AUTHOR(S): MARCELLA, R.

TITLE: The use of self moderated focus groups to gather exploratory data on information beliefs and their impact on information seeking behaviour.

YEAR: 2018

Publisher citation: MARCELLA, R. 2018. The use of self moderated focus groups to gather exploratory data on information beliefs and their impact on information seeking behaviour. Library and information science research [online], 40(1), pages 45-52. Available from: https://doi.org/10.1016/j.lisr.2018.04.004

OpenAIR citation: MARCELLA, R. 2018. The use of self moderated focus groups to gather exploratory data on information beliefs and their impact on information seeking behaviour. Library and information science research, 40(1), pages 45-52. Held on OpenAIR [online]. Available from: https://openair.rgu.ac.uk

The use of self moderated focus groups to gather exploratory data on information beliefs and their impact on information seeking behaviour

Abstract

The existence of an information belief system is tested for the first time through innovative use of self moderated focus groups. Initial generation of information beliefs was achieved in an open, unpredicted and unbiased way through focus groups. To remove researcher effect and promote informality in discussion, the researcher experimented with a novel approach - self moderated focus groups. A detailed study of 5 groups evaluates their effectiveness in encouraging free and spontaneous discussion and in eliciting unique information ideas or beliefs. Results show that self moderated focus groups encourage naturalistic discourse, take unpredictable directions and are fertile in uncovering unexpected beliefs. Disadvantages include lack of consistency and leader mirroring, with members adopting the style and tone of volunteer moderators. Consideration should be given to gender balance in group composition. The method is recommended where open and free flowing discussion is sought.

1. Introduction

Primary research is underway to evidence the existence of an epistemological belief system in relation to information seeking behaviour and use, hereafter referred to as *information beliefs. This is* an emerging field of information science that has been largely unexplored although various strands of research have uncovered elements of an information belief system. The current study builds on this through piloting a new approach to gathering evidence of information beliefs into a holistic information beliefs construct which will provide new directions for enquiry in library and information science (LIS).

The research is highly exploratory, with a methodology evolved to best uncover an emergent information belief framework, through evidence that people bring to the process of information seeking and use a set of beliefs, conscious and unconscious. These might relate to their conceptualisations of information, to their emotional and visceral response to the topic on which they are seeking information or to their fundamental beliefs about particular disciplines or sources. It is argued that there are a number of categories of information belief and potentially others as yet undiscovered, such as, the process of seeking the information object, its location within an information landscape, its function, form, and so on.

As an information scientist, the author is committed to and convinced about the value of high quality information to support sound decision making. However, over time these kinds of *a priori* assumptions have been undermined by research results which have led to an emerging realisation that these assumptions in themselves constitute information beliefs, with parallel correlations to any form of belief. As a rational, logical, and analytical information scientist, the researcher's belief system has been challenged by the behaviours of research subjects, behaviours which were previously interpreted as an absence of knowledge or understanding amongst others about how to engage most effectively in information use. In the present research such assumptions are set aside in order to take a fresh and unbiased look at the kinds of belief that influence peoples' interaction with information from first principles.

In 1931, Ranganathan set out his 5 laws of library science, in which "book" might readily be replaced conceptually by information.

1. Books are for use—information in and of itself has little value but must be made accessible and available to the reader or user through aids to information retrieval, whether system and human based.
2. Every reader his or her book—there is information to be found to meet the needs of all users.
3. Every book its reader—each piece of information has value for a potential user and information systems should facilitate value generation.
4. Save the time of the reader—libraries and systems and information scientists should find ways to ease the connection between the right information and the user.
5. The library is a growing organism—information grows incrementally and does not cease to exist, that it will always grow and become more and more difficult for the user to navigate unless provided with help (c.f. Moore's Law and the continuing exponential growth in the capacity of transistors to store and process data).

Whilst these laws might appear immutable, the line between law and belief is not immutable and the laws represent rather the extent to which a set of beliefs has played a very significant role in the evolution of information science as a discipline. The current research sets out to explore these and other forms of information belief.

2. Problem statement

The existence of information beliefs might seem very obvious, given just a moment or two to reflect. It is, therefore, somewhat surprising that their existence has as yet not been acknowledged in a systematic way and nor has any attempt been made to classify them or consider what they might tell us about the human experience. As a first step it is essential to map the types of information belief that exist. In setting out to find evidence of information beliefs as an early exploratory stage of an ongoing research project, focus groups were chosen, as they provide way to evidence information and test the capacity of such data to provide the raw material to build a classification and taxonomy of information beliefs. In this first stage the aim of data collection is to collect examples of information beliefs as phenomena of human information behaviour.

The research therefore investigates the challenges facing humans in interacting with information in an information rich world and the extent to which information beliefs influence their information behaviour. There is much evidence that people struggle to make sense of their information worlds. Research into information beliefs will create further knowledge about not just how people behave in the ways they do when using information but what beliefs affect that behaviour. The self moderated focus group, a heretofore little used and untested approach, was believed capable of being a useful tool in gathering evidence of information beliefs with minimal researcher bias and this research tests its value for information science research.

The study builds on information science research and psychology where work on, for example, cognitive dissonance is relevant. The results will primarily be of interest to those working in information science but have impact for researchers in a very wide variety of fields, where information behaviour and use affect researchers and practitioners alike, including search interface providers such as Google who might build on personal information beliefs to hone search approaches. It is perhaps interesting to note in this context that there are those who believe that Google (and other less used search engines) are forming a new epistemology or way of constructing knowledge (Tavani, 2012, rev 2016).

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3. Literature review and underpinning theory

For the purpose of this study a belief is defined as the acceptance that something exists or is true which is either i) possible to accept or reject, or ii) not capable of absolute proof. Information beliefs are defined as beliefs held by people about the nature of information and how to interact with information and use it. Information is not defined; it consists of whatever the research participants believe to be information.

