



A mixed-method evaluation of Video Interaction Guidance (VIG) delivered by early-years workers in a socially disadvantaged urban community

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3

4 **Introduction**

5 *Becoming a parent in contexts of social disadvantage*

6 The transition to parenthood can pose daunting challenges for men and women. New
7 parents face multiple physical and psychological changes during the early years, including a
8 reorganisation of individual and couple identity into parental identity, a restructuring and re-
9 balancing of responsibilities and roles, the experience of fatigue and social isolation, all while
10 navigating societal expectations, norms and judgements related to parenthood (Stern, 1995;
11 Slade et al., 2009; Ammaniti & Gallese, 2014; Lévesque et al., 2020).

12 For families whose transition takes place within contexts of social disadvantage (e.g.,
13 poverty, housing difficulties, language and cultural barriers, limited support networks), there is
14 an added risk of adversities impeding new parents' ability to recognize and respond sensitively
15 to their baby's needs; this may, in turn, negatively impact the parent-infant relationship and
16 infant's attachment style (Verhage et al., 2016; Lee & Jackson, 2018). Children growing up in
17 such adversity are more likely to experience social-emotional wellbeing difficulties and face
18 similar types of social disadvantage to their parents in their adult life (Non et al., 2016; Noonan
19 & Fairclough, 2018; Scaramella & Neppl, 2008).

20 New parents living in contexts of social disadvantage may thus require additional sup-
21 port to develop or prioritise sensitive and attuned interactions with their children. The transition
22 to parenthood is an opportune time to intervene early and provide this support, as parents are
23 highly responsive to making positive changes in their lives (Condon et al., 2004; Edvardsson
24 et al., 2011). This motivation, together with the high incidence of professional contact, makes
25 the postnatal period a critical time for professionals to engage with parents, intervene early and
26 prevent difficulties from developing or escalating.

27 *Promising evidence of early-years interventions*

28 There is considerable evidence that parenting interventions during this life stage can
29 prevent and diminish parenting difficulties, including those that use cognitive behavioural ther-

30 apy, those with an attachment focus and those that are based on social learning theory (Ment-
31 ing, Orobio de Castro & Matthys, 2013; Reyno & McGrath, 2006; Thomas & Zimmer-Gembeck,
32 2007). In a meta-analysis of 88 attachment-based early interventions, treatments that specifi-
33 cally focused on promoting parental sensitivity and increasing infant attachment security were
34 found to be highly effective (Bakermans-Kranenburg et al., 2003). Overall, early-year parenting
35 interventions can lead to significant benefits to parental wellbeing, the parent–infant relationship
36 and infant development (Morrison et al., 2014; Rayce et al., 2017).

37 Amongst the increasing number of early interventions available, video-feedback inter-
38 ventions (VFI) are gaining widespread recognition for their effectiveness in improving parent
39 sensitivity, behaviour, and attitudes, and promoting attachment security for young children at
40 risk due to a range of difficulties (Fukkink *et al.*, 2008; O'Hara *et al.*, 2019). VFI are now recom-
41 mended by the National Institute for Health and Care Excellence for parents and carers of
42 infants at risk of attachment difficulties, as may be the case for new parents in contexts of
43 disadvantage (NICE, 2012; NICE, 2015). VFI can be delivered by health visitors and community
44 support workers (e.g., Morrell *et al.*, 2009), which may provide a preferable cost-effective alter-
45 native given their established relationships with parents as providers of universal services.

46 What is Video Interaction Guidance?

47 This study focuses on a short-term, strengths-based, client-centred VIF called Video
48 Interaction Guidance (VIG). VIG is carried out in the home and encourages parents to watch
49 and reflect on video clips of naturally occurring successful interactions with their babies, while
50 exploring areas they have identified as concerns (Kennedy *et al.*, 2011). The VIG Practitioner
51 takes a short video (5–10 minutes) of the parent-child interaction and selects clips to highlight
52 moments of attuned interactions which also relate to the parents' goals. These clips are then
53 shown to parents in a 'shared review', carefully exploring them together to support parents in
54 recognising positive interactions and actions with their child (Kennedy *et al.*, 2011). Through
55 seeing their own attuned responses, parents can start observing and understanding how im-
56 portant these experiences are for their child, themselves, and their developing relationship. At
57 the heart of VIG lies the concept of cooperative intersubjectivity - the sharing of experience and
58 social understanding (Trevarthen, 1979; Stern, 1995) – meaning every conversation values its
59 two subjects equally, whether adult to adult (VIG practitioner to parent) or adult to child. At all

