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Understanding Online Parental Help-Seeking and Help-Giving in Early Childhood:

The Design Challenges of Supporting Complex Parenting Questions

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Early parenting is one of the strongest predictors of child well-being. Online social communities have shown promise in supporting parents across a range of contexts. However, we only have a limited understanding of how posters and commenters interact within a forum, or how well commenter responses can support complex parenting questions, such as attempts to change a child's behaviour or to apply new parenting approaches. We start addressing this gap by combining an empirical analysis of 1 year of parent posts from an exemplar online forum (Mumsnet) with literature on parenting interventions from psychology. In particular, we examine the types of question parents of 2-5 year olds seek help for around their children's behaviour, and the challenges with the support that they do (or do not) receive from the Mumsnet community. Combining empirical and theory-driven insights, we outline an 'information-to-application' gap that conceptually underpins the difficulties observed, and suggest plausible research directions that could address such design problems.

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1 INTRODUCTION

Parenting can be one of the most rewarding—but also most challenging—life experiences. As children grow, parents are faced with a dizzying array of changing responsibilities and decisions about what parenting practices they want to use (or to avoid) as well as how to use these in ways that feel right for them and their child [74, 77, 129]; all with the view of the longer term goals of supporting their child's well-being [34, 78]. While parents have access to a wealth of parenting information advice online, e.g., through websites, podcasts, social media, or online fora [40, 49, 85], they still appear to face challenges in both (i) selecting relevant information for being able to apply to their specific contexts [35, 73]; and also (ii) when attempting to apply these tips in daily life [23, 73]. To further complicate matters, what works for one

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53 family might not work for another; and in fact the very same phrase that helps calm a child in one situation might lead to
54 a tantrum another time [130].

55 Psychological literature around parenting interventions showcase this potential complexity of providing parental
56 support and how this changes along the developmental trajectory of a child [61, 111, 141]. Decades of research highlight
57 how much of the parenting difficulties are grounded in the dynamics of parent-child interactions [25, 57, 136], and thus
58 must take into account both the specifics of the situation as well as the social practices that exist in the family [23, 98]. As
59 such, the parenting interventions highlight the importance—and the difficulty of—supporting parents' ability to apply the
60 general approaches (e.g., 'be empathic with your child') to specific instances of parent-child behaviour, as well as attempt
61 to scaffold reflection [33, 109, 122] and further situated support to enable skills acquisition and transfer [1, 26, 27, 133].
62 However, as is common for many public health interventions, only a small percentage of families has access to existing
63 service provision (e.g., due to the traditional in-person delivery facing challenges of cost, reach, availability).

64 In HCI, much scholarship has focused on how parents are asking for (and receiving) support through online fora
65 [7, 24, 92, 117] as one way of addressing similar issues of access and reach. Recently, the largest body of work has
66 particularly focused on new parents [21, 53, 82, 87, 88], but has also examined how parents sought support during
67 period of social distancing [65], investigated online practices of young parents [58, 120], privacy issues around sharing
68 information and separately, disinhibition with anonymity [24, 115], and the communication practices that parents have
69 through online posting [38]. In these cases, interactions have mostly identified information delivery, decision support, and
70 emotional support as key practices. However, to the best of our knowledge, less is known about how parents seek support
71 for child behaviour-related needs (as an example context of help-seeking for complex problems), and the specific forms
72 of support that are feasible or hindered for complex parenting questions in forum-like interactions. In particular, there has
73 been less focus on understanding original poster and commenter interactions, and how well commenter responses help to
74 address the original poster's needs.

75 In this work, we aim to contribute to addressing these issues by examining the online support received—and given—by
76 parents, in the context of questions related to the parents' perceptions of child dysregulation, for children who are 2-5 years
77 old. We selected this age range as an exemplar case given it being a period of rapid psychological and social change, when
78 children are both socially and developmentally expected to become capable in regulating their emotions and behaviours
79 [55, 112]. Such a profound transformation then leads to changes in parent-child interaction and re-establishes the social
80 practice in the family [67]; as is also indicated by the culturally accepted notion of these years being particularly difficult
81 for parents (with phrases like 'terrible twos' and 'threenagers' widespread). Finally, this developmental stage is associated
82 with a long history of structured parenting programs—mostly non-technological at their core—that predominantly target
83 this age range, offer parents specific skills as applicable to their wider family context [39, 50, 70, 113, 123, 140], and can
84 provide a body of evidence-based parenting practice to draw on in our analysis.

85 As such, our aims are two fold: First, to empirically investigate how parents of 2-5 yo reach out for—and receive—help
86 around their child behavior and their own parenting practice through an exemplar open online forum, Mumsnet (as
87 the largest parenting website in the UK). Second, to combine this empirical data with what is known about parenting
88 interventions in psychology, to critically examine the current affordances of online fora, and, if needed, suggest an agenda
89 for future work in this space.

90 From the empirical perspective, we collected all original posts (i.e., the thread-starting questions) pertaining to 2-5
91 year old that were posted in 2019 to the 'Parenting' sub-forum of Mumsnet (N = 466). Through content analysis, we
92 identified the posts seeking advice regarding the child's behaviour (e.g., tantrums, lack of self/emotional regulation; n=186,
93 i.e., 39% of all posts) and the associated emotional frustration faced by the parent. Finally, we randomly subsampled
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105 40% of these threads—reflecting a purposeful sample of posts with varying response rates—to examine the types of
106 support that parents received for child behaviour management from other posters through thematic analysis. The findings
107 show that parents overwhelmingly receive what should be directly applicable advice for seemingly 'solvable problems',
108 alongside emotional support. However, there are substantial difficulties in giving and receiving such instrumental support
109 successfully, as these suggestions are often not directly actionable, but multifaceted and harder to communicate fully
110 within the Mumsnet online forum affordances. This is evidenced by posters seeking clarification about original poster
111 problem, offering additional contextual information, questioning prior poster comments, and reframing their posts; all
112 highlighting the tensions between needs sought and support offered.
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115 From a design-agenda setting perspective, we then combine the empirical data with what is known about parenting
116 interventions in psychology, to critically examine the current affordances of online fora and their capability to provide the
117 instrumental support as needed. We highlight the '*information-to-application*' gap that underpins the observed difficulties,
118 emphasising how information delivery alone is—according to psychological theory and our data—unlikely to be sufficient
119 for addressing the parenting challenges that parents bring to the online settings. We then argue why current affordances
120 of online fora might not be suitable to fully resolve the information-to-application gap, and that new interaction design
121 capabilities would be needed if we want to address the needs of receiving the kind of situated, complex support that is
122 required. Finally, to jump-start this research agenda, we outline how work in three related areas of HCI tackles similar
123 challenges (personal informatics, technology-enabled interventions for the home, and traditional parenting courses) and
124 could inspire such novel design solutions in this context too.
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127 In sum, this work contributes to understanding of how interaction design could support complex parenting help-seeking
128 on online fora, highlighting a number of conceptual challenges and opportunity for future designs. By combining both
129 in-depth empirical analysis with a conceptual discussion drawing on psychological theory, we hope this work can offer a
130 design research agenda for augmenting existing parenting fora affordance by exploring plausible solutions from other
131 areas of HCI. At the same time, we discuss the need for cautiously approaching such research directions, that need to be
132 informed by specialist input on best practice surrounding parenting and ethically grounded in the best interests of children
133 and parents, before translating these ideas into workable, immediate design solutions.
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137 2 RELATED WORK

138 2.1 Parenting support programmes in pre-school years

139 Theoretical and empirical parenting literature within psychology focuses specifically on addressing the development,
140 implementation, and effectiveness of parenting programmes aimed at pre-school (i.e., those aged 2-5) as well as primary
141 school aged children [39, 51, 63, 70, 71, 113, 140]. Such programmes have been rigorously tested (e.g., estimates of more
142 than 200 independent Randomised Controlled Trials for ages 2-9 alone [50]), with substantial evidence-base for their
143 effectiveness (see e.g., [51, 113, 119] for meta-analyses). While the full review of the decades or relevant literature are
144 beyond the scope of this paper, outlining the key approaches and child-parent interaction targets can be a useful starting
145 point in understanding the likely challenges that parents can face during their child's pre-school years (and thus also
146 might be seeking support with online).
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151 Across all of the above programmes, the key parenting principles include reducing coercive practices (e.g., shouting,
152 hitting, or punishments) while enabling the parents and children to set clear limits, support appropriate child behaviour,
153 and facilitate positive parent-child interactions (cf., program content of seminal programs such as Incredible Years [140],
154 TripleP [113], Parent Management Training [70], or Tuning in to Kids [39, 63]). Note that most of these programmes start
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157 at 2 years of age, illustrating the transition of toddlerhood and pre-school age as a ‘crucial developmental period where
158 parents may first encounter the need to deal with a mobile, defiant child’ [118], and the associated different parenting
159 skills and interactions required (cf., [22]). Specifically, the programmes focus on helping parents positively manage child
160 misbehaviours, facilitate child’s self- and emotion-regulation skills, while promoting child’s increased independence
161 (cf., [50, 113] for detailed overviews of two major programmes). Majority of the training is aimed at scaffolding specific
162 changes in parent’s behaviour (e.g., increasing praise giving, positive attention, calm but firm rule settings, parent-child
163 discussion), which are then assumed to help shift child’s behaviours over time. Here, the delivery mechanisms for skill
164 development are different to those seen in online support (see section 2.2), as there is more focus on gradual, reflective
165 learning.
166

168 These programmes draw on the same parenting mechanisms to support a range of populations, from targeted clinical
169 interventions (such as those for parents of children with early conduct disorders) to general population samples (as part of
170 public health prevention programmes). The main difference across such widely different users is then in the intensity of
171 support provided and course delivery length (e.g., from 12-14 weeks of 2h group-based sessions [51], to two-to-three
172 20 minutes long phone conversations). Regardless of the format, the programmes include a combination of information
173 delivery and skills development (such as through role plays).
174

175 Scaffolding parenting skills development is seen as a complex endeavour, with a number of intervention mechanisms
176 required to enable parents to try out and continue using new parenting strategies. For example, through scaffolded
177 reflection, parents learn to become more aware of both parental and child mental states [109, 122], and to reflect on how
178 their own actions impact on their ability to respond to their child [31, 33]. Similarly, the programs directly set up practice
179 opportunities to allow parents to try out new skills outside of the teaching context [27, 44, 133], with in-the-moment
180 support seen as important for reducing barriers of transfer and building natural learning opportunities that can fit into
181 everyday routines [26, 127]. Finally, habit formation support is crucial for parents to establish routines that promote
182 stability and child self-regulatory skills once these are developed [1].
183

184 Traditionally, parenting programmes are delivered through in-person mechanisms, whether these are 1-on-1 sessions
185 (e.g., for clinical populations) or group-based interactions. The limitations of such in person models are well known in the
186 literature, as the reach—and thus societal impact—of face-to-face parenting programmes is substantially impacted by
187 challenges in recruiting, engaging, and retaining parents due to multitudes of barriers to attendance (cf., e.g., [13, 96, 113,
188 125]). As a result, many of the established programmes have started developing online versions of the content. So far,
189 however, such developments are utilising only a limited set of interaction design approaches (at least from the vantage
190 point of the HCI community): mostly pre-recorded videos together with interactive web-based activities (cf., [13, 46]). A
191 minority of programmes have also started to explore peer support capabilities within the closed, course-specific online
192 platforms (e.g., [113]), with promising results.
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198 **2.2 Understanding of parenting support in online fora**