There is no literature focusing specifically on the concept of a belief system or systems in relation to information behaviour. This in itself offers an opportunity for blue sky thinking and an original contribution to knowledge. While there is a body of literature exploring LIS philosophies, as more abstract discussions of the grounds of LIS research, these are excluded from the review which follows. The literature to be found in the extant information science canon which is most relevant to the proposed research draws on epistemology or the psychology of beliefs about knowledge and knowing. The impact of such beliefs on aspects of information behaviour is explored by a handful of researchers, as, for example, Mokhtari's (2014) research into the influence of students' epistemic beliefs on their information seeking. Information literacy has drawn to a limited extent on epistemology in works by, for example, Swanson (2006), who drew parallels between theories of personal epistemology and the ways in which individuals build knowledge from an information literacy perspective. Whitmire, in two studies (2003 and 2004), examines four epistemological theories alongside Kulthau's (1993) information search process model in terms of their power to explicate information behaviour. Chen and Chang (2005) found that student epistemic belief influenced approaches to information seeking. The current research constitutes a primary investigation of human information beliefs, with no *a priori* assumption that these necessarily reflect or will prove to be consistent with epistemic belief theory.

The second area of information science research that has relevance for the current proposal has developed models of information seeking behaviour which seek to explain behaviour by drawing on process analysis or psychology to build theory. In considering the extent to which existing models of information behaviour related to safety information behaviour, Marcella, Pirie, and Rowlands (2013) found that during critical incidents the stages in information seeking tend to merge and become chaotic in a non-linear manner, with the presence of multiple players, systems and types of information. Under pressure, information seeking becomes less systematic and subject to physical constraints of time and place. The influence of the affective, in terms of heightened emotions, feeling overwhelmed and frustrated was also clear and respondents noted states of uncertainty, anxiety and confusion, with a concomitant desire on the part of the information seeker for certainty and clarity. However little in the way of verification or authentication of information took place during critical situations. The pressure to focus also resulted in avoidance of information, arguably to reduce dissonance and enable individuals to deal with the crisis they faced. The tendency in such circumstances to draw on a core belief system in terms of what was known or trusted, drawing on knowledge and experience, was also prevalent. Information sharing and use was also influenced both by the availability of systems and by cultural antecedents around openness and trust, in line with Wilson's (1994) theory of the "person in context" and the influence of variables on information behaviour. Marcella, Pirie, and Rowlands (2013) concluded that while "there are hypothetically limitless variables which can and do influence information behaviour which must be understood, and … models go some of the way towards achieving this … [because they are] …rooted in a rationalist view of the world, while …

intuition rather than analysis may be a relatively common mode of dealing with complexity". The current research eschews model-making in favour of developing ab initio from primary data a typology or system of beliefs that may have an impact in complex, multi-faceted ways on information behaviour.

Information behaviour models tend to interpret theory from psychology as activating mechanisms or intervening variables, built on core rationalist assumptions, drawing on Dervin's (1983) concept of sense making as the predicator of information need. Typical assumptions or beliefs might include: i) that information seeking will be rationally engaged in, in circumstances of need; ii) that more information is a good thing; iii) that ignorance will incite information seeking; and iv) that information seeking is a linear and analysable activity.

Equally much research has sought to understand human information need in context—in the workplace or the professional environment—with information being reflected upon from a rationalist perspective and with the sense of an ideal approach to information seeking. This sense of the ideal also permeates information literacy research, where good information handling is seen as a skill that can be developed. But do humans interact with information in a rationalist, logical and codable manner that is capable of being enhanced? Such approaches may fail to recognise the myriad of other influences on human information interaction. Other intervening variables, to use Wilson's terminology, include cognitive dissonance (Case, Andrews, Johnson, & Allard, 2005), information avoidance or blunting (Folkman & Lazarus, 1980), self-sufficiency and relevancy when users halt a search as their immediate need is satisfied (Johnson, 1997), personality type and its influence on information behaviour (Heinström, 2000), cognitive barriers to information seeking (Savolainen, 2015), and information seeking to reduce uncertainty (Kuhlthau, 1993).

Previous studies exploring aspects of belief systems in relation to information seeking have variously considered how users form beliefs about the expected value of information (Savolainen, 2015), the influence of pre-existing beliefs on online search for information (St. Jean et al., 2015), young people's evaluation of information on the web (Shenton, Pickard, & Johnson, 2014), belief dynamics in web search (White, 2014), and the impact of religious beliefs on information seeking (Michaels, 2012).Conversely if one examines psychology theory, phenomena such as chronic unease, vigilance, pessimism, imagination, flexible thinking, and worry may potentially yield interesting insights in considering information behaviour. There is a recognition that information is often ambiguous and that the absence of certainty is a common operating mode and that not knowing for sure is ubiquitous in organisations (Flin & Fruhen, 2015). Coping strategies for ambiguous information include avoidance, toleration or embracing by engaging in extended information gathering.

The current research will add to current theory an understanding of the extent to which an information belief system exists and has an impact upon information behaviour. Interpolated in the discourse of previous researchers are nuggets which reveal the existence of information beliefs. For example Case (2005) suggests that "many feel it does not make much sense to find out more information about things they cannot control" (p. 359). However the existence of such beliefs as phenomena and their articulation in the context of a belief system has not as yet been analysed and explored.

4. Research philosophy

The present research is grounded in an interest in exploring the behaviour of an individual as a social animal and in enhancing understanding of human experience. That interest has drawn on a very wide range of techniques, some of which were developed or adapted by the researcher. Electronically assisted interviews were designed as a tool to gather data about how individuals interacted with the internet to satisfy information needs (Marcella, Baxter, & Moore, 2005). The critical incident technique was adapted as a way of encouraging participants to tell stories describing how they interacted with information in responding to a crisis. However in both instances people were being asked to talk about subjects about which they could be relatively objective, albeit still very emotionally invested. Because the current research is regarded as blue sky and unconstrained by previous thinking, previously used methodological approaches have been eschewed in an effort to remain conceptually unfettered.