60 times, practitioners are attentive to parents and receive their concerns. Parents and infants
61 both thrive when they can enjoy getting to know each other, read each other's signals, and
62 develop together. VIG also roots itself in Bowlby's attachment theory (1969) by promoting re-
63 peated patterns of sensitive reflective interaction which foster secure attachment, allowing the
64 optimal development of infants' emotional and behavioural regulatory function (Beebe *et al.*,
65 2010; Tronick, 2007; Panksepp, 1998). Finally, VIG draws from mediated learning theories by
66 helping parents recognize babies' need for a break ("rupture") and gentle re-attunement to their
67 new emotional state ("repair") (Vygotksy, 1962; Wood *et al.*, 1976; Tronick, 1989).

68 Considering VIG's promising evidence as a video-feedback approach, this small-scale,
69 non-randomised, mixed-methods study aims to explore the acceptability and preliminary clini-
70 cal impact of health visitors and community support workers in delivering VIG to new parents
71 in a socially disadvantaged urban community. This study adds to the literature by including
72 measures of parental stress/anxiety and reflections of parents' experience of VIG (O'Hara *et*
73 *al.*, 2019). It specifically addresses the following factors¹:

- 74 1. Ease of recruitment, rate of participation/retention and reasons for attrition.
- 75 2. VIG's preliminary effectiveness in improving clinical outcomes, as measured quantitatively
76 by increased parental sensitivity, improved bonding with their infants and parental self-effi-
77 cacy, decreased parental stress, and the development of informal networks and community
78 connections for the families taking part.
- 79 3. Acceptability measured by parents' qualitative experience of the intervention.

80

81 **Methods**

82 The project took place from March 2016 to April 2017, and was conducted in an ethni-
83 cally diverse, inner borough of London (United Kingdom) with multiple indices of deprivation –
84 including elevated levels of family homelessness, children living in poverty, children in care,
85 and A&E attendance for infants.

86 Training the VIG guiders

¹ The acceptability and feasibility of implementing the intervention was also explored through interviews with the VIG practi-
tioners and supervisors involved in the study and these findings have been published in Chakkalackal *et al.*, 2017.

87 Prior to commencing the evaluation, seven front line early-years staff (4 health visitors
88 and 3 family support workers) completed the accredited VIG Association-UK (AVIGuk) two-day
89 Introductory Training. The training process then continued in practice with trainees learning VIG
90 with their first families under the close supervision of an accredited supervisor. The supervision
91 took place over 15 one-hour sessions divided by a mid-point review training day. The fidelity of
92 both training and delivery of the VIG method was quality assured and monitored by AVIGuk.
93 All the VIG practitioners delivered a course of six weekly VIG sessions (one session per week
94 over 6 weeks), as recommended by AVIGuk.

95 Recruitment and procedure

96 Given the budget, timeframe and target population of the study, a convenience sam-
97 pling approach was chosen. Participants were recruited from local health visiting and family
98 support services. The newly trained VIG guiders invited families to take part universally within
99 their allocated caseloads and accepted referrals by peers, the project manager, and individuals
100 from local children's centres. Families with infants aged one year or younger were eligible to
101 take part. Families were excluded if there were any safeguarding concerns, parental substance
102 misuse and/or severe parental mental health difficulties. It was believed that recruiting families
103 from professionals they knew would facilitate the intervention's uptake (Daro & Harding, 1999),
104 and promote parents' openness and willingness to discuss their interactions with their baby
105 with guiders.

106 The study aimed to provide evidence of the acceptability and preliminary clinical effec-
107 tiveness of health visitors and community support workers in delivering VIG to new parents in
108 socially disadvantaged urban communities. Written consent was sought from all participants.
109 Non-English speaking parents were offered an interpreter. The evaluation followed a before-
110 and-after design with no matched control group. Quantitative outcome measures were collected
111 by the VIG practitioner at two-time points: baseline, prior to taking part in VIG (T1) and follow-
112 up (T2; last VIG session). Qualitative data was collected following participation in the interven-
113 tion (post-T2).