199 An emerging area of scholarship focuses on in-depth, qualitative understanding of how expecting or new mothers
200 seek and receive support during the transition and the first months/years of motherhood through online communities
201 [53, 82, 87, 88, 91, 135, 138]. For example, Lupton [87] examined the use and value of digital media through focus group
202 discussions with women who were pregnant or gave birth at most 36 months ago; Lebron et. al. [82] outlines how mothers
203 seek information about breastfeeding by analysing 258 threads on a parenting forum; Madge [88] draws on interviews to
204 understand how women with newborns or young children use parenting websites to elicit information / support about
205 parenting matters; and Gibson [53] has employed ethnography and interviews to understand how technology affects new
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209 mums, with parenting fora such as Netmums ranking highly as a source of information and developing confidence in the
210 transition to motherhood. Across these studies, the findings show that parents use digital media mostly for emotional
211 support, as well as instrumental support in the form of psychoeducation, reassurance and normalisation of perceived
212 difficulties, and associated decision making support.
213

214 Moving beyond the general online fora use, several HCI oriented studies examined the social support available
215 online to parents of children with special needs [2, 3, 18], those facing mental health challenges [29], or those facing
216 pregnancy loss [7]. Finally, other work—often coming from the sociological literature—provides a broader overview
217 of the types of digital resources parents utilise, with parenting fora emerging as an established source of support (e.g.,
218 [32, 54, 65, 86, 105, 114, 137]).
219

220 Across these disparate literatures, the findings are however consistently showing how parents seek and receive both
221 informational and emotional support through online community engagements [36, 87]. In particular, digital resources
222 provide immediate and customised informational support, which can help parents gain information on normal child
223 development and what to expect especially in pregnancy and early years of child development [53, 86–88], as well as
224 health related information such as when their infant is unwell [37]. In addition, the online fora are seen as providing a safe
225 space to expression and cope with negative emotions that would normally go beyond of the appropriate narratives of a
226 ‘happy mum’ (cf., [36, 87]). In particular, parenting websites such as Mumsnet give parents the opportunity to normalise
227 such feelings, giving space for understanding and support, which the users might not dare seek from friends, family, or
228 professionals – a range of papers show how (mostly mums) sought reassurance about normality of feelings, and assistance
229 in making those judgements (e.g., [36, 88, 101]).
230

231 To best of our knowledge, very little research has considered online parental support in the context of complex situations
232 where parents are seeking help with managing their child’s challenging behaviours during a period of rapid developmental
233 and social change. The closest work so far consists of reviews examining the use of digital technologies in parenting more
234 broadly, including parents of older children (cf., [13, 16, 32, 36, 54, 84, 105, 137]). Overall, these findings showcase the
235 importance of online support: for example, online websites were reported as the second most common source of parenting
236 information used by 65% of parents, right after friends or other parents [13]. However, these review / survey studies are
237 unclear about if/how support is received on these sites, how the needs for support change as children develop over time,
238 nor what are the interaction design implications for the underlying fora design.
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244 **2.3 Online support systems in other areas** 245

246 A vast body of research has highlighted the importance of digital support groups in providing mutual aid and assistance
247 in other stressful contexts, such as for individuals going through chronic or life-threatening illness [2, 41, 75], or those
248 facing situations that can be perceived as socially or emotionally stigmatising in some parts of the society (e.g., mental
249 health difficulties [79, 83], pregnancy loss [6], menopause [80], abuse [8], or sexual preferences [144]), where careful
250 management of online identity is required (cf., [9, 14]).
251

252 Much of the work has focused on the impacts of (pseudo-)anonymity in online spaces which enables safe disclosure
253 [4, 5, 8, 30, 95, 115], together with increased chances of receiving valuable social support (such as reciprocal disclosures
254 which can normalise the posters’ experience). For example, the degree of anonymity has been linked to the differential
255 expectations on personal impression management, such as in the ratio of ‘positive’ (e.g., reporting on successes in face of
256 challenges) vs ‘negative’ (e.g., requests for support) posts, with (pseudo-)anonymous communities more conducive to
257 asking for—and receiving—help (cf., [2, 95]).
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261 Across all these domains, a surprisingly consistent finding is the benefit of receiving of both emotional and instrumental
262 support in such online settings, analogous to the parenting literature described above. Again, these cases have highlighted
263 that support is often characterised by gaining factual knowledge, help with major decision making, and emotional support
264 rather than providing guidance on applying and learning new practices which we outline is central within the parenting
265 interventions literature. We will return to these commonalities and differences in more detail in Section 5.3.
266
267

269 **2.4 Motivation and research questions**

270
271 In summary, a growing body of prior work has highlighted the importance of parent programmes, and the increasing
272 potential value of online communities to provide support to parents of pre-school children. Prior research has shown that
273 online social forums are a key venue for expecting or new parents, parent of children with special needs, those facing
274 mental health challenges, or pregnancy loss. However, to our knowledge, limited prior research has examined how parents
275 seek support for child behaviour-related needs — as an example context that requires careful scaffolding to manage
276 situated, complex problems. From an interaction design perspective, little is known about the one-on-one poster and
277 commenter interaction, and how well the responses fit with and help to address the original poster's needs.
278
279

280 To this end, our research questions (RQs.) asked:

281
282 RQ1. (a.) What percentage of posts on an online parenting forum focus on help-seeking concerns regarding the behaviour
283 of children ages 2-5 years, and (b.) what do these child behaviour concerns entail?

284 RQ2. (a.) What type of support is given to these concerns in the fora, and (b.) what are the challenges that arise in
285 support-giving?
286

287 RQ3. If we take a parenting interventions theory view, what are the opportunities for interaction design in potentially
288 resolving any identified challenges?
289
290

292 **3 METHODOLOGY**

293 **3.1 Context overview – Mumsnet online forum**

294
295 The primary online parenting fora dataset was collected from Mumsnet: Mumsnet is the largest British parenting website
296 established in 2000, which hosts over 10 million monthly unique visitors to its discussion board.
297

298 Existing research suggests that typical audience and users of Mumsnet tend to be highly educated [102], and with
299 majority being female in their self-identification [99]. However, there is a growing interest by posters identifying as male
300 or fathers who seek support or information from the same body of online community as well.
301

302 Our decision to focus on Mumsnet was motivated by our desire to understand the extent to which complex child
303 behaviour needs were prevalent in online parent help-seeking and the interactions that ensued between posters and
304 responders. By focusing on Mumsnet—as a prototypical forum that has many of the key design affordances of online parent
305 forums (e.g., topic based posts, discussion boards for questions and responses, an active community of contributors)—we
306 were able to take a deep dive and focus in detail on how the design of the forum impacted on interactions relating to
307 complex child behaviour needs. Owing to its prominence in UK parenting space and prior work looking at Mumsnet use
308 for parents (e.g., [37, 100, 101]), we anticipated that Mumsnet would generate a detailed enough dataset over a one year
309 period, owing to its high volume of users and traffic [97].
310
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312

466 total threads in Mumsnet 'Being A Parent' subforum, between 1 Jan – 31 Dec 2019

RQ. 1 → Original posts	Other	Potty Training	Physical Development	School & Daycare	Diet & Food Habits	Sleep	Medical Conditions	Activity & Product	Parent's Emotion	Behaviour Discipline	↓ RQ.2 186 threads comprising 39.9% of total threads across the data
Number of threads:	52	16	23	30	47	62	68	90	164	186	Then extracted 75/186 threads (40%) as a purposeful subsample based on number of thread responses

Fig. 1. Dataset selection for Content Analysis and Thematic Analysis

3.2 Ethical considerations for researching public online data

The ethical practices of researching public online data remains highly debated with little consensus across university ethics boards on common recommendations [139]. In line with a growing body of work that critically considers the benefits and risks of using publicly available online data, we employed a series of measures to ensure the careful treatment of sensitive, personal data [20, 45, 52]. First, we ensured that all data was publicly available, rather than scraping data from a researcher-initiated membership account. Next, we employed a set of disguises for anonymising the data [20]. These comprised of removing all user IDs and rewording post quotations to mask personally identify details. Having made these edits, to ensure that we were capturing credible accounts of posts, as part of the analysis, the team regularly met to discuss the developing themes in the context of the original data. Lastly, no attempt was made to contact or solicit the posters for other details.

3.3 Procedure

To investigate parent help-seeking and help-giving interactions, we first needed to identify the categories that parents raised concerns about, and the extent to which child behaviour concerns were a prevalent help-seeking category (RQ1). To achieve this, we first examined all original posts in the Parenting sub-forum for each day over the course of one year to group the posts into topic areas and identified those relating to parents questions about their child's behaviour. As a side effect, this step enabled us to identify the relative frequency of the overarching topic categories that parents sought help for. Methodologically, we used a content analysis approach [43, 48, 101], focused on the thread-starting *original posts only*. Next, to investigate help-giving practices (RQ2) we focused only on threads about child behaviour (and associated parenting emotions). We used an inductive thematic analysis of *the full threads* reacting to the selected initial questions (see figure 1). Throughout both steps, we triangulated the empirically grounded data (e.g., types of challenges parents face or types of support received) with the theory-driven work based on the body of parenting interventions within psychology (cf., Section 2.1).

3.3.1 Content analysis of parental help-seeking concerns (RQ1).

Dataset generation. We downloaded all original posts (i.e., the title and thread-starting question) in the Being a Parent subforum for each day between 1 January 2019 to 31 December 2019, using a public search function that allows both members and non-members to search the Mumsnet's discussion forum archives using related keywords and/or posted date range.

365 To ensure that the posts in our dataset were related to parents concerns regarding 2 to 5 year old toddlers children,
366 we utilised a running list of abbreviations and keywords frequently used by Mumsnet's posters, such as terrible twos,
367 3yo, DS4, DD (5 yrs), as identifiers to retrieve these archived threads for analysis. We iteratively fine tuned this list by
368 full manual checks of selected days to ensure minimum relevant posts missed; and also identified and removed any false
369 positives (i.e., posts for children below 2 years or over 5 years) during the content analysis step. Aside from filtering for
370 age, all other parenting-related post content was included in the coding.
371

372 The dataset intentionally excluded posts after 31 December 2019 considering that the COVID-19 pandemic, that
373 officially started in January 2020 in the UK, may impact on the nature of advice parents were seeking. This dataset used
374 in our analysis consists of both the original poster's question title and post content.
375

376
377 *Coding process.* Following similar methodologies to those used by researchers analysing the content of Mumsnet
378 [48, 101] as well as other related online work (e.g., fanfiction communities [43]), the research team first inductively
379 developed an initial draft of codes independently by pulling a set of ten to fifteen original posts from the dataset randomly.
380 Main code categories (e.g., sleep, physical development, potty training etc) were reviewed as a group, and each main
381 code category was accompanied by sub-categories of codes (e.g., the sleep sub-categories included bedtime, irregularities
382 with sleep and sleep dependencies), capturing rich contextual descriptors of each main code. After the group review,
383 we generated a draft codebook and each member in the research team independently coded the same selected set of 15
384 posts. We documented areas of agreement and disagreement for each main and sub codes, discussed disagreements in
385 weekly team meetings, and arrived at a group consensus for each review. This resulted in new codes being created and
386 existing coding schemes continuously being refined to reflect the full range of concerns posted by parents in the year
387 2019. As many of the posts referred to multiple aspects of parenting, each post was coded with up to two main codes. The
388 collaborative coding approach [128] allowed us to consistently apply the codes for each data. The final main category
389 coding scheme encompassed 10 categories and the number and percentage of posts coded within each category (see Table
390 1 for summary).
391

392 3.3.2 Thematic analysis of support giving for child behaviour (RQ2).

