fisher, 2016; Melrose, 2010), often different in fathers than mothers (Martin et al., 2013; Matthey e al., 2000) e.g. substance abuse, reckless driving, and higher levels of aggression (Marcus et al., 2005; Winkler et al., 2005; Cochran et al., 1999; Spector, 2006; Wexler, 2005; Salokangas et al., 2002;). In addition to this, PPND is often missed due to social influences of masculinity discouraging men from acknowledging emotional struggles (Hambidge et al., 2021; Iwamoto et al., 2018; Lynch et al., 1999), resulting in under-diagnosis of PND in men and a lack of research in this area.

New fathers experience hormonal changes (Kim et al., 2007), changes in lifestyle, additional responsibilities (Machin., 2018; Meighan et al., 1999; Harvey et al., 1988), emotional changes (Davey et al., 2006; Melrose., 2010; Letourneau et al., 2011), and the transition to fatherhood (Baldwin et al., 2018). One of the strongest predictors of PND in men is having a partner who is affected by PND (Letourneau et al., 2011), with other psychosocial predictors including prior mental illness, relationship dissatisfaction, social support, and unemployment (Ansari et al., 2020).

Much like father involvement, the impact of PND on a father's emotional wellbeing has implications for child development (Letourneau et al., 2011), including bonding and attachment. In the child's early years, parents experiencing depression engage in fewer positive interactions with their children (Paulson et al., 2006; Goodman., 2004; Paulson et al., 2009; Sethna et al., 2015), which can result in long-lasting negative child-outcomes (Paulson et al., 2009; Ramchandani et al., 2005; Ramchandani et al., 2008; Spencer et al., 2014; Kane et al., 2004; Golding et al., 2001). Conversely, actively engaging in fatherhood increases parenting confidence (Lucas et al., 2020; Gamboa et al., 2019). Active involvement in parenting and parenting confidence have proven to act as a protective factor against postpartum depression in research with mothers (Cutrona et al., 1986; Fancourt et al., 2017; Haslam et al., 2006; Levi et al., 2019). Paternal caregiving patterns developed in the child's infancy shape the way fathers

interact with their children throughout the lifespan (Doyle et al., 2017). This further highlights the importance of understanding father involvement and PND in men.

The current study

In summary, much of the literature on postnatal depression has drawn attention to mothers and their relationship with their child and research in PPND is still in its infancy. Modern-day fatherhood emphasizes active involvement and responsibilities of caring for and nurturing the child (Brannen et al., 2006; Linn et al., 2015; Pleck., 2010), as such fathers are now increasingly involved in the care of their child. The current study focuses on the Lamb-Pleck conceptualisation of fatherhood. The research from which the conceptual framework was derived was based on heteronormative families, therefore the current study also focuses on heteronormative families to minimize confounding variables. Further, the current research is grounded in the conceptual framework of fatherhood rather than the family structure itself.

As the importance of fathers in the role of child development is becoming well recognised, as well as PPND, there is a need for further understanding of predictors of PPND. One such predictor may be father involvement, e.g. higher levels of father involvement predict lower levels of PND due to research suggesting that active parental engagement can be a protective factor against postnatal depression (Fancourt et al., 2017; Haslam et al., 2006; Levi et al., 2019).

Further, fatherhood practices may be influenced by the way in which a father himself was fathered, drawing attention to intergenerational patterns. Understanding this may help predict father involvement, thus aiding in the understanding of interactions between intergenerational father relationships, father involvement and paternal postnatal depression. Knowledge of the relationships between these factors can address current gaps in literature and reinforce the importance of specialist mental health support for new fathers who experience post-natal depression.

As such, the current study explores the relationship between contemporary father involvement, intergenerational father-son relationships, and paternal postnatal depression in first-time fathers of 0–2-year-olds.

Aims and hypotheses

The study aimed to investigate if father involvement and intergenerational father relationships predict PPND in first-time fathers of 0–2-year-olds. The following hypotheses were tested:

1) Higher satisfaction in relationships with participants own fathers will correlate with greater father involvement in parenting
2) Higher levels of father-involvement and satisfaction with relationship with participants own fathers will predict lower levels of PPND

Method

Design

A cross-sectional, quantitative, online design was employed for this research to investigate the influence of predictor variables (father-involvement and intergenerational father relationship) on the criterion variable (PPND) using a multiple regression analysis.

As the study considers relationships between continuous variables (previously unresearched), an α priori power calculation was done. G*Power (Faul et al. 2007) was used to establish the smallest sample size needed to detect a meaningful relationship between the main study variables (by simple correlation). To achieve 80% power for detecting a small to medium relationship (Pearson's r = 0.25), at a significance level of $\alpha = .05$, the calculation was N=123. Thus, a sample of size of N=123 is assumed to be sufficient to test the principal hypotheses.

Sample

To be eligible for the study, participants needed to be English speaking, first-time fathers (18+) of a 0–2-year-old. All participants had a child with a female (different-sex relationship) as the scope of the study did not cover same-sex relationships.

Participants were asked to self-exclude if the mother or father had been hospitalised within the 24-month period of the child being born, if the mother or father of the child is diagnosed with severe mental health/physical health difficulties or if the child has severe health conditions which requires prolonged hospitalisation, as these were identified to be potential confounding factors of father-involvement. Participants were also asked to self-exclude if they had a history of depression as the study was specific to postnatal depression. There was a total of 84 responses, 52 of which indicated consent. Of the 52 that consented, 7 completed minimal or no further questions. A complete dataset was available for 40 participants (5 with missing data above the threshold); therefore, data were analysed for 40 participants.

Demographic questions were not available for the first 10 participants due to administration error, the demographics table reflects this. Participant's ages ranged from 19 years to 52 years (n=30), with the mean age being 33, and the majority falling in the 30-39 age range (n=15). The mean age of the participant's child was 12 months. Most of the participants identified as White (55%, n=22) and most had completed a University Bachelor's degree (35%, n=14), earning between £40,000 - £59,999 (38%, n=15). A total of 85% of the participants were in a relationship with the mother of the child (n=28) and 15% were not (n=5). Of those who completed the question, 88% (n=29) stated that they lived in the same home as their child. Detailed participant demographics can be found in Table 1.

Table 1

Participant demographics

Demographic Characteristic	N
Age of father (Years)	N=30
19-29	10 (34%)
30-39	15 (50%)
40-49	5 (..)
50+	0 (..)

Age of child (months)	N=30
0-6	10 (33%)
7-12	5 (..)
13-18	5 (..)
19-24	9 (30%)
Ethnicity	N= 39
White	22 (56%)
Black	5 (..)
Asian	8 (21%)
Mixed	5 (..)
Other	0 (..)
Income	N=38
£20,000 or less	0 (..)
£20,000 - £39,999	12 (32%)
£40,000 - £59,999	15 (40%)
£60,000 - £99,999	8 (..)
£100, 000 or more	0 (..)
Live in the same household as child	N=33
Yes	29 (88%)
No	0 (..)
In a relationship with mother of child	N=33
Yes	28 (85%)
No	5 (..)

Note. Statistics reported using The Higher Education Statistics Agency Rounding Methodology to preserve confidentiality

Recruitment

Various approaches were used for recruitment such as online, in-person or networking with professionals working in father-inclusive practice.

A recruitment poster containing information and the link to the questionnaires was shared on social media platforms (X formerly known as twitter, Linkedin facebook and instagram (Appendix B). Father support groups were tagged and directly contacted to share the poster, for

example Dads Rock (@DadsRockOrg), Dadmatters (@dadmattersuk), Dadvengers (@Dadvengers), Fatherhood Gov (@Fatherhoodgov), Fathers Network Scotland (@FathersNetScot), as well as well-known researchers and social-media influencers within the field of parenting. The poster, along with the link directing participants to the questionnaire was also shared on dad-groups and parent-groups on Facebook, mumsnet and dadsnet, in addition to word-of-mouth (Appendix C).

The following were also contacted or visited in person for the purposes of sharing the poster: local council family hubs, parent and toddler groups, soft-play centres, family-festival events, private nurseries, a football stadium, pubs, a barber and gyms and father-specific social groups (Appendix D). However, there was little or no response from group facilitators/centre owners or requests were declined.

A father-specific conference was also attended in which professionals in the field of father-inclusive-practice shared good practice. From this, a further 5 organisations were contacted in the father-inclusive-practice field and requests were made to share links to the poster with the fathers they work with. Fathers were also directly approached in the conference. An online professionals training event for people working with fathers, 'DadxMeetup', was attended and links to the questionnaires and posters were shared with other professionals working with fathers through this method (Appendix E.a).

Due to low responses, a £20 cash prize incentive was introduced, and online methods were used again (Appendix E.b)

Procedure

The recruitment poster included a link and QR code, which directs participants to the online questionnaires via Qualtrics. The link initially directed participants to the 'Participant Information Sheet' (appendix F), with an option to download a copy of the sheet to their electronic device. Following this, participants were required to answer screening questions (appendix G) to assess eligibility and tick a box for informed consent (appendix H). Participants

were then asked to create a unique code which they could use to withdraw their data if they wished to post-participation. The questionnaires were then displayed for participants, followed by demographic questions at the end. Participants also had access to a debrief sheet, which included support services specific to new parents, fathers, or men (appendix I).

Where groups/nurseries were attended in person, a paper-copy of the questionnaire was printed and given to participants with a sealed envelope. The groups were visited again at closure to collect responses and input them into Qualtrics.

Measures

Demographic information

A demographic questionnaire was designed to collect information on ethnicity, education level, current employment status, geographical location, income, age, age of child, whether the father was residing with the mother/child and if the father was in a relationship with the mother. The above variables were collated to detect trends in responses.

The Fatherhood Scale (appendix J)

This is a 64-item questionnaire retrospectively measuring adult sons' relationships with their father whilst growing up (Dick, 2004). Five items were removed as they were specific to religion mentioning ‘saying grace, talking about God and going to Church’, as this is not applicable to all participants therefore 59 of the 64 items were used in the current study. Items were rated on a likert scale of 1 (never) to 5 (always), with negative items being scored reversely. Examples of items include ‘During my childhood I felt close to my father’ and ‘my father taught me right from wrong’. Scores range between 59 – 295, with a higher score indicating higher satisfaction with the relationship with their father and a low score indicating a perceived poor relationship with the father or father absence.

The items were split into nine subscales measuring positive engagement, positive emotional responsiveness, negative paternal engagement, moral father, gender-role model, good provider role, androgynous role, responsible paternal engagement, and the accessible father, all of which had high internal consistency (α =0.80-0.96) and reliability of 0.98. Due to the removal of some

items for the current study, the internal reliability was measured again using Cronbach's alpha and was found to be highly reliable (59 items; α = .97). For the purposes of the current study, only the total scale score was used. Dick (2004) intended the questionnaire to be used by social care workers and researchers to measure an adult child's relationship with their father. Permission was sought to use the questionnaire (appendix J.a)

Father involvement questionnaire (appendix K)

This is a 58-item questionnaire developed by Opondo et al (2016), based on items from the ALSPAC study (Fraser et al., 2013) measuring father involvement. This measure captures the role of a modern-day father, allowing various dimensions of fatherhood to be measured e.g. accessibility, engagement, responsibility, relationship with other parent, attitude towards child-care and attitude towards the role of a father.

One item was removed for the current study as the question asked about 'looking after other children' therefore, 57 items were utilised for this study. The current study specifically focuses on first-time fathers. Participants rate their level of agreement on a likert scale on statements based on direct care and associated household tasks, fathers' attitudes to parenting, relationship with child, and fathers' moods and feelings in the post-partum period for example 'I helped with housework since birth', 'How frequently do you change your child's nappy since birth per week' and 'My child has made me feel more fulfilled'. Participants scored between 57 - 241, the higher the score, the higher the level of father involvement; this was changed from the original scoring (originally low scores indicated high involvement) for ease of interpretation. Negatively worded items were reverse scored. Cronbach's alpha was calculated to measure the internal reliability and was found to be high (57 items; α = .91).

The scale was not derived from a formal questionnaire, instead, Opondo et al (2016) identified an unstructured set of items from the ALSPAC study (Fraser et al., 2013) which were deemed relevant to father involvement, then conducted a factor analysis. The questionnaire deviates from the original Lamb-Pleck conceptual framework, and suggests that modern paternal involvement extends beyond activities of direct childcare. Factor 1 measured the frequency of

fathers' involvement in domestic and childcare activities (Father engagement), Factor 2 described fathers' emotional response to the child (Positive emotional responsiveness) and Factor 3 characterised fathers' feelings of security in their role as parent and partner (Security in role as a father/partner) (appendix K.a). Permission was sought to use the questionnaire (appendix K.a).

Edinburgh Postnatal Depression Scale (appendix L)

This is a 10 item widely used questionnaire developed by Cox et al (1987) to measure symptoms of depression in the postnatal period. The EPDS was developed for healthcare professionals to screen symptoms of post-natal depression in mothers but has shown to have reasonable sensitivity and specificity at a cut off score of over 10 for screening fathers also (Edmondson et al., 2010). Examples of items include 'I have been able to laugh and see the funny side of things' and 'I have blamed myself unnecessarily when things have gone wrong'.

Each item is scored on a likert scale of 0-3, the higher score representing more severity. Items 3, 5 – 10, positively worded, are reverse scored. The total score is found by adding together the scores for each of the 10 items. Scores of 10 or above indicate depression and a need for professional support. The internal consistency for the EPDS scale is 0.83 and has good reliability. Cronbach's alpha was calculated for the current study to measure internal reliability and was found to be high (10 items; $\alpha = 0.90$).

Ethics

The study was reviewed and granted ethical approval from Staffordshire University Ethics Committee (Appendix M). Participants provided informed consent before participating in the study.

Statistical analysis

Data screening

A total of 45 data sets were screened to check for missing values, with 8 participants missing data ranging from 0.8 – 54.8%. Hair et al (2010) recommends removing cases with over 50% of missing data, therefore 3 of the participants, each with 54.8% missing data were removed. Upon further inspection through manual checks, it was found that the two participants with 7.9% missing data had not completed the dependent variable, the last questionnaire displayed, suggesting their withdrawal from participation. Therefore, their data was removed. Of the remaining 40 cases, no single case had more than 2.4% missing data. Data was further examined to identify outliers by visual inspection, resulting in the removal of one outlier in the father involvement total scale, therefore this was excluded from the analysis and results will therefore show n=39 for analyses involving father involvement total scale.
Little's test was conducted, X^2 (546, N=40) 0.000, p = 1.000, showing a non-significant result. This indicated that data was missing completely at random suggesting no systematic differences between the missing and observed values and therefore missing data and non-missing data is likely to have a similar distribution (Bhaskaran et al., 2014). In such cases, multiple imputation is a valid approach for handling missing data (Bhaskaran et al., 2014).

Multiple imputation is a gold standard for handling missing data (Madley-Dowd et al., 2019) as it improves efficiency and reduces bias. In multiple imputation, the incomplete original dataset is generated in several copies. Values randomly selected from the observed data's predictive distribution, contingent on all other factors, are used to fill in the missing values in each dataset (Papageorgiou et al., 2018). Enders (2017) suggests that imputation at the questionnaire item level, rather than the whole questionnaire level increases precision, as such this guidance was followed. A total of 20 datasets were imputed for the dataset, as research indicates this is a suitable number (Enders, 2017).

Data Analysis

Responses from Qualtrics were downloaded into IBM SPSS (version 29), where all statistical analyses were conducted. Total questionnaire scores were computed within SPSS and subscale scores were also computed for the Father Involvement questionnaire, as this is a newly developed questionnaire for father involvement. The following subscales were computed for the

Father Involvement questionnaire, (1) engagement in domestic and childcare activities 'father engagement', (2) positive emotional responsiveness to child and parenting, and (3) security in the role as a parent/partner.

SPSS analysis of imputed datasets produced results for each of the 20 datasets, which can be reported as a range and can also produce a 'pooled' result. A pooled result collates the results from the 20 imputed datasets to produce an overall result; as such, data will be reported as either a range, or pooled.

Statistical assumptions

Normality checks were conducted on variables to assess if the data significantly violated the assumptions for parametric analysis. The main outcome variable, EPND, significantly deviated from normality. The skewness of EPND was found to be between -0.39 (imputation 4) and -0.42 (imputation 14), indicating that the distribution was left-skewed. The kurtosis of EPND was found to be between -0.127 and -1.19, indicating that the distribution was more heavy-tailed compared to the normal distribution. As the EPND was not normally distributed, a number of transformations were attempted, including logarithmic and square root transformations, however, these did not correct issues. As such, the data was interpreted in its skewed form and non-parametric tests are included for comparison.

Results

Descriptive statistics

Descriptive statistics for the variables (Table 2) are displayed based on both the original dataset and pooled datasets. The original dataset shows the results for each variable after casewise deletion of participants with missing data. The pooled analysis result is a combination of the 20 imputed datasets and have been displayed for comparison. A total of 62.5% of the participants in the current study scored in the clinical threshold for PPND (scores of >10 in EPND measure).

Table 2

Descriptive statistics for study variables based on original and pooled dataset.

Variable	Original dataset			Pooled dataset		
	N	Mean (SD)	Range	N	Mean	Total possible range of scores
Edinburgh Postnatal Depression measure						
EPND	39	12.46 (7.37)	5.09 – 19.83	40	12.33	0-30 with >10 indicating depression
Father Involvement measure						
Father Involvement (Total Score)	37	164.14 (17.42)	146.72 – 181.56	39	162.52	57-241 Higher scores indicating more involved father
Father engagement subscale (1)	40	50.63 (12.75)	37.88 – 63.38	40	50.63	12-59 Higher scores indicating higher engagement
Positive emotional responsiveness subscale (2)	38	70.08 (10.40)	59.68 – 80.48	40	69.41	21-95 Higher scores indicating higher positive emotional responsiveness
Security in role as a father/partner subscale (3)	40	32.07 (5.63)	26.44 – 37.7	40	32.07	12-48 Higher scores indicating higher security in role as a father/partner
The Fatherhood Scale measure						

The Fatherhood Scale (Relationship with own father)	39	169.41 (49.93)	119.48 – 219.34	40	170.30	59 – 295 Higher scores indicating positive relationship

Note. This table displays descriptive statistics for the original dataset and pooled dataset for all variables

Correlations

Pearson r correlations were conducted on the multiple imputed data set for EPND (Edinburgh postnatal depression scale), Father involvement total scale and subscale scores: father engagement (1), positive emotional responsiveness (2), and father's security in their role as a father/partner (3), and The Fatherhood Scale (relationship with own father- RF).

There was no significant correlation between Father Involvement Total Score and EPND ($r = 1.63$, $p = 1.62$). When looking at subscales of Father Involvement, a significant correlation was found between the father engagement subscale and EPND ($r = 0.306$, $p = 0.03$) and a significant correlation was also found between the positive emotional responsiveness subscale and EPND ($r =.321$, $p = 0.02$). Both results suggested that those with higher scores on EPND also had higher scores on engagement and positive emotional responsiveness in the Pearson test. The security in role as a father/partner subscale was not significantly correlated with EPND ($r = -0.143$, $p = 0.19$). There was no significant correlation between The Fatherhood Scale and EPND ($r = -0.118$, $p = 0.23$). When the same analysis was run using non-parametric Spearman's rho correlation, there were no significant correlations between any of the above variables and EPND.

In support of hypothesis 1, there was a moderate and positive correlation between the Father Involvement scale and The Fatherhood Scale ($r= 0.261$, $p = 0.05$), meaning individuals with higher levels of father involvement also reported higher levels of a good perceived relationship with their own father. There was also a significant correlation between the father engagement subscale and The Fatherhood Scale ($r=0.352$, $p = 0.01$) suggesting that those who

scored higher in the engagement subscale were also likely to score higher in the Fatherhood Scale measuring participant's relationships with their own father. A significant correlation between Father Involvement and the Fatherhood Scale was also evident from the Spearman's test.

Table 3 shows pearson's correlation from the 20 imputed dataset (pooled result). For comparison, non-parametric, Spearman's rho correlation is displayed in Table 4.

Table 3

Pearson correlations for pooled results from 20 imputed datasets between EPND, Father Involvement (Total Score), father engagement subscale, positive emotional responsiveness subscale, security in role as father/partner subscale and The Fatherhood Scale (3)

Variable	EPND	Father involvement (Total Score)	Father engagement subscale	Positive emotional responsiveness subscale	Security in role as a father/partner subscale	The Fatherhood Scale (Relationship with own father)
EPND	-	0.163				
Father Involvement (Total Score)	0.163	-				
Father engagement subscale	.306*	0.894**	-			
Positive emotional responsiveness subscale	.321*	.899**	.819**	-		
Security in role as a father/partner subscale	-.143	0.210	0.078	.275*	-	
The Fatherhood Scale (relationship with own father)	-.118	.261*	.352*	.247	.035	-

P= 0.05 (1-tailed)
**= p<0.01
*= p<0.05

Table 4

Spearman's rho correlations for pooled dataset between EPND, father involvement total score, father engagement subscale, positive emotional responsiveness subscale, security in role as father/partner subscale and The Fatherhood Scale

Variables	EPND	Father involvement total score	Father engagement subscale	Positive emotional responsiveness subscale	Security in role as a father/partner subscale	The Fatherhood Scale (Relationship with own father)
EPND	-					
Father Involvement	0.121	-				
Father engagement subscale	0.209	.865**	-			
Positive emotional responsiveness subscale	0.250	.866**	.744**	-		
Security in role as a father/partner	-0.242	0.210	0.013	0.133	-	

The Fatherhood Scale (relationship with own father)	-0.090	0.240	.341*	0.211	-0.014	-

P= 0.05 (1-tailed)

**= p<0.01

*= p<0.05

Multiple regression

To test the second hypothesis, that Father Involvement and intergenerational fathers relationships would predict post-natal depression, a multiple regression was conducted with EPND as the criterion variable and father engagement subscale, positive emotional responsiveness subscale and The Fatherhood Scale as predictor variables. All variables were entered into the model at the same time. The model was significant for the original dataset ($F(3,32) = 3.37$, $p = 0.03$) but not for any of the 20 imputed datasets ($F(3,36) = 2.20$-2.54, $p = 0.07$-0.11), explaining 39.4-41.8% of variance, 8.7-10.6% adjusted. A comparison is shown in Table 5 and Table 6.

The original dataset showed that participant's relationship with their own father ($B = -0.56$, $p = 0.03$) was a significant predictor of postnatal depression, however the father engagement subscale ($B = 0.202$, $p = 0.19$) and positive emotional responsiveness ($B = 0.08$, $p = 0.64$) were not.