114 Quantitative data on participants' sensitivity and relationship to their infant, infant de-
115 velopment, and perceived parental confidence, anxiety and depression was collected with the
116 following 6 questionnaires: Ages and Stages Questionnaires: Social-Emotional (ASQ:SE;

117 Squires *et al.*, 2002), Keys to Interactive Parenting Scale (KIPS; Comfort and Gordon, 2006),
118 Maternal/Paternal Postnatal Attachment Scale (MPAS/PPAS; Condon and Corkindale, 1998),
119 Maternal Confidence Questionnaire (MCQ; Parker and Zahr, 1985), Patient Health Question-
120 naire (PHQ-9; Kroenke, *et al.*, 2001), Generalised Anxiety Disorder Questionnaire (GAD-7; Wil-
121 liams, 2014). The data was stored and analysed with SPSS, using parametric paired sample t-
122 tests to test for the mean differences pre- and post-VIG intervention. Missing item data were
123 coded and computed in subsequent analysis.

124 Qualitative data was collected through semi-structured telephone interviews conducted
125 by staff involved in the intervention (VIG practitioners and supervisors, health visitors and family
126 support service managers). The interview topic guide was constructed to obtain parents' de-
127 tailed perspectives and experiences of the intervention, focusing on its acceptability, useful-
128 ness, and relevance. The data was transcribed and analysed using inductive thematic analysis
129 (Braun and Clarke, 2006). Transcript content was explored by a member of the evaluation team,
130 who organised key areas into meaningful themes. Transcripts were coded according to these
131 developed themes within the data. The coding was reviewed and refined, with similar themes
132 being merged and sub-themes created where appropriate.

133 Sample

134 The sample consisted of 23 parents, 22 females and one male, ranging from ages 18
135 to 42 ($M=33, \pm 7.5$). Participants disclosed information on age, household composition and in-
136 come, ethnicity, English fluency, marital, education and employment status, and current mental
137 health and wellbeing. **Table I.** presents detailed participant characteristics.

138
139 **[Table I Here]**

140

141 **Results**

142 Recruitment and retention

143 During the time of the evaluation, 28 families were approached to take part in the eval-
144 uation, of which 23 agreed, giving an 82% maximum rate of participation. Of the 23 families
145 that consented, 4 dropped out of the evaluation, leaving 19 families to complete the pre- and
146 post-VIG quantitative assessments. 6 of those families also agreed to participate in the post-
147 VIG qualitative interview. Reasons for dropping out included "no longer wanting to take part",

148 “going on holiday”, and “moving out of the borough”. The sample sizes for each statistic are
149 provided due to subsequent omitted data.

150 Effectiveness in improving clinical outcomes: preliminary findings from the scales

151 See **Table II.** for an overview of the quantitative data results.

152 **Parental depression.** After VIG participation, mean PHQ-9 scores decreased signifi-
153 cantly from 6.2 (\pm 5.4) at T1 to 5.5 (\pm 5.6) at T2 ($p=.028$). Both the baseline and follow-up mean
154 scores of the PHQ-9 can be clinically classified as “mild depression” (Kroenke *et al.*, 2001).

155 **Parental anxiety.** Anxiety levels of parents were assessed into mild, moderate, and
156 severe groups based on GAD-7 scores. Scores of 5, 10 and 15 were taken as cut-off points for
157 mild, moderate, and severe anxiety, respectively. Overall, participant mean scores declined
158 from 6.15 (\pm 5.87) at T1 to 3.85 (\pm 4.59) at T2 ($p=.005$). Clinically, this shift indicates movement
159 from ‘moderate’ to ‘mild’ anxiety.

160 **Parental confidence.** While the MCQ is intended to be administered only to mothers,
161 it was delivered to all participants, regardless of their gender. Parental confidence scores in-
162 creased significantly from 57 (\pm 6.76) at T1 to 63 (\pm 4.68) at T2 ($p=.001$) following participation
163 in VIG.

164 **Parent-infant relationship quality.** MPAS and PPAS scores were measured at base-
165 line and follow-up as total scores and by their three thematic subscales: 1) quality of attach-
166 ment, 2) absence of hostility, and 3) pleasure in interaction for the MPAS; 1) patience and
167 tolerance, 2) pleasure in interaction, and 3) affection and pride for the PPAS. Total MPAS
168 scores indicated greater levels of parent-infant attachment, T1=73 (\pm 9.9) and T2=80 (\pm 8.32)
169 ($p<.001$). The small number of male participants (N=1) prohibited the analysis of PPAS data.
170 Parent-child interactions improved overall as indicated by an increase of mean KIPS scores, at
171 baseline (M=3.67, \pm 0.69) to follow-up (M=4.14, \pm 0.61) ($p=0.013$).