393
394
395 *Dataset.* Utilising the results of the content analysis, we focused threads child behaviour-related threads as our dataset
396 (see section 4 and figure 1). Whereas the content analysis focused solely on original posts, here, we included the fuller
397 threads of commenter and original poster responses to original posts.
398

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400
401
402 *Coding process.* To address RQ2, we carried out an inductive thematic analysis. The goals of the analysis were to (a.)
403 identify what kinds of support was given by commenters in response to behaviour and discipline questions in the fora, and
404 (b.) explore how helpful these responses were for posters in addressing their concerns (in as much as that was possible to
405 discern from the post content). Using the qualitative analysis tool Dedoose, we descriptively coded response posts to
406 original posts for 75 individual threads. This represented approximately 40% of the original 186 threads relating to child
407 behaviour, and was selected to reflect a purposeful subsample of posts based on the number of responses in the respective
408 threads (with upper and lower quartile and around the median). Following an reflexive coding procedure [19, 134], we
409 used an overarching question ('What kinds of support was given by commenters?') to drive the coding and organise
410 the codes into themes. We generated 84 descriptive codes then iteratively clustered these codes into broader themes to
411 capture the kinds of support that was offered in responder posts. The themes were reviewed and refined through ongoing
412 discussion between three of the authors.
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417 To analyse the helpfulness of and challenges with offering commenter advice, we focused on whether commenter
418 advice aligned with widely accepted, evidence-informed parenting recommendations that are prevalent in behaviour
419 and emotion focused parent programmes (cf. section 2.1). We also paid attention to the interactions between OPs and
420 commenters by considering the ways the OPs acknowledged and reacted to the offered advice (if any), and to the
421 different ways that commenters responded to requests for help. Our capacity to make judgements about the helpfulness of
422 commenter advice was informed by the first and last authors familiarity with the parenting and child mental health context
423 (with five+ years of active research in this area), as well as holding honorary researcher contracts over the past year within
424 a UK National Health Service (NHS) Child and Adolescent Mental Health Service; engaging in regular discussion about
425 the research with clinical psychology colleagues. The first author also held direct clinical experience having worked for
426 10+ years in the UK NHS in the area of communication and parent-child interaction. To ensure that we were generating
427 credible interpretations of commenter posts, using a shared document, the research team met regularly to discuss the
428 themes, codes and extracted examples to check that the themes reflected what was presented. This allowed for discarding
429 themes with insufficient data or merging themes, where needed.
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432

433 **4 UNDERSTANDING HELP-SEEKING - MUMSNET FORA PARENT CONCERNS (RQ1)**

434 Our content analysis was focused on identifying what proportion of parent support-seeking on the forum was focused
435 on child behaviour challenges (RQ1a) and what this support seeking entailed (RQ1b). The findings identified that
436 behaviour and discipline were the most prevalent topic categories that parents sought help for (accounting for 39.9% of
437 all threads), followed by parent's emotion (35.2%). From our perspective, this was interesting as the parenting literature
438 has also largely focused on managing child behaviour and emotion related challenges through parenting programmes
439 (e.g., [51, 62, 70, 112, 140]). As parent emotion is often closely associated with child behaviour, for example, parent guilt
440 associated with their parent practices, we included this category in our focus on help-seeking. In this section, we only
441 outline the analysis of these two categories: behaviour and discipline, and parent emotion; the full description of all 10
442 categories is available in Appendix A (see also Table 1 on page 10 for a summary).
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448 **4.1 Help-seeking for behaviour & discipline**

449 In terms of behaviour and discipline, posters sought help with managing their child's behaviour and tantrums by
450 tapping into the community's experiences for validating their concerns, determining whether their child's behaviour was
451 'appropriate' and importantly gathering helpful strategies for dealing with child misbehaviours. Posters used Mumsnet
452 as an avenue to seek disciplinary strategies from other parents, often as a last resort when they had "*reached the end*
453 *of (their) tether*". Posters also used Mumsnet as a form of expectation check to navigate the uncertainties of parenting,
454 one poster lamented: "*AIBU (Am I being unreasonable) to expect my 4 year old to play by themselves for a short while*
455 *without needing constant interaction?*" Connecting with a key underlying principle of parenting support programmes
456 [39, 51, 63, 70, 71, 113, 140], our findings suggest that Mumsnet posters sought help with developing positive parenting
457 skills (e.g., setting clear limits when dealing with tantrums) as a way of addressing child conduct concerns and improving
458 parent-child interactions.
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462 **4.2 Help-seeking for parental emotion**

463 Help seeking posts relating to parental emotion often encompassed strong negative feelings of frustration and despair
464 about themselves as a parent or their child, and in some cases, their partner, parent-in-laws or other family members. What
465 was common across the threads was the search for empathy. The content suggested that posters desired a community that
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Category	Description	Freq	%	Avg / Med	Example of original post
Behaviour Discipline	Posts related to child's disruptive, inappropriate, 'abnormal' or social behaviour; and disciplinary approaches	186	39.9	17.2 / 8.5	A two year old whose tantrums are out of control: "We try talking to her and reasoning with her; we've tried shouting at her [...] gotten to the stage where we dread bedtime."
Parent's Emotion	Poster's emotional and mental challenges, in the context of parenting and dealing with their spouse or family.	164	35.2	20.9 / 8.0	Failure as a mum: "I don't feel like I get enough time with her and feel so guilty all the time. I just don't know how some mums do it? [...] how to manage a busy schedule and be a good parent?"
Activity & Product	Recommendations for things to do or products for their child, sometimes as to what is 'age-appropriate'.	90	19.3	13.1 / 9	Bag recommendations for a 2 year old and newborn: "Ahh I have a kipling backpack which is fine but has turned into a bottomless pit of crap. Any suggestions of a practical bag while out and about with 2?"
Medical Concerns	Posts related to child's medical issues such as potential/existing diagnosis, treatments, and routine care.	68	14.6	13.9 / 6.0	How long to wait for chickenpox?: "... Today she has a bit of a cold (runny nose, cough) [...] how long do I have to wait before I can assume she hasn't caught it?"
Sleep	Posts related to sleep or nap-related issues such as child's difficulty staying asleep all night, refusal to stay in their bed, crib transitioning and others.	62	13.3	15.5 / 8.5	4 year old anxious to fall asleep/nightmares: "My question is what to do? I am reluctant to add to our routine/give him yet another comforter etc. and I've spoken with him during the day already many times without any impact. Any advice?"
Diet & Food Habits	Posts related to child's weaning issues, dietary routine, breastfeeding and appropriate strategies to manage eating behaviours.	47	10.1	17.6 / 10.0	Help!!!!: "My two year old toddler has decided evening meals are no longer for her and won't eat any later than 2pm during the day [...] I can't even wean her off as I have no support. Has anyone got any suggestions as things to try to get her eating again?"
School & Daycare	Discussions on child's behaviour in schools, nursery, childminders and child-care.	30	6.4	23.5 / 8.5	Accident at nursery: "My son had to be taken to hospital [...] But I can't help but feel angry [the nursery] have said it couldn't of been prevented. How would everyone else handle this situation?"
Physical Development	Posts related to child's communication, physical and other developmental milestones, such as speech delay, motor skills and others.	23	4.9	24.0 / 12.0	Toddler behind on verbal skills but he won't sit or focus enough for us to try to develop them: "He used to try to repeat words when we asked, but doesn't anymore. Do we need to worry and look for more help? Or should just keep trying and see how it goes?"
Potty Training	Posts related to potty training issues such as children's reluctance using the potty and regression in training.	16	3.4	28.7 / 9.0	5 year old is still in nappies, Am I failing as a dad?: "...Sitting him on the toilet but he will scream and get himself in such a state and ends up making himself sick. So where do I go from here?"
Others	Other wide-ranging discussions related to parenting, from advice on legal guardianship to kid-friendly travelling.	52	11.2	22.2 / 8.0	Explaining death of a pet: "How do I explain death to a 2 year old? Should she come to the vet or say goodbye at home? Any other advice on explaining where he has gone?"

Table 1. Summary of the 10 categories, including its description, number and percentage of posts (out of 466 total) coded with that category, average and median number of replies across threads in the category, and an example post each. Note that each post was coded with a up to 2 different categories.

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could listen and identify with their seemingly isolated struggles as a parent. We observed numerous discussions on the frustrations and mismatched expectations behind parenting with a significant other as well as dealing with the opinions of extended family members who did not empathise with their views on parenting. For instance, a poster explained how she wanted to dedicate individual attention and time for each child and felt upset when her husband “*thinks I’m taking favourites and makes me feel guilty for wanting to spend alone time with dd1 (dear daughter one)*”. At the extreme end of these threads, posters could be struggling with depression as they expressed a sense of ‘*hanging on by a thread*’, expressing feelings of inadequacies for not living up to their ‘ideal standard’ of being a parent or not ‘doing enough’. In line with prior work, our findings showed that expressing and seeking emotional support in a secure space is an important component of online community support [2, 41, 75, 87, 88].

5 UNDERSTANDING SUPPORT GIVING - MUMSNET FORA RESPONSES (RQ2)

We scoped the dataset to only those threads that specifically focused on parenting questions relevant to behaviour concerns for parents with children aged 2-5 years. We examined the types of support that were offered by commenters within the online forum context. This was important for identifying any challenges that the online fora format posed for parent seeking help around such complex questions (cf., section 2.1). We present the findings by first focusing on the specific content and types of support offered for child behaviour-related concerns, then consider the challenges of providing helpful advice.

5.1 Content and support (RQ2a)

A major portion of commenter responses was geared towards providing instructional support for addressing OP questions. This was in the form of strategies for tackling particular child behaviours and through comparisons with wider developmental and social norms, as well as sharing emotional experiences of parenthood. The content of commenter posts was largely connected with the personal experiences and beliefs of the commenter, their general views about established educational and therapeutic approaches, and developmental milestones. As such, content support reflected common understandings for managing behaviour and emotion that was informed by positive parenting practices—that we interpreted as helpful on a generic level—yet linked with the commenter’s experience of enacting parenting.

5.1.1 Instrumental support on child’s positive behaviour changes. In line with prior research on support seeking through online fora, we observed that commenters frequently offered instrumental support [8, 9]. In this context, the instrumental support focused on offering practical and actionable advice associated with positive parenting principles: suggesting strategies, activities, products, and onward signposting to professional help. This instrumental advice seemed independent of the type of help requested by original posters, suggesting that commenters largely treated nearly *all* OP’s requests for help as *practically actionable* – in other words, seeing the parenting problems as *inherently ‘solvable’* and offering what they hoped was specific advice on how the OP could resolve the situation.