A purist approach, where the researcher must embrace wholly a positivist or constructivist perspective, is unhelpful as a mental frame in which to approach a new research question and leads to the use of a mix of methodologies deemed to be appropriate and justified in the past. There has been a groundswell of belief that a mixed methodological philosophy is a more useful and open minded way of looking at the world which "as the third research paradigm can also help bridge the schism between quantitative and qualitative research" (Johnson and Onwuegbuzie, 2004, p. 15), where "a pragmatic and balanced or pluralist position will help improve communication among researchers from different paradigms as they attempt to advance knowledge" (Johnson & Onwuegbuzie, 2004, p. 16).

The philosophy of pragmatism offers social science researchers a way of bridging the gap between the traditionalist scientific positivist perspective and the open enquiry of the naturalists, by providing rigour to the growing frequency of use of mixed methodology (Maxcy, 2003). In order to explore new territory and transcend some of the traditional disciplinary constraints, the researcher has chosen to apply "a version of abductive reasoning that moves back and forth between induction and deduction—first converting observations into theories and then assessing those theories through action" in line with Morgan (2007, p. 71), where "the different methods were meant to inform and supplement each other not only because they addressed different aspects of the study (or different layers of the phenomenon) ... to produce a more complete picture, to avoid the biases intrinsic to the use of mono-method design, and as a way of building on, and developing, initial findings" (Feilzer, 2010, p. 9).

The first stage of the project involved gathering examples of the challenges or dilemmas faced by humans in response to which information is sought and used, while simultaneously using these examples to prompt the gathering of evidence of information beliefs underpinning human behaviour in interacting with information. In light of the adoption of a pragmatic, mixed methods approach, no pre-existing assumption of the value of any particular research gathering method was made and because the research is at this stage highly exploratory and seeks to avoid researcher bias, the decision was taken to use focus groups to surface examples and test the potential for the establishment of a set or sets of questions which would be useful in eliciting examples both of information beliefs, and also of the challenges and dilemmas faced by humans that result in information interaction.

Focus groups began to be increasingly popular in commercial research in the late 20th century in recognition of their ease of use and low cost in "generating hypotheses, exploring opinions, attitudes, and attributes, testing new product ideas, evaluating commercials, and identifying and pretesting questionnaire items" (Fern, 1982, p. 1). Focus groups are generally considered to be effective in exploring people's responses to a set of questions as they "highlight the respondents' attitudes, priorities, language and framework of understanding [and although they] do not easily tap into individual biographies or the minutia of decision making during intimate moments, but they do examine how knowledge and, more importantly, ideas both develop, and operate, within a given cultural context" (Kitzinger, 1994, p. 116). In particular "less structured approaches to focus groups are especially useful for exploratory research" (Morgan, 1997, Chapter 2, p. 12 of 18). Focus groups enable the recording of voiced "retrospective introspection" (Merton & Kendall, 1946, as cited in Bloor, 2001, p. 5); they are useful in uncovering the meanings behind behaviour and perceptions.

There is a long tradition of focus group research, much of which has drawn on the work of Stewart and Shamdasani (2014) as a guide to good practice. They maintain that the role of the moderator is critical in ensuring that focus groups are carried out without bias, consistently, and well, but they also recognise the role and value of nominal groups, moderated by a wholly independent actor. Barry, Gerald, and George (2002) argue that nominal group sessions (NGS) are better than focus groups in gathering data. "NGS is a combination of the best elements of depth interviews, clinical focus groups and the Delphi method, while eliminating the traditional weaknesses of ... qualitative research methods" (p. 58). The NGS approach of a trained moderator was also discounted for the present research as likely to lend too great a formality to sessions and to limit spontaneity and candour.

5. Research methodology

Five focus group discussions were held during a six week period with 35 participants in total (9 male and 26 female). The groups were all existing study groups of full-time students who knew each other and had experience of discussing subjects together as a group, so that they would be likely to be able to participate in a discussion without introduction or role setting. Between 3 and 5 focus groups is generally held to be reasonable for the early exploration of a new area and working with established groups is acceptable as 'they provide one of the social contexts in which ideas are formed and decisions made' (Kitzinger, 1994, p. 105) . All participants were students, with a majority of females represented. The participants' age tended to be between 19 and 25, with only 5 over 25. Groups consisted of either 4 or 9 participants and were composed from both undergraduate and postgraduate sets. In total the sessions lasted for 160 minutes and transcriptions totalled 26,000 words. Individually the groups elicited between 113 and 160 unique information beliefs. All of the group sessions were productive of a significant body of valid data to underpin the elicitation and analysis of beliefs data to form the beginnings of a classification scheme.

As a result of the criticality of reducing researcher bias, and highly unusually, the focus groups undertaken in the present study were moderated by a volunteer member of the group rather than the researcher and they are therefore characterised as self moderated groups. It was a primary concern to eliminate researcher bias from the study, and so the researcher was not present during data gathering. This decision was also influenced by the view that over-moderated and highly structured discussions will provide limited data; "if the goal is to learn something new from the participants it is best to let them speak for themselves" (Morgan, 1997, p. 13 of 18). The volunteering moderator was provided with a sheet of instructions, beginning with an introduction to the research project and explaining how the data would be captured, recorded, analysed, and used. This explanatory material sought also to emphasise that there were no correct answers to the questions set, that participants should draw on their own experience, and that they should verbalise any difficulties they faced in trying to answer the questions. Prompts were provided for the facilitator to use if participants were struggling to find answers to questions and to encourage extended response when succinct or limited answers were given.