However, in the pooled analysis (Table 5), none of the variables were significant predictors of EPND, so the second hypothesis was not met.

Table 5

Pooled regression coefficients from 20 multiple imputed datasets

Variable	B	Std. Error	P	Confidence intervals Lower Bound	Upper Bound
EPND (constant)	2.673	8.444	.75	-13.878	19.223
Father engagement subscale	.139	.159	.38	-.172	.451
Positive emotional responsiveness subscale	.128	.185	.49	-.235	.491
The Fatherhood Scale (relationship with own father)	-.037	.024	.13	-.084	.010

Table 6

Regression coefficients from original dataset

Variable	B	Std. Error	P	Confidence intervals Lower Bound	Upper Bound
EPND (constant)	5.965	8.565	.49	-11.482	23.412
Father engagement subscale	.202	.151	.19	-.105	.510
Positive emotional responsiveness subscale	.084	.178	.64	-.277	.446
The Fatherhood Scale (Relationship with own father)	-.056	.025	.030	-.106	-.006

Assumptions for multiple regression were checked. These were met for multicollinearity (VIF < 10), homoscedasticity and outliers (P-Plot, scattergram); however, assumptions were not met for independence of residuals (Durbin Watson <1) or normality (left-skewed EPND) (Field, 2007), therefore results should be interpreted with caution.

Discussion

The study aimed to investigate the relationship between father involvement, intergenerational father-son relationships and PPND in first-time fathers of 0–2-year-olds. It was hypothesized that greater perceived intergenerational father relationships will correlate with greater father involvement in parenting. This hypothesis was met, with regards to father engagement, but not with positive emotional responsiveness to the child. It was also hypothesized that higher levels of father-involvement and good perceived intergenerational father relationships, together, will predict lower levels of PPND; this hypothesis was not met. These findings will be discussed in further detail and in relation to the literature base in this field.

The father engagement subscale encapsulates direct care-giving tasks and associated activities and was correlated with participants' relationship with their own fathers. This finding extends earlier research stating fathers who felt they had a good relationship with their own father were more likely to be involved with their own children (Floyd et al., 2000; Jessee et al., 2018; Hofferth et al., 2012), by identifying a more specific aspect of involvement (engagement) as being important. However, it contrasts with other work suggesting that fathers, who did not feel close to their own fathers, compensated by creating a closer relationship with their own children (Floyd et al., 2000). The current study lends support to ideas that parenting behaviors can repeat across generations, highlighting the importance of the father's role beyond early years.

Additionally, the subscales positive emotional responsiveness (2) and security in role in being a father/partner (3) did not correlate with participant's relationship with their own father. This perhaps suggests that emotional responsiveness and the security in one's role as a father/partner are influenced by individual characteristics, rather than intergenerational

influences. This result also suggests that these are less important factors when considering intergenerational patterns in fatherhood.

With regards to hypothesis 2, father involvement and participant's relationships with their own fathers did not predict PPND, suggesting that symptoms of postnatal depression in new fathers are unlikely to be affected by their level of involvement in their child's care, or by their perceived relationship with their own father. Previous research has evidenced the father's role in child-emotional wellbeing (Diniz et al., 2021) and maternal wellbeing (Martin et al., 2022), with some findings indicating that parental involvement can be a protective factor against PND in mothers (Fancourt et al., 2017; Haslam et al., 2006; Levi et al., 2019). Results from this study suggest the same findings may not apply to fathers, with the caveat that a small sample size may have limited the ability to detect relationships. The only significant result in this study was the relationship between father engagement subscale and The Fatherhood Scale; participants who viewed their relationship with their father as positive were more likely to be involved in direct care-related tasks with their own child.

Small sample sizes in father-specific research are common due to recruitment difficulties (Gearing et al., 2008; Raouna et al., 2021; Lucas et al., 2020; Gamboa et al., 2019). Despite implementing recruitment and engagement strategies suggested by father-specific researchers (Yaremych et al., 2023), many barriers were experienced in the current study resulting in a low number of participants. Research suggests 'active recruitment' strategies for fathers, e.g. physical presence of the researcher (Bayley et al., 2009; Lechowicz et al., 2019), however this was not possible with many of the groups contacted for the current study as group facilitators/leads rejected advertising the project or suggested that they themselves would advertise the research. Potential reasons for this include the protection of father-only spaces to encourage a sense of group safety. The difficulty in recruiting participants and the resultant low statistical power of the study could also be attributed to the current study's stringent inclusion criteria, which significantly narrowed the pool of eligible participants. Furthermore, recruitment methods inadvertently targeted fathers who were likely already engaged in their father role, e.g. by attending father-specific groups or using a service specializing in father-inclusive practice. Fathers with less engagement in their role may score differently on the measure of father-involvement and PPND.

The small sample size was further impacted by participants mostly identifying as White and coming from a similar socioeconomic and educational background. Additionally, most of the fathers who participated in this study were either in a relationship with the mother of the child or living in the same house as the child. Although these factors may offer some protection against postnatal depression, a significant percentage (62.5%) of the participants in the current study would meet the threshold for clinical depression, scoring 10 or above on the EPND measure. While assumptions cannot be made about the quality of the relationships between the fathers and mothers in this study, it is important to note that relationship dissatisfaction is a known risk factor for postnatal psychological distress in fathers (Ansari et al., 2021). Further, residing fathers are usually more accessible to their children, therefore it is easier for them to form positive relationships with their children (Anderson et al., 1999). This may not be the case for non-residing or single fathers.

Overall, the findings suggest that intergenerational father-son relationships impact the engagement aspect of fatherhood, warranting further exploration. However, father involvement and intergenerational father relationships are not significant predictors of paternal postnatal depression of fathers of 0–2–year–olds.

Clinical implications

The modern-day father is expected to be involved in the care of their child and the current study suggests that this can be influenced by how the father was fathered themselves. One way in which new fathers can be further supported to positively engage with their children, is through the development of social learning theory-based father-specific parenting programs. Such programs may be enhanced by a mix of fathers across generations to promote bidirectional learning (Gamboa et al., 2019). This may positively influence the intergenerational cycle of father engagement (Jessee et al., 2018; Hofferth et al., 2012), particularly for those with poor perceived relationships with their own fathers or those who have grown up without a father-figure.

Further, family services should encourage father-inclusive practice and prioritize the emotional well-being of new-fathers.

Limitations

Firstly, this study's dataset did not meet all normality checks, as such replication of the study may yield varied results. This study had a small percentage of missing data and used recommended multiple imputation methods to manage this, however doing so changed the significance on some variables, suggesting that multiple imputation altered the findings in this sample.

Second, the current study had a small sample size and as such was underpowered. This is perhaps unsurprising given the recruitment difficulties experienced during this study, which is in line with other research with fathers. Many of the participants who were recruited to this study were recruited from social media groups or in-person father-specific groups, suggesting a bias in responses as fathers were already engaged in their father role. Further bias could be present in the results as all measures were self-reported, and fathers may want to portray a positive self-image. Previous research involving fathers has focused on a negative or deficit view (King., 2000) which may explain the complex relationship between fathers and professionals, as they are generally viewed as 'secondary' parents (Philip et al., 2019). This may have encouraged fathers to give socially desirable answers, particularly in the father-involvement measure.

Finally, this study only included biological fathers who had a child with a female, most of which were White and earning a high income. Fathers can include step-fathers, co-fathers, gay-fathers (Cabrera., 2014) and 'social fathers' (Gamboa et al., 2019), male relatives, who fulfill father-based roles such as emotional care, financial provision and role-modelling. Due to the current study being based on a specific conceptual framework of fatherhood, same-sex fathers were excluded. This is an area in which research on modern-day fatherhood could be developed in future. These various typologies of fathers come with their own unique experiences on father-involvement, intergenerational relationships and PND.

Future Research

This study has indicated that there is no relationship between father involvement, intergenerational father-son relationships and PPND. The most significant limitation to the current study is the small sample size and future research would benefit from recruiting a larger sample size. As the literature on PPND continues to grow, it is important to investigate

other potential predictors of PPND. Future research suggestions include revised research on intergenerational relationships as much of the research is in the 90s, with little being done in the last decade.

Future research suggestions also include scale development for father involvement. Additionally, as there is an updated conceptualization of fatherhood (Opondo et al., 2016), it would be worth exploring specific aspects of fatherhood that are correlated to the father's own mental wellbeing, as well as child-outcomes.

References

Allen, S., & Daly, K. J. (2007). The effects of father involvement. *An Updated Research Sum*, *603*, 1-27. Retrieved online from https://static1.squarespace.com/static/5f31005d60d8203846b53362/t/5f3ddd82d2a19e5420e487aa/1597889968240/The-Effects-of-Father-Involvement.pdf

Amato, P. R., & Gilbreth, J. G. (1999). Nonresident fathers and children's well-being: a meta-analysis. *Journal of Marriage and Family*, *61*(3), 557. https://doi.org/10.2307/353560

Anderson, K. G., Kaplan, H., & Lancaster, J. (1999). Paternal care by genetic fathers and stepfathers I: Reports from Albuquerque men. *Evolution and Human Behavior*, *20*(6), 405-431. https://doi.org/10.1016/S1090-5138(99)00023-9

Andrews, K., Ayers, S., & Williams, L. R. (2022). The experience of fathers during the covid-19 UK maternity care restrictions. *Midwifery*, *113*, 103434. https://doi.org/10.1016/j.midw.2022.103434

Ansari, N. S., Shah, J., Dennis, C. L., & Shah, P. S. (2021). Risk factors for postpartum depressive symptoms among fathers: A systematic review and meta-analysis. *Acta obstetricia et gynecologica Scandinavica*, *100*(7), 1186-1199. https://doi.org/10.1111/aogs.14109

Baker, C., Kainz, K., & Reynolds, E. (2018). Family Poverty, Family processes and Children's preschool achievement: Understanding the unique role of fathers. *Journal of Child and Family Studies*, *27*(4), 1242–1251. https://doi.org/10.1007/s10826-017-0947-6

Baldwin, S., Malone, M., Sandall, J., & Bick, D. (2018). Mental health and wellbeing during the transition to fatherhood: a systematic review of first time fathers' experiences. *JBI Database of Systematic Reviews and Implementation Reports*, *16*(11), 2118-2191. https://doi.org/10.11124/jbisrir-2017-003773

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review, 84*(2), 191–215. https://doi.org/10.1037/0033-295X.84.2.191

Banister, E., & Kerrane, B. (2022). Glimpses of change? UK fathers navigating work and care within the context of Shared Parental Leave. *Gender, Work & Organization*. DOI https://doi.org/10.1111/gwao.12813

Bayley, J., Wallace, L., & Choudhry, K. (2009). Fathers and parenting programmes: barriers and best practice. *PubMed*, *82*(4), 28–31. https://pubmed.ncbi.nlm.nih.gov/19397081

Beaton, J. M., & Doherty, W. J. (2007). Fathers' Family of Origin Relationships and Attitudes about Father Involvement from Pregnancy through First Year Postpartum. *Fathering*, *5*(3), 236–245. https://doi.org/10.3149/fth.0503.236

Bhaskaran, K., & Smeeth, L. (2014). What is the difference between missing completely at random and missing at random? *International Journal of Epidemiology*, *43*(4), 1336–1339. https://doi.org/10.1093/ije/dyu080

Bianchi, S. M., Robinson, J. P., & Milke, M. A. (2006). *The changing rhythms of American family life*. Russell Sage Foundation.

Bolzan, N., Gale, F., & Dudley, M. (2004). Time to father. *Social work in health care*, *39*(1-2), 67–88. https://doi.org/10.1300/j010v39n01_06

Bolzan, N., Gale, F., & Dudley, M. (2013). Time to father. In *Social Work Visions from Around the Globe* (pp. 67-88). Routledge.

Bowlby, J. (1982). Attachment and loss: Retrospect and prospect. *American Journal of Orthopsychiatry, 52*(4), 664–678. https://doi.org/10.1111/j.1939-0025.1982.tb01456.x

Brannen, J., & Nilsen, A. (2006). From Fatherhood to Fathering: Transmission and Change among British Fathers in Four-generation Families. *Sociology*, *40*(2), 335–352. https://doi.org/10.1177/0038038506062036

Bronte-Tinkew, J., Carrano, J., Horowitz, A., & Kinukawa, A. (2008). Involvement among resident fathers and links to infant cognitive outcomes. *Journal of Family Issues*, *29*(9), 1211–1244. https://doi.org/10.1177/0192513x08318145

Cabrera, N. J., & Tamis-Lemonda, C. S. (2014). *Handbook of father involvement: multidisciplinary perspectives*. Routledge Academic.

Candel, O. S. (2022). The Link between Parenting Behaviors and Emerging Adults' Relationship Outcomes: The Mediating Role of Relational Entitlement. *International Journal of Environmental Research and Public Health*, *19*(2), 828. https://doi.org/10.3390/ijerph19020828.

Cochran, S. V., & Rabinowitz, F. E. (1999). *Men and Depression: Clinical and Empirical Perspectives*. http://ci.nii.ac.jp/ncid/BA46651780

Collins, N. L., & Feeney, B. C. (2010). An attachment Theoretical perspective on social support dynamics in couples: normative processes and individual differences. In *Oxford University Press eBooks* (pp. 89–120). https://doi.org/10.1093/acprof:oso/9780195380170.003.0004

Cornille, T. A., Barlow, L. O., & Cleveland, A. D. (2005). DADS Family Project: An Experiential Group Approach to Support Fathers in Their Relationships with Their Children. *Social Work With Groups*, *28*(2), 41-57. https://doi.org/10.1300/j009v28n02_04

Cox, J., Holden, J. M. C., & Sagovsky, R. (1987). Detection of postnatal depression. *The British Journal of Psychiatry*, *150*(6), 782–786. https://doi.org/10.1192/bjp.150.6.782

Cox, M. J., & Paley, B. (1997). Families as systems. *Annual Review of Psychology, 48,* 243–267. https://doi.org/10.1146/annurev.psych.48.1.243

Cutrona, C. E., & Troutman, B. (1986). Social support, infant Temperament, and Parenting Self-Efficacy: A Mediational model of Postpartum Depression. *Child Development*, *57*(6), 1507. https://doi.org/10.2307/1130428

Dailey, D. M. (1980). Are social workers sexists? a replication. *Social Work*. https://doi.org/10.1093/sw/25.1.46

Daniel, D., & Taylor, S. (1999). The rhetoric versus the reality: a critical perspective on practice with fathers in child care and protection work. *Child & Family Social Work*, *4*(3), 209–220. https://doi.org/10.1046/j.1365-2206.1999.00117.x

Davey, S. J., Dziurawiec, S., & O'Brien-Malone, A. (2006). Men's Voices: Postnatal Depression From the Perspective of Male Partners. *Qualitative Health Research*, *16*(2), 206–220. https://doi.org/10.1177/1049732305281950

Demontigny, F., Girard, M. E., Lacharité, C., Dubeau, D., & Devault, A. (2013). Psychosocial factors associated with paternal postnatal depression. *Journal of affective disorders*, *150*(1), 44-49. https://doi.org/10.1016/j.jad.2013.01.048

Dick, G. L. (2004). The Fatherhood Scale. *Research on Social Work Practice, 14*(2), 80–92. https://doi.org/10.1177/1049731503257863

Dick, G. L. (2011). The changing role of fatherhood: The father as a provider of self object functions. *Psychoanalytic Social Work*, *18*(2), 107-125. doi.org/10.1080/15228878.2011.611786

Diniz, E., Brandao, T., Monteiro, L., & Verissimo, M. (2021). Father involvement during early childhood: A systematic review of the literature. *Journal of Family Theory & Review*, *13*(1), 77-99. https://doi.org/10.1111/jftr.12410

Doinita, N. E., & Maria, N. D. (2015). Attachment and parenting styles. *Procedia-Social and Behavioral Sciences*, *203*, 199-204. doi.org/10.1016/j.sbspro.2015.08.282

Downer, J., Campos, R., McWayne, C., & Gartner, T. (2008). Father involvement and children's early learning: A critical review of published empirical work from the past 15 years. *Marriage & Family Review, 43*(1-2), 67–108. https://doi.org/10.1080/01494920802010264

Doyle, C., & Cicchetti, D. (2017). From the Cradle to the Grave: The Effect of Adverse Caregiving Environments on Attachment and Relationships Throughout the Lifespan. *Clinical psychology: a publication of the Division of Clinical Psychology of the American Psychological Association*, *24*(2), 203–217. https://doi.org/10.1111/cpsp.12192

Edmondson, O. J., Psychogiou, L., Vlachos, H., Netsi, E., & Ramchandani, P. G. (2010). Depression in fathers in the postnatal period: assessment of the Edinburgh Postnatal Depression Scale as a screening measure. *Journal of affective disorders*, *125*(1-3), 365-368. https://doi.org/10.1016/j.jad.2010.01.069

Enders C. K. (2017). Multiple imputation as a flexible tool for missing data handling in clinical research. *Behaviour research and therapy*, *98*, 4–18. https://doi.org/10.1016/j.brat.2016.11.008

Fancourt, D., & Perkins, R. (2017). Associations between singing to babies and symptoms of postnatal depression, wellbeing, self-esteem and mother-infant bond. *Public health*, *145*, 149-152. https://doi.org/10.1016/j.puhe.2017.01.016.

Faul, F., Erdfelder, E., Lang, A. G., & Buchner, A. (2007). G*Power 3: a flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior research methods*, *39*(2), 175–191. https://doi.org/10.3758/bf03193146

Fisher, S. (2016). Paternal Mental Health: Why Is It Relevant?. *American Journal of Lifestyle Medicine*, *11*(3), 200-211. https://doi.org/10.1177/1559827616629895

Floyd, K., & Morman, M. T. (2000). Affection received from fathers as a predictor of men's affection with their own sons: Tests of the modeling and compensation hypotheses. *Communication Monographs, 67*(4), 347–361. https://doi.org/10.1080/03637750009376516

Fraser, A., Macdonald-Wallis, C., Tilling, K., Boyd, A., Golding, J., Davey Smith, G., Henderson, J., Macleod, J., Molloy, L., Ness, A., Ring, S., Nelson, S. M., & Lawlor, D. A. (2013). Cohort Profile: the Avon Longitudinal Study of Parents and Children: ALSPAC mothers cohort. *International Journal of Epidemiology*, *42*(1), 97–110. https://doi.org/10.1093/ije/dys066

Gamboa, C. J., & Julion, W. (2019). Group-based transmission of fatherhood among intergenerational African American fathers: A case study. *Journal of Child and Adolescent Psychiatric Nursing*, *32*(2), 73–79. https://doi.org/10.1111/jcap.12227

Gearing, R. E., Colvin, G., Popova, S., & Regehr, C. (2008). Re:Membering Fatherhood: Evaluating the Impact of a Group Intervention on Fathering∗. *The Journal for Specialists in Group Work*, *33*(1), 22–42. https://doi.org/10.1080/01933920701798539

Golding, J., Me, P., & Jones, R. (2001). ALSPAC–The AvOn Longitudinal Study of Parents and Children. *Paediatric and Perinatal Epidemiology*, *15*(1), 74–87. https://doi.org/10.1046/j.1365-3016.2001.00325.x

Goodman, J. (2004). Paternal postpartum depression, its relationship to maternal postpartum depression, and implications for family health. *Journal of Advanced Nursing*, *45*(1), 26-35. https://doi.org/10.1046/j.1365-2648.2003.02857.x

Goodman, J. H. (2008). Influences of maternal postpartum depression on fathers and on father-infant interaction. *Infant Mental Health Journal, 29*(6), 624–643. https://doi.org/10.1002/imhj.20199

Hair, J.F., Black, W.C., Babin, B.J., & Anderson, R.E. (2010). *Multivariate Data Analysis* (7th Ed.). Pearson.

Hambidge, S., Cowell, A., Arden-Close, E., & Mayers, A. (2021). "What kind of man gets depressed after having a baby?" Fathers' experiences of mental health during the perinatal period. *BMC Pregnancy and Childbirth*, *21*, 1-10. https://doi.org/10.1186/s12884-021-03947-7

Harvey, I., & McGrath, G. (1988). Psychiatric morbidity in spouses of women admitted to a mother and baby unit. *The British Journal of Psychiatry*, *152*(4), 506–510. https://doi.org/10.1192/bjp.152.4.506

Haslam, D. M., Pakenham, K. I., & Smith, A. (2006). Social support and postpartum depressive symptomatology: The mediating role of maternal self-efficacy. *Infant mental health journal*, *27*(3), 276-291. https://doi.org/10.1002/imhj.20092

Henry, J. B., Julion, W. A., Bounds, D. T., & Sumo, J. (2020). Fatherhood Matters: An Integrative Review of Fatherhood Intervention Research. *Journal of School Nursing*, *36*(1), 19–32. https://doi.org/10.1177/1059840519873380

Henshaw, P. (2014). The latest findings from the Millenium Cohort Study. *British Journal of School Nursing*, *9*(10), 498–500. https://doi.org/10.12968/bjsn.2014.9.10.498

Hofferth, S. L., Pleck, J. H., & Vesely, C. K. (2012). The Transmission of Parenting from Fathers to Sons. *Parenting, science and practice*, *12*(4), 282–305. https://doi.org/10.1080/15295192.2012.709153

Holopainen, D. (2002). The experience of seeking help for postnatal depression. *PubMed*, *19*(3), 39–44. https://pubmed.ncbi.nlm.nih.gov/12002628

Howard, K. S. (2010). Paternal attachment, parenting beliefs and children's attachment. *Early Child Development and Care*, *180*(1–2), 157–171. https://doi.org/10.1080/03004430903415031

Iwamoto, D. K., Brady, J., Kaya, A., & Park, A. (2018). Masculinity and Depression: A Longitudinal Investigation of Multidimensional Masculine Norms Among College Men. *American journal of men's health*, *12*(6), 1873–1881. https://doi.org/10.1177/1557988318785549

Jessee, V., & Adamsons, K. (2018). Father Involvement and Father–Child Relationship Quality: An Intergenerational Perspective. *Parenting*, *18*(1), 28-44. https://doi.org/10.1080/15295192.2018.1405700

Kane, P. B., & Garber, J. (2004). The relations among depression in fathers, children's psychopathology, and father–child conflict: A meta-analysis. *Clinical Psychology Review*, *24*(3), 339–360. https://doi.org/10.1016/j.cpr.2004.03.004

Kim, P., & Swain, J. E. (2007). Sad dads: paternal postpartum depression. *PubMed*. https://pubmed.ncbi.nlm.nih.gov/20805898

King, A. (2000). Working with fathers: The non-deficit perspective. *Children Australia*, *25*(3), 23–27. doi:10.1017/S1035077200009779

Kohut, H. (1977). *The restoration of the self.* University of Chicago Press.

