The information behaviours of disadvantaged young first-time mothers.

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Abstract

Purpose: to explore the information behaviours of socioeconomically disadvantaged young first-time mothers, an understudied and at-risk group (health and wellbeing).

Design/methodology: questionnaire and semi-structured interviews with 39 young mothers (aged ≤25) from UK areas of multiple deprivations.

Findings: Our mothers preferred sources of information are interpersonal sources with which they have formed close supportive relationships. Support groups are important sources of interpersonal connection, but young mothers are reluctant to attend groups involving older mothers. With the exception of support group staff and health visitors, institutional and professional information sources are used very little. Societal stigma is a significant issue influencing behaviours, but issues of institutional bureaucracy, information overload, conflicting information, and practical access are also reported. A further key factor influencing behaviour is self-identity.

Research limitations/implications: findings should not be considered representative of young mothers as a whole as not all young mothers are disadvantaged. As our participants identified as ethnically white, findings also cannot speak to the additional barriers experienced by women of colour. Further studies are recommended. Further studies exploring the influence of self-identity on people's information behaviours are also recommended.

Practical implications: findings provide practical direction for health and welfare services, and public libraries, to better support young mothers.

Originality/value: findings contribute to our conceptual and practical understanding of information poverty in the socio-ecological context. Findings also evidence the role of self-identity in shaping people's information behaviours.

Keywords: information behavior; information poverty; self-identity; health communication; health education; young mothers.

Paper type: research paper

1. Introduction

This study explores the information behaviours of young first-time mothers (aged ≤25) from UK areas of multiple deprivations (i.e. education, employment, income, health, crime, housing, access to services); with young mothers an understudied and at-risk group (health and wellbeing). The study contributes to our holistic understanding of what information sources are used and valued by young

mothers, what are not, and why. Our participants are caring and motivated mothers who when seeking parenting information have to carefully navigate their way through information worlds due to societal stigma and marginalisation. Findings contribute to our conceptual and practical understanding of information poverty in the socio-ecological context, and draw further attention to structural inequalities as a major contributory factor.

2. Background

Young first-time mothers as a study group

The transition to motherhood is recognised as a period of "profound social change" (Prinds *et al.*, 2014, p.734) and psychosocial adjustment for women (Kamali *et al.*, 2018). Mercer notes that it, "involves moving from a known, current reality to an unknown, new reality" (2004, p226), further described by Prind *et al.* as an, "existentially [life] changing event" (2014, p.733). It can transform how a women thinks of herself and the world around her, and generates new needs for knowledge and understanding. For example, Montesi and Bornstein (2017, p.201) comment that, "…becoming a mother implies a new perception of oneself as more in need of information". Such profound transformation can also be problematic, and involve considerable anxiety and stress (e.g. Da Costa *et al.*, 2015; Loudon *et al.*, 2016). For example, Carolan (2007, p1168) reports that, "Following birth and the immediate postpartum euphoria, the new mother was confronted with the myriad concerns of her new role… Many described feeling really lost and helpless. Most felt ill-prepared and ill-equipped for their new role". Information helps preparedness, but unmet needs are reported, and correlated with negative health outcomes (e.g. Gazmararian *et al.*, 2014; Rotich and Wolvaardt, 2017).

Young mothers are reported to be at increased risk of negative health outcomes (World Health Organisation, 2018). Infant mortality rates are higher than older mothers (Torvie *et al.*, 2015), as is risk of poor infant nutrition and care (Harron *et al.*, 2016). Stress and anxiety are also heightened, as are rates of depression (Raskin *et al.*, 2016). Notwithstanding such significant issues, motherhood is also reported as a positive transformative experience for young women (Duncan, 2007; Brand *et al.*, 2014); however young mothers are also subject to stigma and judgement. Shoveller and Johnson argue that public discourse on parenthood predominantly portrays young mothers as a problem, and encourages marginalisation and "a climate of sex-based shame" (2006, p.47). They argue that public health interventions have been preoccupied with risk and "what is wrong with the individual", as opposed to the environment, and that greater attention needs to be given to how to "transform youths' social contexts and structures" (2006, p.56). Brand *et al.* discuss how this deficit view can lead to mothers concealing their needs from health professionals due to "fear of stigmatisation and lack of confidence" (2014, p.175).

Previous studies examining the information behaviours of young mothers

For the purposes of this study, we sought to identify previous empirical studies involving young women aged ≤25 expecting or with their first child (primipara), and providing insights into their information behaviours. A small number have been undertaken exclusively with women aged ≤ 25 either all primiparous (Owusu-Addo, 2016) or majority primiparous (Greyson, 2017; Obrien et al, 2018).

Owusu-Addo et al (2016) explored the information seeking behaviours of 28 pregnant women (aged 15-19) in Ghana. Preferred sources of information are reported to be mothers, siblings, partners, friends and neighbours; with closeness and maternal experience valued (p.114). Professional sources are reported to be consulted to "a limited extent" and largely limited to urgent situations (p.114). Information from professional sources is valued, but not always understood; and negative attitudes of professionals are also reported, and attributed to stigma. Young mothers are also reported to feel "shy and intimidated" in the presence of older mothers at health clinics, and reluctant to ask questions (p.114). Only a minority of mothers used print materials, and none used the Internet (with Internet access limited in the study zone).

Greyson (2017) explored the information practices of young parents in Canada, with 37 of 39 participants young mothers (avg. age 18.3). Participants are reported to spend a substantial amount of time seeking information online, to frequently consult family and friends, and similar to Owusu-Addo et al (2016), limit interactions with professionals to urgent situations. Much peer-based information sharing occurs in support groups, with some mothers acting as intermediaries for others, and described as "a common practice that both fulfilled social roles and built social capital for many" (p787). In relation, some mothers avoided support groups open to older mothers due to issues of stigma. Access to information is reported to be, in general, "rarely a barrier" (p.797); but socio-emotional and literacy

issues are noted. Greyson (2017, p788) also reports that to counter judgement, "a rare but notable subset of proactive information seeking… was defensive… in order to demonstrate being an educated parent". Some mothers are also reported to seek information on more sensitive topics indirectly through passive or subversive information practices.

