Digital participation, surveillance, and agency: insights into the role of digital literacy to manage risk

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Abstract. This paper contributes to our understanding of digital inequalities, and the empowering role of digital literacy. We report on a study examining the social media related information behaviours of Muslim women within a Muslim nation that provides insights into the role of digital literacy to circumvent sociocultural boundaries and manage risk. Social media provides our participants with an important source of everyday information, and important medium for social connection and personal expression; however, our participants use of social media is closely monitored and controlled by family, and in particular, by husbands and/or male relatives. Carefully managed privacy settings and pseudonym accounts are used to circumvent boundaries and move between social and information worlds, but not without risk of social transgression. Findings contribute to our conceptual understanding of digital literacy including social, moral, and intellectual aspects.

Keywords: information behaviour, digital literacy, digital citizenship.

1   Introduction

Digital literacy is widely acknowledged as fundamental to everyday life, but digital literacy is also a multifaceted concept often simplistically reduced to a set of functional technical skills, with calls for broader understanding encompassing functional, cognitive, and sociocultural aspects [1-2].

We report on a study examining the social media related information behaviours of Muslim women within a Muslim nation that provides insights into the role of digital literacy for circumventing sociocultural boundaries and managing risk of social transgression. Findings contribute to our understanding of digital inequalities, and our broader conceptual understanding of digital literacy.

2   Background

The findings reported here are part of a research study exploring the social media related

information behaviours of Muslim women within a Muslim nation. We reserve reporting the full findings of this research for future publication and focus here on digital literacy aspects.

2.1 Muslim women as a study group

It is beyond the scope of this paper to comprehensively discuss Muslim women as a study group, and to reflect all groups (Muslim women not being a homogenous group, and Arabian Peninsula nations variously more conservative or liberal than others), but it is nonetheless important to succinctly contextualise this study.

In broad terms, Arab society is authoritarian, collectivist, and patriarchal. Privacy, reputation, and honour are important values governing social norms and behaviours, and can be particularly conservative for women including strict gender segregation and dress codes. Various constitutional reforms have advanced the economic, political, and social rights of women across the Arabian Peninsula; but employment rates of women remain low relative to men [3], and personal status laws (family law) in several nations continue to discriminate against women [4-5].

2.2 Previous studies

There are limited previous studies providing insight into the use of social media by Muslim women within Muslim nations, and few focused solely on women. To date, no studies have been undertaken from an information behaviour perspective; and whilst insights can be drawn from other disciplines (e.g. Media and Middle Eastern studies), some studies involving both male and female participants provide no breakdowns by gender [6-8].

Previous relevant studies report social media as providing Muslim women in Muslim nations with important access to information and social networks that overcome societal restrictions, and in relation, provide an important medium for self-expression. Some report empowered users and new found freedoms [9-11], but the majority also report participants as routinely engaging in self-censorship in adherence with social norms, and whilst described in some studies as acts of agency within sociocultural boundaries [9-11], such behaviours are nonetheless restrictive. Issues of surveillance are also reported [9, 11-13], as are the use of pseudonym accounts [9-10, 14]. A complex world is thus evident, and one not without risk. However, depth of insight is limited, in several cases due to low participant numbers and/or limited empirical data [10-12, 14], and in other cases due to the limitations of the survey instrument employed [9, 15-16]. There is limited exploration of restrictions beyond personal image and gender boundaries, and issues of surveillance, whilst reported in four studies [9, 11-13], are evidenced in only two studies [9, 13]; and use of pseudonyms, whilst reported in three studies [9-10, 14], are evidenced in only two studies [9, 14]. Further, in each case evidence is limited to either summary statistical count or selective quote. It is thus difficult to determine the nature, extent, and impact of social media restrictions experienced by Muslim women, and their responces to any restrictions. This raised two key research questions:
1. Do Muslim women in Arab society feel that their social media use is restricted, and

if so, in what ways, and to what affect?

2. How do Muslim women respond to any restrictions in social media use?

3   Methodology

Our theoretical framework was provided by Chatman's (1996) theory of information poverty [17], which provided a framework for exploring issues of stratification and social justice alluded to in previous studies discussed above (for further discussion of conceptions of information poverty in library and information science, see [18]; and in the context of social justice, see [19]).   Chatman describes an impoverished information state as one in which people (to various degrees) 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 in response to their everyday needs (including a failure to see external information sources as of direct and immediate value to lived experiences). Chatman reports that in impoverished circumstances (though not exclusively, for example see [19-20]), a stratification of information access and use will be evident in a "world on which [social] norms and mores define what is important and what is not" [17, p. 205].   Whilst guided by Chatman's (1996) theory of information poverty, our overall approach also incorporated an inductive element (see data analysis).