Lamb, M. E. (2000). The history of research on father involvement: An overview. *Marriage & Family Review, 29*(2-3), 23–42. https://doi.org/10.1300/J002v29n02_03

Lamb, M.E., Pleck, J.H., Levine, J.A. (1985). The Role of the Father in Child Development. In: Lahey, B.B., Kazdin, A.E. (eds) *Advances in Clinical Child Psychology*. Springer.

Lazar, A., Sagi, A., & Fraser, M. W. (1991). Involving fathers in social services. *Children and Youth Services Review*, *13*(4), 287–300. https://doi.org/10.1016/0190-7409(91)90065-p

Lechowicz, M. E., Jiang, Y., Tully, L. A., Burn, M. T., Collins, D. A., Hawes, D. J., ... & Dadds, M. R. (2019). Enhancing father engagement in parenting programs: Translating research into practice recommendations. *Australian Psychologist*, *54*(2), 83-89. https://doi.org/10.1111/ap.12361

Letourneau, N., Duffett-Leger, L., Dennis, C. L., Stewart, M., & Tryphonopoulos, P. D. (2011). Identifying the support needs of fathers affected by post-partum depression: a pilot study. *Journal of psychiatric and mental health nursing*, *18*(1), 41–47. https://doi.org/10.1111/j.1365-2850.2010.01627.x

Levi, D., Ibrahim, R., Malcolm, R., & MacBeth, A. (2019). Mellow Babies and Mellow Toddlers: Effects on maternal mental health of a group-based parenting intervention for at-risk families with young children. *Journal of affective disorders*, *246*, 820-827. https://doi.org/10.1016/j.jad.2018.12.120

Linn, J. G., Wilson, D. R., & Fako, T. T. (2015). Historical Role of the Father: Implications for Childbirth Education. *International Journal of Childbirth Education*, *30*(1), 12–18. Retrieved online from https://search.ebscohost.com/login.aspx?direct=true&db=rzh&AN=103293432&site=eds-live.

Lucas, S. E., Mirza, N., & Westwood, J. L. (2020). 'Any d*** can make a baby, but it takes a real man to be a dad': Group work for fathers. *Qualitative Social Work*, *20*(3), 718–737. https://doi.org/10.1177/1473325020909431

Lynch, J., & Kilmartin, C. (1999). The pain behind the mask: overcoming masculine depression. *Choice Reviews Online*, *37*(03), 37–1846. https://doi.org/10.5860/choice.37-1846

Machin, A. (2018). *The life of dad: the making of a modern father*. Simon and Schuster.

Madley-Dowd, Hughes, R., Tilling, K., & Heron, J. (2019). The proportion of missing data should not be used to guide decisions on multiple imputation. *Journal of Clinical Epidemiology, 110*, 63–73. https://doi.org/10.1016/j.jclinepi.2019.02.016

Marcus, S. M., Young, E. A., Kerber, K., Kornstein, S. G., Farabaugh, A., Mitchell, J., Wisniewski, S. R., Balasubramani, G., Trivedi, M. H., & Rush, A. J. (2005). Gender differences in depression: Findings from the STAR*D study. *Journal of Affective Disorders*, *87*(2–3), 141–150. https://doi.org/10.1016/j.jad.2004.09.008

Martin, A. F., Maughan, B., Jaquiery, M., & Barker, E. D. (2022). The protective role of father behaviour in the relationship between maternal postnatal depression and child mental health. *JCPP advances*, *2*(2), https://doi.org/10.1002/jcv2.12075

Martin, L. A., Neighbors, H. W., & Griffith, D. M. (2013). The Experience of Symptoms of Depression in Men vs Women. *JAMA Psychiatry*, *70*(10), 1100–1106. https://doi.org/10.1001/jamapsychiatry.2013.1985

Matthey, S., Barnett, B., Ungerer, J. A., & Waters, B. (2000). Paternal and maternal depressed mood during the transition to parenthood. *Journal of Affective Disorders*, *60*(2), 75–85. https://doi.org/10.1016/s0165-0327(99)00159-7

Melrose, S. (2010). Paternal postpartum depression: How can nurses begin to help? *Contemporary Nurse*, *34*(2), 199–210. https://doi.org/10.5172/conu.2010.34.2.199

Meighan, M., Davis, M. W., Thomas, S. P., & Droppleman, P. G. (1999). Living with postpartum depression: the father's experience. *MCN. The American journal of maternal child nursing*, *24*(4), 202–208. https://doi.org/10.1097/00005721-199907000-00009

Monna, B., & Gauthier, A. (2008). A Review of the Literature on the Social and Economic Determinants of Parental Time. *Journal Of Family and Economic Issues*, *29*(4), 634-653. https://doi.org/10.1007/s10834-008-9121-z

NHS (2021). Maternity and Paternity benefits and pay. Retrieved from https://www.nhs.uk/pregnancy/finding-out/maternity-and-paternity-benefits-and-leave/ on 25th January 2024

Norman, H., Fagan, C., & Elliot, M. (2017, Mar 22). How can policy support fathers to be more involved in childcare? Evidence from cross-country policy comparisons and UK longitudinal household data. Women and Equalities Committee. Retrieved online from https://research.manchester.ac.uk/en/publications/how-can-policy-support-fathers-to-be-more-involved-in-childcare-e

Opondo, C., Redshaw, M., Savage-McGlynn, E., & Quigley, M. (2016). Father involvement in early child-rearing and behavioural outcomes in their pre-adolescent children: evidence from the ALSPAC UK birth cohort. *BMJ Open*, *6*(11), e012034. https://doi.org/10.1136/bmjopen-2016-012034

Papageorgiou, G., Grant, S. W., Takkenberg, J. J., & Mokhles, M. M. (2018). Statistical primer: how to deal with missing data in scientific research?. *Interactive cardiovascular and thoracic surgery*, *27*(2), 153-158. https://doi.org/10.1093/icvts/ivy102

Parke, R. D. (2000). Father involvement. Marriage & Family Review, 29, 43–58. https://doi.org/10.1300/ J002v29n02_04

Paulson, J. F., & Bazemore, S. D. (2010). Prenatal and postpartum depression in fathers and its association with maternal depression. *JAMA*, *303*(19), 1961. https://doi.org/10.1001/jama.2010.605

Paulson, J. F., Dauber, S., & Leiferman, J. A. (2006). Individual and combined effects of postpartum depression in mothers and fathers on parenting behavior. *Pediatrics*, *118*(2), 659–668. https://doi.org/10.1542/peds.2005-2948

Paulson, J. F., Keefe, H. A., & Leiferman, J. A. (2009). Early parental depression and child language development. *Journal of Child Psychology and Psychiatry*, *50*(3), 254–262. https://doi.org/10.1111/j.1469-7610.2008.01973.x

Perez-Brena, N. J., Wheeler, L. A., Updegraff, K. A., & Schaefer, D. R. (2015). Mexican-American Adolescents' Gender-Typed Characteristics: The Role of Sibling and Friend Characteristics. *Archives of sexual behavior*, *44*(5), 1255–1268. https://doi.org/10.1007/s10508-014-0447-3

Philip, G., Clifton, J., & Brandon, M. (2019). The Trouble With Fathers: The Impact of Time and Gendered-Thinking on Working Relationships Between Fathers and Social Workers in Child Protection Practice in England. *Journal of Family Issues*, *40*(16), 2288-2309. https://doi.org/10.1177/0192513X18792682

Pinheiro, R. T., Da Silva Magalhães, P. V., Horta, B. L., Pinheiro, K. a. T., Da Silva, R. A., & Pinto, R. H. (2005). Is paternal postpartum depression associated with maternal postpartum depression? Population-based study in Brazil. *Acta Psychiatrica Scandinavica*, *113*(3), 230–232. https://doi.org/10.1111/j.1600-0447.2005.00708.x

Pleck, E.H., & Pleck, J.H. (1997). Fatherhood ideals in the United States: Historical dimensions. In M.E. Lamb (Ed.), *The role of the father in child development* (pp. 33-48). John Wiley & Sons, Inc.

Pleck, J. H. (2010). Fatherhood and masculinity. In M.E. Lamb (Ed.), *The role of the father in child development* (pp. 27-57). John Wiley & Sons, Inc.

Ramchandani, P., Stein, A., Evans, J., & O'Connor, T. G. (2005). Paternal depression in the postnatal period and child development: a prospective population study. *The Lancet*, *365*(9478), 2201–2205. https://doi.org/10.1016/s0140-6736(05)66778-5

Ramchandani, P., Stein, A., O'Connor, T. G., Heron, J., Murray, L., & Evans, J. (2008). Depression in men in the Postnatal period and Later Child Psychopathology: A Population Cohort study. *Journal of the American Academy of Child and Adolescent Psychiatry*, *47*(4), 390–398. https://doi.org/10.1097/chi.0b013e31816429c2

Raouna, A., Malcolm, R., Ibrahim, R., & MacBeth, A. (2021). Promoting sensitive parenting in 'at-risk' mothers and fathers: A UK outcome study of Mellow Babies, a group-based early intervention program for parents and their babies. *PLOS ONE*, *16*(2), e0245226. https://doi.org/10.1371/journal.pone.0245226

Rholes, W. S., Simpson, J. A., & Friedman, M. (2006). Avoidant attachment and the experience of parenting. *Personality and Social Psychology Bulletin*, *32*(3), 275–285. https://doi.org/10.1177/0146167205280910

Rosenberg, J., Wilcox, W. B., & United States. (2006). *The importance of fathers in the healthy development of children*. Washington, D.C.: U.S. Dept. Health and Human Services, Administration for Children and Families, Administration on Children, Youth and Families, Children's Bureau, Office of Child Abuse and Neglect.

Salokangas, R., Vaahtera, K., Pacriev, S., Sohlman, B., & Lehtinen, V. (2002). Gender differences in depressive symptoms: An artifact caused by measurement instruments? *Journal of Affective Disorders*, 68(2-3), 215-220. https://doi.org/10.1016/S0165-0327(00)00315-3

Scarff J. R. (2019). Postpartum Depression in Men. *Innovations in clinical neuroscience*, *16*(5-6), 11-14. Retrieved online from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6659987/pdf/icns_16_5-6_11.pdf

Sethna, V., Murray, L., Netsi, E., Psychogiou, L., & Ramchandani, P. G. (2015). Paternal depression in the postnatal period and early father–infant interactions. *Parenting*, *15*(1), 1-8. https://doi.org/10.1080/15295192.2015.992732

Spector, A. Z. (2006). Fatherhood and depression: A review of risks, effects, and clinical application. *Issues in Mental Health Nursing*, 27(8), 867-883. https://doi.org/10.1080/01612840600840844

Spencer, O. (2014). *Sad Dad: An exploration of postnatal depression in fathers*. Free Publishing Limited.

Steen, M., Downe, S., Bamford, N., & Edozien, L. (2012). Not-patient and not-visitor: a metasynthesis fathers' encounters with pregnancy, birth and maternity care. *Midwifery*, *28*(4), 362–371. https://doi.org/10.1016/j.midw.2011.06.009

Su, L., Kubricht, B. C., & Miller, R. B. (2017). The influence of father involvement in adolescents' overall development in Taiwan. *Journal of Adolescence*, *59*(1), 35–44. https://doi.org/10.1016/j.adolescence.2017.05.010

The Centre for Social Justice (2020). *Family Structure Still Matters.* Retrieved from https://www.centreforsocialjustice.org.uk/wp-content/uploads/2020/10/CSJJ8372-Family-structure-Report-200807.pdf

Van Wel, F., Linssen, H., & Abma, R. (2000). The parental bond and the wellbeing of adolescents and young adults. Journal of Youth and Adolescence, 29(3), 307-318. https://doi.org/10.1023/A:1005195624757

Veneziano, R. A., & Rohner, R. P. (1998). Perceived paternal acceptance, paternal involvement, and youths' psychological adjustment in a rural, biracial southern community. *Journal of Marriage and Family*, *60*(2), 335. https://doi.org/10.2307/353852

Wexler, D. (2005). Is He Depressed or What?: What to Do When the Man You Love Is Irritable, Moody, and Withdrawn. New Harbinger.

Winkler, D., Pjrek, E., & Kasper, S. (2005). Anger attacks in depression – evidence for a male depressive syndrome. *Psychotherapy and Psychosomatics*, *74*(5), 303–307. https://doi.org/10.1159/000086321

Wolins, M. (1983). The gender in social welfare: Who cares for children? In L.E lamb & Sagi (Eds), Fatherhood and Family Policy. Pp(113-119). Hillsade, NJ: Lawrence Erlbaum Associates.

Wynter, K., Francis, L. M., Fletcher, R., McBride, N., Dowse, E., Wilson, N., Di Manno, L., Teague, S., & Macdonald, J. A. (2020). Sleep, mental health and wellbeing among fathers of infants up to one year postpartum: A scoping review. *Midwifery*, *88*, 102738. https://doi.org/10.1016/j.midw.2020.102738

Yaremych, H. E., & Persky, S. (2023). Recruiting Fathers for Parenting Research: An Evaluation of Eight Recruitment Methods and an Exploration of Fathers' Motivations for Participation. *Parenting, science and practice*, *23*(1), 1–32. https://doi.org/10.1080/15295192.2022.2036940

Yeung, W. J., Sandberg, J. F., Davis-Kean, P. E., & Hofferth, S. L. (2001). Children's Time With Fathers in Intact Families. *Journal of Marriage and Family*, *63*(1), 136–154. https://doi.org/10.1111/j.1741-3737.2001.00136.x

Appendices

Appendix A: Journal Author Guidelines

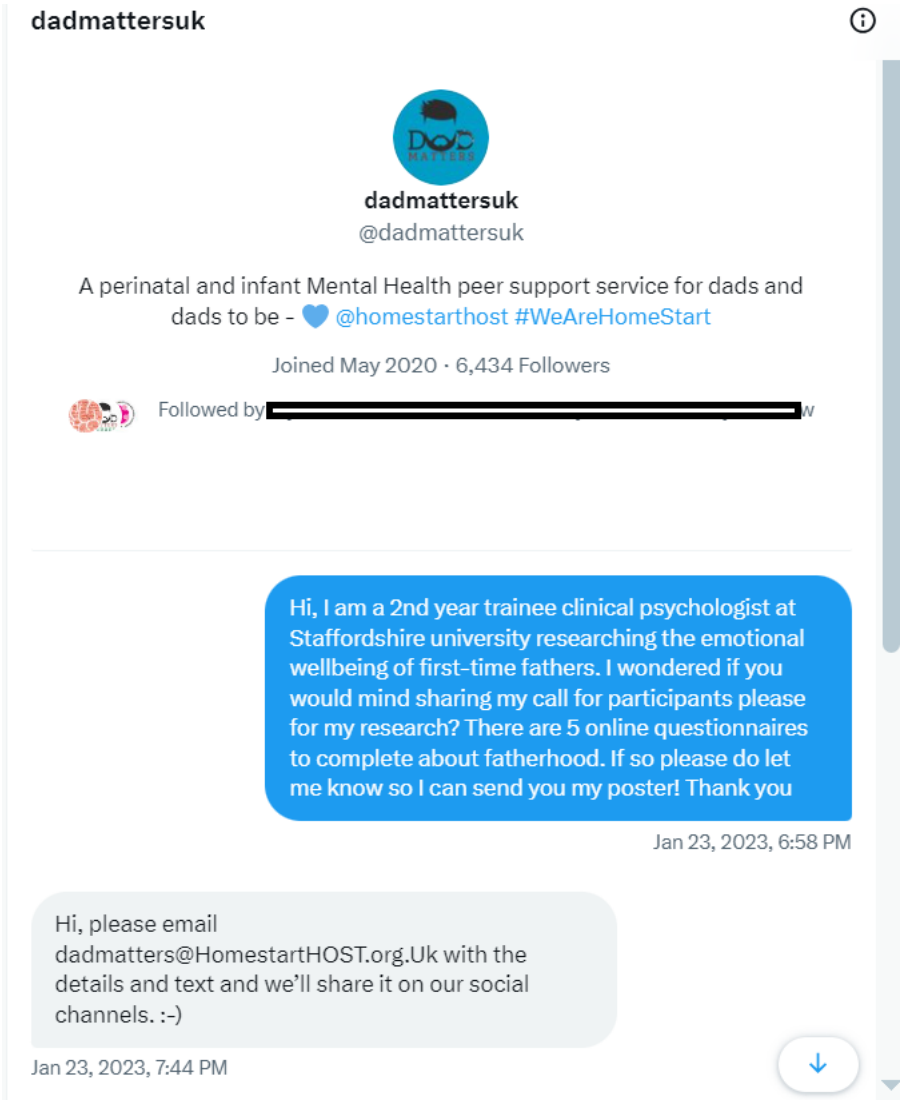
Guidelines for author's publishing for New Male Studies Journal are available at:

https://www.newmalestudies.com/OJS/index.php/nms/information/authors

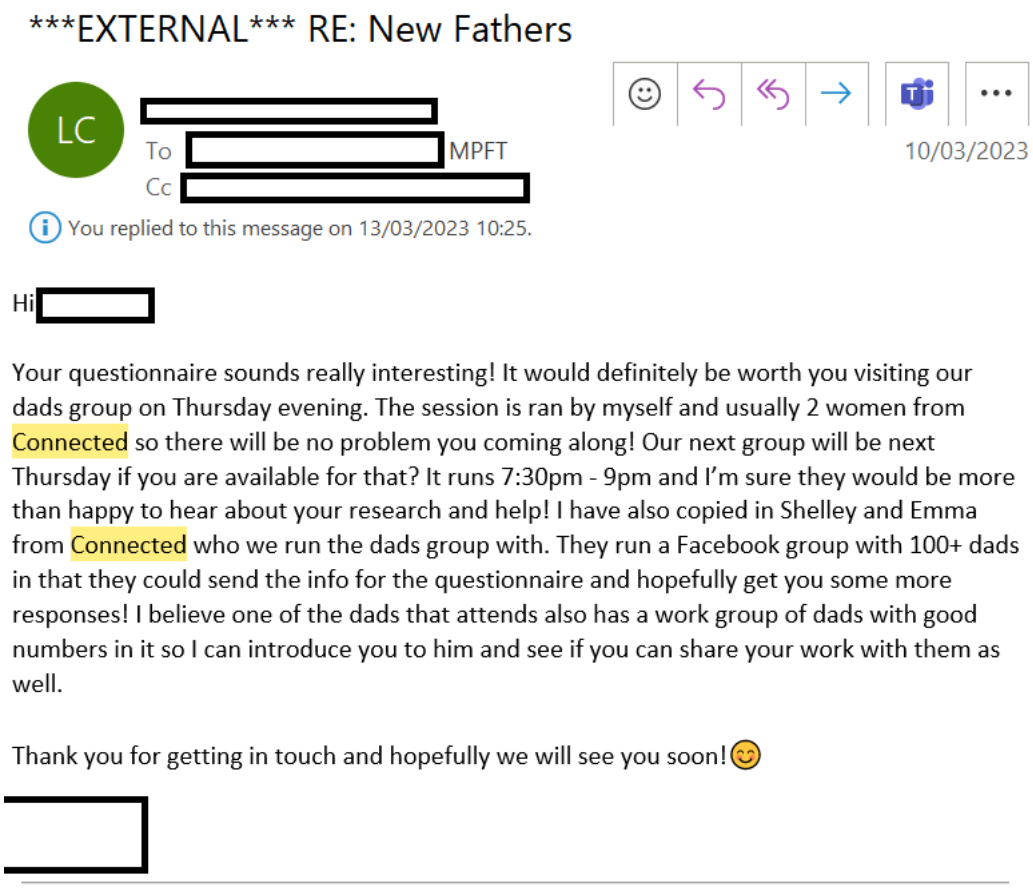
The word count for New Male studies is 7,500 to 8,500 words. The current paper meets the threshold for word limit.

Appendix B: Recruitment poster

Appendix C: Example of online recruitment message to dad group on social media



Appendix D: Example of in-person dad group recruitment message



EXTERNAL RE: New Fathers

LC [redacted]

To [redacted] MPFT 10/03/2023

Cc [redacted]

You replied to this message on 13/03/2023 10:25.

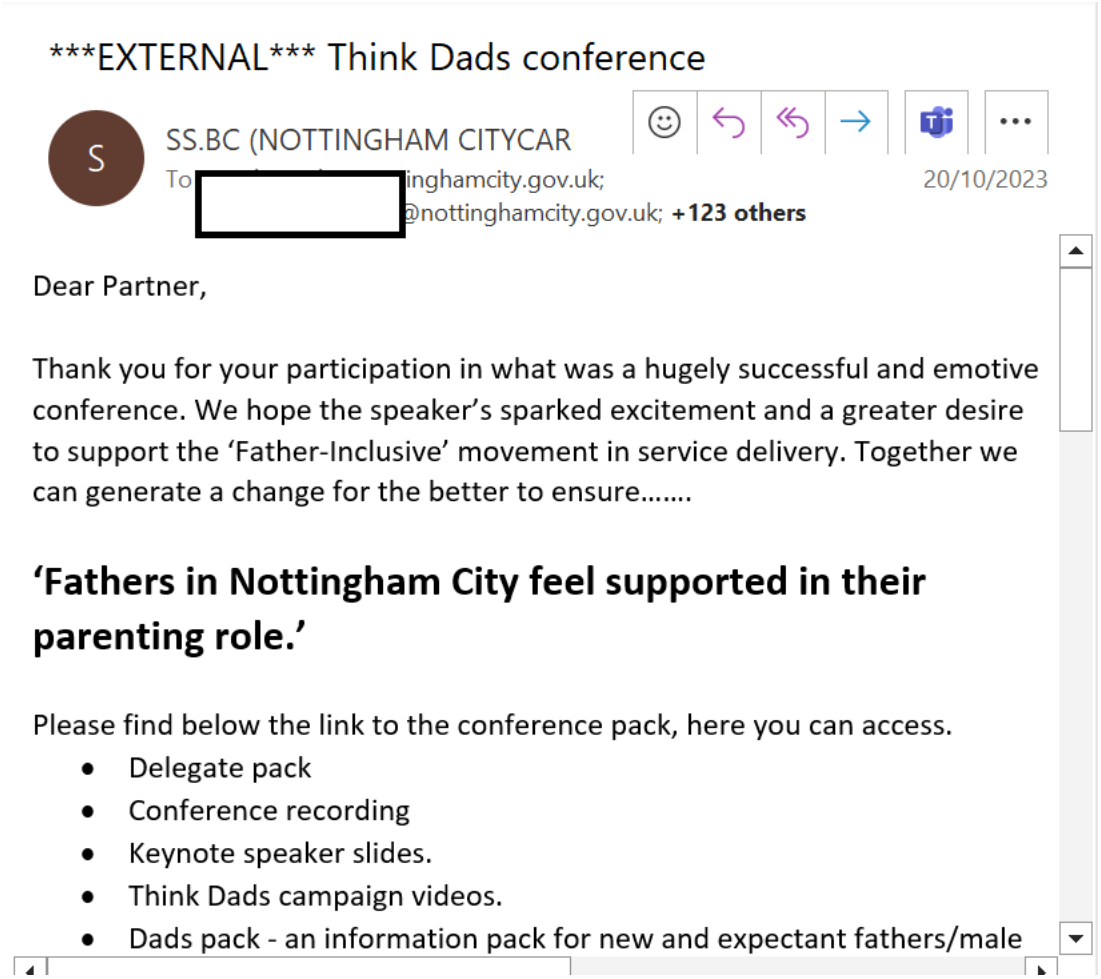
Hi [redacted]

Your questionnaire sounds really interesting! It would definitely be worth you visiting our dads group on Thursday evening. The session is ran by myself and usually 2 women from Connected so there will be no problem you coming along! Our next group will be next Thursday if you are available for that? It runs 7:30pm - 9pm and I'm sure they would be more than happy to hear about your research and help! I have also copied in Shelley and Emma from Connected who we run the dads group with. They run a Facebook group with 100+ dads in that they could send the info for the questionnaire and hopefully get you some more responses! I believe one of the dads that attends also has a work group of dads with good numbers in it so I can introduce you to him and see if you can share your work with them as well.