O'Brien et al (2018) explored the infant feeding information practices of 90 young mothers in Canada (avg. age 18-20). Their behaviours are described as "complex and socially situated", and negotiated within a "heavily surveilled atmosphere" (2018, p.608). Whilst much information is obtained actively from "a range of print, online, and in-person information sources" (p.615), much is also obtained through proxy via health and social services, that whilst providing important support, could also discourage mothers from active seeking in favour of more passive practices. In relation, insensitive correction and criticism by health professionals discouraged some mothers from interaction, as could feeling discounted or ignored. Issues of stigma and judgement are reported, as is variance in support by geographic location and culture. Instances of misinformation or conflicting information from professional and family sources are also reported.

A small number of further studies have either majority involved mothers aged ≤ 25 (Rotich & Wolvaardt, 2017) or a substantial proportion were aged ≤ 25 (Kamali et al, 2018; Prescott and Mackie, 2017). These studies all involved a mix of primiparous and multiparous women, but with no data provided to indicate the status of the mothers aged ≤ 25.

Prescott and Mackie (2017) explored the information behaviours of 16 pregnant women in England seeking pregnancy information online, with 7 participants aged 16-25. All participants are reported to regularly access online forums to gain insights into the experiences of other pregnant women, and to obtain pregnancy and birth advice. The authors note that "Other women's stories and experiences had a positive impact in terms of reassurance and helping to reduce worry", and "normalized symptoms and issues" (2017, p3). Forums also helped women to build networks of peer support that allowed them to ask questions of peers that they did not want to worry or trouble professionals with.

Rotich and Wolvaardt (2017) explored the information needs of 15 Kenyan women in the first six weeks postpartum, with the majority aged 18-25. Whilst focused on needs it also provides some insights into issues with information sources. Participants discussed a lack of instructive clarity in print material, receiving conflicting and inaccurate information from health professionals, and not trusting community-based healthcare workers as sources of information.

Kamali et al (2018) explored the information needs of 400 pregnant women in Iran, including 140 women aged ≤25. Whilst focused on needs it again provides some insights into information seeking behaviours. In decreasing order of use, the majority of participants sourced information from physicians, closely followed by the Internet, and family and friends. Approximately half also indicated use of mass media, print material, clinics, and midwives/nurses; and approximately one third training classes. Finally, approximately one sixth used herbalists, pharmacists, religious organisations, and CD/films; and a minority used telephone helplines. Approximately half of participants reported no barriers to access and use, but for the remainder, lack of knowledge of available resources, and financial and language issues are reported.

In summary, previous studies report young mothers as active seekers and passive recipients of parenting information, with interpersonal and online sources appearing preferred over institutional sources and print materials. In relation, a number of issues influencing information behaviours are reported: social stigma (Owusu-Addo et al, 2016; Greyson, 2017; O'Brien et al, 2018); misinformation (Prescott and Mackie, 2017; Rotich and Wolvaardt, 2017; O'Brien et al, 2018); literacy (Greyson, 2017; Kamali et al, 2018); socio-emotional factors (Greyson. 2017); financial constraints (Kamali et al, 2018); and awareness of available information and support (Kamali et al, 2018). Previous work provides important contributions to our understanding of contextual factors influencing the information behaviours of young mothers; however, depth and breadth of understanding remains arguably limited by small number of studies, and in several instances, limited scope. Two report information behaviours in general overview with limited insights into information seeking preferences and influencing factors (Owusu-Addo et al, 2016; Kamali et al, 2018); and two are focused on a single information topic (O'Brien et al, 2018, Prescott and Mackie, 2017), with one further limited to online sources (Prescott and Mackie, 2017). Given that mothers are not a homogenous group and healthcare provision varied, we also have limited understanding in a variety of contexts including disadvantaged (socioeconomic) circumstances

(two of the six previous studies (Prescott and Mackie, 2017; Kamali et al, 2018) involving University students and graduates; and one (Greyson, 2017) providing no socioeconomic data). We thus sought to further explore the information behaviours of young mothers, and in particular, the behaviours of mothers in disadvantaged circumstances who might face heightened issues of inequality and marginalisation. The key research questions were:

1. What are the information behaviours of disadvantaged young (age ≤25) first-time mothers?
2. In relation, what factors influence information behaviours?

3. Methodology

This study was part of a three year investigation into the information needs and seeking behaviours of young first-time mothers from UK areas of multiple deprivations. We have previoulsy reported on information needs, providing new insights info breadth and complexity of needs (Buchanan and Jardine, 2020); and now report on associated information seeking behaviours. We discuss the relevant methodological aspects below.

Theoretical framework

Our theoretical framework brought together theories of information poverty with theories of social capital to better understand shared concepts of social integration, understood as participation, access, and engagement.

Chatman (1996) provided a model for exploring issues of inequality and marginalisation reported in previous studies (see: Background), including how insider/outsider identity influences information behaviours. Chatman argues that "Based on previous research, one can make a prima facie case that people who live in an arduous social landscape view outsiders with self-protective eyes" (1996, p.205). Chatman (1996) proposes four concepts (behaviours) defining the basis of an impoverished information world: deception (distortion of truth), risk-taking (aversion to risk), secrecy (intentional concealment), and situational relevance (focus on immediate utility); and six propositional statements, that describe an impoverished information state as one in which people variously perceive themselves to be devoid of sources of help, are influenced by outsiders who withhold privileged access to information, adopt self- protective behaviours in response to social norms, are mistrustful of the ability of others to provide useful information, withhold their true problems in the belief that negative consequences outweigh benefits, and selectively receive new information. Chatman posits that in impoverished circumstances, a stratification of information access can occur, with information needs and sources localised, and outside sources not usually sought in a "world on which norms and mores define what is important and what is not" (1996, p.205). Whilst much information poverty research has involved economically disadvantaged groups, the theory of information poverty has also been used to more broadly explore the influence of structural inequalities on peoples' information behaviours. For example, studies involving: young gay men (Hamer, 2003), extreme body modifiers (Lingel and Boyd, 2013), mothers of children with disabilities (Gibson and Martin, 2019), and Muslim women in Arab society (Buchanan and Husain, 2022). Such studies, often involving stigmatised groups and/or sensitive topics, draw further attention to the social and cultural dimensions of information poverty, and challenge deficit perspectives.