A very brief set of questions was constructed. The questions were structured to focus on the following areas around which it was anticipated that participants would be able and comfortable speaking:

- examples of an urgent need for information and its resolution;
- examples of inability to find sought information;
- examples of experience with unreliable information (including fake news);
- examples of highly reliable sources of information;
- examples of trusted information sources;
- first recourse in an information search; and
- examples of information beliefs.

Participant group members were also asked to reflect on what might be improved upon in the questions that had been set for the discussion, thus eliciting immediate primary feedback on their first-hand experience of participating in the focus group.

Each group was asked to nominate a moderator and in each instance a moderator who volunteered was accepted by the group without much debate. The volunteering moderator was asked to read through the discussion schedule silently and was advised as to how to contact the researcher in the event of an issue arising. After a brief description of the process and thanks for their participation, the groups were left alone to begin their discussion. Each group was encouraged to discuss briefly the task set and to start the recording when they were ready to begin.

One of chief influences on design of the focus group was the work of Fern (1982), who both recognised the value of but also saw the deficiencies in existing unstructured and poorly designed applications of the tool. The evaluation of the self moderated focus groups which follows is structured around Fern's critical design components, each of which must be carefully considered to ensure high quality data collection.

The focus groups were recorded, transcribed and subsequently analysed. Each discussion was listened to three times: (i) to create the transcript, (ii) to check the transcript for accuracy, and (iii)

to note in the transcript all non-verbal behaviours such as pauses or delays, simultaneous speech, task clarification, leader effect, uncertainty indicators, deliberate over-speaking, coherence or incoherence of the ideas expressed, non-verbalised dissent and non-verbalised support, and variations in tone (humour, aggression, etc.).

The analysis that was conducted drew upon the interpretive phenomenological analysis (IPA) technique whereby the researcher attempts to stand back from the data with no preconceptions or bias about the subject under discussion and focuses solely on identifying themes through the ideas that are expressed. It is usual to use this technique with individual interviewees rather than for focus group discussion but it was felt that the rigour of the IPA approach would be helpful. The hermeneutic stance was one of the identification of ideas expressed followed by meaning making by the researcher. In this first stage of the research only the first element of the analytical process was carried out; this was to isolate the unique key ideas emerging from the data without predetermination as to what these might be, rather than identifying the key ideas to meet a hypothesis or answer specific pre-set research questions. Where the researcher was unclear whether or to what extent a key idea expressed was unique, the decision was taken to initially assume it was a unique idea, the meaning of which was yet to be explored fully. Confirmation and agreement with an idea expressed were not counted as new ideas but were analysed to indicate where they demonstrated subordinate or ancillary beliefs.

The data are yet to be coded into superordinate themes through a further stage of engagement. The initial focus is purely on testing the capacity of the methodology to provide the underpinning data required for the evolution of a typology or classification of information beliefs. This process is not dissimilar to that of constructing a faceted classification scheme and although the facets may differ from Ranganathan's (1962) PMEST (personality, matter, energy, space, and time, these will be experimented with in constructing the typology.

In basing the IPA analysis on group discussion sessions, one aspect that is lost is that of maintaining an idiographic focus on the specifics of the individual variant. However, it is believed that this works in the present instance because the purpose of the data collection is different from that of the traditional application of IPA. In using IPA techniques combined with the self moderated group approach, the researcher hoped to uncover new insights, new theories, and new understanding of the experience of participants.

The evaluative discussion which follows is based on the analysis of results against the following set of characteristics:

confirmation
contestation
aggression
pause or uncertainty
incoherence
clarification of question or task
refutation
humour/laughter
directing discussion
leader effect

guardedness, awareness of recording
members cut out of discussion

Each transcript was also subjected to an initial analysis for unique beliefs expressed in order to give an overall feel for the productivity of the method in being able to provide evidence of information beliefs.

6. Findings: Self moderated focus group evaluation

6.1 Group 1: The comradely group

Four students, all male and aged between 20 and 26 participated in the first focus group. Participants knew each other well as they were part of a very small cohort. The discussion flowed well with very few delays and where these did occur it was largely around whether they were repeating themselves in answering a new question or in clarification of the question. There was relatively little simultaneous speech in a collegiate approach, with all participants having a full opportunity to tackle each question. Where simultaneous speech did occur, it tended to be in discussion of topics which most interested the participants and in these instances the simultaneous speech sometimes occurred because of confirmation but also through providing associated examples of further subordinate themes. In the main, ideas were expressed coherently with a small number of occasions where meaning only gradually became clear or when new technologies had to be further researched in order to clarify a topic which drew on technical terms. In such cases the meaning of the discussion became clear and the transcript was amended to be explicit and accurate.

The participants frequently told stories or anecdotes that allowed them to present something of a distance from the experience they were retelling. They also used humour to depersonalise and objectify their accounts. There was a high incidence of non-verbalised support and verbalised confirmation and only rare dissension, which usually resulted in consensus. There was little evidence of leader effect and indeed participation appeared to be very evenly distributed. There were few instances of deliberate over-speaking or drowning out of participant voices and no aggression. Being such an overly confirmatory group appeared to engender something of a replication effect in directing the examples given and views expressed, resulting in a repetitive discourse. This appears to have reduced the number of unique ideas and beliefs expressed but enabled deepening of understanding of beliefs through explication and illustration.

Participants were constrained by a consciousness that the discussion was being recorded and they articulated this consciousness on occasion. There was something of a feel of the group performing the task set by their teacher. Despite this constraint the discussion became free flowing and less guarded at points when participants were most fully engaged with the topics being discussed. Given that even audio recording caused some constraint, it is believed that the presence of an

independent moderator or the researcher would have made the group even more reluctant to speak freely. Group 1 provided no evaluative feedback on the discussion session.