172 **Socio-emotional infant outcomes.** There was no need for the referral of the child for
173 further mental health evaluations as both the six-month mean score (M=33.21, \pm 23.09) and 12-
174 month mean score (M=26.25, \pm 11.81) at T1 fell below their respective ASQ:SE cut-off points
175 (45 and 48). Both the six-month and 12-month group mean scores declined between T1 and
176 T2; however, only results from the six-month follow-up analysis were statically significant
177 ($t(13)=3.79$, $p=.002$). The 12-month group mean score at T2 (M=12.5, \pm 6.45) further decreased

178 from T1, but this was not significant ($t(3)=2.2$, $p=.115$) likely due to the small sample size of the
179 12-month group ($N=4$).

180

181 **[Table II Here]**

182

183 Acceptability of the intervention: findings from the thematic analysis

184 Six families were interviewed about their experience of the intervention. The thematic
185 analysis uncovered eight themes: (1) why take part?; (2) making it work for us; (3) being under
186 the spotlight; (4) I am doing a good job; (5) me and my baby; (6) continuity helps build trust; (7)
187 opening doors in important relationships; and (8) getting out and about.

188 **Why take part?** Families had varied reasons for wanting to participate. Two parents
189 explicitly wanted help connecting with their child due to perceived difficulties in this area (“*I*
190 *realised that she wasn’t really connected to me as well – that we weren’t really giving each*
191 *other basically eye to eye.*” [FAMILY01]). Others ($N=2$) wanted support for themselves and
192 have company. One parent cited their own mental health difficulties as the reason for partici-
193 pating (“*I felt down, quite blue and depressed, and I was always trying to pick myself up, and*
194 *so I felt that it was important to reach out for a little bit of help.*” [FAMILY02]). Some parents
195 described feeling anxious about their child and their parenting abilities and hoped the pro-
196 gramme would increase their confidence. Decreased parental confidence was related to life
197 events such as the premature birth of their baby or relationship difficulties with the child’s other
198 parent. Increasing the enjoyment of parenting was another reason for participating (“*I didn’t*
199 *want to lose sight. I wanted to be able to enjoy it [being a mother].*” [FAMILY02]).

200 **Making it work for us.** Overall, parents felt the practical aspects of the programme
201 (location, content, length, and frequency of sessions) were appropriate. They appreciated the
202 home setting for the sessions (“*I was more comfortable and relaxed to have it at home.*” [FAM-
203 ILY01]) and the flexibility of their VIG practitioners. Parental views on the ideal frequency of
204 sessions were a matter of personal preference (“*It was fine. I don’t think you could do it longer.*”
205 [FAMILY03]). Some parents suggested the sessions be spread out over a longer period to be
206 able to notice their child’s development.

207 Parents were equally divided on their questionnaire completion experiences. Three
208 parents stated that completion of these questionnaires was either fine or interesting, while oth-
209 ers (N=3) reported having difficulty with them. For some, this was due to the style of questions
210 and length of the survey. For one parent, difficulties arose from the reflective nature of the
211 questionnaires, which imposed contemplation of their own emotions and feelings (*"It was very
212 upsetting to see where I was putting myself, but I was very honest about how I was feeling, so
213 it was very upsetting."* [FAMILY01]). However, by the end of the intervention, this parent felt
214 happier to complete the questionnaire as their emotional state had changed.

215 The feedback provided by the VIG practitioners while viewing the videos was perceived
216 positively by all participants (N=6) (*"She was really considerate when she did the filming. [...] The
217 very first session was quite nerve-racking. She was just great, I mean, how she just really
218 kind of made me almost forget about it."* [FAMILY03]). One parent suggested giving access to
219 the video footage outside of the sessions to allow more time for reflecting on the contents (*"If
220 there could be an app that I could have signed in myself to access the footage. I think it would
221 just be easier to have my own [...] personal, private time to be able to, kind of, digest it a little
222 bit more."* [FAMILY04]).