Concepts of insider/outsider identity and social stratification also drew our attention to the applicability of social capital concepts. Widely recognised as a strong predictor of individual health and wellbeing, social capital refers to "features of social life – networks, norms and trust – that enable participants to act together more effectively to pursue shared objectives" (Putnam, 2000, p.2). Three types of social capital are commonly recognized (Putman, 2000; Woolcock and Narayan, 2000): bonding (close, immediate peer and family connections); bridging (more distant connections with people of similar characteristics); and linking (institutional connections via people in authoritative positions). Recognising that "social capital can operate through the diffusion of information" (Drentea and Moren-Cross, 2005, p.924); a particular strength of incorporating a social capital perspective is that it "shifts the focus of analysis from behaviour of individual agents to the pattern of relations between agents, social units and institutions" (Schuller et al., 2000, p.35).

It is important to note that whilst guided by the above, our overall approach incorporated an inductive element (see: Data analysis).

Data collection

Our data collection methods were questionaire followed by semi-structured interviews, conducted over eighteen months within young mother support groups and mothers' homes. Both questionaire and interviews comprised component parts to cover the study in its entirety (i.e. information needs, information seeking behaviours, and influencing factors). We report here on findings pertaining to information seeking behaviours and influencing factors with relevant design aspects discussed below.

The questionnaire component explored common sources of information utilised by mothers. Sources (see Figure 1) were identified from Loudon et al's (2016) list of key sources of information used by mothers, with one further addition, mobile apps, to include more recent digital developments. Questionnaire design also incorporated provision for participants to add further sources not felt to fit these categories. Similar to Louden et al (2016), we also asked participants how frequently they used each source, and how useful they found or considered each source to be. A third question asked how much they trusted the information provided by the source.

Post questionnaire, individual and small group semi-structured interviews (1hr. duration) were conducted with mothers to explore information behaviours in more depth. Whilst the interviewer initially prompted mothers with example sources to encourage discussion, mothers had the freedom to discuss their use (or not) of the various sources as they saw fit. One team member conducted interviews with all interviews recorded (subject to consent) and transcribed in full.

Data analysis

Qualitative data analysis (utilising NVivo) incorporated both deductive and inductive elements. Thematic analysis followed Braun and Clarke's (2006) approach: data transcription and familiarisation; initial code generation; collating codes into themes; reviewing themes; refining themes; and producing themes. Data was disaggregated into meaningful categories via identification of patterns and regularities through iterative cycles of pattern coding and thematic analysis, involving multiple readings of verbatim transcripts. Initial start-list codes were based on, but not limited to, concepts of information behaviour and social capital as per our theoretical framework. Further codes were emergent from data (e.g. self-identity).

One team member coded with periodic code checking (multiple sample coding) conducted by the second team member independent to the first, with no notable disagreement in coding to report. Team discussion facilitated minor refinements to code structures, and identification of primary codes for data initially assigned multiple codes. Emergent themes were identified and refined iteratively, and as per Braun and Clarke's (2006) recommendations, our analysis included two levels of review (within and across themes) to check for coherence, consistence, and distinctiveness of themes. Analysis included identification of exemplar direct quotes (from coded data extracts) for inclusion in this paper to evidence themes.

Ethical approval

Ethical approval was obtained via Institutional Ethics Committee, with the study run in strict accordance with the University Code of Practice on Investigations of Human Beings. Informed written consent was obtained from all participants, who all participated voluntarily.

4. Findings

Participant demographics are provided below, followed by questionnaire and interview findings. The study zone was the Greater Glasgow urban area extending to semirural areas within the Central Belt of Scotland. Fieldwork was completed prior to COVID-19 lockdowns.

Participants

In total, 39 mothers participated. 23 completed the questionnaire, and 39 were interviewed (23 of 39 completing both). Variance in participation reflected variance in week-by-week support group attendance where much of the engagement with mothers occurred, and the practical availability of mothers in the late stages of pregnancy or with infants. Some questionnaires were also returned incomplete and/or spoiled.

38 of the 39 participants provided demographic data. The youngest was aged 15, the oldest 23 (mean age 19). All participants identified as White reflective of the Scottish demographic, with 96% of the Scottish population reported as ethnically White in the most recent census (Scotland's Census, 2011). 35 of 39 (90%) were primiparous with 5 (13%) expecting their first child and 30 (77%) having one child. 4 of 39 (10%) had two young children (multiparous). Expectant mothers where variously 21-38 weeks

pregnant (mean 32 wks). The youngest child was 2 months, the oldest 4 years (mean age 12 months). 35 of 39 mothers disclosed educational qualifications: 5 (14%) had left school without completion; 24 (69%) had or were working towards national school qualifications; and 6 (17%) had or were working towards college certificate qualifications. None indicated college diploma or university degree enrolment or qualifications. All participants who disclosed residence (38 of 39) were confirmed via the Scottish Index of Multiple Deprivations to reside within the 10% most deprived zones in Scotland. 16 of 39 participants (41%) also had an assigned family nurse as part of the NHS Family Nurse Partnership (FNP) programme, which provides vulnerable young mothers with one-to-one home-based parenting support from pregnancy to child age two.