Thank you for getting in touch and hopefully we will see you soon!😊

[redacted]

Appendix E: Example of professional networking for recruitment



EXTERNAL Think Dads conference

S

SS.BC (NOTTINGHAM CITYCAR

To [redacted]inghamcity.gov.uk; 20/10/2023

[redacted]@nottinghamcity.gov.uk; **+123 others**

Dear Partner,

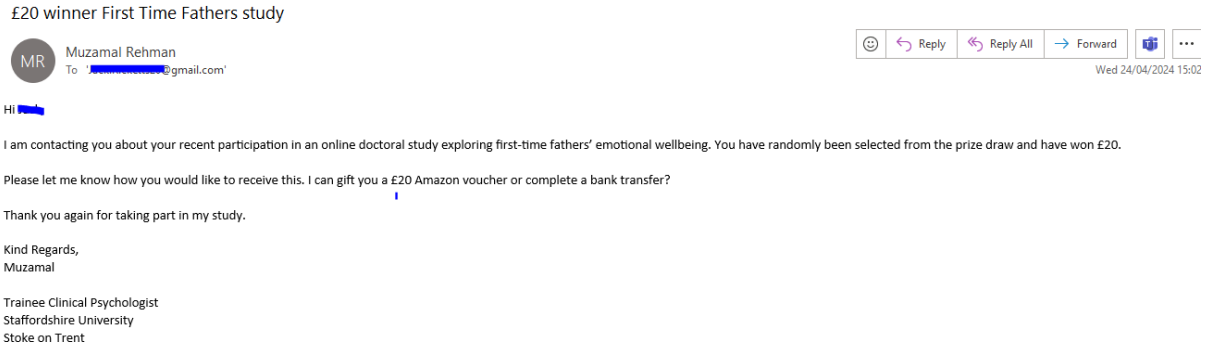
Thank you for your participation in what was a hugely successful and emotive conference. We hope the speaker's sparked excitement and a greater desire to support the 'Father-Inclusive' movement in service delivery. Together we can generate a change for the better to ensure…….

'Fathers in Nottingham City feel supported in their parenting role.'

Please find below the link to the conference pack, here you can access.

- Delegate pack
- Conference recording
- Keynote speaker slides.
- Think Dads campaign videos.
- Dads pack - an information pack for new and expectant fathers/male

Appendix E.b: Prize draw of £20 (x1)



£20 winner First Time Fathers study

MR Muzamal Rehman
To [redacted]@gmail.com'

Reply | Reply All | Forward
Wed 24/04/2024 15:02

Hi [redacted]

I am contacting you about your recent participation in an online doctoral study exploring first-time fathers' emotional wellbeing. You have randomly been selected from the prize draw and have won £20.

Please let me know how you would like to receive this. I can gift you a £20 Amazon voucher or complete a bank transfer?

Thank you again for taking part in my study.

Kind Regards,
Muzamal

Trainee Clinical Psychologist
Staffordshire University
Stoke on Trent

Appendix F: Participant Information Sheet

Participant Information Sheet

Ethics Reference Number: SU_22_028

Title of study

First-time Fathers' Emotional Wellbeing: Do father involvement and intergenerational father relationships affect depressive symptoms

Invitation Paragraph

I would like to invite you to participate in this research project which forms part of my Doctoral research for Clinical Psychology. Before you decide whether you want to take part, it is important for you to understand why the research is being done and what your participation will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask me if there is anything that is not clear or if you would like more information.

What is the purpose of the study?

In the first year after becoming a father, the number of males who get depressed is double that of the general population. First-time fathers are especially vulnerable with one out of ten experiencing depression during their partner's pregnancy. We now know that fathers can also experience postnatal depression, however we don't know enough about why.

The purpose of the study is to explore the reasons why some first time fathers experience postnatal depression and issues that contribute towards it. The research questions to be tested are:

1) Is there a relationship between the level of father involvement and depressive symptoms experienced in the first 24 months of becoming a father?

2) Does intergenerational father relationships predict father involvement?*
3) Is there a relationship between intergenerational father relationships, father involvement and depressive symptoms?

*Intergenerational in the context of this study means patterns that have continued through generations within the same family. For example how involved grandparents were with parents, and how involved parents are with their children.

Why have I been invited to take part?

This project is looking to obtain information from first time fathers of a 0 - 24 month old child. You have been invited to take part as you may meet this criteria.

What will happen if I take part?

If you decide to take part in this project, you will be asked to complete 4 online questionnaires.

- Questionnaire 1 contains statements on paternal involvement in caregiving such as direct care and associated household tasks, fathers' attitudes to parenting, relationship with child, and fathers' moods and feelings in the post-partum period. You will be asked to rate your level of agreement on a scale.
- Questionnaire 2 contains items on your relationship with your own father.
- Questionnaire 3 contain items on symptoms of depression you may have experienced.
- Questionnaire 4 contains demographic questions

The online questionnaires can be completed via any electronic device such as a laptop, computer, mobile phone, iPad etc. We anticipate that the questionnaires will take approximately 20 minutes to complete.

Do I have to take part?

Participation is completely voluntary. You should only take part if you want to and choosing not to take part will not disadvantage you in anyway. Once you have read the information sheet, please contact us if you have any questions that will help you make a decision about taking part. If you decide to take part we will ask you to sign an online consent form and you will be given a copy of this consent form to keep.

What are the possible risks of taking part?

Participating in the project is not anticipated to cause you any significant risk or discomfort. However, due to the nature of the questions, there is a chance that some people may feel upset when completing the questionnaires; you are encouraged to use the resources listed should this be the case. Overall, we do not expect psychological harm or distress that is not in line with what you may experience if you were not taking part in this study. However, if you do feel distressed, we encourage you to reach out to services who offer psychological support, some of these are specific to fathers. The next page will present a list of these

services and you will be reminded of them again after completion of the questionnaires. If you would like a copy of these services emailed to you, please contact the researcher with the subject 'Support services'.

What are the possible benefits of taking part?

Whilst there are no immediate benefits for participants of this project, it is hoped that this work will have a beneficial impact on future fathers and specialist services for fathers.

Data handling and confidentiality

Your data will be processed in accordance with the data protection law and will comply with the General Data Protection Regulation 2016 (GDPR).

GDPR Statement:

Your data will be processed in accordance with the General Data Protection Regulation 2016 (GDPR).
The data controller for this project will be Staffordshire University. The university will process your personal data for the purpose of the research outlined above. The legal basis for processing your personal data for research purposes under the GDPR is a 'task in the public interest'. You can provide your consent for the use of your personal data in this study by completing the consent form that has been provided to you.
You have the right to access information held about you. Your right of access can be exercised in accordance with the GDPR. You also have other rights including rights of correction, erasure, objection, and data portability. Questions, comments and requests about your personal data can also be sent to the Staffordshire University Data Protection Officer. If you wish to lodge a complaint with the Information Commissioner's Office, please visit www.ico.org.uk.
Personal details such as your name, address or other identifiable information will not be collected. All data will be anonymised by use of a unique code, which only you will be aware of, and data will be retained for 10 years.
Data will only be shared within the research team for analysis purposes. Data is stored in secure online software, Qualtrics. This is password protected and only I will have access to the password. Data will not be shared with any 3rd parties.

Data Protection Statement

The data controller for this project will be Staffordshire University. The University will process your personal data for the purpose of the research outlined above. The legal basis for processing your personal data for research purposes under the data protection law is a 'task in the public interest' You can provide your consent for the use of your personal data in this study by completing the consent form that has been provided to you.

What if I change my mind about taking part?

You are free to withdraw at any point of the study, without having to give a reason. Withdrawing from the study will not affect you in any way. You are able to withdraw your data from the study up until 1st September 2023 after which withdrawal of your data will no longer be possible as the data would have been processed/ anonymised and included as a part of a preliminary report.

If you choose to withdraw from the study we will not retain any information that you have provided us as a part of this study.

You will be asked to create a unique code for yourself before you take part in the study; this will allow us to remove your data without being able to identify you.

What will happen to the results of the study?

The study is part of course requirements for the Doctorate in Clinical Psychology. The results will therefore be used in University assignments and reports. I also intend to publish results in peer reviewed journals which means that papers will be publicly available. You will not be identified in any report or publication. If you wish to be given a copy of any reports resulting from the project, please ask me to put you on the circulation list.

Who should I contact for further information?

If you have any questions or require more information about this study, please contact me using the following contact details:

Project lead
Name: XXXXXXXXXX
Email: XXXXXXXXXXXX

Project supervisor
Name: Dr Gary Lee (Senior Lecturer in Clinical Psychology, Academic Tutor)
Email: gary.lee@staffs.ac.uk

What if I have further questions, or if something goes wrong?

If this study has harmed you in any way or if you wish to make a complaint about the conduct of the study you can contact the study supervisor or email the Staffordshire University Ethics Committee on ethics@staffs.ac.uk for further advice and information.

You can also raise concerns about the research to Tim Horne (Director of Research at Staffordshire University), by emailing tim.horne@staffs.ac.uk

Thank you for reading this information sheet and for considering taking part in this research.

Appendix G: Screening questions for inclusion/exclusion criteria

Please read the below statements to check that you meet the inclusion criteria.
Unfortunately, if you do not meet the criteria you will not be able to participate in this study.

You must:

1. Be a first time father
2. Have a child aged 0 – 24 months
3. Not have a previous history of depression
4. Have the ability to read and understand English
5. Have access to the internet to complete the questionnaires in this study
6. Be a male who has a child with a female (different-sex relationship)

Note: All Inclusion Criteria must be answered YES, to be included in study.

You must not meet the below:

1. Mother or Father of child has been hospitalized within the 24 month period of child being born for any reason.
2. Mother or Father of child is diagnosed with severe mental health/physical health difficulties
3. Child has severe health conditions which requires prolonged hospitalization

---

I confirm that I meet all the above

○ Yes

If you wish to be entered into a prize draw for a chance to win £20 (x1), please enter your email address below:

Appendix H: Consent form

Consent Form

By selecting yes, you are indicating your consent to take part in this study.

	Yes
1. I confirm that I have read and understood the information sheet for the above project. I have had the opportunity to consider the information carefully, ask questions and have had these answered satisfactorily.	○
2. I understand that I am being asked to complete 4 questionnaires for this project.	○
3. I understand that my participation is voluntary and that I am free to withdraw my data until 1st September 2023 without giving any reason.	○
4. I agree to the use of anonymised quotes in research reports and publications.	○
5. I agree to take part in the above project.	○

Please create your unique code (Last 2 letters of your street name, last 2 digits of your mobile number and your favourite colour) e.g. ER12GREEN

This code will help us to locate your answers should you wish to withdraw from the study

Appendix I: Debrief form

Participant Debrief Form

Study title: *First-time fathers' emotional wellbeing: Do father involvement and intergenerational father relationships affect depressive symptoms*

Thank you for taking the time to take part in this research project.

The research project aimed to investigate first time fathers' emotional wellbeing, specifically focusing on father involvement and intergenerational father relationships affecting depressive symptoms.

If you would like to find out more about this research, or have any questions, please contact the lead researcher, XXXXXX via email: XXXXXstudent.staffs.ac.uk

If you wish to withdraw from this research, please contact the lead researcher using the email above. Please put your unique code and 'WITHDRAW' in the subject line of the email address. You will not be questioned on your decision to withdraw from the study.

We understand that some of the questions may have brought up some difficult feelings. If you would like further support, please use the support services below:

Name	Description	Link
Samaritans	A confidential listening service for any person who is despairing or suicidal.	Tel: 116 123 (ROI) 116 123 (UK) www.samaritans.org.uk
NCT	A national charity for pregnancy, birth and early parenthood.	Tel: 0300 330 0700 www.NCT.org.uk
PND and Me	A social enterprise raising awareness, encouraging disclosure and sharing of experience,	pndandme.co.uk @pndandme #pndhour

	signposting to support and services.	
Home-Start	Offers support, friendship and practical help to parents with young children in local communities throughout the UK	*www.home-start.org.uk.*
Family Action	A provider of services to disadvantaged and socially isolated families, it provides practical, emotional and financial support through over 100 services based in communities across England.	http://www.family-action.org.uk/home.aspx?id=11578
Dad Pad	A social enterprise raising awareness and sharing important information about Dad's mental health.	www.thedadpad.co.uk

Thank you once again for your participation in this research project.

Appendix J: The Fatherhood Scale

The Fatherhood Scale

Directions: Think about your relationship with you father during your childhood and adolescence. Thinking about that person, answer each question by placing a number between 1 and 5 on the line before each question. Please choose a number that most accurately reflects your perceptions of the relationship with your father or the person you identify as your father while you were growing up from the choices below.

1 = Never
2 = Rarely
3 = Sometimes
4 = Often
5 = Always

_____ My father helped me with my homework.
_____ My father talked to me about my personal problems.
_____ My father took me on activities.
_____ My father told me that he loved me.
_____ My father told me that I was a good boy/girl.
_____ My father is a caring person.
_____ My father attended school conferences.
_____ During my childhood I felt close to my father.
_____ During my teen years my father and I did things together.
_____ My father liked to spend time with me.
_____ My father spanked me.
_____ I felt close to my father as a teenager.
_____ My father hit my mother.
_____ I know that my father cared about me.
_____ My father was ashamed of me as a child.
_____ My dad taught me to fight back.
_____ My father made sure I had the things I needed such as clothing & toys.
_____ My father read to me as a child.
_____ My father provided well for us financially.
_____ My father used to say things that hurt my feelings.
_____ My father encouraged me to say what I felt.
_____ My dad showed interest in my school work.
_____ My father hugged me.
_____ My father is a good man.
_____ When I got in trouble, my father would punish me physically.
_____ My father taught me right from wrong.
_____ I saw my father beat my mother.
_____ I saw my father cry.
_____ My father was a good breadwinner for the family.
_____ My father helped me solve my problems.
_____ I could talk to my father about anything.
_____ My father went to church with me.
_____ I remember playing sports with my father.
_____ My father helped my mother clean the house.
_____ My father comforted me when I was feeling bad.
_____ My dad was always employed while I was growing up.
_____ My father made me feel special.
_____ When I got angry I used to talk things over with my dad.
_____ My father and I enjoyed time together.
_____ My dad would talk to me about things going on in the world.
_____ My father was loving toward me.
_____ I was abused by my father.
_____ My father talked to me about sex.
_____ My father used to say grace at mealtime.
_____ When I was a child, my father shouted at me if I did something wrong.
_____ I have warm feelings toward my father.
_____ My talked to me about things going on in the world.
_____ My dad taught me what it was like to be a man.
_____ My dad attended sporting events in which I played.
_____ My father and I had good times together.
_____ My father instilled important values in me.
_____ My dad took me to the doctor.
_____ My father is a kind man.
_____ My father understood me.
_____ I told my father that I loved him.
_____ My father was around when I needed him.
_____ My father praised me.
_____ My father is mean.
_____ My father used to get angry and say he didn't like me.
_____ My dad attended school activities in which I participated.
_____ My dad talked to me about God.
_____ My father showed concern when I got hurt.
_____ I saw my father hit one of my siblings.
_____ My dad would cook meals.

Subscales of the Fatherhood Scale

Positive Engagement

3. My father took me on activities.
9. During my teen years my father and I did things together.
10. My father liked to spend time with me.
39. My father and I enjoyed time together.
49. My father and I had good times together.

Positive Paternal Emotional Responsiveness

5. My father told me that I was a good boy/girl.
6. My father is a caring person.
8. During my childhood I felt close to my father.
12. I felt close to my father as a teenager.
14. I know my father cared about me.
35. My father comforted me when I was feeling bad.
37. My father made me feel special.
40. My father was loving toward me.
45. I have warm feelings for my father.
53. My father understood me.
54. I told my father I loved him.
56. My father praised me.
62. My father showed concern when I got hurt.

Negative Paternal Engagement

11. My father spanked me.
13. My father hit my mother.
15. My father was ashamed of me as a child.
20. My father used to say things to hurt my feelings.
25. When I got in trouble my father would punish me physically.
27. I saw my father beat my mother.
41. I was abused by my father.
44. When I was a child, my father shouted at me if I did something wrong.
57. My father is mean.
59. My father used to get angry and say he didn't like me.
63. I saw my father hit one of my sibs.

The Moral Father Role

26. My father taught me right from wrong.
32. My father went to church with me.
50. My father instilled important values in me.
61. My dad talked to me about God.
65. My father used to say grace at mealtime.

The Gender Role Model

16. My dad taught me to fight back.
21. My father encouraged me to say what I felt.
31. I could talk to my father about anything.
46. My dad would talk to me about things going on in the world.
42. My father talked to me about sex.
47. My dad taught me what it was like to be a man.

The Good Provider Role

17. My father made sure I had the things I needed like clothing and toys.
19. My father provided well for us financially.
29. My father was a good breadwinner for the family.
36. My dad was always employed while I was growing up.

The Androgynous Role

4. My father told me that he loved me.
23. My father hugged me.
24. My father is a good man.
28. I saw my father cry.
34. My father helped my mom clean the house.
52. My father is a kind man.
64. My dad would cook meals.

Responsible Paternal Engagement

1. My father helped me with my homework.
7. My father attended school conferences.
18. My father read to me as a child.
22. My dad showed interest in my schoolwork.
33. I remember playing sports with my father.
48. My dad attended sporting events in which I played.
51. My father took me to the doctor.
60. My dad attended school activities in which I participated.

The Accessible Father

2. My father talked to be about my personal problems.
30. My father helped me solve my problems.
38. When I got angry, I used to talk things over with my dad.
55. My father was around when I needed him.

Following items removed due to specific reference to religion:

32. My father went to church with me.

61. My dad talked to me about God.
65. My father used to say grace at mealtime.

Scoring for The Fatherhood Scale

Fatherhood Scale

Gary L. Dick, PhD

The categories are scored as: never (1), rarely, (2), sometimes, (3), often, (4), and always (5).

Negative items (11, 13, 15, 20, 25, 27, 42, 45, 47, 58, 59, & 63) are inversely scored. For these questions they are scored as: never (5), rarely, (4), sometimes, (3), often, (2), and always (1).