In terms of capacity to elicit unique information beliefs, Group 1 produced 113 unique ideas. The early part of the discussion was the least successful largely because of the replication effect mentioned above. However, in the latter part of the discussion ideas flowed more swiftly and demonstrated greater variety. In particular the final question asking for examples of information beliefs elicited a wide range of ideas. Without some of the earlier establishing questions which encouraged participants to give simple examples from their experience, however, this might not have happened.

6.2 Group 2: The self referential group

Nine students aged between 18 and 22, eight females and one male, participated in the second focus group. Participants knew each other slightly less well than group 1 and consisted of a mix of home and overseas students, the latter having joined the course in second year. This discussion flowed poorly with many pauses, yet a converse tendency to race through the questions. Indeed at times the discussion became chaotic and even incomprehensible and participants whispered at times to avoid being recorded. Throughout the session the group were reticent, aware of being recorded and of the fact that an academic would subsequently listen: “she’ll cut all this out”.

Leadership was assumed by two members of the group who thereafter tended to control the conversation, dominate discourse, and lead opinion or reframe or rephrase it. This was the only group where two leaders were elected. The leaders also very strongly influenced the tone of the discussion with much levity, laughter and self denigration: “our culture is very lazy”. The first part of the discussion was very strongly led by one particular participant with relatively little contribution from all bar one or two others and they consequently raced through the questions very rapidly. However, apparently conscious of having somehow made a poor effort at discussion, the group stopped the tape and restarted it, this time with the one of the leaders stating that “I'm going to break down the questions” and the other saying “I think people should tell their own stories,” indicating that off tape they had discussed how best to tackle the exercise. Throughout the remainder of the tape there was greater involvement by multiple members of the group, although now there was a degree of self consciousness amongst the group around the fact that they were going over the same questions and uncertainty as to whether they should repeat the previous answers or not.

This was a highly self conscious and awkward group with a tendency to play to an audience. Some serious points were made by participants, although the general tenor of the conversation was humorous and light-hearted. Despite the request for people to “tell their stories,” there was very little extended story telling, unlike what had happened with the first group. Participants challenged the views of others on two occasions, although there was little to indicate that those challenged took on board in any depth the new views expressed. Despite the challenges there was little sense of dissension in discourse, potentially because of the strong leader effect, where the leaders did not stifle discussion but rather dominated it through levity and their own confidence in

the views they were expressing. There was little evidence that participants dropped their guard and only very rarely any personalisation. Group 2 provided no feedback as to how the session might be improved.

In terms of capacity to elicit unique information beliefs and despite its chaotic nature, Group 2 produced 127 unique ideas or beliefs. The fact that they went through the questions twice may have enabled this further exploration. The group also tended not to replicate others' contributions nor to tell such extended stories or anecdotes and there the discourse was characterised by short clear statements in the main. While these were telling in conveying perceptions, ideas, and beliefs, there was little further exploration beyond their immediate expression.

6.3 Group 3: The fast and furious group

Group 3 consisted of eight females and one male aged between 20 and 43. The group formed part of a relatively small cohort all of whom had known each other for seven months. The group launched into discussion swiftly and there were scarcely any pauses at any point in the session. There appeared to be little unwillingness to verbalise views, in whichever life context these applied, and consequently the conversation flowed across politics, education, health, culture, and social interaction very freely. The discussion leader kept the conversation going and swiftly moved on to new questions when there was any pause but always checked if any participant had anything further they wished to add. A second participant played a very significant and valuable part in the session by reframing questions, asking probing questions, and asking for or giving examples which helped others to articulate ideas. They did so moreover without overly directing response, by framing their interpolations very openly. While it appeared that participation was wide, one individual, the sole male in the group, played little part in the conversation, was over-spoken on one early attempt to participate and only made a significant contribution when probed by the leader about a specific decision, where it might be expected that he had sought information to help in the decision making process.

The conversation was fast and furious at times but overall very collegiate and respectful in tone. However this did not quell dissent, and in fact dissent was encouraged and responded to in positive ways by other group members. The incidence of dissent was higher in this group than in any other. Participants very much personalised their conversation, speaking of themselves, their families, their friends, and about matters which might be considered somewhat sensitive. They spoke about topics they described themselves as frequently avoiding in conversations with others outside the group where they would fear aggressive argumentation or judgement to take place. There was therefore a high degree of candour and openness in the discourse, although, as one might expect in a group, the most sensitive areas were avoided or simply did not arise. There was only a single reference to the fact that the session was being audio-recorded and to the future listener. While this is not in itself evidence that the group was completely unaware of an audience, the discussion was so rapid that it felt relatively unrestrained. This rapidity differed from that of group 2, in which, while discussion was rapid, there were frequent prolonged pauses. With group 3 pauses were very rare and seemed to fall naturally at a point where a topic had been exhausted. Humour was deployed throughout, often to desensitise comment, and personal distancing from

expressed views was observable throughout: “it's not my personal belief but many people believe that if something is printed it must be true.”

In evaluation of the session, group members agreed that the questions had elicited discussion, although the point was made that some might be “too specific.” This comment related to having separate questions about reliability and trustworthiness, where it was felt these might have either been merged or their meaning made more distinct. The group felt that the questions did not require any specialist knowledge and therefore would be useful for a wide range of participants.

In terms of capacity to elicit unique information beliefs, Group 3 produced a fertile 160 unique ideas or beliefs. They spoke rapidly and without pause, kept their comments and ideas brief and to the point, and felt free to challenge as well as support each other’s comments. There was less confirmation than in some of the other groups and more elaboration rather than merely restatement of ideas. The group represented a range of cultures and contributors were able to share their own experiences in a way that interested the others.