223 **Being under the spotlight.** Most participants (N=5) expressed initial worries about
224 being filmed with their children. For some, this was due to data protection and confidentiality
225 concerns (N=3), while others were apprehensive about feeling judged. All participants stated
226 their comfort-levels with being filmed increased after a short period of time and that this was
227 facilitated by the VIG practitioners, with whom they developed a relationship of trust. For two
228 participants, the type of technology used (iPads and smartphones), and their sense of security
229 put them at ease. While the filming process was described as anxiety-provoking, participants
230 understood the filming was an integral part of the programme, and one that ultimately brought
231 beneficial changes for them (*"Actually being able to see myself, like, almost step out of myself
232 and see myself, and see my interaction – it really helps me understand and digest what was
233 happening."* [FAMILY04]).

234 **I am doing a good job.** The intervention increased the confidence of all parents (N=6),
235 with some directly attributing this to improved mental health and wellbeing. Parents stated their
236 increased confidence also had benefits for their child (*"In the long run, obviously the baby also*

237 *benefits from me being more confident.*" [FAMILY03]). Most parents (N=5) gained confidence
238 from viewing their interactions with their child on video, as it allowed them to discern their ex-
239 isting skills, receive positive feedback from the VIG practitioners, and identify areas for future
240 development ("*It was just a really clever, surprising experience to watch, and I think it just really*
241 *helped to – it definitely built my confidence.*" [FAMILY04]; "*She would bring out some of the*
242 *nice things that she could see and how I could improve.*" [FAMILY06]). The external feedback
243 from the practitioners was described as particularly powerful for reducing parental anxiety, guilt,
244 and feelings of judgment from peers:

245

246 *"I felt so much ... so much emotion, so much guilt, so much, like, doubt whether*
247 *I was doing the right thing, whether I was a good enough mum. So actually going*
248 *through the programme and actually having that reassurance completely helped*
249 *with how I felt.*" [FAMILY04]

250

251 *"I was not confident when there was people around and people were watching*
252 *me being a mother to her – ‘Oh my gosh, am I doing a good job?’ – you know,*
253 *all these thoughts. But having the VIG practitioner watch us, she was someone*
254 *else watching us ... but she was kind of like an outsider watching us – that,*
255 *again, was the confidence.*" [FAMILY01]

256

257 **Me and my baby.** Half of the parents (N=3) stated the programme improved their con-
258 nection with their children ("*Yes, the benefit was for both of us – me and my baby. It was a*
259 *connection that really improved.*" [FAMILY01]). Two parents felt the programme increased their
260 knowledge of their child's behaviour. One parent described the programme had helped them
261 "*be more calm*" with their baby at times when they were "*mentally not well*" [FAMILY01]. Seeing
262 their babies' reactions on video, and hearing the practitioners' feedback, led to two parents
263 performing more activities with their baby following the intervention ("*I think it has helped me to*
264 *play with him more, because I can see that he really enjoys it - [...] you see his eyes light up*
265 *and smiling when you are doing stuff.*" [FAMILY06]). Parents with more than one child (N=2)

266 found the intervention also benefited their interactions with their other children, as VIG practi-
267 tioners additionally gave tips and feedback about managing this dynamic:

268

269 *“She kind of helped me to see the importance of spending time with my other*
270 *children, because the baby kind of takes up all your time and, you know, she*
271 *gave me ideas. So it has improved, I would say, my relationship with my [older]*
272 *son in particular, because he was the one that got the least of my time.” [FAM-*
273 *ILY06]*

274

275 **Continuity helps build trust.** The programme directly affected the relationship be-
276 tween parents and VIG practitioners. Seeing the same healthcare professional over multiple
277 visits, rather than different staff on each occasion, helped participants build trust with the pro-
278 fessions and feel comfortable talking openly about their concerns (*“It is nice to have that conti-*
279 *nuity because it helps build trust as well.”* [FAMILY05]). Parents described feeling supported by
280 the health workers, with one parent perceiving the increased frequency of contact with their
281 health visitor as the main benefit of the programme. For others, VIG practitioners were cited as
282 having a major impact on their mental health (*“She was amazing. She was just one of the main*
283 *reasons I feel that really helped me get through my baby blues.”* [FAMILY04]; *“What made me,*
284 *I guess, feel positive is her [commendation] because she would encourage me and let me know*
285 *that I am doing really well.”* [FAMILY06]).