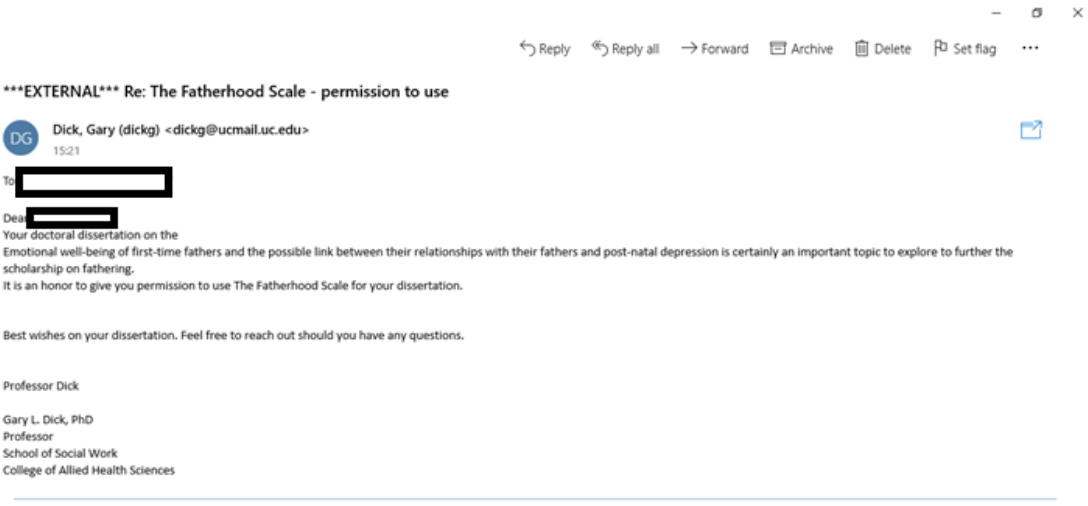
	Question	Never	Rarely	Sometimes	Often	Always	Score
1	My father helped me with my homework.	1	2	3	4	5	
2	My father talked to me about my personal problems.	1	2	3	4	5	
3	My father took me on activities.	1	2	3	4	5	
4	My father told me that he loved me.	1	2	3	4	5	
5	My father told me that I was a good boy/girl.	1	2	3	4	5	
6	My father is a caring person.	1	2	3	4	5	
7	My father attended school conferences.	1	2	3	4	5	
8	During my childhood I felt close to my father.	1	2	3	4	5	
9	During my teen years my father and I did things together.	1	2	3	4	5	
10	My father liked to spend time with me.	1	2	3	4	5	
11	My father spanked me.	1	2	3	4	5	
12	I felt close to my father as a teenager.	1	2	3	4	5	
13	My father hit my mother.	1	2	3	4	5	
14	I know that my father cared about me.	1	2	3	4	5	
15	My father was ashamed of me as a child.	1	2	3	4	5	
16	My dad taught me to fight back.	1	2	3	4	5	

17	My father made sure I had the things I needed such as clothing & toys.	1	2	3	4	5	
18	My father read to me as a child.	1	2	3	4	5	
19	My father provided well for us financially.	1	2	3	4	5	
20	My father used to say things that hurt my feelings.	1	2	3	4	5	
21	My father encouraged me to say what I felt.	1	2	3	4	5	
22	My dad showed interest in my schoolwork.	1	2	3	4	5	
23	My father hugged me.	1	2	3	4	5	
24	My father is a good man.	1	2	3	4	5	
25	When I got in trouble, my father would punish me physically	1	2	3	4	5	
26	My father taught me right from wrong.	1	2	3	4	5	
27	I saw my father beat my mother.	1	2	3	4	5	
28	I saw my father cry.	1	2	3	4	5	
29	I saw my father cry.	1	2	3	4	5	
30	My father was a good breadwinner for the family.	1	2	3	4	5	
31	I could talk to my father about anything.	1	2	3	4	5	
32	My father went to church with me.	1	2	3	4	5	
33	I remember playing sports with my father.	1	2	3	4	5	
34	My father helped my mother clean the house.	1	2	3	4	5	
35	My father comforted me when I was feeling bad.	1	2	3	4	5	

36	My Dad was always employed while I was growing up.	1	2	3	4	5	
37	My father made me feel special.	1	2	3	4	5	
38	When I got angry I used to talk things over with my dad.	1	2	3	4	5	
39	My father and I enjoyed time together.	1	2	3	4	5	
40	My dad would talk to me about things going on in the world.	1	2	3	4	5	
41	My father was loving towards me.	1	2	3	4	5	
42	I was abused by my father.	1	2	3	4	5	
43	My father talked to me about sex.	1	2	3	4	5	
44	My father use to say grace at mealtime.	1	2	3	4	5	
45	When I was a child, my father shouted at me if I did something wrong.	1	2	3	4	5	
46	I have warm feelings toward my father.	1	2	3	4	5	
47	I felt my father was critical of me.	1	2	3	4	5	
48	My dad taught me what it was like to be a man.	1	2	3	4	5	
49	My dad attended sporting events in which I played.	1	2	3	4	5	
50	My father and I had good times together.	1	2	3	4	5	
51	My father instilled important values in me.	1	2	3	4	5	
52	My dad took me to the doctor.	1	2	3	4	5	
53	My father is a kind man.	1	2	3	4	5	
54	My father understood me.	1	2	3	4	5	

55	I told my father that I loved him.	1	2	3	4	5	
56	My father was around when I needed him.	1	2	3	4	5	
57	My father praised me.	1	2	3	4	5	
58	My father is mean.	1	2	3	4	5	
59	My father used to get angry and say he didn't like me.	1	2	3	4	5	
60	My dad attended school activities in which I participated.	1	2	3	4	5	
61	My dad talked to me about God.	1	2	3	4	5	
62	My father showed concern when I got hurt.	1	2	3	4	5	
63	I saw my father hit one of my siblings.	1	2	3	4	5	
64	My dad would cook meals.	1	2	3	4	5	
						Total:	

Permission to use 'The Fatherhood Scale'



Reply Reply all Forward Archive Delete Set flag ...

EXTERNAL Re: The Fatherhood Scale - permission to use

DG Dick, Gary (dickg) <dickg@ucmail.uc.edu>
15:21

To [redacted]

Dear [redacted]
Your doctoral dissertation on the
Emotional well-being of first-time fathers and the possible link between their relationships with their fathers and post-natal depression is certainly an important topic to explore to further the scholarship on fathering.
It is an honor to give you permission to use The Fatherhood Scale for your dissertation.

Best wishes on your dissertation. Feel free to reach out should you have any questions.

Professor Dick

Gary L. Dick, PhD
Professor
School of Social Work
College of Allied Health Sciences

Appendix K: Father Involvement Questionnaire

58 item father involvement questionnaire:
Response options have been kept the same as the original questionnaire with the exception of item 18 and 37 (additional option)

Item no.	Question	Response options						
1	Birth was a wonderful experience	Yes	no					
2	Having a baby is as expected	No, easier	Yes, as difficult	No, more difficult				
3	I helped with shopping since birth	Yes, a lot	Yes, some	Yes, hardly any	No			
4	I helped with cleaning home since birth	Yes, a lot	Yes, some	Yes, hardly any	No			
5	I helped with meal preparation since birth	Yes, a lot	Yes, some	Yes, hardly any	No			
6	I helped with washing up since birth	Yes, a lot	Yes, some	Yes, hardly any	No			
7	I helped with housework since birth	Yes, a lot	Yes, some	Yes, hardly any	No			
8	I helped with cooking meals since birth	Yes, a lot	Yes, some	Yes, hardly any	No			
9	I helped with washing clothes since birth	Yes, a lot	Yes, some	Yes, hardly any	No			
10	Helped with other children since birth	Yes, a lot	Yes, some	Yes, hardly any	No			Removed as this is a 'first-time' fathers study

11	I helped with other tasks since birth	Yes, a lot	Yes, some	Yes, hardly any	No			
12	How frequently do you change your child's nappy since birth per week	Daily	Every other day	Every 4 days	Once a week	Less than once a week	Never	
13	How frequently do you bathe your child per week	Daily	Every other day	Every 4 days	Once a week	Less than once a week	Never	
14	How frequently do you play with your child per week	Daily	Every other day	Every 4 days	Once a week	Less than once a week	Never	
15	How frequently do you walk your child outside per week	Daily	Every other day	Every 4 days	Once a week	Less than once a week	Never	
16	How frequently do you put your child to bed per week	Daily	Every other day	Every 4 days	Once a week	Less than once a week	Never	
17	How frequently do you feed or help at night per week	Daily	Every other day	Every 4 days	Once a week	Less than once a week	Never	
18	How frequently do you feed your child per week	Daily	Every other day	Every 4 days	Once a week	Less than once a week	Never	
19	How often do you feel your child's Mum excludes you from child's care	Always feel	Often feel	Sometimes feel	Never feel			

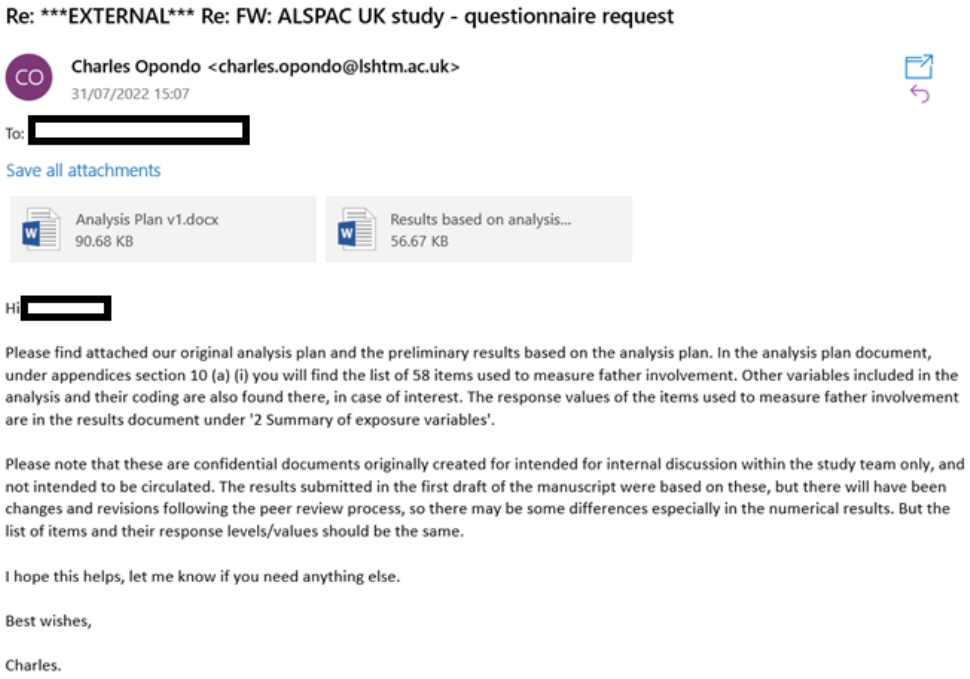
20	How often do you feel confident with your child	Always feel	Often feel	Sometimes feel	Never feel			
21	How often do you feel mum does not trust you with your child	Always feel	Often feel	Sometimes feel	Never feel			
22	How often do you feel happy with the way mum brings up your child	Always feel	Often feel	Sometimes feel	Never feel			
23	How often do you feel happy with the way you bring up your child	Always feel	Often feel	Sometimes feel	Never feel			
24	How often do you feel like you are making a strong bond with your child	Always feel	Often feel	Sometimes feel	Never feel			
25	How often do you feel your stress is a bad influence on your child	Always feel	Often feel	Sometimes feel	Never feel			
26	How often do you feel the home is a woman's place, therefore no part for you	Always feel	Often feel	Sometimes feel	Never feel			
27	How often do you feel you 'get in the way' of Mum caring for your child	Always feel	Often feel	Sometimes feel	Never feel			
28	How often do you feel like Mum dislikes	Always feel	Often feel	Sometimes feel	Never feel			

	you being involved with your child							
29	I feel guilty at not enjoying my child	Always feel	Often feel	Sometimes feel	Never feel			
30	I regret having my child	Always feel	Often feel	Sometimes feel	Never feel			
31	I regret lack of experience of children	Always feel	Often feel	Sometimes feel	Never feel			
32	My child has made me feel more fulfilled	Always feel	Often feel	Sometimes feel	Never feel			
33	Parenthood has made me and mum closer	Always feel	Often feel	Sometimes feel	Never feel			
34	Mum no longer gives me attention	Always feel	Often feel	Sometimes feel	Never feel			
35	I feel hurt by the attention mum gives child	Always feel	Often feel	Sometimes feel	Never feel			
36	I felt well prepared for birth and child care	Always feel	Often feel	Sometimes feel	Never feel			
37	I enjoy getting home to see mum & child	Yes, often	Yes, sometimes	Yes, occasionally	Never	N/A		
38	I enjoy the baby	Feel exactly	Feel often	Feel sometimes	Never feel			
39	I preferred not to have had the baby	Feel exactly	Feel often	Feel sometimes	Never feel			
40	I feel confident with my child	Feel exactly	Feel often	Feel sometimes	Never feel			
41	I dislike mess surrounding my child	Feel exactly	Feel often	Feel sometimes	Never feel			

42	I feel pleasure watching my child develop	Feel exactly	Feel often	Feel sometimes	Never feel			
43	I find my child crying unbearable	Feel exactly	Feel often	Feel sometimes	Never feel			
44	I am constantly unsure whether I'm doing the right thing	Feel exactly	Feel often	Feel sometimes	Never feel			
45	I feel I should enjoy my child but I am not	Feel exactly	Feel often	Feel sometimes	Never feel			
46	I have no time to myself	Feel exactly	Feel often	Feel sometimes	Never feel			
47	My child made me feel more fulfilled	Feel exactly	Feel often	Feel sometimes	Never feel			
48	I feel babies are fun	Feel exactly	Feel often	Feel sometimes	Never feel			
49	Babies should be picked up when they cry	Yes, agree	Unsure but agree	Unsure but disagree	No, disagree			
50	It's important to develop a regular pattern for my child	Yes, agree	Unsure but agree	Unsure but disagree	No, disagree			
51	Babies should be fed when hungry	Yes, agree	Unsure but agree	Unsure but disagree	No, disagree			
52	Babies need to be stimulated to develop well	Yes, agree	Unsure but agree	Unsure but disagree	No, disagree			
53	Babies need quiet secure surroundings	Yes, agree	Unsure but agree	Unsure but disagree	No, disagree			

54	Parents need to adapt lives to the baby's need	Yes, agree	Unsure but agree	Unsure but disagree	No, disagree			
55	Baby should fit into parent's routine	Yes, agree	Unsure but agree	Unsure but disagree	No, disagree			
56	Babies should be left to develop naturally	Yes, agree	Unsure but agree	Unsure but disagree	No, disagree			
57	Talking to a baby is important	Yes, agree	Unsure but agree	Unsure but disagree	No, disagree			
58	Cuddling a baby is very important	Yes, agree	Unsure but agree	Unsure but disagree	No, disagree			

Appendix K(a): Permission to use 'Father Involvement' questionnaire and subscale composition



Re: ***EXTERNAL*** Re: FW: ALSPAC UK study - questionnaire request

CO Charles Opondo <charles.opondo@lshtm.ac.uk>
31/07/2022 15:07

To: [redacted]

Save all attachments

Analysis Plan v1.docx
90.68 KB

Results based on analysis...
56.67 KB

Hi [redacted]

Please find attached our original analysis plan and the preliminary results based on the analysis plan. In the analysis plan document, under appendices section 10 (a) (i) you will find the list of 58 items used to measure father involvement. Other variables included in the analysis and their coding are also found there, in case of interest. The response values of the items used to measure father involvement are in the results document under '2 Summary of exposure variables'.

Please note that these are confidential documents originally created for intended for internal discussion within the study team only, and not intended to be circulated. The results submitted in the first draft of the manuscript were based on these, but there will have been changes and revisions following the peer review process, so there may be some differences especially in the numerical results. But the list of items and their response levels/values should be the same.

I hope this helps, let me know if you need anything else.

Best wishes,

Charles.

Subscale composition

	Factor 1 Father engagement in domestic and childcare activities	**Factor 2** Emotional responsiveness	**Factor 3** Security in role as partner/parent
Helped with shopping since birth	1-4		
Helped with cleaning home since birth	1-4		
Helped with meal preparation since birth	1-4		
Helped with washing up since birth	1-4		
Helped with housework since birth	1-4		
Helped with cooking meals since birth	1-4		
Helped with clothes wash since birth	1-4		
How frequently father changes nappy per week	1-6		
How frequently father bathes child per week	1-6		
How frequently father plays with child per week		1-6	
How frequently father walks child outside per week	1-6		
How frequently father puts child to bed per week	1-6		
How frequently father feeds/helps at night per week	1-7		
Mum exclude father from child care			1-4
Feel confident with child		1-4	
Feel mum does not trust father with child			1-4
Happy with the way mum brings up child		1-4	
Happy with the way father brings up child		1-4	
Making a strong bond with child		1-4	
My stress is a bad influence on child			1-4
Home is woman's place, no part for me			1-4
Father always getting under mum's feet			1-4
Mum dislikes father being involved with child			1-4
Father guilty at not enjoying child			1-4
Father regrets having child		1-4	
Father regrets lack of experience of children			1-4

This child has made father more fulfilled		1-4	
Parenthood has made father and mum closer		1-4	
Mum no longer gives father attention			1-4
Feel hurt by attention mum gives child			1-4
Father well prepared for birth and child care			1-4
Father enjoys getting home to see mum & child		1-5	
Enjoy the baby		1-4	
Preferred not to have had baby		1-4	
Feel confident with baby		1-4	
Dislike mess surrounding baby		1-4	
Pleasure watching baby develop		1-4	
Find baby crying unbearable		1-4	
Constantly unsure whether doing right thing			1-4
Feel should enjoy baby but am not		1-4	
No time to self		1-4	
Baby made feel more fulfilled		1-4	
Feel babies are fun		1-4	
Talking to baby is important		1-4	
Cuddling baby is very important		1-4	

Other questions included in Father Involvement total score but not in above factors as suggested by the authors of the questionnaire who are continuing to develop the questionnaire.

Having a baby is as expected (1-3)

Birth was a positive experience (1-2)

Babies should be picked up when they cry (1-4)

Babies should be left to develop naturally (1-4)

Helped with other tasks since birth (1-4)

Frequency of feeding child per week (1-6)

Talking to baby is important (1-4)

Baby should fit into parent's routine (1-4)

Parents need to adapt lives to babies need (1-4)

Babies need quiet secure surroundings (1-4)

Babies need to be stimulated to develop well (1-4)

Babies should be fed when hungry (1-4)

Appendix L: Edinburgh Postnatal Depression Scale

Edinburgh Postnatal Depression Scale[1] (EPDS)

Name: _____ Address: _____

Your Date of Birth: _____ _____

Baby's Date of Birth: _____ Phone: _____

As you are pregnant or have recently had a baby, we would like to know how you are feeling. Please check the answer that comes closest to how you have felt **IN THE PAST 7 DAYS**, not just how you feel today.

Here is an example, already completed.

I have felt happy:
- ☐ Yes, all the time
- ☒ Yes, most of the time — This would mean: "I have felt happy most of the time" during the past week.
- ☐ No, not very often — Please complete the other questions in the same way.
- ☐ No, not at all

In the past 7 days:

1. I have been able to laugh and see the funny side of things
   - ☐ As much as I always could
   - ☐ Not quite so much now
   - ☐ Definitely not so much now
   - ☐ Not at all

2. I have looked forward with enjoyment to things
   - ☐ As much as I ever did
   - ☐ Rather less than I used to
   - ☐ Definitely less than I used to
   - ☐ Hardly at all

*3. I have blamed myself unnecessarily when things went wrong
   - ☐ Yes, most of the time
   - ☐ Yes, some of the time
   - ☐ Not very often
   - ☐ No, never

4. I have been anxious or worried for no good reason
   - ☐ No, not at all
   - ☐ Hardly ever
   - ☐ Yes, sometimes
   - ☐ Yes, very often

*5 I have felt scared or panicky for no very good reason
   - ☐ Yes, quite a lot
   - ☐ Yes, sometimes
   - ☐ No, not much
   - ☐ No, not at all

*6. Things have been getting on top of me
   - ☐ Yes, most of the time I haven't been able to cope at all
   - ☐ Yes, sometimes I haven't been coping as well as usual
   - ☐ No, most of the time I have copied quite well
   - ☐ No, I have been coping as well as ever

*7 I have been so unhappy that I have had difficulty sleeping
   - ☐ Yes, most of the time
   - ☐ Yes, sometimes
   - ☐ Not very often
   - ☐ No, not at all

*8 I have felt sad or miserable
   - ☐ Yes, most of the time
   - ☐ Yes, quite often
   - ☐ Not very often
   - ☐ No, not at all

*9 I have been so unhappy that I have been crying
   - ☐ Yes, most of the time
   - ☐ Yes, quite often
   - ☐ Only occasionally
   - ☐ No, never

*10 The thought of harming myself has occurred to me
   - ☐ Yes, quite often
   - ☐ Sometimes
   - ☐ Hardly ever
   - ☐ Never

Administered/Reviewed by _____ Date _____

[1]Source: Cox, J.L., Holden, J.M., and Sagovsky, R. 1987. Detection of postnatal depression: Development of the 10-item Edinburgh Postnatal Depression Scale. *British Journal of Psychiatry* 150:782-786.

[2]Source: K. L. Wisner, B. L. Parry, C. M. Piontek, Postpartum Depression N Engl J Med vol. 347, No 3, July 18, 2002, 194-199

Edinburgh Postnatal Depression Scale[1] (EPDS)

Postpartum depression is the most common complication of childbearing.[2] The 10-question Edinburgh Postnatal Depression Scale (EPDS) is a valuable and efficient way of identifying patients at risk for "perinatal" depression. The EPDS is easy to administer and has proven to be an effective screening tool.

Mothers who score above 13 are likely to be suffering from a depressive illness of varying severity. The EPDS score should not override clinical judgment. A careful clinical assessment should be carried out to confirm the diagnosis. The scale indicates how the mother has felt ***during the previous week***. In doubtful cases it may be useful to repeat the tool after 2 weeks. The scale will not detect mothers with anxiety neuroses, phobias or personality disorders.

Women with postpartum depression need not feel alone. They may find useful information on the web sites of the National Women's Health Information Center <www.4women.gov> and from groups such as Postpartum Support International <www.chss.iup.edu/postpartum> and Depression after Delivery <www.depressionafterdelivery.com>.

SCORING

QUESTIONS 1, 2, & 4 (without an *)
Are scored 0, 1, 2 or 3 with top box scored as 0 and the bottom box scored as 3.

QUESTIONS 3, 5-10 (marked with an *)
Are reverse scored, with the top box scored as a 3 and the bottom box scored as 0.

Maximum score: 30
Possible Depression: 10 or greater
Always look at item 10 (suicidal thoughts)

Instructions for using the Edinburgh Postnatal Depression Scale:

1. The mother is asked to check the response that comes closest to how she has been feeling in the previous 7 days.
2. All the items must be completed.
3. Care should be taken to avoid the possibility of the mother discussing her answers with others. (Answers come from the mother or pregnant woman.)
4. The mother should complete the scale herself, unless she has limited English or has difficulty with reading.

[1]Source: Cox, J.L., Holden, J.M., and Sagovsky, R. 1987. Detection of postnatal depression: Development of the 10-item Edinburgh Postnatal Depression Scale. *British Journal of Psychiatry* 150:782-786.

[2]Source: K. L. Wisner, B. L. Parry, C. M. Piontek, Postpartum Depression N Engl J Med vol. 347, No 3, July 18, 2002, 194-199

Appendix M: Ethical Approval

School of Health, Science and Wellbeing

ETHICAL APPROVAL FEEDBACK

Researcher name:	Muzamal Rehman
Title of Study:	SU_22_028 'First-time fathers' emotional wellbeing: Do father involvement and intergenerational father relationships affect depressive symptoms.'
Award Pathway:	PGR
Status of approval:	Approved

Your project ***proposal has been approved*** by the Ethics Panel and you may commence the implementation phase of your study. You should note that any divergence from the approved procedures and research method will invalidate any insurance and liability cover from the University. You should, therefore, notify the Panel of any significant divergence from this approved proposal. This approval is only valid for as long as you are registered as a student at the University.

You should arrange to meet with your supervisor for support during the process of completing your study and writing your dissertation.

When your study is complete, please send the ethics committee an end of study report. A template can be found on the ethics BlackBoard site.