6.4 Group 4: The orderly group

Group 4 had nine participants, seven females and two males, aged between 20 and 40 and had known each other for seven months. The group had a single clear leader who took responsibility for leading the questions, prompting and probing and clarifying the discussion throughout. The leader was very effective and appeared to involve most participants fully, although as in Group 3 there was at least one group member who contributed only on a single occasion. While there were relatively few pauses beyond the initial settling in period, the leader did take time with each question and sought to ensure that all answers had been exhausted before moving on to the next. In contrast to group 3 this meant that the group conversation was leisurely and took opportunities to explore themes fully, with very little over-speaking or indistinct discussion being evident. There was also no digression from the set discussion schedule. Overall it was an orderly, well managed and structured group. However this leisurely approach also unfortunately meant that the group ran out of time, despite being conscious of the need to think about finishing in good time. There was a lack of clarity for the group about when they needed to finish and the leader was unable to resolve this. There was an early suggestion of taking only a couple of responses to each question, in order to keep the pace brisk, but this seems not to have taken place and many of the questions elicited extended and varied responses from multiple participants. Indeed this group typically provided extended narrative responses, giving detail and illustration through the telling of anecdotes, as with group 1.

Discourse was respectful, with group members providing positive reinforcement to fellow contributors. Humour was less evident than in groups 2 and 3 and the discussion focussed on topics in a thoughtful manner throughout. There was only a single reference to the discussion being recorded—“before you answer that, this is being recorded”—and although this was a humorous reference the group may well not have been fully open, as the discussion never achieved the swift-paced interchange of views that was found in Group 3 and disclosed only limited sensitive or personal data. Participants did disagree with each other, rather more than in

any of the previous groups suggesting a variety of views being expressed, but they did so courteously. The participants tended to mirror the leader in adopting an even tone and a reflective pace, similar to Group 3 in which all participants had emulated the leader by speaking quickly and emphatically.

In review of the session, the group felt that the two questions about fake news might have been aggregated into a single question. They also thought that the earlier questions had been the more thought provoking but this may well have related to the fact that they were running out of time by the end of the session and the moderator could only take a small number of immediate responses.

In terms of capacity to elicit unique information beliefs, Group 4 produced 146 unique beliefs or ideas about information. The group frequently supported each other's comments or gave further examples. They spent a good deal of time on several questions which elicited a lot of interest, predominantly on aspects of news coverage or reporting of information. They also covered in more depth some areas that had been touched on fairly superficially by other groups, such as health. Their identification of information beliefs at the end of the session was particularly rich.

6.5 Group 5: The learning group

Four students participated in Group 5, three female and one male, aged between twenty and thirty. Participants knew each other well, having been in the same cohort for three years. The group leader introduced the session and led the questions in a clear and supportive manner, giving prompts without hesitation. As all members had chosen to attend the session, they seemed highly motivated, and interested in and prepared to speak about the topic. The conversation flowed easily, taking less of the form of a series of extended anecdotal answers than in some of the other groups and demonstrating more of the cut and thrust of group 3, where they felt comfortable challenging each other, providing ideas and examples to each other, both confirming and contesting these and listening to each other with respect. Where they disagreed it was very much on a supportive basis and was responded to with interest and with a sense of other group members being pleased to learn about an attitude or belief they had not encountered before. There was an equally great interest when a participant described a phenomenon or provided an illustrative example they were unfamiliar with where the others probed for more information: "oh that's interesting."

There was no over-speaking or drowning of voices and in this small group all four participants made a significant contribution with no single voice predominating. Humour was occasional and the participants appeared to speak without hesitation and with candour, often receiving audible if not verbalised particularly from the moderator. The personal openness was highly evident in a context with two participants talking at length about political decisions they had later regretted, which they said they would not share with others for fear of it reflecting badly on them; clearly they felt safe in the group environment. All four gave examples of being misled by unreliable information with some ease; this stands in contrast to the other groups, where only a small number of participants admitted to having been personally misled. The meaning of most stories was clear, but there were examples cited which required further research for them to be fully

understood. There was little evidence of depersonalisation in the discourse, nor any explicit reference to participants being conscious of the recording process.

The leader kept participants on track but did not overly direct the others, simply providing clarification when it was needed, which was the case with one particular example (i.e., the question about trustworthy information). Questions elicited free-form discussion throughout and there was, to a greater extent than among other groups, a sense of sharing knowledge and deepening collective understanding through probing further for some interesting examples.

In terms of capacity to elicit unique information beliefs, Group 5 produced 116 unique beliefs or ideas. While this is a small number, this group spent a good deal of time focusing on news media and the political domain in particular. They were also particularly fertile in their expression explicitly of information beliefs at the end of the session. As a small group and, despite the fact that all four played a role in discussion, they may simply have sparked fewer free ranging topic strands.

7. Discussion

In terms of the value of self moderated groups, this pilot has shown that the method is one that can and should be used in situations where the researcher seeks to limit their own impact on the group and to ensure that the ideas expressed are as free as possible from researcher bias and take place in a naturalistic way. Self moderation allowed participants to speak for themselves in the language and style with which they were most comfortable. The sheer exuberance of discussion was welcome, although inevitably presenting some challenges in transcription. The discussions were rarely stilted in any way and the participants' voices, with a few exceptions, came through loud and clear. Overall, the group discussions appeared to be largely spontaneous and candid (in line with Goldman, 1962). Exceptions to this occurred in one group where consciousness of recording was high and in a second where one gender predominated. Single gender or balanced groups should be preferred in use of this approach in future.

While the self moderated approach was convenient and enabled sessions to take place with little organisational effort, the element of convenience was not the reason for the choice. The motivation was rather the desire to ensure that participants did not give what they thought were the correct answers to the questions or ones that reflected well on themselves. Indeed the extent to which the groups acknowledged awareness that there was a more "correct" approach supports the view that they were not seeking to present themselves in an idealised light, demonstrating that they were both capable of differentiating clearly between ideal and actual behaviour on their own parts and able to feel comfortable in speaking candidly about this. Respondents were open about their own failings and prepared to give examples of being misled by poor quality information. Therefore although the notion of the "correct" answer was not wholly missing from participants' minds during the conversation, and although awareness of the discussion being recorded was a factor, findings suggest that the discussion was significantly less affected by researcher influence than would otherwise have been the case.