Information source use

A questionnaire asked young mothers to rate common sources of information according to frequency of use, usefulness, and trustworthiness. The results are illustrated in Figure 1.
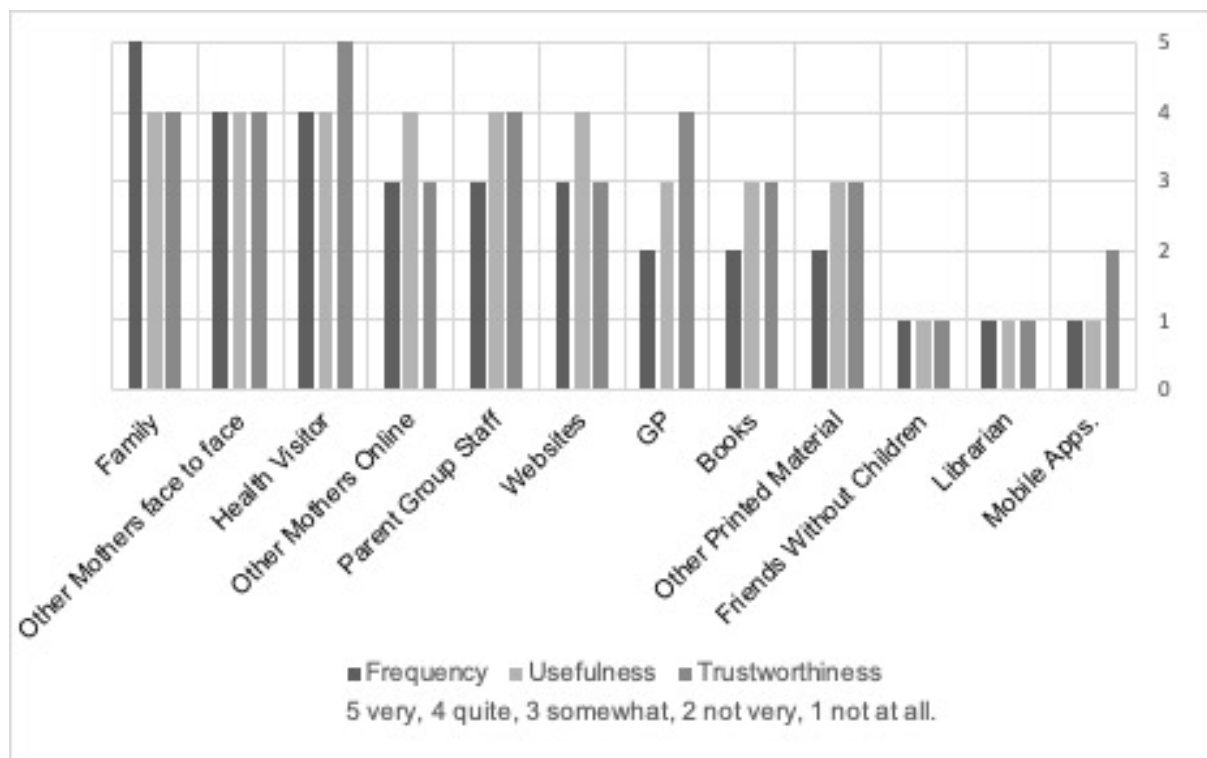

Figure 1. The information sources used by mothers (n23) by frequency of use, usefulness & trustworthiness.

Findings (in order of use) illustrate family, other mothers, and health visitors to be used very or quite frequently, and considered quite useful and trustworthy, with health visitors considered very trustworthy. Other mothers online, parent group staff, and websites are used somewhat frequently, and considered quite useful and somewhat trustworthy, with parent group staff considered quite trustworthy. GPs, books and other printed materials are not very frequently used. They are considered somewhat useful and trustworthy, with the exception of GPs who are considered quite trustworthy. Friends without children, librarians, and mobile apps are not used and are low ranked for usefulness and trustworthiness. No further information sources were added by mothers. Interviews (n39) provided further depth of insight into questionnaire responses.

Family (parents and grandparents) were high-ranked in terms of frequency of use, usefulness, and trust, largely due to close relationships and valued prior experience. For example, one participant commented:

If it is just somebody on the street telling you "oh you should do this" and you are like "oh aye, I bet that worked great for you!". Whereas if it is your mum saying "well I done this with you and it sort of worked", then you are more likely to give it a try.

Several mothers described their own mothers as vast sources of information. For example, one commented, "My mum just knows everything. I don't know what I would do without her". Family was also a source of demonstrative learning. For example, one mother commented:

   I stayed with my mum, after [child] was born, and my dad, he must have changed like a million nappies, just to drum it into me that that's how you do that, and I had to sit and watch, and any other wee things, like I hadn't a clue how to swaddle a baby, whereas my nana, my nana knew.

Several mothers described close family relationships. For example, one mother described being able to contact her own mother "like five times a day", and another described their interactions as "daily". However, some described distant relationships. For example, one commented, "I'm just going with myself, family I never see at all".

Other mothers face-to-face were also high-ranked in terms of frequency of use, usefulness, and trust, with shared experience valued. For example, one mother commented, "You'd trust another mammy, she's done it", and another that, "You can trust them because you are in the same situation". Participants described their young mother support groups as providing important opportunity for them to meet and share information and questions with peers, in an environment described by one as "not judgey", and by another as a "safe space". Another commented:

   …it's a big trust thing. And we're all like family, even the workers - I cannae see life without them. Aye but a lot of the information that we find is through each other.

Several mothers discussed how close relationships with other mothers allowed them to share day-to-day parenting questions amongst themselves without the need to always involve professionals, described by one participant as, "keeping it… to friends-level".

Health visitors were also high-ranked in terms of frequency of use, usefulness, and trust. Mothers discussed an important support role, particularly mothers who were part of the Family Nurse Partnership (FNP) programme, who repeatedly described their FNP nurses as valued and important sources of information. For example, one described her FNP nurse as "a star", and another as "brilliant". Another commented:

   I can ask my Family Nurse, and that's me - I've got the information I need. And if she doesn't know, she's got lots of information for you to look at as well.

Mothers without an assigned FNP nurse described mixed experiences. Whilst some were positive, some described poor and/or infrequent interactions with health visitors. For example, one mother described their health visitor as having made them feel, "really anxious and awkward". Another commented:

   When I spoke to a health visitor - she came out, that is the only time I ever seen her. I never saw a health visitor the full year I was in that house before, or I think maybe… once.

Other mothers online were mid-ranked in terms of frequency of use, usefulness, and trust. Mixed views were expressed In discussion. For example, one mother described online groups as "brilliant", another as "quite useful", and another as "quite bitchy". Several who used forums valued access to the experiential knowledge of other mothers. For example, one commented:

   I prefer that it [Netmums] is real-life experience rather than looking at a textbook, because I don't think any textbook can prepare you for what you'll do, whereas someone who's been through it can… it's good to know there's a lot of people that are in your situation, and they can tell you too.

However, some mothers were critical of the information being shared by other mothers online. For example, one commented, "they are all giving the wrong advice and you are sitting like 'oh my god, don't do that, please don't do that'". Some also discussed how advice from other mothers might not be applicable to their own circumstances. For example, one commented that "every baby is different", and that some advice "might not work for you".