For example, in the case of one OP who sought help for difficulties with interacting with their child owing to limited shared interests, commenters responded with practical solutions for extending the range of experiences as a way of building opportunities for common interests involving parent and child: “*spend more time outdoors - woods, playgrounds, beaches, that sort of thing, where the focus is on fresh air, exercise and play rather than conversation. I always found pretend play games tedious so would much rather go out somewhere!*” Similarly, in another thread where the OP voiced concerns about their toddler’s delayed verbal language and interaction skills, commenters responded with specific parenting strategies, types of activities and services to liaise with for support: for example, “*don’t put pressure on him. He*

573 *dislikes stories so don't read to him. Just speak with him naturally whilst he's playing with his trains and water. Try not to*
 574 *use too many words, he will tune out and this will become background noise."*

575 The advice offered focused predominantly on how parents (and the OP in particular) could apply changes in how they
 576 interacted with their child to lead to positive change based on the poster's personal experience of similar situations and
 577 their comparisons to developmental norms: *"At this age, non verbal communication is the most important thing. Play*
 578 *is also very important. Does he show you things that he's interested in? Does he point to the things he wants? My son,*
 579 *who is autistic couldn't play appropriately at all and used to spin around the outside of a room."* Our findings suggest
 580 that by positioning OP concerns as practically actionable, commenters sought to offer support to OPs in ways that were
 581 achievable with the resources available through the online platform, and that these suggestions served to reassure the OP.
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586 **5.1.2 Emotional support for validating and normalising parent concerns.** In addition to any actionable advice,
 587 commenters responses also expressed emotional support, for example in the form of inviting the OP to be compassionate
 588 (*"be kind to yourself!"*), or by communicating empathy (*"I am in a similar situation to you...I completely understand*
 589 *the worry"*) and encouragement (*"I promise you that it does get better!"*). Such emotional support was most commonly
 590 offered when directly solicited by OPs in the initial post (*"I just need to talk to someone"*) or in situations where OPs had
 591 commented on their personal feelings (*"I am eaten up with guilt"*).
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594 In particular, commenters displayed empathy, validation, and encouragement particularly in situations where the
 595 OP expressed themselves as struggling with their child's conduct. In such cases, emotional support acted as a way
 596 of normalising the OP's concerns, either by positioning the OP's concerns as commonly experienced by many in the
 597 community, or as problems that were typical of families with children of a similar age. One way we observed commenters
 598 normalising the OP's feelings and associated actions was through self-disclosures of similarly challenging situations.
 599 For example, a commenter, who was responding to an OP who describes 'lashing out at their child', described their own
 600 experiences of losing their temper with their child whilst also providing encouragement on the OP's parenting efforts: *"I*
 601 *have also really lost it with my son before and I still feel really bad about it. [commenter explains event]...being a parent*
 602 *is SO hard...You sound very kind and very loving. Forgive yourself and move on! I will tell myself the same!"*.
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605 In other cases, some commenters offered sympathy and reassurance to the OP's situation in less specific ways, *"I*
 606 *totally understand this feeling having been through it. . . Sorry if this isn't helpful - just wanted to reply with a message to*
 607 *say there is hope"*. Further, emotional support was often provided to individuals who were self-critical or felt inadequate
 608 about their parenting skills, *"Go easy on yourself - you're probably doing a great job"*.
 609
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611 In all of these situations, commenters supported the OP emotionally by showing how the OP was not alone in facing
 612 their situation, establishing a sense of belonging within the community, *"Your post sounds so similar to the situation we*
 613 *have at home with DSI (dear son one)... I hope that it helps knowing you're not alone"*. We observed that establishing an
 614 online community provided a trusted environment for individuals to talk about frustrating experiences in an atmosphere of
 615 mutual support and acceptance. Evidencing collective support, some of the threads—especially those with large numbers
 616 of comments—began to evolve into support-group-like discussions among users who shared personal experiences and
 617 feelings, coping strategies, or firsthand information. However, in these cases, we rarely observed the OPs engage further
 618 and return with updates on whether progress has been made.
 619

620 Overall, emotional support comments appeared to normalise and validate OPs feelings, without necessarily suggesting
 621 ways of resolving the situation. We note that these patterns appear analogous to other contexts where online support is
 622 sought [53, 82, 135]; and is also aligned with what the OPs have expressed as their emotion support needs, as identified in
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625 the content analysis (cf., Section 4.2), where the aim of 'feeling heard and understood' seemed to motivate many of the
626 OP questions.
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628 **5.2 Challenges of providing helpful advice (RQ2b)** 629

630 Whilst commenters largely attempted to respond with actionable solutions and/or emotional support, across the data set
631 we observed that responding to OP concerns about child behaviour was a complicated and challenging process. This
632 related to challenges for the commenter (in constructing helpful support based on limited context), and challenges for the
633 OP (in receiving advice and appraising its helpfulness). This is different to what has been observed in prior studies on
634 online parenting support, where informational and emotion support-giving can be more straightforward, for example,
635 when advising on practical decisions for parents of younger children (e.g., what to consider when starting your child on
636 solid foods).
637

638
639 *5.2.1 Clarification requests and misinterpretation signal limited contextual understanding.* We observed that com-
640 menters often asked for more information or clarification in order to be able to offer helpful advice. However, when
641 examining the structure of follow-on interactions between OPs and commenters, follow-on information by the OP in the
642 same thread was brief and arguably insufficient for equipping the commenter with the contextual information that they
643 sought. As such, responses seemed to not fully capture a situated understanding of the OP's concerns, highlighting tensions
644 between the OP's advice sought and commenter's supportive responses. Through their responses to OPs, commenters
645 expressed difficulties in fully understanding both the situation that was being described and the type of help that was
646 being requested by the OP. These clarification engagements were quite common, appearing in 39 of the 75 threads
647 analysed, evidenced by commenters asking for more information about the particular situation and details about the
648 existing supports put in place by the OP. For example, in response to an OP seeking help for their two young toddlers who
649 were displaying oppositional behaviour throughout the day, commenters within the thread requested further contextual
650 information to understand about the practices that the OP was already putting in place. One commenter asked "*How*
651 *would you typically set boundaries - would you try stopping them from doing something you don't want or would you get*
652 *them to do something you need done? How are you with confrontation in general? I agree [example programme] is great*
653 *for advice about setting boundaries firmly but kindly."* The example showed that the commenter's advice was closely
654 linked with their understanding about the specifics of the OP's existing strategies for managing child behaviour. However,
655 these iterative cycles rarely continued beyond the commenter receiving enough context to offering their advice – we only
656 observed 7 instances of the OP returning to the thread to report on if and how the suggested advice had worked and/or
657 to request additional support.
658

659
660 Where commenters had limited information about contextual particulars, they also made inferences to help with filling
661 in the gaps of their limited understanding and motivating their advice. Oftentimes, OP questions generated many varied
662 and sometimes contradictory responses that were linked to the commenter's personal beliefs and experiences about how a
663 situation should be managed, which did not always align with advice that would be found in formal parenting training
664 resources. In one example, an OP had asked for 'words of encouragement' owing to their 5 year old child's early morning
665 bedroom visit being startling. In the discussion that ensued, one poster interpreted that the OP did not want their child to
666 visit their bedroom. Taking the OP's description of their child's behaviour as 'sneaky', the responder commented "*He*
667 *wants to come and visit you but knows you don't want him to, that explains the "sneakiness". He needs a bit of a cuddle in*
668 *the morning. He's only 5."* Like in the prior example, the commenter's actionable advice was closely linked with their
669 interpretation of the OP's attitude towards their child, which was however not aligned with OP's needs: "*The thing is we*
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677 *REALLY don't mind him visiting us in the mornings and have never told him not to come see us. We're very happy for him*
 678 *to climb in with us which he does. The problem is the sneaking and the scaring."* This simple example demonstrates how
 679 even in a relatively tractable situation—child's very specific behaviour—the type of support that was requested and kinds
 680 of advice offered might not have always matched up straightaway; and the importance of the contextual understanding
 681 necessary for instrumental support to be helpful.
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683
 684 **5.2.2 Commenters provide brief responses by selectively deciding which parts of the post to focus on.** The most
 685 common approach seen across the threads was for commenters to respond to OP questions through short, succinct
 686 responses. Whilst this appeared to work for responding to OP requests for bounded, actionable strategies, responding
 687 was more of a challenge for complex OP questions that were multilayered and required different types of support. For
 688 instance, where the OP query was fairly brief (e.g., *"My 5 year old son is asking me to constantly repeat myself or if*
 689 *everything is ok...Has anyone else ever experienced this?"*) commenters offered resolvable advice by asking the OP
 690 reflective questions (*"If he's asking you to repeat yourself do you think he's a bit deaf?"* or *"have you been ill or has*
 691 *something been worrying you which he may be aware of?"*). In contrast, where OPs composed long posts and asked for
 692 reassurance and support with managing their child's restricted interests or oppositional behaviour, we observed a wide
 693 range of commenter responses that each focused on different parts of the original post. Whereas before, we observed
 694 commenters asking for additional information, here, commenters chose to focus on particular dimensions within the
 695 original post, so that they could offer succinct advice within the thread. For example, where one OP expressed worry over
 696 their child's school having concerns about their child's restricted interests, commenters offered a range of responses each
 697 focusing on different elements of the original post (e.g., *"you should keep an open mind about whether her passion for*
 698 *art is actually a restrictive behaviour"*, versus *"I'm sure she will be fine, please don't worry."*). This suggested that it was
 699 difficult to respond to the often multi-dimensional posts, and that different commenters prioritised different information.
 700 Consequently, the OP follow-up responses suggested that whilst grateful for the comments, their help-seeking was not
 701 always resolved, evidenced by OPs attempting to clarify their original concerns (*"the thing is I've looked at behavioural*
 702 *problems online. She doesn't display any behaviour that is listed."*), or rejecting possible scenarios (*"thanks everyone. I*
 703 *also don't like the suggestions that she could have something wrong with her at this stage."*). Another alternative may also
 704 have been that some parenting issues might have been resolved via direct messaging between community members and
 705 therefore not visible in the threads.
 706

707 Finally, the loose structure of the forum thread meant that commenters responded with advice that had varying levels
 708 of detail and abstraction: from high level principles, *"There is no way that I'm letting my kids grow up thinking that*
 709 *[tantrums are] a useful tactic"* through to very situation-specific advice, *"Sit down with a book and ignore him"*. In
 710 situations like these, the asynchronous online format seemed to make it difficult for the OP to action, reflect on, and learn
 711 from commenter advice in the context of their daily life.
 712

713 **5.3 Summary – similarities and differences to other online fora**

714 Both our content analysis and thematic analysis showed that for children aged 2-5 years, Mumsnet parents and post
 715 responders were mostly concerned with receiving instrumental and emotional support for child's behaviour and discipline
 716 difficulties, as well as the resulting parental frustration. We note that these observations are in line with what would
 717 be expected based on child developmental stage and changes in social expectations [22, 59], as well as the parenting
 718 intervention literature in psychology (cf., [22, 60, 113]) that emphasises the focus on the parent's own behaviour and
 719 perceived 'parenting skills'.
 720

Our data illustrates how the general patterns of the needs of parental help-seeking and support—i.e., parents' hopes of receiving both emotional ('how can I feel better about my situation') and instrumental ('how can I fix this?') support—are well-aligned with what is known about online support in other areas and contexts (cf., [4, 9, 80, 89, 107]). In particular, our findings illustrate the *similarities* in which Mumsnet parents in our dataset seemed to ask for *emotional support* alongside instrumental advice and receive such support by having their emotions validated, seeing they are not alone, and that others experienced similar difficulties – cf., Section 5.1.2. This is aligned with prior work showing parents of younger children seeking and receiving such support [36, 54, 83] within a safe community space [36, 88, 101].