Humour and laughter were key features of the group discussions; self moderation and absence of the researcher appear to be significant factors in achieving this effect. It is likely that humour and laughter indicate that release of group members' inhibitions and freedom of expression is taking place, both desired outcomes in focus group research (Hess, 1968).

In these self moderated discussions ideas emerged, were elaborated, explained, tested, contested by others, rejected, modified, built on through others' insights, and confirmed. One stated belief can in the course of the conversation reveal others, and indeed on numerous occasion one belief was swiftly followed by the statement of a variant and even directly opposing belief. The statement of one belief frequently incited the elicitation of others. On the whole participants were not threatened by a belief being contested and appeared on the whole to be interested when others' beliefs did not match with their own. There was evidence of group members learning from the experience of others, evidenced by comments such as "I never thought of that" or "I didn't know about that."

Group members knew each other and this enabled discussion to take place without awkward preliminaries; it may however have both encouraged and prevented full candour. As known acquaintances, participants may have felt less secure in speaking out. As (Fern, 1982) notes "acquaintances may seriously upset the dynamics of the group and inhibit responses" (p. 2). Arguably, however, known groups also have the potential to create a feeling of security as well, for participants could also draw on similar life experiences and communicate with a belief that their language and ideas would be understood.

It is possibly the case that individual interviews with all 35 participants might have produced a larger belief count in total, it is likely that the replication of beliefs would have rendered simple number counts somewhat meaningless. In line with the experiences of Goldman (1962) and Hess (1968), the discussion and debate element enabled more probing of ideas and a wider range of beliefs to emerge than would have been the case in individual interviews.

The crucial role of good moderation—expert, trained, engaging—is acknowledged by many researchers, and it is the case that some of the groups in the study had more effective moderation than others. However, the self moderated groups would appear to be less subject to leader effect, and in each instance the moderator followed guidance effectively, took seriously the exercise, and enabled a rich discussion to take place. What is lost in a self moderated approach is consistency in moderation. Providing a script with instructions enhanced consistency, however moderator style and tone was mirrored by others in the group. However consistency of process is not essential where ideas are being explored; as every individual's experience and beliefs are unique, so every discussion is to an extent unique. This evaluation would suggest that, as Fern (1982) maintains, the trained moderator may not be essential in "controlling dominant respondents, activating shy respondents, extending the range of the discussion, regulating interactions, coping with interruptions, and counteracting the leader effect" (p. 2). These groups did not descend into chaos, and they did not suffer from dominant discourse, frequent interruptions, showboating or leader effect. They spoke freely, in their own language, and explored naturalistically and

organically the ideas that emerged. Inclusive participation might be enhanced through direction to the volunteer moderator to encourage all members to contribute.

Overall the questions set encouraged discussion and appeared to be intelligible and interesting for participants. Further consideration should be given to questions which were probing a phenomenon from a variety of aspects, for in these instances participants at times found it difficult to differentiate between questions. Further instruction for volunteer moderators would also be of value at points.

The results indicate that the advantages of a self moderated focus group approach are that they encourage free and unconstrained expression of a wide range of ideas where many of these ideas could not have been predicted by the researcher. One disadvantage is lack of researcher control of the discussion that ensues. However, given that the discussions were interesting, novel, and illuminative of behaviours and beliefs not previously studied in information science, this lack of control was in fact beneficial. Improvements could be made in providing further guidance and supporting information for the volunteer moderators and in group composition. In terms of improving the discussion questions, these could be supported by further explanation for moderators where an issue arises. However all of the questions were valuable. The results of these first focus groups have also suggested further questions which would elicit fertile discussion.

As the first stage in a major research project, the output of this study will be fully analysed to form the first strata or primary classes in a taxonomy of information beliefs. The first strata will thereafter form the basis for further data collection to build sub-classes. Further data collection will also explore the idea of using a set of life stages (e.g., teenage years), challenges (e.g., health or dieting), or dilemmas (e.g., attitudes to body shape) to form a base for future conversations and discussions.

7.1 Limitations

The study groups primarily consisted of individuals under 25, who had gone into higher education, and the majority of participants were women. The applicability of self moderation should be further tested with other population groups with varying compositions in terms of gender, age, and background.

8. Conclusion

This study confirms that humans hold beliefs about information which influence their interaction with the information world. These present a hugely fertile ground for future research and could influence or inform research directions in every LIS domain. As a new way of conceptualising information behaviour and use, research into information beliefs has the capacity to influence both philosophies of information science and epistemological approaches to knowledge acquisition. In exploring such a new research field, where researcher bias should be excluded, self moderated focus groups proved a highly useful tool in encouraging free-form and unconstrained conversations to take place amongst research subjects. These conversations proved capable of eliciting rich, unpredicted, and meaningful ideas.

References

Barry E.L., Gerald, S., & George, I. (2002). Nominal grouping sessions vs focus groups. *Qualitative Market Research: An International Journal*, *5*(1), 58-70.

Bloor, M. (2001). *Focus groups in social research*. Thousands Oaks, CA: SAGE.

Case, D.O., Andrews, J.E., Johnson, J.D. and Allard, S.L. (2005). Avoiding versus seeking: The relationships of information seeking to avoidance, blunting, coping, dissonance, and related concepts. *Journal of Medical Library Association*, *93*(3), 353-363.