Several mothers indicated that they valued anonymity when posting questions to online groups. For example, one commented:

   One of the groups is anonymous, you just send them a message and they post it, so nobody really knows who's asking and stuff, so I find that quite useful, it's easier to ask if people don't know who you are. Like, other groups I'm on, I won't ask anything.

Some mothers indicated that they read posts, but do not post themselves, or only ask selective

questions. For example, one commented, "I'm part of some mums groups of Facebook, but they can be quite bitchy. I don't really post anything, I just read what other people are doing!". And another:

> I would use them [Facebook groups] for silly questions, or… for instance, when I wanted to find out about how much are swimming lessons, because she loved swimming, but not for anything serious, because they're really judgemental as well, and they're all bitchy.

Support group staff were high-ranked for trust, and mid-ranked for frequency of use and usefulness. With regard to the latter two rankings, some mothers were infrequent support group attendees, or did not attend at all, and thus had limited or no contact with support group staff.   Explanations were brief. For example, one mother simply stated that support groups where "not for me".

Mothers who regularly attend support groups discussed supportive staff and valued access to information and practical support. For example, one commented:

> It wasn't until I did start like going through my anxiety and all this, and depression, and did start coming to baby group and did start finding out, like, "Oh, well actually I can get this and I can get that," and it was like word of mouth and talking to people. Like I just felt when I researched stuff, do you know what I mean, you just get so far and then you just, I just give up, because I don't know if this would apply to me… it wasn't till coming in here [group] that I found out so much.

Websites were also mid-ranked in terms of frequency of use, usefulness, and trust. Mothers were divided as to whether or not they would look online for information, and for those that did, whether or not the information was useful. Of those that used websites, none made reference to specific websites (e.g. NHS inform), but instead described general searches. For example, one mother stated that if they went online, they would "just Google it", and another that, "I just Google everything". Some mothers felt that much of the available information was too general to help them with specific questions. For example, one commented:

> Although there's good information online, it's not specific to me, because I want to put him in a cot. I could Google something… but it would all be information that applies to everyone about a cot, it wouldn't be something specific.

Several mothers indicated no use of websites whatsoever. For example, one commented, "I don't think many people look online for information", to which another replied, "I know I dinnae [don't]". In relation, some discussed factors of stress, and trust. For example, one commented, "I am scared to Google it, I'll just end up in a right state". Another commented:

> Do you know what, like, websites are a pile of pee. Also because the amount of websites there is, all of them contradict themselves so much, you don't know what ones to trust.

GPs were mid-ranked for frequency of use and usefulness, but more highly ranked for trustworthiness. With regard to the former, the majority of mothers discussed only contacting their GP when specific concerns arose.   In relation, mixed outcomes were discussed, appearing largely influenced by relationship and degree of interaction. For example, one mother commented:

> I don't really feel like he listens to me, and I've had to change from my doctor who I like when I moved house, so I don't really know if I can trust him, or talk to him about personal things.

While another commented:

> I think there's only one doctor that I actually trust, because he tells you what it actually is, he does use the medical terms, but he explains it for you and stuff, so I trust him.

Books were low-ranked for frequency of use and usefulness, and mid-ranked for trust. No books were discussed beyond *Ready, Steady, Baby*, which several mothers described as useful during pregnancy (primary purpose). For example, one commented, "That was like my little bible, I read it like every day", and another that "every week I read what was supposed to be happening". However, books did not appear to be used post-birth, with some mothers commenting that the books that they had been provided with no longer met their evolving needs. For example, one commented:

> *Ready, Steady, Baby* takes you all through the pregnancy and everything, but… there is no mention in it of any mental health or anything like that. I can't even remember if there was much towards funding [benefits]… or anything like that… so I think there needs to be more advice on that.

When discussing books, several mothers also discussed preferences for interpersonal sources of information. For example, one mother who commented that in comparison to books "actually speaking

to people is better", went on to explain that if she hadn't had access to other expectant mothers via her pre-natal group she "wouldn't have had a clue". Some also indicated difficulties with reading. For example, one commented:

I'd rather ask somebody else. I don't read books, because I'm terrible at book-reading… when I pure try to concentrate, I just, I read it, but I just don't take any of it in, and then I need to read it again! So I just kind of, I just give up.

Other print materials (e.g. leaflets) were low-ranked for frequency of use and usefulness, and mid-ranked for trust. Some mothers described leaflets as useful when relevant to a particular problem; however many felt overwhelmed by the volume of material automatically distributed by health services. For example, one mother commented that, "You don't look at them [leaflets] unless it is something that you can relate to, because you get so many", and another that, "You're constantly bombarded with leaflets, constantly".

Friends without children were low-ranked for frequency of use, usefulness, and trust. Mothers felt that friends without children lacked experiential knowledge. For example, one commented, "Your pals without children, you cannae [can't] ask them about your bairns [children], they don't have a clue, if they don't have bairns".

Libraries were low-ranked for frequency of use, usefulness, and trust. Some mothers indicated that they had used libraries to access computers and/or borrow books, but only one indicated current use. Several also questioned the usefulness of librarians. For example, one mother commented, "A librarian? I'm not going to ask some random woman... a librarian's just reading books to tell me things", and another commented, "I don't know what a librarian knows. I think they only know where a book is… I don't think I would trust them, to be honest. I don't think so". Some also recounted negative experiences. For example, one commented:

The librarians, they are snotty and they stick their nose up at you… because they're all posh, and you need to be quiet… I took her [child] once, and then she started crying… and they told me I was to quieten her down or leave. So I left. I was like, "Goodbye, I'm not going to sit here and take this".

In contrast, one mother discussed a positive experience when attending an early years programme in her local library:

But now we go to Bookbug – he [child] really enjoys it… It is good for me too, because then if I have something I want to ask there is someone I can talk to… when I'm there they can tell you different things that are going on, or sometimes I use the computers.

Health apps were also low-ranked for frequency of use, usefulness, and trust. Some mothers discussed using apps during pregnancy to track fetal development, described by one participant as "really cool"; however, none indicated post birth use. For example, one mother commented:

They [apps] were more useful when your pregnant – I used the ones that say, "this week your baby is the size of an orange", but when they are here all babies are so different so they can't really do that.