However, our findings also highlighted the *differences* in what parents of 2-5 year olds seek help for as well as how *instrumental support* can be provided within this parent population, especially the context- and age-specific challenges of *transferring of parenting advice into practice*. In particular, many of the problems experienced by parents were framed by OPs and commenters as *inherently 'solvable'*, such as through changing of how, what, or when the parent communicates with the child. This is a key difference—and an opportunity—of this parenting context, especially when contrasted to other areas where online support has been studied previously in detail, such as chronic illness [121], serious mental health difficulties such as psychosis [83], or support for stigmatised populations [2, 8, 14], where the online support can help the OP identify additional resources to help cope with the challenges they face but is unlikely to help directly resolve the underlying 'problem'.

That said, although the issues were—in principle—seen as solvable¹, providing the OP with practical solutions still appeared difficult within the current fora affordances that prioritised short and succinct thread responses (cf., Section 5.2). This was evidenced by clarification engagements by both OPs and commenters, varied and sometimes contradictory advice by commenters, and polite rejections of some advice by the OP. OPs often expressed multilayered and complex situations that were not fully understood by respondents, leading to difficulties in providing the OP with the actionable support required.

6 DISCUSSION

This paper is motivated by our lack of understanding of how complex parenting questions could be supported through online fora. To unpack these problems we have focused on the ways that parents of 2-5 yo seek and receive support in the context of child behaviour and the associated emotion concerns, where there are known challenges in navigating parenting practices as part of transitional developmental period, i.e., when children are socially and developmentally expected to undergo a fundamental shift in their social and emotional behaviours.

Through empirical work, we first investigated the ways that parents reached out for behaviour- and emotion-related concerns through a content analysis of all original post (i.e., the thread-starting questions) over a year period in the Parenting sub-forum in Mumsnet. In line with the focus of parent programmes, behaviour and discipline and parent emotion were the most prevalent help-seeking topics, which underscores the significance and scale of these challenge areas, and the need for new and accessible parenting practice supports.

Next, we examined the types of support received from people commenting on original posts for threads that focused on behaviour and discipline. The findings showed that within the forum structure, parents predominantly received

¹We note that this suggestion, if taken to extreme, is of course problematic; cf., the sociological work discussing such emergent norms of 'good/bad mothering' as per [12, 87, 88, 101], as well as the associated critique of placing all of the responsibility on child development and behavioural on the parents/the mother. The psychology literature, however, does suggest that many of the more localised difficulties that seemed to underpin the struggles expressed by parents online—e.g., child not listening and running into the road—can be feasibly addressed by the changes in parent-child interaction over time (see Section 2.1); while others—e.g., extreme parental stress due to poverty—would not. It is supporting parents with the former, more localised difficulties that interest us in this paper.

instrumental and seemingly actionable advice as well as emotional support. However, based on the interactions between help-seekers (OPs) and commenters, we observed that the given advice was not always helpful in enabling OPs to try out new parenting practices as the responses conveyed limited understanding of the OP's situated challenges and priorities.

Given the challenges of providing actionable advice for complex child behaviour, we next focus on unpacking the context-specific difficulties with *instrumental support* for parenting in early childhood². We do so by attempting to combine our empirical data, psychology literature, and own experiences as researchers within clinical parenting contexts. We then suggest possible extensions to the existing interaction design capabilities of online fora.

6.1 Challenges and opportunities of designing for parenting support – a proposed research agenda (RQ3)

Our main argument will be that the observed difficulties are likely an example of the '*information-to-application gap*', which is already well understood in the face-to-face parenting programmes literature [50, 60, 126, 140]. In other words, the notion of information-to-application gap emphasises that effective instrumental support in these contexts is rarely 'just' about addressing a *lack of knowledge* (which could be resolved by new information such as a carefully personalised advice from a peer online), but rather it requires empowering parents to *develop new approaches* of interacting with their children (which requires support akin to behavioural change techniques and iterative problem solving). For example, even relatively simple suggestions such as 'try using timeouts' consist of situating an intricate set of new family interactions into an existing social practice, potentially modifying or replacing long-established interaction patterns and habits in the family if it is to be tested and applied by the OP (cf., [113, 124]). In the rest of this section we argue for the importance to having a clearer understanding of the processes that parents undertake in developing new approaches to interacting with their child, and the challenges they face during such process, so that we can better understand the design requirements and opportunities for redesigning the affordances of online fora.

6.1.1 'Inherently solvable' but not simple – challenges of the 'information-to-application' gap. As argued above, the *information-to-application gap* highlights the design challenges of attempting to deliver successful instrumental support around parenting practice *only* through *receiving advice or information* from peers in these contexts. This stands in contrast to other skill-based challenges, such as when a parent of a 6-month old might receive information on establishing sleep schedules, approaches to introducing their child to solid food, or when to be worried enough to call a doctor if a child is unwell.

It is for these reasons that the existing parenting interventions in psychology have long emphasised the *experiential and on-going process* of learning, whereby parents are guided to develop the skills and confidence to support their children in overcoming difficulties [28], requiring a combination of reflection and progressive dynamic changes in context [37], rather than 'simple' information delivery. In other words, the core of the information-to-application gap seems to be in the difficulty of *helping the parents apply* the relatively well-understood—but abstract—*psychological principles* from the established programs (e.g., increase in directed praise, following through with consequences, not giving in to tantrums, explaining decision calmly and empathetically) *in ways that fit* the specific situations that OP faces and the social practices that already exist in the family (cf., also [124]).

Whereas in structured parenting programmes (cf. section 2.1) the *information-to-application gap* would typically be supported through a range of mechanisms that can include reflection, in-the-moment support, and habit formation

²We focus on behaviour support rather than emotional support as the latter has already been well researched and appears aligned with other online-support contexts [4, 9, 36, 54, 80, 88, 89, 101, 107]

[1, 26, 109, 122, 127], in our findings, we observed limited opportunities for enacting these mechanisms within the design of the forum. For example, whilst we observed some instances of commenters encouraging OP reflection (“*has something been worrying you which he may be aware of?*”), mechanisms such as self-reflection and in-the-moment support were more difficult to enact. Our findings suggest that the design of the fora prioritised information delivery as a dominant mechanism of parenting supporting. Namely, through OPs and commenters gradually contributing responses within a thread in the spirit of collective problem solving.

However, when trying to problem solve, commenters held limited understanding about the specific situation the OP faced or how the child might respond. Sections 5.2.1 and 5.2.2 point to the specific behaviours showing the commenters and OPs implicitly reacting to these difficulties by, for example, requiring contextualisations questions (‘what has the OP tried before? how common/stable was the child behaviour they are describing?’); attempting to describe both the general structure of the problem (‘my child never ever listens to me’) and a specific example of such behaviour (for example, ‘she rampaged through a shopping centre like a she-hulk’); or combining the description of general principles (‘try to actively listen to what your child feels’) with specific examples (‘some of the questions that work for me are X, Y, Z’).

To summarise, there are two main takeaways from the combination of the theoretical and empirical arguments above, which we can take forward to guide our thinking about design considerations in upcoming sections:

- #1 Many—although not all!—of the parenting difficulties related to challenging child behaviour could be *inherently solvable* if parents and children can be empowered to shift existing parent-child dynamics with sufficient support; and the parenting intervention literature can provide suggestions for specific evidence-based approaches that parents and children find helpful.
- #2 Such challenges in parenting are however *not* only based on lack of information, and *require targeted support mechanisms to enable parents in developing, testing, and incorporating new approaches* into their daily lives (seen as ‘parenting skills’ in the psychology literature).

6.1.2 Current online fora affordances are unlikely to be sufficient. If we accept the articulation of the *information-to-application gap* as a crucial challenge facing parents *instrumental* help-seeking in these contexts, what are the potential design avenues we—as the HCI community—could explore?

To the best of our knowledge, no work in HCI has so far aimed to address these design challenges in the context of parenting help-seeking online; and the forum threads data alone does not provide us enough information to propose design directions that would be sufficiently grounded in user-centred design processes (e.g., we lack information to understand if/how/which of the thread exchanges actually led to meaningful changes to the OPs life). We also note that many of the well-utilised approaches that have been successful to promote online support elsewhere are unlikely to address the fundamental design challenges of the information-to-application gap: for example, machine learning systems drawing on big-data to curate related information and/or answers for the question at hand [49, 142] remain, so far, in the knowledge support domain rather than focusing on skills development; systems to help identify localised services and/or information [21, 72, 143] are important but mostly re-direct the instrumental support needs elsewhere; and approaches to strengthen the emotional support provided by the platform such as metrics on how others within a community engaged with or experienced similar situations [17, 145] again would not directly help shift the parenting practices in question.

In lieu of existing data or close related work, the next section turns to other areas of HCI for inspiration and aims to identify several ‘best-bet’ design directions that could start addressing the challenge of information-to-application gap.

885 6.1.3 *Design inspiration from other literatures to augment instrumental parenting support online.* We propose
886 that there are several existing research areas that have addressed challenges *similar* in terms of the interaction design
887 mechanisms required (e.g., remote skills development support) and can thus provide some guidance on plausible design
888 directions; even if the specific systems are *dissimilar* in the technologies available or the context of the problems solved.
889

890 In the rest of this subsection, we will outline three of such domains to provide inspiration on how others have
891 designed for supporting active problem solving and skills development support across a range of contexts, where similar
892 information-to-application gaps exist: personal informatics systems; technology-enabled interventions in families, and
893 non-technological, social support structures in parenting courses. In each of the subsections, we also combine these
894 observations together with the findings from our work to suggest a number of potential design research directions that we
895 believe could lead to meaningful systems addressing the challenges of instrumental parenting support.
896
897

898 *Personal informatics in healthcare.* The first area to inspire novel parenting support online is the work around personal
899 informatics, especially in the context of healthcare (see e.g., [42] for a review). Connecting with our findings on the
900 challenges of presenting enough contextual information, we argue that much of this work shares the users' need and focus
901 on 'active problem solving' in terms of the participants' everyday behaviours (e.g., learning to establish new eating—and
902 self-tracking—habits when diagnosed with diabetes [90]). The technologies designed for these contexts are often based
903 on enabling participants to track the outcomes of their choices over time, and thus to iteratively test and fine-tune 'what
904 works' for them and their body, in their specific situation – see e.g., [69, 116] for specific examples. In other words, such
905 personal informatics systems are in-situ and based on helping the participant go through the process of (i) selecting what
906 to try; (ii) how it can be tried in their contexts; (iii) tracking what the impact was; (iv) deciding whether to tweak the
907 technique or give-up and try something else [94]. In particular, these systems showcase how digital technologies can
908 introduce new possibilities to understand the impact of factors that would be otherwise challenging to unpack for the
909 participant (cf., also [76] for the new intervention evaluation methods these approaches enable).
910
911

912 In the contexts of parental help-seeking online, we could for example ask questions such as: *How would the principles*
913 *of personal informatics / self-experimentation apply to the online parenting context? Which aspects can be tracked*
914 *and how might this become embedded into, e.g., existing fora, or remote module-based programs? How might such PI*
915 *techniques scaffold further iterative problem solving support online, perhaps similarly to what is seen on fitness fora? For*
916 *example, early work from Huber [66] shows that parental-child statements could be classified automatically, suggesting*
917 *the opportunity to offer highly situated, practical feedback to parents which was so far impossible to deliver at scale.*
918 *Similarly, early work on 'family informatics' [104] highlight the opportunity to including the child as a more active*
919 *participant in the program (e.g., for older children), as well as a potential avenue to increase communication and empathy*
920 *for the parent-child dyad (which is core for all parenting programs).*
921
922