Chen, H., & Chang, C. (2005). Personal epistemological beliefs, critical thinking abilities, and information-seeking behavior of college students. In P. Kommers & G. Richards (Eds.), *Proceedings of ED-Media 2005, World Conference on Educational Multimedia, Hypermedia and Telecommunications, Montreal, Canada, June 27-July 2, 2005* (pp. 1836–1840). Waynesville, NC: Association for the Advancement of Computing in Education

Dervin, B. (1983). *An overview of sense-making research: Concepts, methods and results*. Paper presented at the annual meeting of the International Communication Association, Dallas, Texas, May 1983. Retrieved from http://communication.sbs.ohio-state.edu/sense-making/art/artdervin83.html

Feilzer, M.Y. (2010). Doing mixed methods research pragmatically: Implications for the rediscovery of pragmatism as a research paradigm. *Journal of Mixed Methods Research, 4*(1), 6-16.

Fern, E.F. (1982). The use of focus groups for idea generation: The effects of group size, acquaintanceship, and moderator on response quantity and quality. *Journal of Marketing Research*, 1-13.

Flin, R., & Fruhen, L. (2015). Managing safety: Ambiguous information and chronic unease. *Journal of Contingencies and Crisis Management*, *23*(2), 84-89.

Folkman, S., & Lazarus, R.S. (1980). An analysis of coping in a middle aged community sample. *Journal of Health and Social Behaviour*, *21*(3), 219-239.

Heinström, J. (2000). The impact of personality and approaches to learning on information behaviour. *Information Research*, *5*(3). Retrieved from http://www.informationr.net/ir/5-3/paper78.html

Johnson, J.D. (1997). *Cancer related information seeking*. New York, NY: Hampton Press.

Johnson, R.B., & Onwuegbuzie, A.J. (2004). Mixed methods research: A research paradigm whose time has come. *Educational Researcher, 33*(7), 14-26.

Kitzinger, J. (1994). The methodology of focus groups: The importance of interaction between research participants. *Sociology of Health & Illness, 16*(1), 103-121.

Kuhlthau, C.C. (1993). A principle of uncertainty for information seeking. *Journal of Documentation*, *49*(4), 339-355.

Maxcy, S.J. (2003). Pragmatic threads in mixed methods research in the social sciences: The search for multiple modes of inquiry and the end of the philosophy of formalism. In A.M. Tashakkori & C.B. Teddlie (Eds.), *Handbook of mixed methods in social and behavioral research* (pp. 51-89). Thousand Oaks, CA: SAGE.

Marcella, R., Baxter, G., & Moore, N. (2005) . Data collection using electronically assisted interviews in a roadshow: A methodological evaluation. *Journal of Documentation*, *59*, 143-167.

Marcella, R., Pirie, T., & Rowlands, H. (2013). The information seeking behaviour of oil and gas industry workers in the context of health, safety and emergency response: A discussion of the value of models of information behaviour. *Information Research, 18*(3). Retrieved from http://www.informationr.net/ir/18-3/paper583.html#.WXHctTUo_IU

Michaels, D.H. (2012). Seeking god's will: The experience of information seeking by leaders of a church in transition. *Canadian Journal of Information & Library Science, 36*(1/2), 16-27.

Mokhtari, H.M. (2014). A quantitative survey on the influence of students' epistemic beliefs on their general information seeking behaviour. *Journal of Academic Librarianship*, *40*, 259-263.

Morgan, D.L. (1997). Planning and research design for focus groups. *Focus groups as qualitative research (*2nd ed.; Chapter 2). Thousand Oaks, CA: SAGE. Retrieved from https://pdfs.semanticscholar.org/6895/650998233a7bb52efcdaa39b0e42d2102f3c.pdf

Morgan, D.L. (2007). Paradigms lost and pragmatism regained: Methodological implications of combining qualitative and quantitative methods. *Journal of Mixed Methods Research, 1*(1), 48-76.

Onwuegbuzie, A.J., & Leech, N.L. (2004). Enhancing the interpretation of "significant" findings: The role of mixed methods research. *Qualitative Report, 9*(4), 770-792.

Ranganathan, S.R. (1931). *The five laws of library science*. Chennai, India: Madras Library Association.

Savolainen, R. (2015). Cognitive barriers to information seeking: A conceptual analysis. *Journal of Information Science*, *41*(5), 613-623.

Shenton, A.K., Pickard, A.J., & Johnson, A. (2014). Information evaluation and the individual's cognitive state: Some insights from a study of British teenaged users. *IFLA Journal*, *40*(4), 307-316.

St. Jean, B., Subramaniam, M., Taylor, N.G., Follman, R., Kodama, C., & Casciotti, D. (2015) The influence of positive hypothesis testing on youths' online health-related information seeking. *New Library World*, *116*(3/4), 136-154. https://doi.org/10.1108/NLW-07-2014-0084

Stewart, D.W., & Shamdasani, P.N. (2014). *Focus groups: Theory and practice* (3rd ed.). Thousand Oaks, CA: SAGE.

Swanson, T. (2006). Information literacy, personal epistemology, and knowledge construction: Potential and possibilities. *College & Undergraduate Libraries*, *13*(3),93–112.

Tavani, H. (2012, rev 2016) . Search engines and ethics. In E.N. Zalta (Ed.). *Stanford Encyclopedia of philosophy*. Retrieved from URL https://stanford.library.sydney.edu.au/entries/ethics-search/

White, R. W. (2014). Belief dynamics in web search. *Journal of the Association For Information Science and Technology*, *65*, 2165-2178.

Whitmire, E. (2003). Epistemological beliefs and the information-seeking behavior of undergraduates. *Library & Information Science Research*, 25, 127–142

Whitmire, E. (2004). The relationship between undergraduates' epistemological beliefs, reflective judgment, and their information-seeking behavior. *Information Processing and Management*, *40*, 97-111.

Wilson, T.D. (1994) Information needs and uses: 50 years of progress? In B.C.Vickery (Ed.), *Fifty years of information progress: A Journal of Documentation review* (pp. 15-51). London, England: Aslib.