Negative factors influencing information behaviours

Young mothers discussed a number of negative factors influencing their information behaviours, categorised as: bureaucratic and complex institutional systems; negative interactions with professionals; information overload; conflicting information; practical access; and stigma.

With regard to bureaucratic and complex institutional systems, several mothers described difficulties when seeking to resolve health and welfare needs. Mothers described situations of uncertainty and confusion, with many uncertain of entitlements and/or unable to understand application forms. For example, one described the various forms that she was required to complete as "quite hard" to understand, and another as, "pure brain damage". Another, seeking support for postnatal depression, commented:

Yeah, and then I've got a form to fill in… the questions are quite weird… like some of them makes sense right enough, but some of them are like why are you even asking me that?

Several indicted that they had needed support to navigate institutional systems and complete applications. For example, one mother commented:

When it came to the Child Benefit side and things… I had to have family help me with the questions, because I was like, "I don't understand like what I would put down for that, I've never done this before".

Several mothers discussed how misunderstandings and/or mistakes in welfare claims could lead to significant financial hardship, and that such issues could still arise with professional involvement. For example, one young mother living in a supported unit and with social work involvement commented:

You get your Child Benefit form in the hospital, and your Bounty pack, and they [nurse] tell you that the Child Benefit sorts your Tax Credits, but not, definitely it does not… And whilst you are waiting on Tax Credits, you're not getting any milk tokens.

With regard to negative aspects of interactions with professionals, several mothers discussed feeling mistreated by professionals due to their age, including not being listened to. For example, one mother described themselves as feeling "belittled", and another as being "treated like a child". Another commented:

They're [professionals] not listening to me. They just think because I'm young and obviously I've got [child], they think I'm stupid. They're horrible… They're apparently there to help, but they don't.

Several mothers discussed how when feeling mistreated they actively disengaged from interactions with professionals. For example, one commented, "her tone and the way that she was, I just switched off and stopped listening". And another:

You zone out when somebody looks down on you and belittles you and that, you are like "why should I sit and listen to this person", do you know what I mean?

Negative interactions could also impact upon the mothers' perceptions of themselves as good mothers. For example, one mother commented:

I did not like my social worker from the start, he made me cry and cry and cry every time… he kept going on about my past and everything that happened and they would air it and air it… I felt like a shit mum, I felt like I didn't even deserve my wean [baby]. I actually wanted to turn round and say "here, you take him, I don't feel like I'm good enough, you take him".

Several mothers discussed how fear of judgement stopped them from interacting with professionals. For example, one commented, "I just don't ask for help", and another replied, "No, neither do I, because then you get judged for asking. No, I would never want anyone to think that I didnae know what I was doing". In relation, mothers feared State intervention. For example, one commented:

The social worker comes in and you tell them that everything is absolutely fine, but really you are falling apart. Everything is crumbling, but you just tell them that everything is fine.

Several mothers also discussed feeling not fully informed about medical procedures and health conditions during clinical interactions. For example, one mother, discussing the premature birth of her child and reflecting on unanswered questions, commented:

They just basically said he'll grow better on the outside, they never explained to me why - they never actually investigated why he stopped growing. They never said to me why.

Another mother, diagnosed with postpartum psychosis, discussed how she had not been aware of this until recently:

I didn't even know that that [postpartum psychosis] was what I was diagnosed with until about two weeks ago, it was in one of the reports and nobody even told me, not even my doctor.

In relation, several mothers felt that professionals did not take enough time to explain conditions and procedures to them. For example, one mother discussing her GP, commented, "She [GP] … seems to rush you out of the door, whatever you ask".

With regard to issues of information overload, several young mothers discussed feeling overwhelmed by the volume of information they received. For example, one commented:

I just felt so overwhelmed when the health visitor came in with all these booklets, and I think that is what tipped me over the edge.

In such circumstances, several mothers discussed putting books and leaflets out of sight, and out of mind. For example, one mother commented, "I don't have time to read them, and you just put them in a drawer.", and another, "They [books and leaflets] are sitting in the wardrobe. I don't want them."

Some mothers also discussed receiving information at inappropriate times. For example, one commented:

When I was in the hospital and I'd just gave birth… she [nurse] was going through like cot death and things like that, and I was just like sitting there, in tears… and I'm like, I didn't ken any of that beforehand, and it would have been alright if I could have had it beforehand, but hearing that when you've just gave birth, and you're like, [gasps].

With regard to issues of conflicting information, some mothers discussed how intergenerational advice from family could contradict advice from professionals, and requiring careful consideration. For example, one mother commented:

I was told not to put a rusk in his bottle [by health visitor], but my mum did it with me, and when I did do it with him it filled him for longer. That's how I managed to get him down to five ounces every four hours, so that lasted longer.

Some mothers also discussed receiving conflicting information from healthcare professionals. For example, one mother commented:

I had two [health visitors] to start with because he was premature - and one was telling me to wean him at three months, and one was telling me to wean him at six… I just went with my gut and just started weaning him.

With regard to issues of information access, several mothers indicated that they did not own or have access to a computer and/or were unable to afford home telephone or broadband (with several also too young for contracts). Consequently, many mothers were reliant on their mobile phone for Internet access, and via limited prepaid credit. Phones could also be basic pre-smartphone models with small screens.

With regard to stigma, several mothers discussed perceptions and/or experiences of judgement from other mothers and wider society, much attributed to age. For example, one mother commented:

Everyone just thinks you're stupid, just because you're vulnerable and get pregnant at such a young age, people obviously assume, "Oh, she's stupid, she got pregnant at that age, so she's stupid".

Several mothers discussed judgement from other mothers. For example, one commented:

See going to any kind of toddler thing or things like that, that is mums in their 30s or 40s, you get looked down at, well I have anyway, because they have all got careers and they are all on maternity leave. Whereas we're young, most of us don't have a career so… we get snooty looks and all the rest of it.

Several mothers discussed not attending support groups due to such issues. For example, one commented:

I took him to a bounce and rhyme session and I was the youngest one with the youngest wean [baby]... And they [other mothers] were all sitting tutting at me and everything. And a mum said to me, "how old are you?", and I was like, "I'm 20", and she was like, "no you're not". And she says to me, "people like you should be locked in a cage until you are responsible enough to have a baby", so I have not taken him back.