923 *Non-technological support structures in parenting programs.* Second, traditional parenting programs are known to
924 benefit participants—at least those who can attend and do not drop out—in a range of ways (cf., [50, 113, 119]). We
925 propose that from the known *active components*, aspects that could be particularly relevant to the online contexts discussed
926 here are the reliance on *group-based support*, which follows a *shared structure and set of informational resources*
927 including role-play or other practice scenarios, which *everyone in the group aims to apply at home* over a shared time
928 period, and then have the opportunity to *share their—and listen to the others'—experience* afterwards with some *expert*
929 *support* to troubleshoot any difficulties with application.
930
931

932 In effect, the traditional parenting groups enable a group of parents, where everyone is facing similar challenges and
933 have a shared set of 'things-to-try', resulting in what could be crowd-based exploration of possible applications. The
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937 parents often value the 'experiential knowledge' (cf., [86, 105]) of other parents at least as much as that of the experts,
938 and the structure of the groups is often conducive to what can be seen as shared problems solving - see e.g., [88]. While
939 this ensemble of aspects is not commonly found in the Mumsnet dataset we examined—and to our understanding neither
940 in any other online parenting fora—it does bring a set of plausible, socio-technical design ideas that could be explored in
941 future work, described in the final subsection below.
942

943 For example, we could ask design questions such as: *How might it be possible to introduce key aspects of the shared*
944 *group support available in traditional parenting programs (i.e., 'crowd-sourced' problem-solving with everyone trying*
945 *the same parenting technique) into online fora? How might online spaces be able to extend the reach of such support, e.g.,*
946 *could the groups be asynchronous or blended (e.g., progressing through posts of others who were at the same point in the*
947 *programs you are now?). How might the opportunity of at-scale support group (potentially thousands rather than a dozen*
948 *parents) help parents connect with those in similar circumstances, or holding similar parenting beliefs (e.g., [56, 60])?*
949
950

951
952 *Technology-enabled interventions in families.* Finally, connecting with our findings on a need for parenting skill
953 development support, a range of exciting work in HCI look at designing—often behavioural change—technologies that
954 provide tools for families to change established practice or introduce new ones. For example, prior work has focused on
955 helping parents and children structure bedtime routines through a combination of 'token economies' and in-the-moment
956 scaffolding of the individual steps [131]; or supporting physical activity in families through interactive narrative for
957 parents and children, involving real-world goal setting and reflection [110]. Other relevant work aimed to provide at-home
958 reminders for parenting techniques taught in an ADHD therapy setting [103], as well as structured reading sessions for
959 younger children [108], or support child's self-management of digital media consumption [64]. These systems showcase
960 the opportunity for user-centred design to successfully design and introduce socio-technical tools that specifically target
961 aspects of family life, empowering the adults and children alike to change towards practices that they prefer. Importantly,
962 most of this work emphasised the agency of even young children, seeing them as active social actors in the family space;
963 while fitting in with the psychological approach of supporting a change in the parent and/or the family environment, rather
964 than directly 'training' the child.
965
966

967 For example, we could ask questions such as: *What are the design mechanisms that would help parents change specific*
968 *aspects of their parenting behaviours in-situ, while relying on online peer support? Examples such as Mobero [131]*
969 *illustrate a way of introducing behaviour economies for a highly specific and habit-based context (bedtime routines)*
970 *in ways that both limit the parental load as well as ease transparency and consistent application. How might this be*
971 *extended to other, more complex parent-child interactions that are either taught in traditional programs or suggested as*
972 *resources online? To what extent would the well-known behaviour change techniques (cf., [93]) work well in these in-situ*
973 *contexts, and when might they fail; and could such interactions ever become embedded into online support settings? In*
974 *which way could such systems ethically take advantage of the emerging pervasiveness of IoT devices within family homes,*
975 *which are often positioned exactly in the places where 'parenting happens' (cf., [15, 106]), and connect to the emotional*
976 *and instrumental support online?*
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981 6.2 Ethical and practical considerations for technology-enabled parenting solutions

982 At the same time as suggesting opportunities for the design of parenting support, we are aware of the need to carefully
983 consider the ethical implications and potential unintended effects of any such system that, by definition, attempts to
984 impact some of the most personal and private relationships in the parents' lives. Considerate ethical design—such as that
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989 following responsible innovation practices [68, 132]—drawing on user-centred design work with all the stakeholders
990 including the children will be crucial (cf., also [10, 11, 47]).

991 We would also like to highlight that while many of the child-behaviour driven challenges are amenable to changes in
992 parenting approaches (and thus could be seen as 'inherently solvable'), many are not and the emerging critiques around
993 the combination of reduced local community support combined with the push of placing most, if not all, responsibility on
994 families (rather than society) are another important design consideration (see [12, 87, 88, 101] for detailed arguments);
995 with a range of potential foci, from the aims to directly support parents where they are at, to broader activism through
996 design (cf., [81]).
997

998
999 We note that none of the suggestions in section 6.1.3 is a clear 'solution' to the problems we outline – much further
1000 empirical and design work is needed to understand how instrumental support could be offered in the context of online fora
1001 for such parenting needs. We propose that the identified research directions offer three possible and plausible agendas
1002 for future parenting fora design research that is informed by parenting programme best practice, and involves parents,
1003 children and psychology experts in envisaging their application. Moreover, while each of the directions sketched above
1004 could be explored individually, the underlying intervention mechanisms could also be used in combination: for example,
1005 one could imagine a widely accessible parenting programme, enabling crowd-sourced peer support through online fora
1006 whilst also offering in-the-moment parenting support through IoT-driven systems.
1007

1008
1009 More broadly, there is so far very little work that would connect the deep knowledge base from parenting intervention
1010 psychology with the design thinking and innovation in HCI. The field appears ripe for such innovation: many of the
1011 developers of traditional parenting programs are slowly transitioning their programs to online spaces albeit staying so far
1012 very close to the tried-and-tested intervention models (e.g., video based modules, traditional online peer support fora) –
1013 providing both excellent baseline systems to innovate on, as well as initial evidence of where/how traditional models
1014 might fall short. As researchers, intervention developers, and designers we are excited by these possibilities, which could
1015 help envision entirely new models for supporting parents in developing what most strive for: close, emotionally-strong
1016 relationships with their children that also empower their children to grow into happy and well-adjusted adults.
1017

1018 1019 1020 **7 CONCLUSION**

1021 This paper presents an empirical and a design contribution to the existing body of HCI work investigating how parents seek
1022 and receive help online. By focusing on parent concerns for complex child behaviour in 2-5 yo and associated emotion,
1023 we highlight an important but to date under-researched parenting support area; one that—as our data suggests—faces a
1024 bespoke set of challenges for receiving online support. We combine (i) the qualitative analysis of 1 year of fora posts from
1025 a well established UK parenting site to understand and identify existing needs and challenges (i.e., active problem solving
1026 and the associated information-to-application gap); with (ii) the extensive literature on traditional parenting interventions
1027 and HCI work in other domains to suggest a series of design directions that could start addressing these difficulties
1028 through user-centred design work.
1029

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1034

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1352

A DETAILED DESCRIPTIONS OF EACH TOPIC CATEGORY BASED ON CONTENT ANALYSIS

A.1 Behaviour & Discipline

The most common category that resonated across the dataset is parent's help-seeking on their child's behaviour or disciplinary issues. These posts suggest that parents view Mumsnet as a safe space to openly share and seek the community's advice on personal parenting experience on their child's disruptive or unanticipated behaviour. We found a wide discussion of experiences that captured the nuances of children's behaviour and consequently, parents' concerns. This ranges from aggressive tantrums such as *"throwing and hitting episodes"*, *"uncontrollable rages in class"* to posts that suggested their children's inappropriate behaviours. For example, a poster sought advice to deal with her awkward evening dinners: *"my 4 year old son keeps wanting to kiss me, my partner hates it and repeatedly tells him to stop"*. We observed that some posters also explained how these inappropriate behaviours are often 'validated' or observed by their immediate family or ecosystem and that provided an impetus to seek help from the community. One poster described how her son's elaborate lies first brought to her attention when he lied to his grandmother that *"he'd rolled into the road after falling out of the pram"* but they did not use a pram, and several other elaborate stories surfaced from other family members and the nursery.

Many posters clearly value this intimate outlet to tap into other parents' similar experience for assurance, often for determining if the child's behaviour is 'appropriate' or 'normal'. A parent, who initially felt her son is undergoing a phase, sought advice from the community after being told by her mom constantly to assess her child: *"my 5 year old son is asking me to constantly repeat myself or if everything is ok...has anyone else ever experienced this?"*. Posters also use Mumsnet as a form of expectation check to navigate the uncertainties of parenting, one poster lamented: *"AIBU (Am I being unreasonable) to expect my 4 year old to play by themselves for a short while without needing constant interaction?"*

After sharing their parenting struggles, the common discourse sought by posters is in getting advice to help manage their child's behaviour appropriately: *"How can I stop this?"*, *"Please help!"*, *"Any tips please, I'd be grateful!"*. Posters use Mumsnet as an avenue to seek disciplinary strategies from other parents to grapple with their child's behavioural episodes and often, as a last resort when they have *"reached the end of (their) tether"*. After being told not to eat the crisps, a poster commented that her daughter began a chain of uncontrollable tantrums in public and after numerous attempts to discipline and stop the behaviour: *"All I could do was stand in the alley way and cry. Through absolute anger and embarrassment, I literally cried my eyes out... I'm not sure if I handed the situation well enough and I am so upset. I'm wondering how others have/would handle this situation?"* Another poster struggles to find a right disciplinary approach for her headstrong 5 year old and commented: *"Is using time out appropriate for a 5 year old? We tried them a couple of years ago and frankly she wasn't that bothered and ended up taking herself to the step after doing naughty things. Might it be time to revisit them? Star charts have no effect after a day or two."*

It was evident that many posters sought to the community to express deep emotional and brutally honest struggles in parenting as a form of coping mechanism when their children's behaviour feels out of control. One poster feeling overwhelmed as a single dad parenting three children shared his struggles managing his son's behavioural issues such as crying every night, refusing to eat and *"if you tell him off he just laughs in your face"* expressed: *"I hate myself for saying it but I really don't like my children. I dread school pick up, waking up in the morning. I feel like I'm failing as a parent."*

1405 A.2 Parent's Emotion

1406 In the threads we examined, posters used the forum to express strong negative emotions on various aspects of parenting,
 1407 as a result of their parenting decisions, child's behaviour or family members. These negative emotions are often
 1408 about themselves as a parent, their child, partner, parent-in-laws or other family members. Many posters shared the
 1409 disappointment they have for themselves after acting on regretful parenting choices. Often, posters acknowledged but
 1410 found it hard to accept that their actions were due to a momentary lapse in judgement. One poster confessed:
 1411

1412 *"Something just snapped and I lifted her up by her coat and quite forcefully shoved her into the pram. I then took her*
 1413 *soft toy and shoved it in her face, it left a faint bruise as my hand caught her head. This has never happened before and*
 1414 *my dh (dear husband) says I should forgive myself and move on. That I didn't intend to hurt her. But on some level I did*
 1415 *want to hurt - not her specifically. It was not her fault but I lost control and lashed out. Now I feel like a monster and I am*
 1416 *eaten up with guilt."*
 1417