286

287 **Opening doors in important relationships.** Some participants reported the quality of
288 their relationships with partners, friends, and family had also improved because of their involve-
289 ment in the programme. Half of the parents (N=3) described how the programme improved their
290 relationship with their partners, particularly where this had previously been negatively affected
291 by mental health difficulties:

292

293 *“With my husband, like, definitely in the early days I felt quite frustrated all the*
294 *time. I think as part of, like, going through my baby blues ... Having been able*

295 to actually talk to him about, you know, the sessions, and he could see how I
296 was after the sessions – it definitely improved our relationship.” [FAMILY04]

297

298 Others (N=2) described how the reassurance given by the VIG practitioners provided
299 mutual benefits for themselves and the family unit, as their partners’ anxieties had equally re-
300 duced, (“*Seeing her reassured was always of benefit to me as well.*” [FAMILY05]). The increase
301 in self-confidence gained through the programme empowered two parents to speak openly to
302 friends and family about their concerns. For one parent, the programme allowed them to over-
303 come the perceived stigma surrounding mental health, enabling them to discuss this with
304 friends:

305

306 “*Having gone through the baby blues and, actually, I suppose there is a bit of a*
307 *stigma attached to it – not a lot of women talk about it and I, you know, made*
308 *that kind of decision that I need to talk about how I am feeling.*” [FAMILY04]

309

310 **Getting out and about.** The programme was found to have positive impacts on par-
311 ticipants’ social life. Two mothers stated they were going out more because of the programme.
312 This was due to information provided by health visitor about local social groups, widening par-
313 ticipants’ social networks. The intervention also increased participants’ self-confidence and re-
314 duced their anxiety about going out and being around others with their children: “*No matter*
315 *what, people are always judging ... so that [the programme] kind of benefited me with my self-*
316 *esteem and the confidence of mothering my child wherever we are, not just indoors.*” [FAM-
317 ILY01]

318

319 **Discussion**

320 This study found VIG to be highly acceptable to socially disadvantaged parents. De-
321 spite small sample sizes, the quantitative analyses showed parents improved in most domains
322 being measured. Mean scores for both depression and anxiety decreased between T1 and T2,
323 with anxiety scores shifting from ‘moderate’ to ‘mild’ levels following VIG. Perceived parental
324 confidence also increased significantly from T1 to T2. Mean MPAS scores in terms of overall

325 parent-infant attachment and attachment quality also improved. The mean scores on the KIPS
326 also found significant improvements in the quality of the parent-infant relationship. Significant
327 increases were lastly evidenced on several items of the KIPS, such as parents' promotion of
328 language experiences, giving supportive directions and promoting exploration and curiosity.
329 Lastly, findings on the ASQ:SE indicated improvements in the in babies' social and emotional
330 development following VIG.

331 Many of the improvements outlined in the quantitative analyses were reflected in the
332 qualitative analysis of the interviews exploring parents' views of the programme. Parents re-
333 vealed an overwhelmingly positive experience of receiving VIG as part of a universal offer within
334 their community; all perceived the programme to have benefited them and their families in sev-
335 eral life domains. While being filmed was initially daunting for most parents, all later reported
336 becoming comfortable with the process and understood the video footage as an essential ele-
337 ment of the intervention. Participants stated the intervention increased their confidence as a
338 parent. This was achieved through seeing their skills reflected in video recordings, and the
339 positive feedback received from practitioners. Throughout the programme, parents described
340 an improved connection with their child. The VIG also helped some parents to widen their social
341 networks by gaining the confidence to go out more or join a local social group.

342 Considerations around recruitment, sampling, and retention

343 This study faced threats to internal and external validity which are important to discuss.
344 During the evaluation period, 3 of the 7 VIG practitioners changed occupation, which adversely
345 impacted the numbers of families recruited to the evaluation. Another challenge was the strict
346 age criteria for the child, which slowed down recruitment overall, and impacted sample size by
347 having fewer families taking part in the study than expected. Despite this, uptake of approached
348 families was high (82%). Notably, although recruitment was universal, it operated on a conven-
349 ience basis, being largely done at the clinical discretion of each VIG practitioner as part of how
350 they managed their overall caseload and wider clinical responsibilities. As such, parents in-
351 volved in the study were either self-selecting or invited by VIG practitioners. Such sampling
352 approaches have the potential to introduce selection and response bias to the study, limiting
353 the findings' generalisability as participants do not statistically represent the general population.