A purposive approach to sampling defined participant inclusion criteria as being a Muslim woman with one or more active social media accounts, and resident within the study zone.   The study zone (redacted for participant anonymity) was the capital city of a majority Muslim nation within the Arabian Peninsula.   The study zone was within a nation with high wealth and low unemployment relative to many other Arab State nations, and with a high rate of population Internet use in comparison to many other Arab State nations (and high in global terms). Almost the entire population within the study zone is online with similar proportions of women and men [21-23].

Our data collection method was semi-structured interviews, designed to explore the role social media played in the everyday lives of Muslim women within Arab society, and the factors influencing their associated online information behaviours.   One author of this study is a Muslim woman and citizen of the study zone, and conducted the interviews.   Participants were invited to participate via a public post on Instagram. Interviews took place in public urban settings and were conducted in Arabic and recorded (subject to consent).   Interview questions explored the role of social media in our participants lives, whether or not they felt that their use of social media was restricted in any way, and their responses to any restrictions that they experienced. Participants were also asked whether or not they used their real identities online (note. prior informed consent protocols included making clear to participants that they were not required to answer all questions, and this was repeated prior to interviews beginning).   Interviews were transcribed and translated into English for team analysis.

Data analysis incorporated both deductive and inductive elements, with data disaggregated into meaningful categories via identification of patterns and regularities through iterative pattern coding and thematic analysis as per Braun and Clarke's (2006) recommended steps of [24]: data transcription and familiarisation; initial code generation; collating codes into themes; reviewing themes; refining themes; and producing themes. Initial start-list codes were based on Chatman's [17] concepts of information poverty (e.g. self-protective acts of secrecy or deception). Further codes were emergent including those relating to the sources and nature of any restrictions, responces to restrictions, and the role of digital literacies.

Ethical approval was obtained via Institutional Ethics Committee, with the study run in strict accordance with institutional guidelines for investigations involving people. All participation was voluntary. Given the nature and sensitivity of the topics explored, all findings (and background information including specific nation within the Arabian Peninsula region) that might act as participant identifiers have been redacted.

4 Findings

Our fourteen Muslim women participants were aged 25-35, with an average age of 30. Twelve of our participants were in employment, one was unemployed, and one was a university student. Twelve of our participants possessed university graduate qualifications, one was currently completing university, and one had completed high school. Seven of our participants were married, three were divorced, and four were single. Of the ten married or divorced participants, eight were variously mothers of between one and five children.

4.1 Social media use

All our participants confirmed that they were active everyday users of social media. The most popular applications (see Table 1) were universally identified as Snapchat, Instagram, Twitter, and WhatsApp. Some also mentioned the use of Facebook, and one the use of Linkedin.

Participants discussed a variety of reasons for using social media, categorised as: communicating with friends and family including platonic male friends difficult to communicate with elsewhere; following the latest trends and lives of others including popular celebrities and bloggers; an important source of news, health, and travel information; and an important medium for the expression of personal thoughts and feelings. In relation, several described social media as extremely important. For example, one participant described social media as their "main education source" and felt that "Without social media we would be living in darkness."; and another described social media as "as important as our daily needs" as it provided "…new ways to think, new friends, new opportunities, information and beyond".

4.2 Restrictions

When asked if they felt that their use of social media was restricted in any way, several

participants discussed restrictive sociocultural norms and boundaries, and in relation, all discussed surveillance by husbands and/or male relatives (see Table 1). For example, one participant commented "I feel that I am being watched by my husband, my brothers, or even my cousins", another that, "I am watched by every man in my life". Monitoring by husbands and male relatives could also include control regarding what could and could not be accessed and shared by our participants. For example, one participant described themselves as, "afraid of posting any personal pictures without my husband's permission", and another that, "I cannot share my thoughts with anyone". Unmarried participants discussed similar issues with male relatives. For example, one participant commented, "My brothers do not allow me to download any kind of social media applications", and another that they had promised their brother, "not to speak about politics, religion, and feminism". Participants conveyed their frustrations with such monitoring and control, variously described as "pathetic", "annoying", and "stupid".

ID (adopted name)	Age	Marital Status	Social Media Use*	Social Media use Monitored	Monitored by husband	Monitored by brother(s)	Monitored by male cousin(s)	Monitored by Father	Monitored by female relative(s)	Accounts: real name	Accounts: pseudonym
Makh	25	Single	SWIT	*		*		*			*
Lada	27	Single	SWITL	*		*				*	*
Saka	27	Single	SWIT	*			*	*		*	*
Faal	28	Single	SWIT	*		*				*	
Saab	29	Married	SWI	*	*	*	*			*	
Ghbu	30	Married	SW	*	*					*	
Wabe	30	Married	SIT	*	*					*	*
Maal 1	31	Married	SWI	*	*					*	
Sial	34	Married	SWI	*		*				*	
Anbu	35	Married	SWIF	*	*					*	
Alsa	35	Married	WIFT	*	*	*	*			*	*
Emal	26	Divorced	SITF	*	*				*	*	
Maal 2	30	Divorced	SWIFT	*	*					*	
Yaal	31	Divorced	SIT	*	*	*				*	

*Key: Snapchat (S); WhatsApp (W); Instagram (I); Facebook (F); Twitter (T); LinkedIn (L).