1418
 1419 Across the forum, other posters resonated similar sentiments for different instances: *"I will be feeding the baby and my*
 1420 *son will ask for a cuddle but I can't, he will go off and be naughty as I'm feeding and I'll loose my temper. . . I'm not fun*
 1421 *for him at all anymore, I feel like I just push him away. Honestly I'm really struggling. I'm a terrible mother."* We also
 1422 observed that the extreme end of these threads suggest that the posters could be struggling with depression as they seek
 1423 the help or support they need to hang on by the thread. It is apparent that many of these posters expressed these feelings
 1424 of inadequacies for not living up to their 'ideal standard' of being a parent or not 'doing enough'. One poster shared, *"I'm*
 1425 *snapping constantly and I'm so tired all of the time. I just don't know how some mums do it. All I want to do is sleep. I*
 1426 *know it'll all work out and that it's all just temporary but I'm so close to throwing in the towel and quitting my job to*
 1427 *stay at home"*. Another poster shared her struggles with personality disorder and how she found it hard to maintain her
 1428 relationship with her children, and called out, *"I need serious help. I'm such a shit mother and I want to be back home. I*
 1429 *need to prove to myself I can do it but currently going down the same road as my childhood which has got me no where*
 1430 *posiitive for my life please help I'm a parent close to giving up."*
 1431
 1432

1433
 1434 We also observed numerous discussions on the frustrations and mismatched expectations behind parenting with a
 1435 significant other. For instance, a poster explained how she wanted to dedicate individual attention and time for each child
 1436 and felt upset when her husband *"thinks I'm taking favourites and makes me feel guilty for wanting to spend alone time*
 1437 *with ddl (dear daughter one)"*. She commented that *"tbh (to be honest) the weekends are the only time I ever have my*
 1438 *husband around to help out so aibu (am I being unreasonable)?"*.
 1439

1440 Posters have also shared how their relationships with or actions of their family members have weighed heavily on their
 1441 mental health. Raising a child in a family, immediate or extended, might mean some sharing of caretaking responsibilities
 1442 and parenting strategies. A poster explained how she overheard her mother-in-law's conversations about her lack in
 1443 parenting and it made her feel *"sad that it has been confirmed to me that they think I'm not parenting how I should and it*
 1444 *angers me that they are judging me in my own home."*
 1445

1446 What is common across the threads is the search for empathy. Posters relied on this outlet to vent their emotions
 1447 but more importantly, their posts suggest their desire for a community that listens and empathises with their seemingly
 1448 isolated struggles as a parent. A poster said, *"I just needed to talk to someone, anyone. No one around me will ever admit*
 1449 *to losing it. I don't know, if people are angry at me, I deserve it. I just hoped that there isn't something seriously wrong*
 1450 *with me and I'm not the only one."*
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1457 **A.3 Activity & Product**

1458 The community in Mumsnet often use this platform for the sharing and exchanging of information on parenting-related
1459 products (such as games, books, gifts, strollers etc.) and things to do (leisure activities, holidays). These include gathering
1460 advice, recommendations or suggestions for the poster's child, themselves or their home. The affordances that the forum
1461 has allowed posters to specify their exact needs. Hence, posters receive more targeted recommendations or suggestions
1462 according to their unique needs. For instance, a poster detailed down the types of toys (e.g. "Jigsaws, Vehicles") that do
1463 not interest her bored 2-year-old and ask, "I'd like to look into a few new toys to help stimulate/engage him. He seems to
1464 prefer wooden toys, especially if it's to do with problem-solving or working things out. Any suggestions?". Other posters
1465 also attempt to get specific recommendations such as "cars that will fit 3 (child) seats along the back in a 5 seater", "new
1466 ideas for meals" and "sparkly prince costumes".

1470 Of those threads that focused on the use of products or activities, many posters openly shared their personal parenting
1471 situations or struggles for advice, such as keeping an energetic toddler entertained and managing appropriate screen time.
1472 One poster shared: "I'm wondering how much TV time to allow for my 3 year old. It's just TV and no other sort of screen
1473 time. He doesn't nap anymore, so it's much easier for him to watch TV while I get jobs done. Do others have a daily limit?
1474 Or a limit per each time of watching TV? Do you have any tips for getting house work done without using TV?"

1476 Other posters reinforced similar struggles in finding appropriate activities or strategies, especially in entertaining
1477 multiple children at the same time. One poster who also felt overwhelmed sought to Mumsnet to look for healthy activities
1478 to occupy her 3 children, commented: "I've been worried about how much screen time they have been having and thought
1479 to turn off the TV completely today but OMG - It was difficuuuuuult and so challenging...I'm not used to having all 3 of
1480 the kids there at once which is stressful. Anyone else struggling over the holidays?." At the same time, some threads also
1481 sought product recommendations for the parents themselves, for example, a first-time parent "not always sure how to
1482 respond when she (the child) pushes the boundaries. There are so many parenting books it's difficult to know which ones
1483 are effective. Any recommendations, please?".

1486 When the products or things that their child uses are in question, posters are eager to get second opinions to validate
1487 their decisions with the trusted community. One poster asked: "Would you use a second-hand toddler sized mattress?
1488 (for a 3 year old) It's from a family friend, looks very clean, ... I'm not sure about it but can't decide whether I'm being
1489 unnecessarily cautious."

1492 **A.4 Medical Concerns**

1494 The code 'medical concerns' was applied in 41 excerpts which covered topics of diagnoses, analysing medical conditions
1495 or symptoms, parent-related medical issues, and planning for after care.

1496 **Diagnoses and coping with sickness** - Parents wrote posts trying to identify things like mysterious rashes, chicken
1497 pox, and blood in stool. They asked questions like, "is this threadworms or thrush?" while wondering what medical
1498 issues other symptoms indicated such as seizures, being cross-eyed or vomiting accompanied by lethargy. Parents asked
1499 practical advice on topics of dental hygiene - such as how to regularly brush bleeding gums. Further, parents expressed
1500 concerns about seemingly strange behaviours such as refusing liquids, throwing up from being upset, and episodes of
1501 children attacking others. Often parents would wonder if medical issues were related to other big changes - like new
1502 siblings joining the family. Even when children were clearly sick with things like colds, the flu, or hospital accidents,
1503 parents asked for advice on what activities to stay busy with and how to cope with lingering sicknesses. More serious
1504 issues (such as "sensory meltdowns" were shared about kids with rare blood disorders, mood and personality disorders
1505
1506
1507

1509 (like ADHD and bipolar), Autism, and special needs. One parent asked, *“What’s the difference between poor parenting*
 1510 *and SN? The preschool teacher said she knows that we love bomb and that we try to be positive with him but we need*
 1511 *to be firmer. Maybe we are too caring. Maybe we are shit parents. Our 2 year old has had none of these issues, even*
 1512 *accounting for the age difference.”*

1514 **Aftermath of sickness and parents’ issues** - Parents asked about how to hold accountability after dealing with
 1515 choking hazards, proper etiquette with re-joining birthday parties after being sick, and how to properly support surgery
 1516 recovery. They also wondered about longer-term consequences such as from vaccine side effects. These types of concerns
 1517 held larger emotional charges with more chronic issues. One parent described feeling PTSD from multiple hospital visits
 1518 with their kid. Meanwhile, parents’ own mental health issues - such as phobias, PPD, and personality disorders also gave
 1519 rise for concern. One parent shared, *“I’m not sure if it’s sleep deprivation and adjusting to a new life or something else. I*
 1520 *feel like I don’t have the time or energy to seek help. I need serious help. I’m currently living away from home and my*
 1521 *marriage and relationship with my children is critical. I’m such a bad mother and I want to be at home. I don’t know what*
 1522 *else to do. The only reason I’m living is my children! I need to prove to myself I can do it but currently going down the*
 1523 *same road as my childhood which has got me nowhere positive for my life please help I’m a parent close to giving up.”*

1526 Lastly, when parents themselves experienced needing prolonged medical attention, they sought advice for things like
 1527 hospital visits.

1529 *“And to add to it all my dear daughter is having some separation anxiety with me now after I was recently admitted to*
 1530 *hospital and she could only visit for a limited time which she found quite tough. With the added bonus of a new baby*
 1531 *we’re worried she won’t cope at all. We’re not sure what to do. I’m so sorry if this doesn’t make any sense”*

1533 A.5 Sleep

1535 34 of our posts were coded for concerns related to children’s’ sleep patterns and the effects on the whole family. As
 1536 with other topics, parents often wondered what are “normal” standards and expectations for naps and sleeping during
 1537 the night (i.e.- *“who else is experiencing the ’2 year old sleep regression?”*). Parents’ main preoccupations related to
 1538 understanding the optimal conditions for falling asleep, staying asleep, and integrating sleep with healthy, daily life habits.

1540 **Sleep Accessories** - In material considerations, parents asked for recommendations for sleep monitors, black-out
 1541 curtains, beds and white noise machines. One parent shared an attempt at a DIY sleep aid solution, *“I purchased a teddy*
 1542 *which my friend kindly wrote a letter for saying, ‘I’m here to help you sleep and be a big girl. It hasn’t worked and the*
 1543 *lack of sleep is affecting her behaviour in the day.”* Parents were also preoccupied with switching beds and how to best
 1544 arrange rooms for multiple children, especially to avoid fussy sleepers from waking up their siblings. For example, parents
 1545 wondered when it is appropriate to switch from a toddler bed to a single bed or how to optimize for sharing bunk beds.

1547 **Falling and Staying Asleep** - Many parents shared existing bedtime routines and asked for support in improving them.
 1548 For example, parents wondered if the order of kids (based on ages) positively or negatively influences sleep hygiene.
 1549 Similarly, they shared concerns about relying on watching media at night or relying on bottles as well as breastfeeding
 1550 to fall and stay asleep. Parents wondered about strategies for weaning off bottles or breastfeeding, including questions
 1551 about introducing formula as part of the routine. One single mother shared the challenges of her toddlers’ demand for
 1552 breastfeeding saying,

1555 *“At home he only wants to breastfeed and cuddle. All weekend, all nights. If I get up and try and do anything else he*
 1556 *cries. He doesn’t eat properly because he’s feeding. But he just gets really upset if he doesn’t feed. Apart from that he’s an*
 1557 *easy, lovely little boy! I don’t know how this situation can continue, but also I don’t know how I will be able to wean him*
 1558 *with everything else I have to do! Will it be easier or harder later?”*

1560

In addition, parents' asked for guidance with disturbances in the middle of the night. These included sleepwalking, bed-wetting, or waking parents up due to scary dreams or medical concerns. Besides feeding, parents shared coping mechanisms such as swaddling, cuddling, rocking, and laying in bed with parents. Several parents were not keen on the idea of sharing their beds with their children. As one parent shared, *"Co-sleeping isn't an option. She also really hates the pram and car seat, and has done since birth. Any tips for one very drained mumma!! I'm loving the cuddles but miss being able to even go to the toilet without her getting upset."*

Behavioural and Daytime Consequences - Sleep-related concerns proved to not only affect the night time but they often were connected to issues throughout the day. Parents shared that fussy eaters may awake in the middle of the night asking for food or drinks and they also wondered how to align napping schedules and needs with optimizing for children sleeping through the night. As one parent shared,

"Is 2 and a half too young to give up on naps? My son is just a nightmare to get down. When he does sleep he normally sleeps over an hour. In the last week it's been much shorter or no naps at all. Is this just a phase or is it the end of naps?"