354 However, the use of a convenience sampling approach in this study is justified. Firstly,
355 while this cannot be said for the quantitative evaluation of preliminary clinical outcomes, the
356 evaluation of acceptability was qualitative in nature, and as such did not seek to achieve sta-
357 tistical representativeness, but rather dive deeper into the unique experiences of individuals.
358 Secondly, the target population was already “selective” in nature with regards to the general
359 population, as it sought out new parents in context of social disadvantage. Previous studies
360 have demonstrated that recruitment in socially disadvantaged communities can be challenging
361 due to high family mobility, increased likelihood of refusal to allow access to their home, and
362 general suspicion and mistrust of professional services (Daro & Harding, 1999). Using a con-
363 venience sampling approach enabled the evaluation to be studied in the intended subgroup of
364 the general population. Moreover, the success of VIG relies heavily on the ability to converse
365 openly about parent-infant interactions; these conversations happen more easily if they are
366 founded on feelings of trust and non-judgement between the practitioners and parents. Allowing
367 selection of families into the study increased the likelihood of successful data collection for the
368 evaluation as VIG sessions built on professional rapport already established.

369 This same rapport poses questions around response bias - namely, whether partici-
370 pants were satisficing or responding overwhelmingly positively to the evaluation questions to
371 “please” the practitioners. Controlling for satisficing was impossible in this study, given that its
372 design was chosen appropriately to its aims and resource limitations. The study built on previ-
373 ous VIG effectiveness literature as rationale to evaluate the delivery of VIG by different types
374 of professionals than usual (i.e., health visitors and family support workers), in a specific setting
375 (socially disadvantaged borough). In practice, it is expected that health visitors and family sup-
376 port workers will also be building from their rapport when delivering VIG. Thus, in this context,
377 VIG is to be thought as a supplement to the support provided by health visitors and family
378 support workers to socially disadvantaged families.

379 Finally, the sampling approach was chosen to keep attrition low. Of the 23 families that
380 consented to take part in the evaluation, 4 (17%) dropped out by T2. 17% is below the 20%
381 benchmark considered to indicate ‘acceptable attrition’ (Early Intervention Foundation, 2018)
382 and is comparable to other universally delivered postnatal intervention evaluations (Brugha et
383 al., 2011) and video-feedback interventions targeting attachment (Bakermans-Kranenburg et

384 al., 2003) that are not necessarily conducted in the context of social disadvantage. It should be
385 noted that analyses of the differences between starters and completers revealed a significant
386 difference in age, with young age associated with starters rather than completers ($p < .001$).
387 Insofar, parental intervention studies have denoted socio-economic status, age of the child and
388 treatment format (individual vs. group) as factors of attrition (Chacko et al., 2016); the relation-
389 ship between parental age and attrition needs to be further investigated. With less than 20
390 participants completing the intervention overall, the strength of the evidence is further limited in
391 its generalisability by its sample size (Early Intervention Foundation, 2018).

392 Overall evaluation limitations and considerations for future research

393 This study carried threats to external validity (generalisability of outcomes to the gen-
394 eral population) due to limitations stemming from its design (sampling approach, small sample
395 size, and the non-randomised, before-and-after evaluation design lacking a matched control
396 group). It also carried a threat to internal validity, as the length of the evaluation period only
397 allowed to study short-term effects of VIG; the lack of participant follow-up challenges the sus-
398 tainability of VIG in improving participant outcomes in the long-term. The study findings should
399 therefore be interpreted as preliminary results on the clinical effectiveness of VIG delivery by
400 health visitors and family support workers to socially disadvantaged families, warranting further
401 investigation through a larger, randomised-controlled trial with long-term follow-up.

402 However, as discussed above, the limitations stemming from the study design are in-
403 trinsically linked to the interventional nature of VIG, which called for such design compromises.
404 The underlying mechanism by which VIG is effective is related to the ease of having open
405 conversations about parent-infant interactions. Qualitative data has shown the rapport and trust
406 between the practitioners and parents, and parents' feelings of safety against judgement, were
407 essential to create an environment for these conversations which helped them achieve change.
408 Such factors may pose challenges when designing a randomised evaluation of VIG and scaling
409 up its implementation (Kelley et al., 2014; Tchala Vignon Zomahoun et al., 2019).