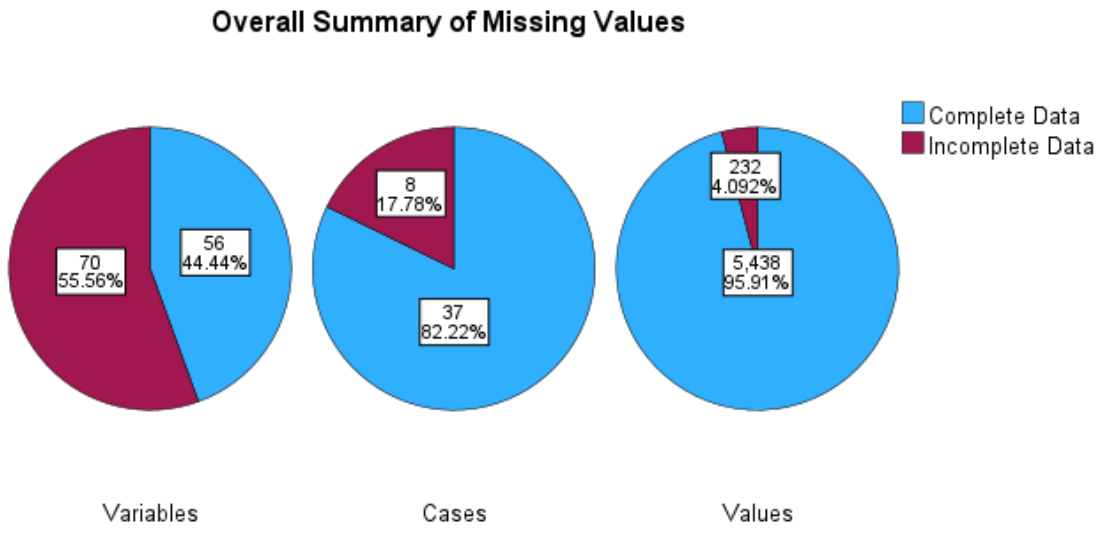
The Ethics Committee wish you well with your research.

Signed: **Date: 19.12.2022**

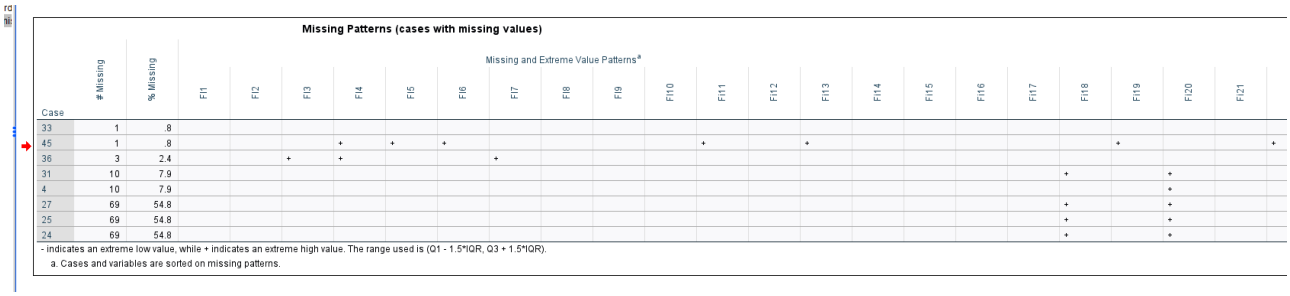
Dr Jade Elliott

Ethics Co-ordinator
Psychology
School of Health, Science and Wellbeing

Appendix N: Missing data analysis



Missing Patterns (cases):



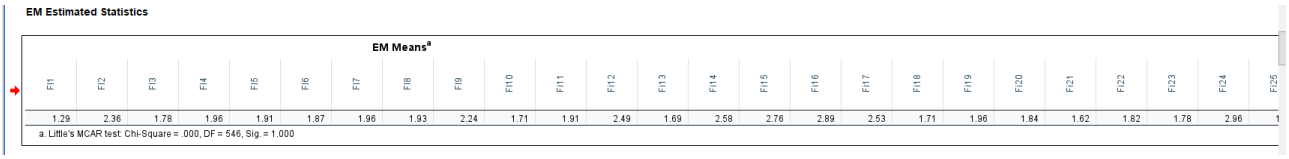
Missing Patterns (cases with missing values)

Case	# Missing	% Missing	Missing and Extreme Value Patterns[a]																						
			FI1	FI2	FI3	FI4	FI5	FI6	FI7	FI8	FI9	FI10	FI11	FI12	FI13	FI14	FI15	FI16	FI17	FI18	FI19	FI20	FI21		
33	1	.8																							
45	1	.8				+	+	+					+		+						+				+
36	3	2.4			+	+			+																
31	10	7.9																		+		+			
4	10	7.9																				+			
27	69	54.8																		+		+			
25	69	54.8																		+		+			
24	69	54.8																		+		+			

- indicates an extreme low value, while + indicates an extreme high value. The range used is (Q1 - 1.5*IQR, Q3 + 1.5*IQR).

a. Cases and variables are sorted on missing patterns.

Little's Test:



EM Estimated Statistics

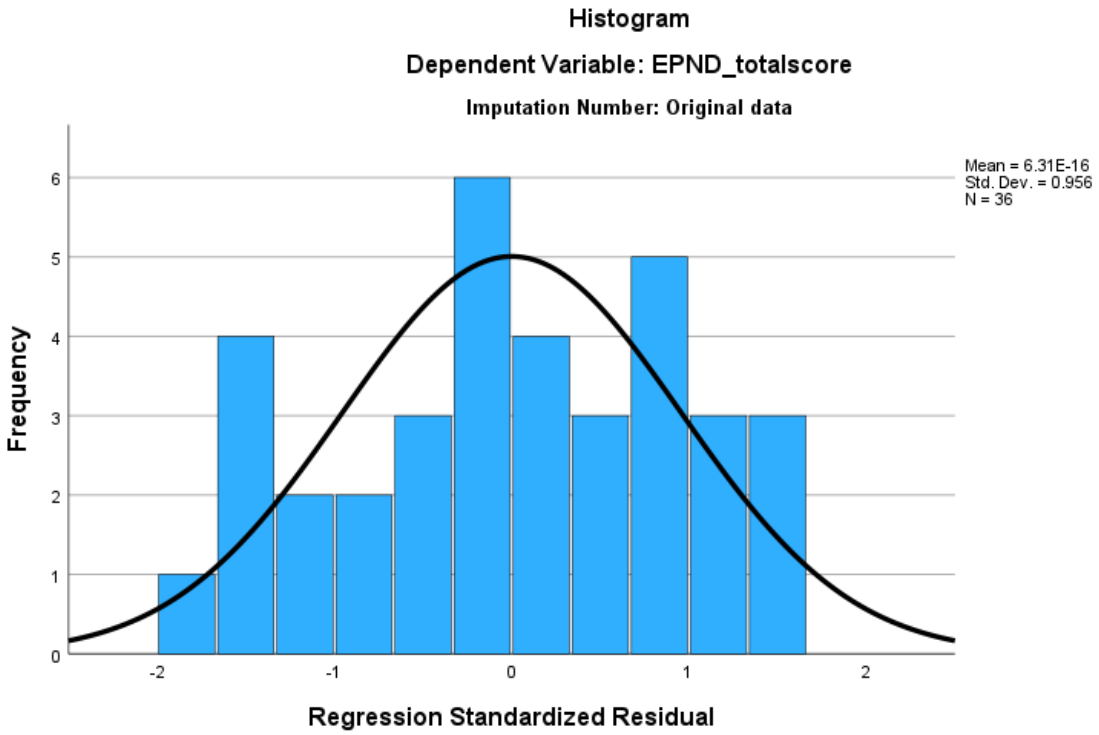
EM Means[a]

FI1	FI2	FI3	FI4	FI5	FI6	FI7	FI8	FI9	FI10	FI11	FI12	FI13	FI14	FI15	FI16	FI17	FI18	FI19	FI20	FI21	FI22	FI23	FI24	FI25
1.29	2.36	1.78	1.96	1.91	1.87	1.96	1.93	2.24	1.71	1.91	2.49	1.69	2.58	2.76	2.89	2.53	1.71	1.96	1.84	1.62	1.82	1.78	2.96	1

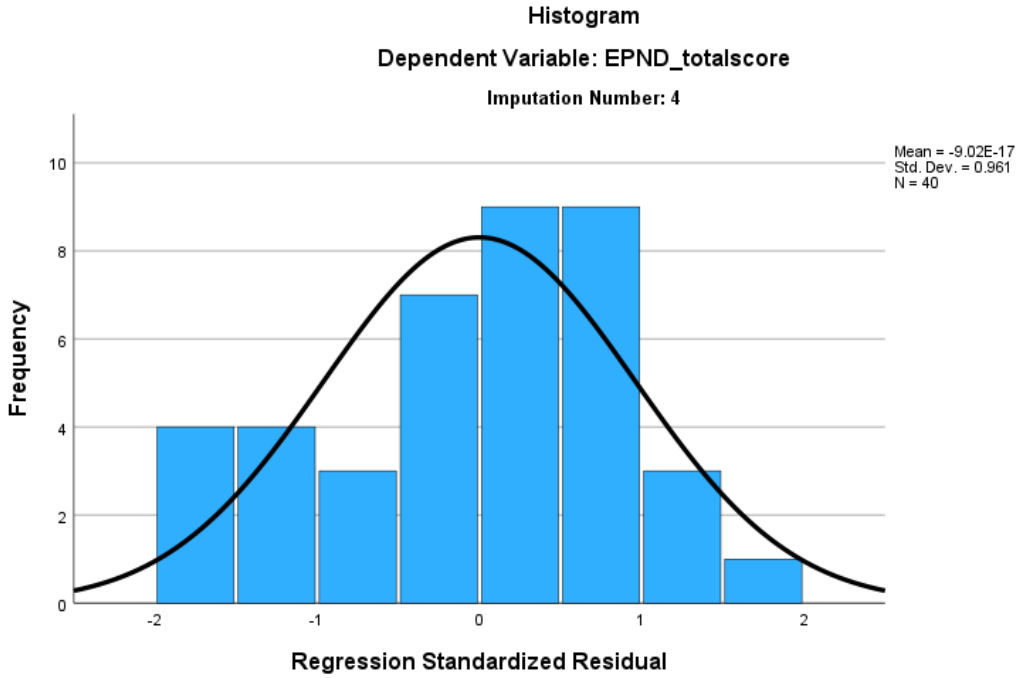
a. Little's MCAR test: Chi-Square = .000, DF = 546, Sig. = 1.000

Appendix O: SPSS Output – Normality assumptions (not met)

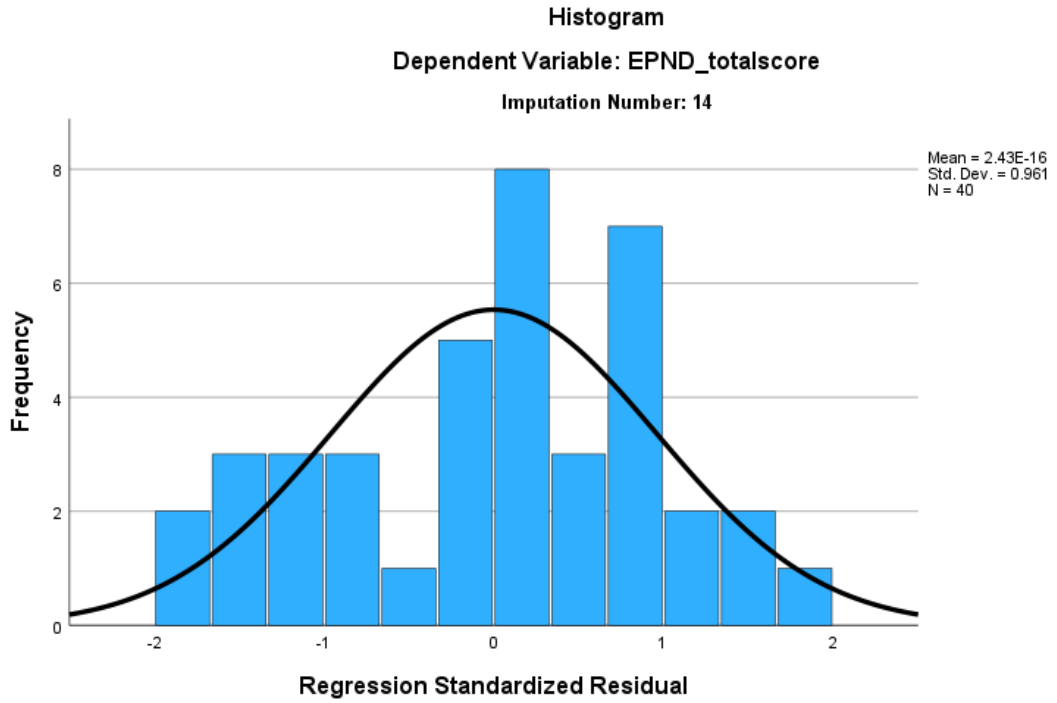
Original data histogram:



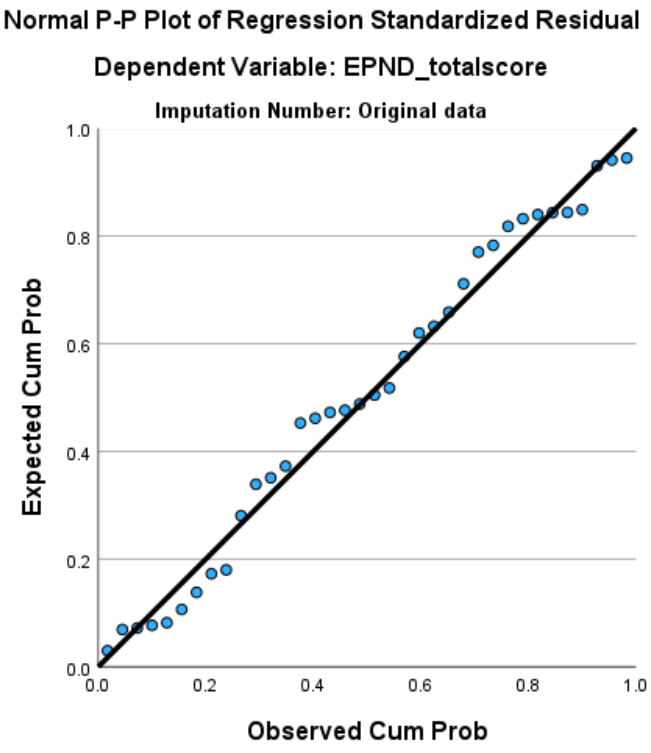
In



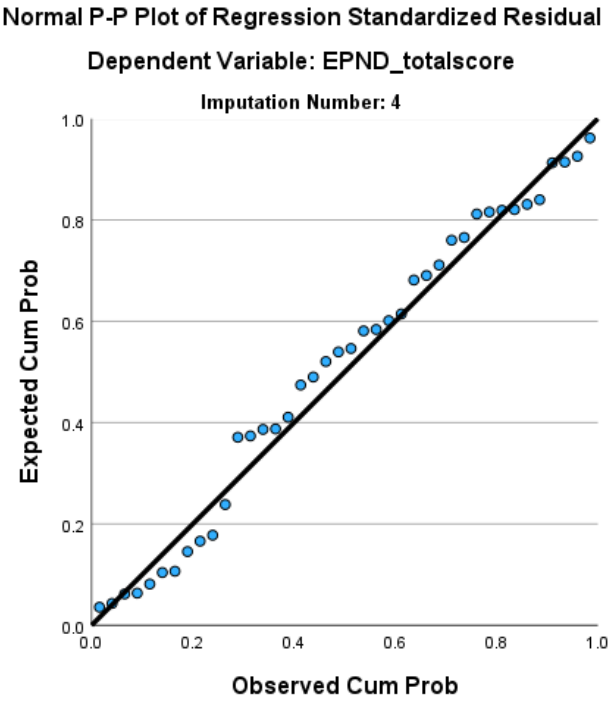
Imputation 14 histogram:



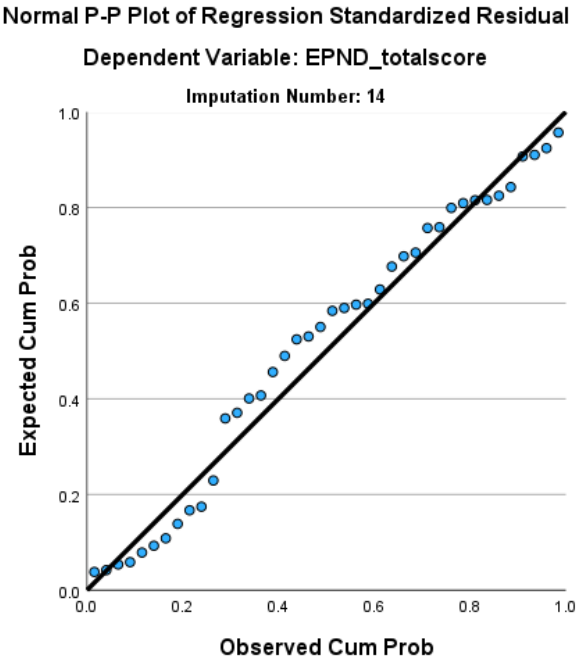
Original data P-Plot:



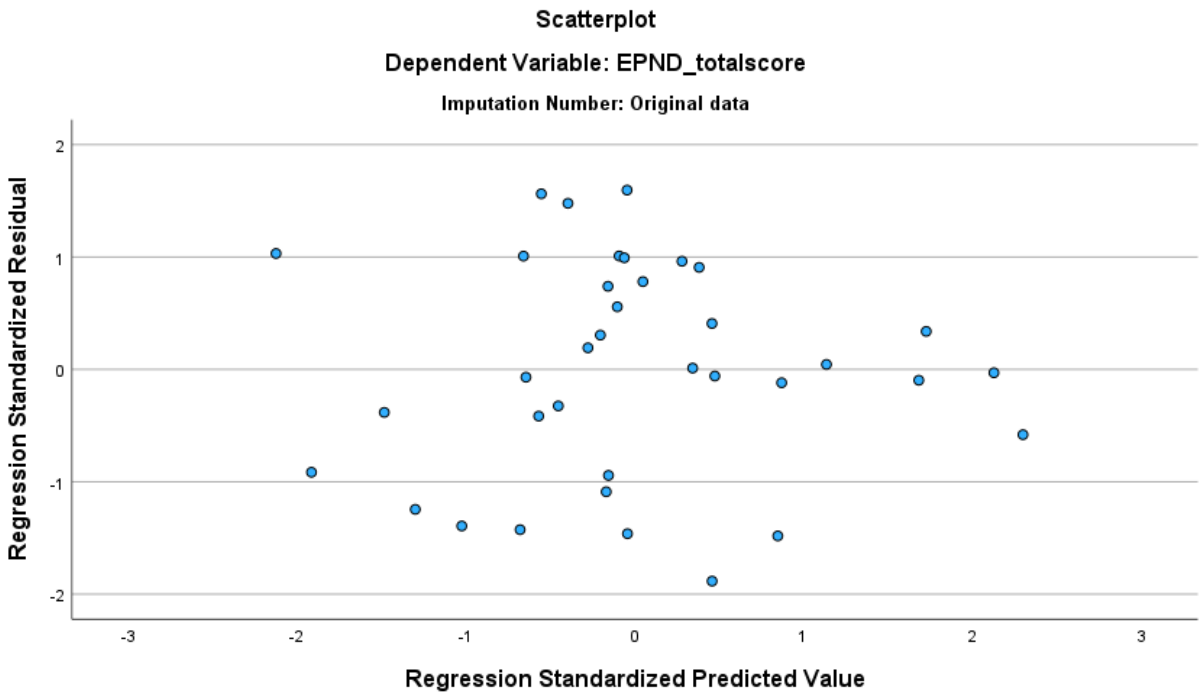
Imputation 4 P-Plot:



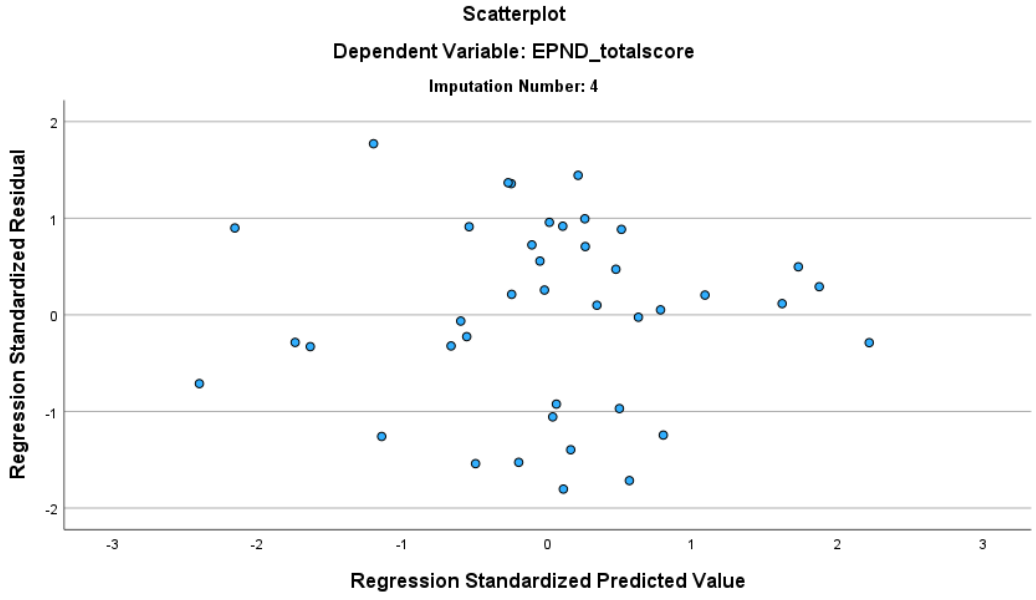
Imputation 14 P-Plot:



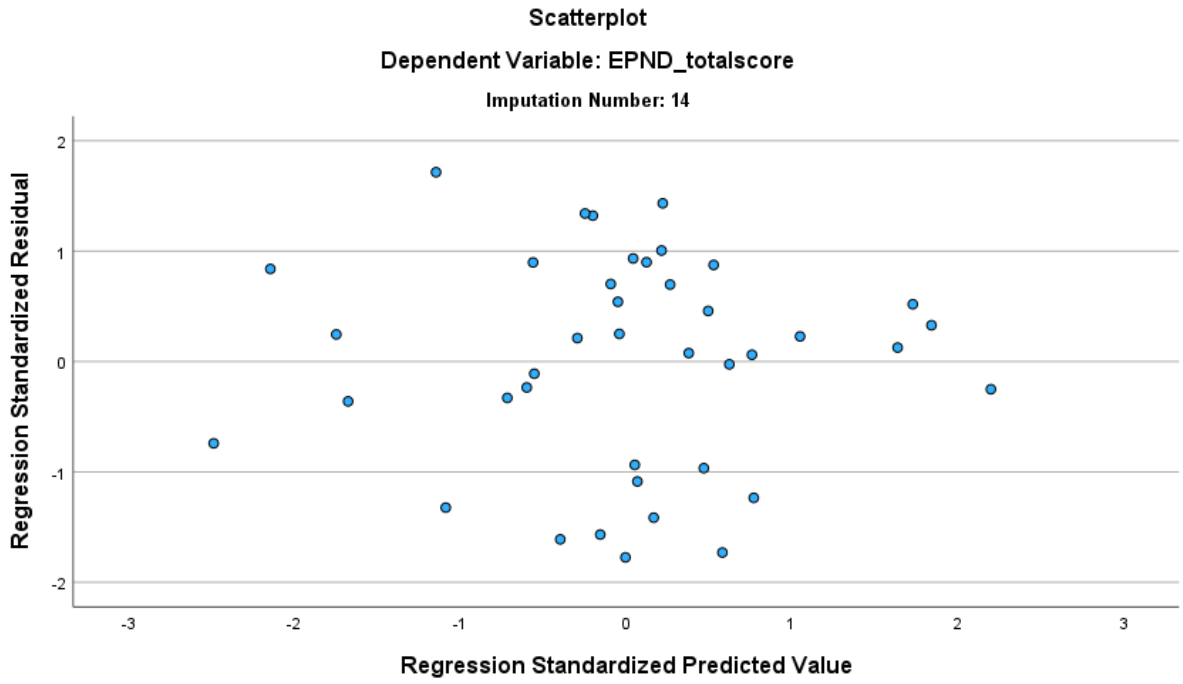
Original data scattergram:



Imputation 4 scattergram:



Imputation 14 scattergram:



Appendix P: SPSS output for descriptive statistics

Descriptives

Descriptive Statistics

Imputation Number		N Statistic	Range Statistic	Minimum Statistic	Maximum Statistic	Mean Statistic	Std. Deviation Statistic	Skewness Statistic	Skewness Std. Error	Kurtosis Statistic	Kurtosis Std. Error
Original data	EPND_totalscore	39	23	0	23	12.46	7.369	-.453	.378	-1.204	.741
	FIscore_total	37	68	122	190	164.14	17.423	-.736	.388	-.032	.759
	FiEngagement	40	53	15	68	50.63	12.745	-.922	.374	.478	.733
	FiPositive_Emotional_response	38	51	32	83	70.08	10.404	-1.735	.383	3.935	.750
	Fi_SECURITY_rolepartner_Parent	40	33	18	51	32.07	5.631	1.239	.374	3.722	.733
	Rfscore_total	39	220	59	279	169.41	49.925	-.232	.378	-.144	.741
	Valid N (listwise)	35									
Pooled	EPND_totalscore	40				12.33					
	FIscore_total	39				162.52					
	FiEngagement	40				50.63					
	FiPositive_Emotional_response	40				69.41					
	Fi_SECURITY_rolepartner_Parent	40				32.07					
	Rfscore_total	40				170.30					
	Valid N (listwise)	39									

Appendix Q: SPSS output for correlations (parametric and non-parametric)

Parametric test (Pearsons):

Correlations

Imputation Number			EPND_totalscore	FIscore_total	FiEngagement	FiPositive_Emotional_response	Fi_SECURITY_rolepartner_Parent	Rfscore_total
Original data	EPND_totalscore	Pearson Correlation	--					
		N	39					
	FIscore_total	Pearson Correlation	.099	--				
		Sig. (1-tailed)	.284					
		N	36	37				
	FiEngagement	Pearson Correlation	.293*	.885**	--			
		Sig. (1-tailed)	.035	<.001				
		N	39	37	40			
	FiPositive_Emotional_response	Pearson Correlation	.307*	.882**	.806**	--		
		Sig. (1-tailed)	.032	<.001	<.001			
		N	37	37	38	38		
	Fi_SECURITY_rolepartner_Parent	Pearson Correlation	-.148	.196	.078	.271*	--	
		Sig. (1-tailed)	.185	.122	.316	.050		
		N	39	37	40	38	40	
	Rfscore_total	Pearson Correlation	-.090	.161	.340*	.181	.036	--
		Sig. (1-tailed)	.295	.174	.017	.142	.415	
		N	38	36	39	37	39	39
		N	40	39	40	40	40	40
Pooled	FIscore_total	Pearson Correlation	.163					
		Sig. (1-tailed)	.162					
		N	39					
	FiEngagement	Pearson Correlation	.306*	.894**				
		Sig. (1-tailed)	.027	<.001				
		N	40	39				
	FiPositive_Emotional_response	Pearson Correlation	.321*	.899**	.819**			
		Sig. (1-tailed)	.021	<.001	<.001			
		N	40	39	40			
	Fi_SECURITY_rolepartner_Parent	Pearson Correlation	-.143	.210	.078	.275*		
		Sig. (1-tailed)	.190	.101	.317	.043		
		N	40	39	40	40		
	Rfscore_total	Pearson Correlation	-.118	.261	.352*	.247	.035	
		Sig. (1-tailed)	.235	.054	.013	.062	.500	
		N	40	39	40	40	40	

*. Correlation is significant at the 0.05 level (1-tailed).

**. Correlation is significant at the 0.01 level (1-tailed).

Non-parametric (Spearmans):

Nonparametric Correlations

Correlations

Imputation Number				EPND_totalscore	FIscore_total	FiEngagement	FiPositive_Emotional_response	Fi_SECURITY_rolepartner_Parent	Rfscore_total
Original data	Spearman's rho	EPND_totalscore	Correlation Coefficient	--					
			Sig. (1-tailed)	.					
			N	39					
		FIscore_total	Correlation Coefficient	.087	--				
			Sig. (1-tailed)	.307	.				
			N	36	37				
		FiEngagement	Correlation Coefficient	.188	.846**	--			
			Sig. (1-tailed)	.126	<.001	.			
			N	39	37	40			
		FiPositive_Emotional_response	Correlation Coefficient	.237	.844**	.709**	--		
			Sig. (1-tailed)	.079	<.001	<.001	.		
			N	37	37	38	38		
		Fi_SECURITY_rolepartner_Parent	Correlation Coefficient	-.250	.205	.013	.121	--	
			Sig. (1-tailed)	.062	.112	.467	.235	.	
			N	39	37	40	38	40	
		Rfscore_total	Correlation Coefficient	-.048	.177	.324*	.141	-.005	--
			Sig. (1-tailed)	.387	.151	.022	.202	.489	.
			N	38	36	39	37	39	39
Pooled	Spearman's rho	FIscore_total	Correlation Coefficient	.121					
			Sig. (1-tailed)	.232					
			N	39					
		FiEngagement	Correlation Coefficient	.209	.865**				
			Sig. (1-tailed)	.098	<.001				
			N	40	39				
		FiPositive_Emotional_response	Correlation Coefficient	.250	.866**	.744**			
			Sig. (1-tailed)	.060	<.001	<.001			
			N	40	39	40			
		Fi_SECURITY_rolepartner_Parent	Correlation Coefficient	-.242	.210	.013	.133		
			Sig. (1-tailed)	.067	.100	.467	.208		
			N	40	39	40	40		
		Rfscore_total	Correlation Coefficient	-.090	.240	.341*	.211	-.014	
			Sig. (1-tailed)	.291	.071	.015	.096	.466	
			N	40	39	40	40	40	

**. Correlation is significant at the 0.01 level (1-tailed).

*. Correlation is significant at the 0.05 level (1-tailed).

Appendix R: SPSS Output for multiple regression (Model summary)

Regression

Model Summary[b]

Imputation Number	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
						R Square Change	F Change	df1	df2	Sig. F Change	
Original data	1	.490[a]	.240	.169	6.544	.240	3.368	3	32	.030	.820
1	1	.401[a]	.161	.091	6.971	.161	2.302	3	36	.094	.644
2	1	.407[a]	.166	.096	6.969	.166	2.387	3	36	.085	.638
3	1	.400[a]	.160	.090	6.973	.160	2.286	3	36	.095	.645
4	1	.412[a]	.170	.101	6.988	.170	2.460	3	36	.078	.627
5	1	.408[a]	.166	.097	6.962	.166	2.391	3	36	.085	.641
6	1	.398[a]	.158	.088	6.970	.158	2.254	3	36	.099	.653
7	1	.394[a]	.155	.085	6.988	.155	2.203	3	36	.105	.650
8	1	.396[a]	.157	.087	6.978	.157	2.232	3	36	.101	.650
9	1	.406[a]	.165	.095	6.968	.165	2.367	3	36	.087	.639
10	1	.409[a]	.167	.098	6.964	.167	2.411	3	36	.083	.637
11	1	.414[a]	.171	.102	6.977	.171	2.478	3	36	.077	.628
12	1	.407[a]	.165	.096	6.966	.165	2.377	3	36	.086	.638
13	1	.400[a]	.160	.090	6.979	.160	2.288	3	36	.095	.643
14	1	.397[a]	.158	.088	6.967	.158	2.252	3	36	.099	.658
15	1	.402[a]	.162	.092	6.979	.162	2.317	3	36	.092	.640
16	1	.402[a]	.161	.092	6.965	.161	2.310	3	36	.093	.649
17	1	.418[a]	.174	.106	6.956	.174	2.536	3	36	.072	.634
18	1	.403[a]	.162	.093	6.975	.162	2.327	3	36	.091	.639
19	1	.403[a]	.162	.092	6.986	.162	2.324	3	36	.091	.637
20	1	.403[a]	.162	.092	6.969	.162	2.323	3	36	.091	.645

a. Predictors: (Constant), Rfscore_total, FiPositive_Emotional_response, FiEngagement

b. Dependent Variable: EPND_totalscore

SPSS Output for multiple regression (ANOVA)

ANOVA[a]

Imputation Number	Model		Sum of Squares	df	Mean Square	F	Sig.
Original data	1	Regression	432.684	3	144.228	3.368	.030[b]
		Residual	1370.538	32	42.829		
		Total	1803.222	35			
1	1	Regression	335.548	3	111.849	2.302	.094[b]
		Residual	1749.336	36	48.593		
		Total	2084.883	39			
2	1	Regression	347.833	3	115.944	2.387	.085[b]
		Residual	1748.491	36	48.569		
		Total	2096.324	39			
3	1	Regression	333.471	3	111.157	2.286	.095[b]
		Residual	1750.517	36	48.625		
		Total	2083.988	39			
4	1	Regression	360.407	3	120.136	2.460	.078[b]
		Residual	1757.762	36	48.827		
		Total	2118.169	39			
5	1	Regression	347.631	3	115.877	2.391	.085[b]
		Residual	1744.872	36	48.469		
		Total	2092.504	39			
6	1	Regression	328.599	3	109.533	2.254	.099[b]
		Residual	1749.143	36	48.587		
		Total	2077.742	39			
7	1	Regression	322.707	3	107.569	2.203	.105[b]
		Residual	1757.861	36	48.829		
8	1	Regression	325.964	3	108.655	2.232	.101[b]
		Residual	1752.680	36	48.686		
		Total	2078.644	39			
9	1	Regression	344.756	3	114.919	2.367	.087[b]
		Residual	1748.019	36	48.556		
		Total	2092.775	39			
10	1	Regression	350.867	3	116.956	2.411	.083[b]
		Residual	1745.989	36	48.500		
		Total	2096.856	39			
11	1	Regression	361.958	3	120.653	2.478	.077[b]
		Residual	1752.597	36	48.683		
		Total	2114.555	39			
12	1	Regression	346.101	3	115.367	2.377	.086[b]
		Residual	1747.102	36	48.531		
		Total	2093.203	39			
13	1	Regression	334.317	3	111.439	2.288	.095[b]
		Residual	1753.425	36	48.706		
		Total	2087.742	39			

14	1	Regression	327.863	3	109.288	2.252	.099[b]
		Residual	1747.390	36	48.539		
		Total	2075.253	39			
15	1	Regression	338.615	3	112.872	2.317	.092[b]
		Residual	1753.396	36	48.705		
		Total	2092.011	39			
16	1	Regression	336.111	3	112.037	2.310	.093[b]
		Residual	1746.196	36	48.505		
		Total	2082.307	39			
17	1	Regression	368.184	3	122.728	2.536	.072[b]
		Residual	1742.085	36	48.391		
		Total	2110.269	39			
18	1	Regression	339.610	3	113.203	2.327	.091[b]
		Residual	1751.597	36	48.655		
		Total	2091.207	39			
19	1	Regression	340.326	3	113.442	2.324	.091[b]
		Residual	1756.999	36	48.806		
		Total	2097.325	39			
20	1	Regression	338.443	3	112.814	2.323	.091[b]
		Residual	1748.182	36	48.561		
		Total	2086.625	39			

a. Dependent Variable: EPND_totalscore

b. Predictors: (Constant), Rfscore_total, FiPositive_Emotional_response, FiEngagement

SPSS output for multiple regression (coefficients)

Coefficients[a]

Imputation Number	Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B		Collinearity Statistics	
			B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	Tolerance	VIF
Original data	1	(Constant)	5.965	8.565		.696	.491	-11.482	23.412		
		FiEngagement	.202	.151	.357	1.340	.190	-.105	.510	.335	2.986
		FiPositive_Emotional_response	.084	.178	.122	.476	.638	-.277	.446	.360	2.777
		Rfscore_total	-.056	.025	-.374	-2.270	.030	-.106	-.006	.877	1.141
Pooled	1	(Constant)	2.673	8.444		.317	.752	-13.878	19.223		
		FiEngagement	.139	.159		.879	.380	-.172	.451		
		FiPositive_Emotional_response	.128	.185		.691	.490	-.235	.491		
		Rfscore_total	-.037	.024		-1.528	.127	-.084	.010		

a. Dependent Variable: EPND_totalscore

Paper 3: Executive summary

First-time fathers' emotional wellbeing: Do father involvement and intergenerational father relationships predict depressive symptoms?

Word count: 2300 (excluding title page, references and glossary)

Target audience:

- First-time fathers
- Professionals working in the field of father-inclusive practice.

This summary was developed in consultation with new fathers and has subsequently been read by three individual fathers who have provided feedback on the wording and structure of the report. A glossary page has been developed to aid in the understanding of this report.

Background

Fatherhood

Fatherhood has changed a lot over time. In the past, dads were mainly seen as the family's breadwinners and disciplinarians. Nowadays, being a dad still means providing for the family, but there's also a big focus on caring for and nurturing children.

Research shows that many men want to be more involved in their children's lives than their own fathers were with them. This shift is influenced by their personal traits, beliefs, relationships, and unique situations. Studies have found that modern-day dads spend more time with their children, not just being around them but actively engaging in activities like bathing, changing diapers, doing household chores, and grocery shopping. This hands-on approach shows that fatherhood today is about the quality of time spent with children, not just being physically present.

Father involvement

Father involvement covers many things, from playing and feeding the child to handling tasks like doctor visits and organising playdates. Originally, Lamb (1985) described fatherhood in three ways, but Pleck expanded this to five dimensions:

1. Active Engagement: Spending quality time with the child through activities and play.
2. Warmth and Responsiveness: Being emotionally available and supportive.
3. Control: Helping manage the child's activities.
4. Indirect Care: Providing financial support and other necessities.

5. Process Responsibility: Taking initiative and staying aware of the child's needs.

These dimensions show that being a father today involves a mix of direct interaction, emotional support, and practical responsibilities.

Intergenerational father-son relationships

Some research suggests that a father's approach to parenting is influenced by how he was raised and his relationship with his own dad. If a man had a strong bond with his own father, it might inspire him to build a good relationship with his own child. Research shows that fathering styles and the quality of father-child relationships often get passed down through generations.

According to theories by Bowlby (1982) and Bandura (1977), many modern-day fathers may find themselves navigating the complexities of modern fatherhood without the benefit of a clear fathering role model from their own upbringing, so they may struggle with fatherhood because they didn't have strong role models growing up. Many of today's new dads were raised in households where their fathers focused more on being providers rather than being emotionally involved. So, it's important to consider these intergenerational influences when thinking about how fathers engage with their children today.

Child outcomes

Research shows that family members are interconnected, with each person affecting the others. This means a father's involvement impacts both the mother and the child. Research shows that positive father involvement is important for many aspects of a child's growth, including:

- **Mental Health**
- **Independence**
- **Cognitive Development (They perform better in learning and thinking skills)**
- **Academic Success**
- **Reduced Risky Behaviors**
  Fathers also significantly support the mother's well-being when they are in a relationship with them. However, there's still limited understanding of how being involved as a father affects the dad's own emotional well-being.

Paternal postnatal depression

Postnatal depression (PND) is severe depression that happens soon after a baby is born. While it's often associated with mothers, research shows that up to 16% of fathers also experience depression within two years of their child's birth, with first-time dads being

particularly at risk. About 10.4% of new fathers face depression, compared to 4.8% of men in the general population.

New fathers undergo hormonal changes, lifestyle adjustments, increased responsibilities, and emotional shifts as they transition into fatherhood. This can impact their emotional well-being and, in turn, affect their child's development. Depressed parents, including fathers, may have fewer positive interactions with their children, which can lead to long-term negative outcomes for the child.

However, being actively involved in parenting can boost a father's confidence; active involvement and confidence has proven to act as a protective factor against postpartum depression in research with mothers.

Why carry out this study?

Much of the literature on postnatal depression has drawn attention to mothers and their relationship with their child. Whilst this is important, fathers have not been given the same level of attention despite their importance. Modern-day fatherhood emphasizes active involvement and responsibilities of caring for and nurturing the child (Brannen et al., 2006; Linn et al., 2015; Pleck., 2010), as such fathers are now increasingly involved in the care of their child.

As the importance of fathers in the role of child development is becoming well recognised, as well as paternal PND, there is a need for further understanding on father's emotional wellbeing. One such predictor of wellbeing may be father involvement, e.g. higher levels of father involvement predict lower levels of PND due to research suggesting that active parental engagement can be a protective factor against postnatal depression (Fancourt et al., 2017; Haslam et al., 2006; Levi et al., 2019).

Additionally, fatherhood practices may be influenced by the way in which a father himself was fathered, drawing attention to intergenerational patterns. Understanding intergenerational father-son relationships may help predict father involvement, thus aiding in the understanding of interactions between intergenerational father relationships, father involvement and paternal postnatal depression.

Aims of the study

The study aimed to investigate if father involvement and intergenerational father-son relationships predict PND in first-time fathers of 0–2-year-olds.

Predicted outcomes

1) Higher satisfaction in relationships with participants own fathers will correlate with greater father involvement in parenting.

2) Higher levels of father-involvement and satisfaction with relationship with own father will predict lower levels of PND.

Methods

This study was reviewed and approved by Staffordshire University Ethics Committee.

Who could take part?

To take part, fathers must be:	**Fathers could not take part if:**
• Aged 18 or over. • A first-time father to a 0–2-year-old • Be a male who has a child with a female (different sex) • Able to understand English (as there were no resources for translation)	• Mother or father of child has been hospitalised within the 24-month period of child being born for any reason. • Mother of child is diagnosed with severe mental health/physical health difficulties. • Child has severe health conditions which require prolonged hospitalisation
	The above reasons may have impacted on how involved the father is.

Fathers did not have to be in a relationship with the mother of their child to take part in the research or be living in the same home as the child.

What did taking part involve?

The study was advertised on social media and forums via a poster, along with the link to the study. Participants clicked on the link which took them to an information sheet about the study so that they could give informed consent. Participants were then asked to create a unique code which could be linked back to their responses should they want their information to be deleted after submitting it. Questionnaires were completed either online or via a paper-copy, for example when the researcher attended a face-to-face dad group or nursery for recruitment.

Participants completed 3 questionnaires: one on their level of involvement with their child, one on their relationship with their own father and one on postnatal depression. Demographic questions to identify trends in data were also completed. All questionnaires were completed at one time point; this is called a 'cross-sectional design'.

Demographic questions:

- Age of father
- Ethnicity
- Income
- Education
- Age of child
- Whether participants were living in the same home as the child
- Whether participants were in a relationship with the mother of the child

Participants completed the following 3 questionnaires:

1) **The Father Involvement questionnaire** (Opondo et al., 2016)
   This is a 58-item questionnaire measuring modern-day father involvement e.g. accessibility, engagement, responsibility, relationship with other parent, attitude towards child-care and attitude towards the role of a father. Participants rate their

level of agreement/frequency of actions on a likert scale on statements such as 'How frequently do you change your child's nappy since birth per week'.

2) **The Fatherhood Scale** (Dick., 2004)

This is a 64-item questionnaire retrospectively measuring adult sons' relationships with their father whilst growing up (Dick, 2004). Participants were asked to rate how much they agree with statements, such as 'During my childhood I felt close to my father'.

3) **Edinburgh Postnatal Depression Scale** (Cox et al., 1987)

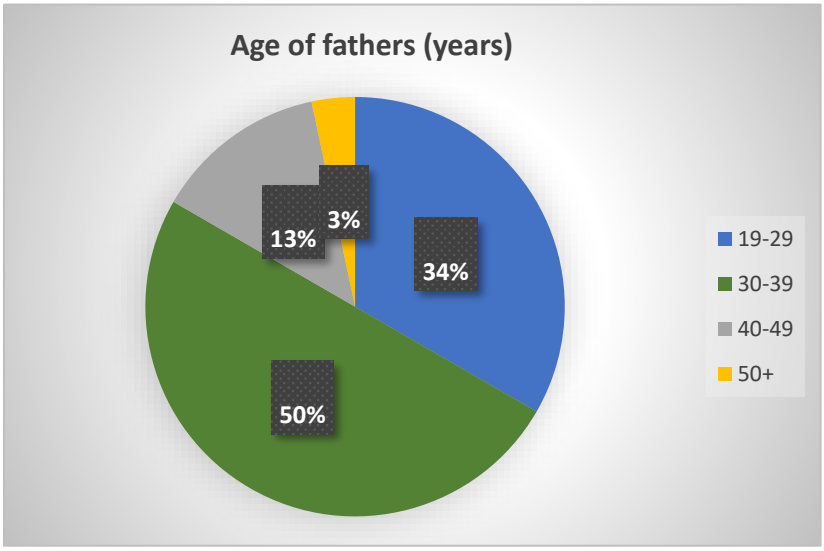
This is a 10-item questionnaire measuring symptoms of depression in the postnatal period. The EPDS was developed for screening symptoms of depression in mothers but can also be used for screening for depression in fathers (Edmondson et al., 2010). Examples of items include 'I have been able to laugh and see the funny side of things'.