When children did not get their sleep needs met, parents commented on many unsettling behaviours. They reflected on frustrating episodes of separation anxiety, tantrums and behavioural issues at day-care or an inability to focus in school. Parents feared that their children's' sleep issues could interfere with going to parties or sleepovers (especially when issues like bed-wetting are involved).

Parent exhaustion from dealing and troubleshooting - Many parents expressed deep exasperation and going to great lengths to support healthy sleeping. From begrudgingly co-sleeping with parents to feeling mummy guilt with giving a child melatonin to, *"we've even worked with a private sleep consultant"*. Parents commonly felt exhaustion, depression, anxiety, and loneliness:

"I love him so much but I'm absolutely shattered, I've not had a proper sleep since before he was born. The longest sleep I've had was about 4 hours and that was a month ago. I'm also feeling really lonely and sad and I have bad anxiety, I'm constantly worried how each night will be with him."

"But I still can't switch off, basically it's 12:30am and I'm crying and grieving when it was just me and my two year old, I think I'm feeling hormonal which isn't helping. I just want a break after a horrific pregnancy which drained me."

A.6 Diet & Food Habits

40 of our posts touched on topics of families preparing, eating, and digesting food while sharing emotionally fraught conundrums and experiences.

6.1 Food Preparation - In matters of food planning, parents asked for recommendations of multivitamins and recipes. They expressed concerns for wanting variety in their meal offerings as well as convenience needs (in order to have meals available "on-the-go"). Parents also wondered about how to accommodate phases children were going through, such as kids deciding to become vegetarians. Throughout the posts, guilt and conflict continued to be a common category as parents struggled to balance the input of in-laws, the other parents or caregivers, and perceptions of providing the right amounts and types of food. For example, one parent shared:

"I have a beautiful 2 year old and have always loved cooking but at the moment I have awful morning sickness and the smell of broccoli, cheese, mushrooms, eggs, and curry makes me sick. Unfortunately my daughter loves all of those. Can anyone recommend some relatively simple toddler meals that I can do? I really don't want to feed her ready meals but caved in yesterday and gave her one. I feel really guilty about what to make at the moment and she's having too much pasta. I could use those ingredients if there is a recipe that doesn't smell too strongly while cooking. Any wise mumsnetters have any ideas? Thanks."

1613 **6.2 Eating Food** - The most common sub-category within diet & food habits was advice seeking for dealing with food
 1614 or drink fussiness. Parents shared tactics of trying bribes, preparing primarily bland foods, disguising healthy food into
 1615 more appealing food, distracting children, and explaining the benefits of healthy eating. The top behavioural issues with
 1616 fussiness included: picky appetites, only liking junk food, eating too little, only eating while distracted on screens, and
 1617 spitting out food. Parents also wondered how to successfully get their children to take medicine and drink more water.
 1618 While there can be individual issues with children's eating habits, one parent reflected on the chaos of eating together as a
 1619 family, sharing:

1620 *“Eating as a family, with three of them, I've taken the path of least resistance and offered them different meals. We also*
 1621 *don't always eat together - to be honest it's an awful experience. Every mealtime is a battle. Sometimes I just want to be*
 1622 *able to enjoy my own dinner before it goes cold without losing my temper with a child who is spitting chewed up chicken*
 1623 *out or having a massive tantrum over having to eat a piece of carrot. Also, I work some evenings so we're not always*
 1624 *together as a family anyway.”*

1625 **6.3 Digesting Food** - Many parents inquired about the effects of eating throughout the day on staying fed and asleep
 1626 throughout the night. This was often intertwined with concerns of weaning toddlers off of breastfeeding and bottle feeding.
 1627 Tired and exasperated parents complained about children waking up in the middle of the night, asking for milk. Lastly,
 1628 parents wondered what amounts and types of food were normal - especially if they noticed their children being particularly
 1629 energetic or starting to gain weight.

1630 A.7 School & Day-care

1631 24 Mumsnet posts that we coded reflected on issues that happened during school or day-care. On a broader level, parents
 1632 wondered how many days per week at pre-school were appropriate and how to balance weekly schedules out accordingly.
 1633 One parent exclaimed how her life felt structured around school needs in a suffocating and overwhelming way. She
 1634 shared,

1635 *“The school day has taken over my life” - I have two kids now who are nearly 2 and 4. The 4 year old started school in*
 1636 *September. Her school is a mile walk and I don't drive. The walks are not an issue and I am happy enough with the school*
 1637 *but I feel like the week is just repetitive and boring and the weekends are for ironing uniforms and packing bags and*
 1638 *preparing for Monday.”*

1639 Parents posted on Mumsnet asking about practicalities such as childcare vouchers as well as how to support their
 1640 children with social dynamics, such as teaching kids to stand up for themselves, trouble-shooting conflicts with friends,
 1641 and building resilient attitudes as well as positive self-talk.

1642 In dealing with workers at school and day-care, parents felt concerned about what was reported back to them.
 1643 For example, school or nursery caregivers would share about children reflecting on painful things at home or throw
 1644 uncontrollable tantrums before lunchtime. Parents would ask for advice about how to talk to their children appropriately
 1645 about these issues or deal with their eating needs. Another parent asked for support in the aftermath of a child's finger
 1646 getting amputated during a nursery school accident. She shared,

1647 *“...Now, I don't know what to do with the nursery. They have been in touch and said it's just an accident that couldn't*
 1648 *have been prevented. But I can't help but feel angry that they say it couldn't of been prevented. If his finger goes back to*
 1649 *normal I am happy to leave it at just a complaint but if there is more long term damage then I'm thinking of taking legal*
 1650 *action. Am I being unreasonable?... How would everyone else handle this situation?”*

A.8 Physical Development

The threads we examined reinforces how parents of children in these age range often lookout for pivotal developmental milestones to assess their children's growth. Posters use Mumsnet to navigate uncertainties about their children's development across wide-ranging topics, from the use of their dummies (pacifiers) to speech and communication skills. For instance, a poster started a thread about her dummy conundrum where she finds it hard that her child can only be soothed by breastfeeding but was unsure about the effects of using a dummy: *"Is it easy to misinterpret feeding cues? I worry they affect teeth, speech, cause them to wake when the dummy falls out."*

For the threads we analysed, we observed that posters often look to relate others sharing similar experiences: *"I was hoping other parents that have children that have gone through this could tell me what to expect please?"* One poster explained her sudden realization that her daughter is noticeably overweight despite having an active routine and home-cooked meals, and she asks: *"Only thing I can think of is that she's still breastfeeding and drinks A LOT of milk. She feeds throughout the night... Has anyone else been through this? What did you do?"* In particular, we observed that posters also tend to discuss developmental milestones by benchmarking *"is this normal for anyone else?"* with other children. For example, a poster surveyed the community about her child's height: *"People keep saying he's short. haha. Myself and his dad aren't tall but not tiny either. Does anyone else want to share their children's height at this age?"*

A.9 Potty Training

The beginning and end of potty training typically happens around the age of 2 to 5 years old. The threads we examined related to this milestone with discussions about children's reluctance with using the potty and regression in potty training. This ranges from situational 'weeing' issues such as sleep 'weeing' in areas around the house (*"She has no memory of them in the morning and all of these events have happened whilst she's been asleep and . She's used to getting up and going to loo so this is new."*) to uncertainties around the right time to potty train.

Being potty trained is often considered a significant milestone for toddlers. One poster, who feels worried about her daughters' potty training progress related to her peers, shared: *"I've just had to shower her down yet again as she's walked in covered in poo from the waist down! I know it's all small steps but just wondered how long from people's experience it takes a toddler to realise when they need the toilet? My friend's daughter apparently learnt in 3 days which for me is a bit disheartening."*

Posters often discussed issues around potty training in parallel with their training or disciplinary attempts. One poster started to notice that her once potty trained daughter started to have accidents frequently despite her attempts to bring her to the toilet herself, and complained:

"We've tried taking her to the naughty corner and telling her off for each accident, and on the flip side lots of praise and making it clear she would get chocolate buttons for using the toilet, but we are getting nowhere... It's so frustrating when we know full well she knows how to use the toilet. Do we just give it a break for a few weeks? Do we try to keep forcing the issue?"

Another poster also shared a similar experience in another thread about her son who was already potty trained for 6 months started to act out and regress: *"started being a bit "naughty" in other ways, lots of NO! shouting at me and wagging his finger, "it's not fair!" and foot stamping. all completely out of character."* Despite disciplining him in different ways such as *"praising loads when using the potty, being "disappointed" with him when he's had an accident (never ever told him off) and asking him why, he just says sorry."*, the poster found little success and turned to seek advice from the community.

Our analysis further highlighted 7 remaining categories that posters commonly sought support for: Physical Development (e.g., concerns about “*regressed*” developmental milestones such as speech), Activity & Product (e.g., getting recommendations of products like “*cars which will fit 3 [children] seats*” and “*sparkly prince costumes*”), Sleep (e.g., issues with sleep schedules when the child is “*just a nightmare to get down*”), Diet & Food Habits (e.g., dealing with picky eaters that throws “*a massive tantrum over eating one piece of carrot*”), Medical Concerns (e.g., identifying unknown symptoms), School & Day-care (e.g., dealing with school teachers) and Other (e.g., advice on family-friendly holidays).

A.10 Other

30 of our coded posts had the ambiguous category of ‘other’ associated with them. These included miscellaneous questions on: travel, car safety, react to negative comments about one’s child, reassuring a child after moving a lot, pet advice, how to be eco-friendly in parenting, etc. Some of the continued rants also included exasperation about getting anything useful done while looking after the kids or, “*how on earth do you cope if you are both working the next day and with all the sleepless nights that are a regular occurrence?! I mean, several nights back-to-back, and around 2 to 3 hours of broken sleep.*”

Several sub-categories that emerged under ‘other’ included coordinating with other parents in the family unit and taking care of foster children or stepchildren. For example, parents asked for advice about how to deal with partners who struggle to help out or are alcoholic or abusive. Often parents shared frustrations about custody issues, negotiating care, or how marital issues and divorces were affecting the children. Similarly, questions arose about integrating divorcee’s new partners or dealing with overbearing in-laws. For example, one mother shared:

“I’ve explained this to my husband and he says you have to take the good with the bad and if she’s offering to help, just grin and bear it. It’s unfair, this is my home and a mostly, I kind of just sit up stairs waiting for the time to pass for when she eventually leaves. It sounds horrible but it’s just so overwhelming and annoying.”

Posts about child planning included weighing the pros and cons for more children, discerning issues with large age gaps between children, and managing adding more children into an already stressful life. In regards to deciding, one mother shared,

“I feel a bit environmentally irresponsible having yet another baby (please don’t take offence if you have many dear children - I would never think this of anyone else). Oh gosh, I just don’t know - although I do notice that I have put a caveat after almost every con...”

In considering another child, this mother reflected on concerns about losing sleep:

“My son is 2 years old but I honestly can’t imagine another baby right now - going back to sleepless nights fills me with dread. Especially with not having the same luxuries as when my son was a baby - ‘sleeping when they sleep’ for example when there’s another child to look after too. How did others decide on the right time for no2 and are the early years as hard as I’m imagining? Outside of my concerns of managing 2 younger kids, I know I’d regret not having another when my son gets older.”

Finally, there were only four excerpts coded under travel-related topics. These included inquiries about travel-friendly products like portable car seats and a travel cot and a vent about being on holidays with no childcare.