Positive factors influencing information behaviours

Young mothers discussed two positive factors influencing information behaviours, categorised as: peer support from other mothers; and supportive interactions with professionals.

With regard to peer support from other mothers, several mothers described this as "very important" and as largely provided via young mother support groups. For example, one mother, discussing her group, commented, "There are people like you here… going through the same things that you are". Another commented:

You socialise with other mums, you realise, "Maybe I'm not a bad mum – maybe I'm on the right path", or, "Alright, I already knew that".

Several discussed shared age and circumstances as important peer group factors. For example, three

mothers in discussion commented:

Mother one: I think if I didn't come here [young mother support group] I wouldn't be sane! Just talking to people that is the same as you.

Mother two: People say talking to people [is important], but you literally need to talk to people your similar age, not even your similar age, but that is in your situation.

Mother three: Yeah in your situation.

Mother two: Whose life is similar.

In relation, several discussed not being able to identify with older mothers. For example, one commented:

I personally don't think I could have… a conversation with like a 30 year old women that had a baby. I wouldn't know what conversation to have with them… I feel as if, for a young mum, it's totally different: there's a whole lot more challenges to face as a mum with a baby than there is for an older woman.

The importance of sharing both good and bad experiences in support groups was also discussed, and contrasted with more one-sided portrayals of parenthood on social media. For example, one mother commented:

On Facebook everyone makes out that they're so happy, but sometimes you just need to know that somebody's doing bad. Like, as horrible as that sounds.

With regard to supportive aspects of professional interactions, several mothers discussed the importance of continuity, and how lack of continuity could result in complete disengagement. For example, one commented, "If I had a different person [health visitor] each time, I wouldn't even bother. No. I'd be like, "OK, that's all, thanks, bye". In contrast, mothers in continuous relationships with health professionals, most notably those with an assigned FNP nurse, indicated close and welcomed support. For example, one mother commented, "… She's always there, like always", and another, "…it's having the support, as well, someone to hold your hand, for whatever".   Another commented:

I like it because she's [FNP nurse] been working with me since I was pregnant, so she knows me, she knows my situation, she knows [child name], and I'm comfortable around her, and I'm comfortable with being able to open up and speak to her, to be like … "Right, well this has happened this week and I was feeling this about it".

Some discussed how it took time to build such relationships due to issues of confidence and trust. For example, one mother commented:

At first I was like just not wanting to get involved [with FNP nurse], I just sat there, really, but now it's fine… I guess it's just who I am. I don't trust anybody. It takes a really long time for me to trust anybody… it's been over a year [to build a relationship].

Several mothers also described positive outcomes where professionals spent time talking through their needs, answering their questions, and helping them to better understand information. For example, one commented:

With my Family Nurse we mainly chat, she doesn't overload me with paper – she gives me information sheets but we more talk through them… it's better to discuss it because if she just left me with a big pile of paper I probably wouldn't read them.

Several mothers also discussed the benefits of practical demonstrations by professionals. For example, one commented:

They give you a Ready, Steady, Baby book… it does give you a lot of useful information… but it is different doing it to seeing it written down... So it was good to come here [support group] and see it first-hand… they actually bring you in and set out a baby bath with a doll, and teach you how to change a nappy and everything.

Several mothers also discussed the important role professionals can play in connecting them to other mothers. For example, one commented:

Yeah, so I don't really know many people and stuff like that, and… she [FNP nurse] looks up groups and encourages me to go to them. I've not gone to one yet, because I'm quite anxious about things like that, but she always tries to encourage me to do it.

5. Discussion

Our young mothers preferred sources of information are family, other young mothers, and health visitors with which they have formed close supportive relationships (e.g. FNP nurses). Mothers online, parent group staff, and websites are all used to lesser degrees. GPs, books and other printed material are used very little; and friends without children, libraries, and mobile apps almost not at all. Preferences for informal interpersonal sources and online sources over institutional sources and print materials are similar to those reported in previous young mother studies (see: Background); however, there is some variance in online behaviours to report. Previous studies reporting use of online sources in relation to other sources of information report relatively high use (Greyson, 2017; Kamali et al, 2018), with one describing non-use of online sources as "rare" (Greyson, 2017, p787). We report more moderate use of online sources and mixed views regarding usefulness, with several of our mothers indicating no use whatsoever due to issues of stress and trust, and/or preference for interpersonal interactions. Further, those mothers who use online sources appear to largely use Google to make general searches, with none indicating use of authoritative institutional sources such as those provided by the UK NHS. Related work has reported similar issues (Buchanan and Nicol, 2019). Such low use of institutional sources has implications for UK healthcare policy (see: Practical Implications).

Our questionnaire design (see: Methodology) also allowed comparison of our findings with those of Louden et al (2016). This allowed us to also compare our young mothers use of common sources of information with that of older mothers (avg. age 29) of higher socioeconomic status (i.e. tertiary educated), and to do so within the same healthcare system and similar sociocultural environment. Again, there is some variance in information behaviours to report. Our mothers appear to more frequently use health visitors and support group staff, and to find them more useful, than the mothers in Loudon et al's study; and our mothers less frequently use, and find less useful, other mothers and books than the mothers in Loudon et al's study. Variance in behaviours could be explained by differences in socioeconomic status and personal development (e.g. differing levels of education, resource access, and self-efficacy), and issues of age-related stigma limiting our young mothers' interactions with other mothers to immediate peer groups. In support, Wilson (1997) identifies such factors as several of the key activating mechanisms and intervening variables influencing people's information behaviours.

Whilst stigma was a significant recurrent theme influencing young mother interactions with other mothers, professionals, and wider society; a number of other issues are also identified. Our mothers described difficulties interacting with institutional systems, negative interactions with professionals across multiple agencies, and issues of information overload, conflicting information, and practical access. Whilst several findings are consistent with previous studies (see: Background), we provide new depth of insights into institutional and professional issues, and impact. There are reports of confusion and uncertainty in mother interactions with institutional systems, and of feeling belittled or shamed by professionals. Several mothers also feared state intervention, and consequently concealed their needs. Our findings can be contrasted with those of Greyson (2017, p.797) who report access to information as "rarely a barrier" amongst their mothers, and Kamali et al (2018) who report half of their mothers as experiencing no barriers whatsoever. Variance could be explained by variance in contextual conditions, and human heterogeneity.