Who took part?

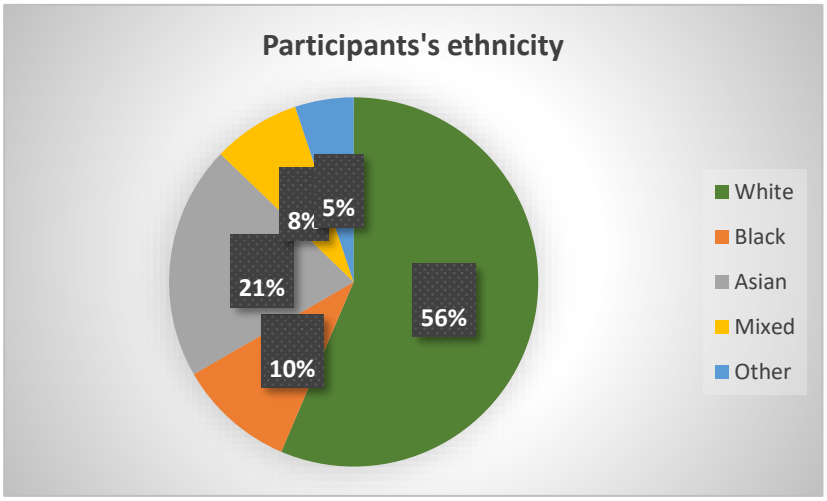
A total of 45 people consented to take part in the research, but there was a lot of incomplete questions for 5 people, so data was analyzed for 40 people.

Below are details of the participant sample. Due to administration error in the early stages of the research, demographic information is only available for 30 of the 40 participants.

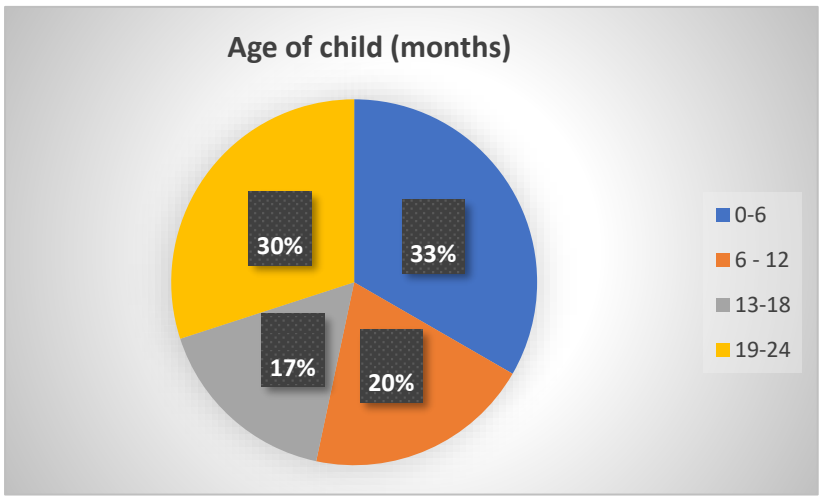
Participant's ages ranged from 19 years to 52 years, with the majority falling in the 30-39 age range:



Most of the participants identified as White (55%):



Most of the participant's children fell within the 0–6-month category:



Most of the participants had completed a University Bachelor's degree (35%) and were earning between £40,000 - £59,999 (38%). A total of 85% of the participant sample that completed the question were in a relationship with the mother of the child and 15% were not. Of those who completed the question, 88% stated that they lived in the same home as their child.

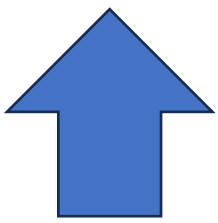
How was the data analysed?

Once the data had been collected it was analysed and explored using statistical calculations to identify trends and develop valuable insights. A **multiple regression** statistical analysis was carried out. This analysis shows whether there is a relationship between two or more things, for example if one concept (e.g. father involvement) can predict another concept (e.g. postnatal depression). These things are referred to as **variables**. If the regression analysis shows that a variable such as father involvement has an impact on another variable, such as postnatal depression, it is described as a **significant predictor** of the other variable.

Key findings

Prediction one: *Higher satisfaction in relationships with participants own fathers will correlate with greater father involvement in parenting.*

This prediction was met. Father involvement was tested as a whole and as 3 separate parts: father engagement (1), positive emotional responsiveness (2) and fathers' security in their role as a father/partner (3).



Higher satisfaction in relationships with participants own fathers

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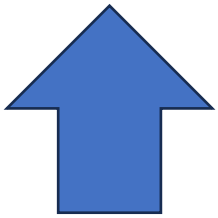

Higher father engagement (1)

Higher satisfaction in relationships with participants own fathers did not predict father emotional responsiveness or fathers' security in their role as a father/partner. Higher

satisfaction in relationships with participants own fathers also did not predict father involvement as a whole.

Prediction two: Higher levels of father-involvement and satisfaction with relationship with own father will predict lower levels of PPND.

This prediction was not met. Higher levels of father-involvement and satisfaction with relationship with own father did not predict lower levels of PND in participants.

Conclusions and recommendations

The was a relationship between father engagement and participants' relationship with their own fathers. This finding extends earlier research stating fathers who felt they had a good relationship with their own father were more likely to be involved fathers (Floyd et al., 1998; Jessee et al., 2018; Hofferth et al., 2012), by identifying a more specific aspect of involvement (engagement) as being important. The current study lends support to ideas that parenting behaviors can repeat across generations. Considering this, one way in which fathers can be supported in their fatherhood journey is through the development of father-specific skills programs, which may help new fathers with positive engagement to their own children. The other parts of the father involvement questionnaire (positive emotional responsiveness and security in participants role in being a father/partner) were not linked with participant's relationship with their own father which suggests that these factors are less important when considering intergenerational patterns.

Additionally, father involvement and relationship with participants own fathers did not predict depression, suggesting that symptoms of PND in new fathers are unlikely to be affected by their level of involvement in their child's care, or by their relationship with their own father.

Limitations of the research

- There was a low number of fathers who took part in this research which may have affected results.
- Most of the participants identified as White, high income and educated. The same results may not apply to fathers of other socioeconomic and ethnic backgrounds.

Recommendations for researchers

- Further development of father involvement questionnaires which accurately captures aspects of fatherhood today. This should be specific to early years as this has proven to be an important period for both the father and child.
- Exploring specific aspects of fatherhood that are related to the father's own emotional wellbeing; for example, using Plecks (2010) 5-dimension fatherhood model.
- Following the results from the current study on links between father engagement and intergenerational father-son relationships, further exploration could be done on this topic.

Who will this research be shared with?

Participants were advised they could contact the researcher to request a copy of this report to be shared with them once the research was complete. This research will also be submitted to the 'New Male studies' journal.

Glossary

Multiple regression: A type of data analysis method

Significant: If the analysis shows that a variable has an impact on another variable

Variables: Something that we are trying to measure. The variables in this project are therefore father involvement, relationship with own father and postnatal depression.

References

Allen, S., & Daly, K. J. (2007). The effects of father involvement. *An Updated Research Sum*, *603*, 1-27. Retrieved online from https://static1.squarespace.com/static/5f31005d60d8203846b53362/t/5f3ddd82d2a19e5420e487aa/1597889968240/The-Effects-of-Father-Involvement.pdf

Amato, P. R., & Gilbreth, J. G. (1999). Nonresident fathers and children's well-being: a meta-analysis. *Journal of Marriage and Family*, *61*(3), 557. https://doi.org/10.2307/353560

Ansari, N. S., Shah, J., Dennis, C. L., & Shah, P. S. (2021). Risk factors for postpartum depressive symptoms among fathers: A systematic review and meta-analysis. *Acta obstetricia et gynecologica Scandinavica*, *100*(7), 1186-1199. https://doi.org/10.1111/aogs.14109

Baldwin, S., Malone, M., Sandall, J., & Bick, D. (2018). Mental health and wellbeing during the transition to fatherhood: a systematic review of first time fathers' experiences. *JBI Database of Systematic Reviews and Implementation Reports*, *16*(11), 2118-2191. https://doi.org/10.11124/jbisrir-2017-003773

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review, 84*(2), 191–215. https://doi.org/10.1037/0033-295X.84.2.191

Beaton, J. M., & Doherty, W. J. (2007). Fathers' Family of Origin Relationships and Attitudes about Father Involvement from Pregnancy through First Year Postpartum. *Fathering*, *5*(3), 236–245. https://doi.org/10.3149/fth.0503.236

Bolzan, N., Gale, F., & Dudley, M. (2004). Time to father. *Social work in health care*, *39*(1-2), 67–88. https://doi.org/10.1300/j010v39n01_06

Bowlby, J. (1982). Attachment and loss: Retrospect and prospect. *American Journal of Orthopsychiatry, 52*(4), 664–678. https://doi.org/10.1111/j.1939-0025.1982.tb01456.x

Brannen, J., & Nilsen, A. (2006). From Fatherhood to Fathering: Transmission and Change among British Fathers in Four-generation Families. *Sociology*, *40*(2), 335–352. https://doi.org/10.1177/0038038506062036

Bronte-Tinkew, J., Carrano, J., Horowitz, A., & Kinukawa, A. (2008). Involvement among resident fathers and links to infant cognitive outcomes. *Journal of Family Issues*, *29*(9), 1211–1244. https://doi.org/10.1177/0192513x08318145

Cabrera, N. J., & Tamis-Lemonda, C. S. (2014). *Handbook of father involvement: multidisciplinary perspectives*. Routledge Academic.

Cochran, S. V., & Rabinowitz, F. E. (1999). *Men and Depression: Clinical and Empirical Perspectives*. http://ci.nii.ac.jp/ncid/BA46651780

Cox, M. J., & Paley, B. (1997). Families as systems. *Annual Review of Psychology, 48,* 243–267. https://doi.org/10.1146/annurev.psych.48.1.243

Cutrona, C. E., & Troutman, B. (1986). Social support, infant Temperament, and Parenting Self-Efficacy: A Mediational model of Postpartum Depression. *Child Development*, *57*(6), 1507. https://doi.org/10.2307/1130428

Davey, S. J., Dziurawiec, S., & O'Brien-Malone, A. (2006). Men's Voices: Postnatal Depression From the Perspective of Male Partners. *Qualitative Health Research*, *16*(2), 206–220. https://doi.org/10.1177/1049732305281950

Demontigny, F., Girard, M. E., Lacharité, C., Dubeau, D., & Devault, A. (2013). Psychosocial factors associated with paternal postnatal depression. *Journal of affective disorders*, *150*(1), 44-49. https://doi.org/10.1016/j.jad.2013.01.048

Dick, G. L. (2004). The Fatherhood Scale. *Research on Social Work Practice, 14*(2), 80–92. https://doi.org/10.1177/1049731503257863

Diniz, E., Brandao, T., Monteiro, L., & Verissimo, M. (2021). Father involvement during early childhood: A systematic review of the literature. *Journal of Family Theory & Review*, *13*(1), 77-99. https://doi.org/10.1111/jftr.12410

Downer, J., Campos, R., McWayne, C., & Gartner, T. (2008). Father involvement and children's early learning: A critical review of published empirical work from the past 15 years. *Marriage & Family Review, 43*(1-2), 67–108.

Fancourt, D., & Perkins, R. (2017). Associations between singing to babies and symptoms of postnatal depression, wellbeing, self-esteem and mother-infant bond. *Public health*, *145*, 149-152. https://doi.org/10.1016/j.puhe.2017.01.016.

Floyd, K., & Morman, M. T. (2000). Affection received from fathers as a predictor of men's affection with their own sons: Tests of the modeling and compensation hypotheses. *Communication Monographs, 67*(4), 347–361.

Gamboa, C. J., & Julion, W. (2019). Group-based transmission of fatherhood among intergenerational African American fathers: A case study. *Journal of Child and Adolescent Psychiatric Nursing*, *32*(2), 73–79. https://doi.org/10.1111/jcap.12227

Golding, J., Me, P., & Jones, R. (2001). ALSPAC–The AvOn Longitudinal Study of Parents and Children. *Paediatric and Perinatal Epidemiology*, *15*(1), 74–87. https://doi.org/10.1046/j.1365-3016.2001.00325.x

Goodman, J. (2004). Paternal postpartum depression, its relationship to maternal postpartum depression, and implications for family health. *Journal of Advanced Nursing*, *45*(1), 26-35. https://doi.org/10.1046/j.1365-2648.2003.02857.x

Hambidge, S., Cowell, A., Arden-Close, E., & Mayers, A. (2021). "What kind of man gets depressed after having a baby?" Fathers' experiences of mental health during the perinatal period. *BMC Pregnancy and Childbirth*, *21*, 1-10. https://doi.org/10.1186/s12884-021-03947-7

Harvey, I., & McGrath, G. (1988). Psychiatric morbidity in spouses of women admitted to a mother and baby unit. *The British Journal of Psychiatry*, *152*(4), 506–510. https://doi.org/10.1192/bjp.152.4.506

Haslam, D. M., Pakenham, K. I., & Smith, A. (2006). Social support and postpartum depressive symptomatology: The mediating role of maternal self-efficacy. *Infant mental health journal*, *27*(3), 276-291. https://doi.org/10.1002/imhj.20092

Hofferth, S. L., Pleck, J. H., & Vesely, C. K. (2012). The Transmission of Parenting from Fathers to Sons. *Parenting, science and practice*, *12*(4), 282–305. https://doi.org/10.1080/15295192.2012.709153

Holopainen, D. (2002). The experience of seeking help for postnatal depression. *PubMed*, *19*(3), 39–44. https://pubmed.ncbi.nlm.nih.gov/12002628

Iwamoto, D. K., Brady, J., Kaya, A., & Park, A. (2018). Masculinity and Depression: A Longitudinal Investigation of Multidimensional Masculine Norms Among College Men. *American journal of men's health*, *12*(6), 1873–1881.

Jessee, V., & Adamsons, K. (2018). Father Involvement and Father–Child Relationship Quality: An Intergenerational Perspective. *Parenting*, *18*(1), 28-44. https://doi.org/10.1080/15295192.2018.1405700

Kane, P. B., & Garber, J. (2004). The relations among depression in fathers, children's psychopathology, and father–child conflict: A meta-analysis. *Clinical Psychology Review*, *24*(3), 339–360. https://doi.org/10.1016/j.cpr.2004.03.004

Kim, P., & Swain, J. E. (2007). Sad dads: paternal postpartum depression. *PubMed*. https://pubmed.ncbi.nlm.nih.gov/20805898

Kohut, H. (1977). *The restoration of the self.* University of Chicago Press.

Lamb, M. E. (2000). The history of research on father involvement: An overview. *Marriage & Family Review, 29*(2-3), 23–42. https://doi.org/10.1300/J002v29n02_03

Lamb, M.E., Pleck, J.H., Levine, J.A. (1985). The Role of the Father in Child Development. In: Lahey, B.B., Kazdin, A.E. (eds) *Advances in Clinical Child Psychology*. Springer.

Letourneau, N., Duffett-Leger, L., Dennis, C. L., Stewart, M., & Tryphonopoulos, P. D. (2011). Identifying the support needs of fathers affected by post-partum depression: a pilot study. *Journal of psychiatric and mental health nursing*, *18*(1), 41–47. https://doi.org/10.1111/j.1365-2850.2010.01627.x

Levi, D., Ibrahim, R., Malcolm, R., & MacBeth, A. (2019). Mellow Babies and Mellow Toddlers: Effects on maternal mental health of a group-based parenting intervention for a t-risk families with young children. *Journal of affective disorders*, *246*, 820-827. https://doi.org/10.1016/j.jad.2018.12.120

Linn, J. G., Wilson, D. R., & Fako, T. T. (2015). Historical Role of the Father: Implications for Childbirth Education. *International Journal of Childbirth Education*, *30*(1), 12–18. Retrieved online from https://search.ebscohost.com/login.aspx

Lucas, S. E., Mirza, N., & Westwood, J. L. (2020). 'Any d*** can make a baby, but it takes a real man to be a dad': Group work for fathers. *Qualitative Social Work*, *20*(3), 718–737. https://doi.org/10.1177/1473325020909431

Lynch, J., & Kilmartin, C. (1999). The pain behind the mask: overcoming masculine depression. *Choice Reviews Online*, *37*(03), 37–1846. https://doi.org/10.5860/choice.37-1846

Machin, A. (2018). *The life of dad: the making of a modern father*. Simon and Schuster.

Marcus, S. M., Young, E. A., Kerber, K., Kornstein, S. G., Farabaugh, A., Mitchell, J., Wisniewski, S. R., Balasubramani, G., Trivedi, M. H., & Rush, A. J. (2005). Gender

differences in depression: Findings from the STAR*D study. *Journal of Affective Disorders*, *87*(2–3), 141–150. https://doi.org/10.1016/j.jad.2004.09.008

Martin, A. F., Maughan, B., Jaquiery, M., & Barker, E. D. (2022). The protective role of father behaviour in the relationship between maternal postnatal depression and child mental health. *JCPP advances*, *2*(2), https://doi.org/10.1002/jcv2.12075

Martin, L. A., Neighbors, H. W., & Griffith, D. M. (2013). The Experience of Symptoms of Depression in Men vs Women. *JAMA Psychiatry*, *70*(10), 1100–1106. https://doi.org/10.1001/jamapsychiatry.2013.1985

Matthey, S., Barnett, B., Ungerer, J. A., & Waters, B. (2000). Paternal and maternal depressed mood during the transition to parenthood. *Journal of Affective Disorders*, *60*(2), 75–85. https://doi.org/10.1016/s0165-0327(99)00159-7

Meighan, M., Davis, M. W., Thomas, S. P., & Droppleman, P. G. (1999). Living with postpartum depression: the father's experience. *MCN. The American journal of maternal child nursing*, *24*(4), 202–208. https://doi.org/10.1097/00005721-199907000-00009

Melrose, S. (2010). Paternal postpartum depression: How can nurses begin to help? *Contemporary Nurse*, *34*(2), 199–210. https://doi.org/10.5172/conu.2010.34.2.199

Monna, B., & Gauthier, A. (2008). A Review of the Literature on the Social and Economic Determinants of Parental Time. *Journal Of Family and Economic Issues*, *29*(4), 634-653. https://doi.org/10.1007/s10834-008-9121-z

Opondo, C., Redshaw, M., Savage-McGlynn, E., & Quigley, M. (2016). Father involvement in early child-rearing and behavioural outcomes in their pre-adolescent children: evidence from the ALSPAC UK birth cohort. *BMJ Open*, *6*(11), e012034.

Paulson, J. F., & Bazemore, S. D. (2010). Prenatal and postpartum depression in fathers and its association with maternal depression. *JAMA*, *303*(19), 1961. https://doi.org/10.1001/jama.2010.605

Paulson, J. F., Dauber, S., & Leiferman, J. A. (2006). Individual and combined effects of postpartum depression in mothers and fathers on parenting behavior. *Pediatrics*, *118*(2), 659–668. https://doi.org/10.1542/peds.2005-2948

Paulson, J. F., Keefe, H. A., & Leiferman, J. A. (2009). Early parental depression and child language development. *Journal of Child Psychology and Psychiatry*, *50*(3), 254–262. https://doi.org/10.1111/j.1469-7610.2008.01973.x

Pinheiro, R. T., Da Silva Magalhães, P. V., Horta, B. L., Pinheiro, K. a. T., Da Silva, R. A., & Pinto, R. H. (2005). Is paternal postpartum depression associated with maternal postpartum depression? Population-based study in Brazil. *Acta Psychiatrica Scandinavica*, *113*(3), 230–232. https://doi.org/10.1111/j.1600-0447.2005.00708.x

Pleck, E.H., & Pleck, J.H. (1997). Fatherhood ideals in the United States: Historical dimensions. In M.E. Lamb (Ed.), *The role of the father in child development* (pp. 33-48). John Wiley & Sons, Inc.

Pleck, J. H. (2010). Fatherhood and masculinity. In M.E. Lamb (Ed.), *The role of the father in child development* (pp. 27-57). John Wiley & Sons, Inc.

Ramchandani, P., Stein, A., Evans, J., & O'Connor, T. G. (2005). Paternal depression in the postnatal period and child development: a prospective population study. *The Lancet*, *365*(9478), 2201–2205. https://doi.org/10.1016/s0140-6736(05)66778-5

Rosenberg, J., Wilcox, W. B., & United States. (2006). *The importance of fathers in the healthy development of children*. Washington, D.C.: U.S. Dept. Health and Human

Services, Administration for Children and Families, Administration on Children, Youth and Families, Children's Bureau, Office of Child Abuse and Neglect.

Salokangas, R., Vaahtera, K., Pacriev, S., Sohlman, B., & Lehtinen, V. (2002). Gender differences in depressive symptoms: An artifact caused by measurement instruments? *Journal of Affective Disorders*, 68(2-3), 215-220. https://doi.org/10.1016/S0165-0327(00)00315-3

Scarff J. R. (2019). Postpartum Depression in Men. *Innovations in clinical neuroscience*, *16*(5-6), 11-14. Retrieved online from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6659987/pdf/icns_16_5-6_11.pdf

Sethna, V., Murray, L., Netsi, E., Psychogiou, L., & Ramchandani, P. G. (2015). Paternal depression in the postnatal period and early father–infant interactions. *Parenting*, *15*(1), 1-8. https://doi.org/10.1080/15295192.2015.992732

Spector, A. Z. (2006). Fatherhood and depression: A review of risks, effects, and clinical application. *Issues in Mental Health Nursing*, 27(8), 867-883. https://doi.org/10.1080/01612840600840844

Spencer, O. (2014). *Sad Dad: An exploration of postnatal depression in fathers*. Free Publishing Limited.

Su, L., Kubricht, B. C., & Miller, R. B. (2017). The influence of father involvement in adolescents' overall development in Taiwan. *Journal of Adolescence*, *59*(1), 35–44. https://doi.org/10.1016/j.adolescence.2017.05.010

Van Wel, F., Linssen, H., & Abma, R. (2000). The parental bond and the wellbeing of adolescents and young adults. Journal of Youth and Adolescence, 29(3), 307-318. https://doi.org/10.1023/A:1005195624757

Wexler, D. (2005). Is He Depressed or What?: What to Do When the Man You Love Is Irritable, Moody, and Withdrawn. New Harbinger.

Winkler, D., Pjrek, E., & Kasper, S. (2005). Anger attacks in depression – evidence for a male depressive syndrome. *Psychotherapy and Psychosomatics*, *74*(5), 303–307. https://doi.org/10.1159/000086321