410 **Conclusion**

411 This mixed methods evaluation of VIG as delivered universally by health visitors and community
412 family support workers in a socially disadvantaged urban community was found to be accepta-
413 ble with encouraging improvements in parents' self-confidence, parental anxiety, parent-infant

414 relationships quality and infant development. This small-scale, non-randomised evaluation sup-
415 ports the implementation of NICE recommended video-feedback approaches as delivered by
416 health visitors and community family support workers. VIG delivery by these professionals may
417 provide a preferable cost-effective alternative to psychologists given their established relation-
418 ships with parents as providers of universal services. Further large scale, randomised evalua-
419 tions are required to replicate and strengthen these preliminary findings, although the nature of
420 VIG as an intervention building on established trust and professional rapport may add complex-
421 ities to randomized evaluation designs.

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Tables with Manuscript

Demographic	Participants (N=23 unless stated otherwise)
Gender	
▪ Female	22
▪ Male	1
Age in years: M (SD)	33 (7.5)
Number of children in the household: M (SD)	1.55 (1.18)
Marital Status (% , N)	
▪ Living with or being married to partner	65, 15
▪ Single parent	30, 7
Race/Ethnicity (%)	
▪ Black African	28
▪ White British	17
▪ White European	11
▪ White Albanian	6
▪ White Canadian	6
▪ White Turkish	6
▪ Mixed British Indian	6
▪ Bangladeshi	5
▪ British Jewish	5
▪ Asian Other	5
▪ Mixed	5
Native English speakers (% , N)	54, 12
Claimed fluency in English (% , N)	90, 9
Total household income (% , N/20)	
▪ £0-£9,000	25, 5
▪ £27,000-£36,000	5, 1
▪ £9,000-£18,000	25, 5
▪ £36,000 or higher	45, 9
Education status (% , N)	
▪ Left school before any qualification	9, 2
▪ O-levels/GCSEs	4, 1
▪ A-Levels	14, 3
▪ University Degree	27, 6
▪ Postgraduate Qualification	27, 6
▪ Other	14, 3
▪ Prefer not to say	5, 1
Employment status (% , N)	
▪ Full-time Homemaker	44, 10
▪ Full-time (approximately 35 hours/week)	26, 6
▪ Part-time (less than 35 hours per week)	22, 5
▪ Currently Unemployed	4, 1
▪ Other	4, 1

Mental Health and wellbeing (% , N)

- Would have liked to receive support for emotional wellbeing but they had not 55, 11
- Have minor difficulties with mental health 67, 14

Table I. Participant characteristics.

Measure	T1 M(SD)	T2 M(SD)	t-value	p-value
PHQ-9 (N=20)	6.2 (5.4)	5.5 (5.6)	t(19)=2.39	.028
GAD-7 (N=20)	6.15 (5.87)	3.85 (4.59)	t(19)=3.15	.005
MCQ (N=20)	57 (6.76)	63 (4.68)	t(19)=-3.838	.001
MPAS (N=19)				
▪ Total	73.33 (9.91)	80.40 (8.32)	t(18)=4.98	<.001
▪ Quality of attachment	34.03 (3.70)	40.79 (3.96)	t(18)=-10.07	<.001
▪ Absence of hostility	18.69 (3.81)	19.71 (3.44)	t(18)=1.58	.131
▪ Pleasure in interaction	20.53 (4.06)	19.89 (4.01)	t(18)=.64	.529
KIPS (N=17)				
▪ Total	3.67 (0.69)	4.14 (0.61)	t(16)=-2.783	.013
▪ Item 6: Speaking to the child	2.94 (1.3)	4.29 (0.77)	t(16)=-4.226	.001
▪ Item 10: Supportive directions (N=13)	3.31 (0.48)	3.88 (0.81)	t(12)=-2.635	.022
▪ Item 12: Promotion of exploration and curiosity	3.59 (0.94)	4.12 (1.05)	t(16)=-2.314	.034
ASQ:SE				
▪ 6-months; N=14	33.21 (23.09)	18.21 (15.88)	t(13)=3.79	.002
▪ 12-months; N=4	26.25 (11.81)	12.50 (6.45)	t(3)=2.2	.115

Table II. Group mean differences at pre- to post-intervention (paired t-tests)