Returning to our theoretical framework, we provide evidence of all four of Chatman's (1996) concepts defining an impoverished information world. There is evidence of secrecy and deception in young mother interactions with institutions and professionals, and in relation, aversion to risk. Our mothers withhold needs when anticipating or experiencing judgement, and distort the truth when fearing unwanted intervention. In addition, accounts of disregarded print materials and low use of public libraries provides some evidence suggestive of a focus on information of immediate utility. We also evidence the informational role of bonding social capital, and to a lesser degree, bridging capital. Beyond family, young parent support groups are important and valued sources of information, and play an important role in connecting young mothers to other young mothers, with our mothers reluctant to engage in wider groups including older mothers due to stigma. Bridging capital appears largely limited to support group networks and selective use of online forums, and there is no substantial evidence of linking capital beyond what is provided by support workers in their institutional intermediary roles. In summary, there is evidence of a stratification of information access and use indicative of a small information world (Chatman,1996); however, a deficit perspective would be misrepresentative and unjust, for whilst our mothers are to various degrees vulnerable and in need of support due to factors of personal development and low socioeconomic status, they are also caring and motivated mothers

who when seeking parenting information have to carefully navigate their way through information worlds due to persistent and widespread issues of societal stigma and marginalisation. Findings contribute to our understanding of information poverty, drawing further attention to structural inequalities as a major contributory factor. Similar findings are reported by Gibson and Martin (2019) in their work with mothers (aged 30-46) of children with disabilities, who are reported to engage in various defensive and subversive information behaviours in response to "persistent structural problems" and imbalances of power (2019, p.485). Gibson and Martin, reflecting on their findings, and critical of deficit-focused models of information poverty that demonstrate a "narrow focus on individual behaviors, rather than contextual preconditions for those behaviors" (2019, p.479); propose that information poverty be reconceptualized "as an array of self-protective responses to *information marginalization* [that] refocuses blame away from individuals experiencing marginalization, and towards the contextual conditions that create information poverty" (2019, p.485).

Whilst stigma and marginalisation are clearly significant issues influencing young mother information behaviours, we also evidence the influence of self-identity. Whilst people are generally recognised as having multiple identities (i.e. differing in self-complexity and managed as a coherent whole to maintain sense of self-coherence); in simple terms, two broad classes are recognised (Tajfel and Turner, 1986): personal identity (the individual self); and social identity (the collective self). Further more extensive classifications are proposed, but similarly distinguish between the internal and external self. For example, Chen et al (2006) discuss person, relational-based, group-based, and collective identities. Our findings evidence that our participants not only identify as new mothers, but also as young mothers, and as young mothers in disadvantaged socioeconomic circumstances. Our young mothers feel that they have little in common with older first-time mothers (circa age 30), and thus that the experiential advice of older mothers, or information from various sources not felt to be specific to their age and socioeconomic circumstances, is of limited relevance and value. Our findings draw attention to self-identity as an important factor influencing people's information behaviours (arguably a relatively understudied concept in human information behaviour), and again has implications for healthcare services (see: Practical Implications).

Finally, it is important to note that whilst much of our mother's information behaviours are shaped by structural inequalities, much also reflect natural human preferences for interpersonal communication with close and trusted individuals including peer groups with whom our mothers can relate and share information and experiences. There are thus both push and pull factors shaping their information behaviours.

6. Practical Implications

Our findings have practical implications for UK health and welfare systems. Our mothers find such systems overly complex and bureaucratic, and often need support to navigate and understand. Our mothers also report mistreatment by staff. Related work with healthcare professionals has reported similar issues (Buchanan et al, 2019). User-oriented systems redesign appears warranted, as does programmes to increase staff awareness of unconscious bias.

Our findings also have implications for health communication and education. Future campaigns and services should carefully consider further provision of tailored content directly appealing to young mothers, as our findings have shown that information not felt to be specific to their age and circumstances is considered to be of limited relevance and value. In relation, low use of NHS digital resources also requires careful consideration, particularly given that digital services are a core aspect of public service reforms in health and social care (Scottish Government, 2018).

Our findings also have practical implications for public libraries. Largely unused by our mothers, but having the potential to provide valuable community-based support; careful consideration should be given to how to make libraries a more inviting space for young mothers and their infants. A targeted campaign to increase young mother awareness of library support services also appears warranted. Outreach variants of Bookbug and Bounce and Rhyme could also be considered.

7. Limitations and Areas for Further Research

Our findings should not be considered representative of mothers as a whole as mothers are not a homogenous group. In relation, our findings should not be considered representative of young mothers as a whole as not all are disadvantaged; nor can our findings speak to the experiences of young mothers

of colour. We thus provide insight into the information behaviours of a particular group within a particular socioeconomic environment, and encourage further studies with further population groups. We would also encourage further research examining the structural factors contributing to information marginalisation, which for our mothers include: financial hardship relating to welfare reforms and wider economic forces; lack of affordable housing; availability of universal services following a decade of UK policies of austerity; availability and cost of child care; availability and cost of further education; and low quality and precarious employment often offered to young people. For an overview of UK social and policy shifts, see Cooper and Whyte (2017).

More broadly, we would also encourage further studies exploring the influence of self-identity on people's information behaviours, and implications for health communication.

8. Conclusions

Our young mothers preferred sources of information are interpersonal sources with which they have formed close supportive relationships. Support groups are important sources of information, but young mothers are reluctant to attend groups involving older mothers. With the exception of support group staff and health visitors, institutional and professional information sources are used very little, including associated websites, apps, and print materials. Stigma is a significant issue influencing behaviours, but issues of institutional bureaucracy, information overload, conflicting information, and practical access are also reported. A further key factor influencing information behaviours is self-identity.

Whilst there is evidence of a stratification of information access and use, a deficit perspective would be unjust, as our young mothers, whilst in need of support, are also caring and motivated mothers who when actively seeking parenting information have to carefully navigate their way through information worlds due to stigma and marginalisation. Findings provide practical direction for health and social services to better support young mothers, and contribute to our conceptual and practical understanding of information poverty in the socio-ecological context.

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