Table 1.   Participant social media use and surveillance.

4.3 Responses to restrictions

Two participants described their online information behaviours as in accordance with social norms and boundaries, but the majority discussed acts of agency to circumvent restrictions and surveillance. Several of our participants discussed carefully managing the privacy settings and content of their social media accounts in order to control who views what. For example, one participant commented "I do feel that I am under risk, especially if I leave the notifications on. Therefore, I turn them off so no one can know with who I am in contact with"; and another that, "I don't save my pictures and videos to my Snapchat memory. I only save them to my phone so that I can avoid any unexpected circumstances". Another participant commented:

> For my Snapchat account, I don't post anything to my story because I have added my cousins, my male friends, father, and my siblings. Since I don't want to be judged if I decided to post a picture, I just observe my friends accounts and watch others snaps. On the other side I send private messages to whom I want instead of letting everyone see my story. One day if I decide to post my story, I would block all the male followers, and just allow females who must be my close friends and family.

And another:

> I would never post anything under any post on Instagram because I know that my brother is watching me, so I must be very careful what to like and what to follow. That is why I am not really into posting anything on my Instagram account.

And another, completely forbidden to use social media by her father and brothers, commented:

> I go to the University with [name redacted]. When [I arrive] at 09:00 AM, I download each one of them [social media applications] and at the end of the day, on the way to home I delete them all. I repeat this five day a week.

Five of our fourteen participants (36%) also disclosed possessing pseudonym accounts (see Table 1). They described pseudonym accounts as providing an important source of everyday information and an important outlet for personal thoughts and feelings, and as a means of maintaining contact with platonic male friends difficult to communicate with in public due to gender segregation conventions. For example, one participant commented:

> I use Twitter occasionally because it's not under my real name… I follow hundreds of people because I like to know what's happening around me, in the world or even out there in the space. In this account, I don't have any of my relatives or close friends because no one needs to know about it. I like to keep it as it is so I can write whatever comes to my mind without any judgments.

The majority of our participants with pseudonym accounts also discussed maintaining real-name accounts in parallel to their pseudonym accounts (see Table 1), with some describing their real-name accounts as artificial. For example, one participant with both real-name and pseudonym accounts, discussed using her real-name account to maintain a public persona and commented, "I don't believe that this [real name] account is the real me".

4.4   Risks

Risk of social transgression and stigma was a recurrent theme discussed by participants. One participant who disclosed using social media to discuss political topics with male friends from college commented, "I feel that I am under great risks", and another participant under close surveillance by her brother commented, "I must be very careful what to like and what to follow".   Another participant closely monitored by her husband commented:

> I cannot write or post anything under a public post. This means that I cannot share my thoughts with anyone. I'm too afraid to do that otherwise my husband will be so frustrated and angry. He might even divorce me for doing that.

Another participant commented:

> As a married woman, I am so careful of the people's accounts I follow on Instagram. In the end, we are living in a society dominated by traditions and men, and because I use my real identity for all my social media accounts, I have to respect our society. As such I have to be on the safe side of everything I do, especially when posting, or following anyone on social media.

Risk was also discussed not just in relation to themselves, but also in relation to important others.   For example, one participant commented:

> Since I am still single, liking inappropriate pictures will make people talk about me and judge our family. This was the main reason behind me hiding my real identity and not adding my last name: because my family is still afraid of society and its traditions.

5   Discussion

Social media provides our participants with an important source of everyday information, and an important medium for social connection and personal expression not possible elsewhere due to sociocultural boundaries and inequalities.   Such findings are largely consistent with previous studies reporting the social media use of Muslim women within Muslim nations (discussed in Section 2), and more notably, provide further insight into the important role of social media for personal expression. However, all of our participants discussed their use of social media as monitored and controlled to various degrees by family, and in particular, by husbands and/or male relatives.   Findings provide new insights into the nature and extent of surveillance experienced by Muslim women in Arab society, and have important implications for our understanding of themes of online empowerment and personal freedom reported in several previous studies [9-11], providing new insights into the extent and impact of social media restrictions, and issues of affect.

We also provide insights into acts of agency to circumvent restrictions.   The majority of our participants carefully managed their social media account settings to control who views what; and by audience group, carefully managed their profiles and account content, and/or links to content.   Such behaviours are consistent with general strategies to protect social privacy reported globally and across population groups [for

example, see 25]. In relation, we provide new insights into the use of pseudonym accounts to live parallel online lives, and appearing more widely used by Muslim women than previously reported [9, 12, 14]. Such behaviours provide evidence of self-protective acts of secrecy and deception, two of Chatman's (1996) core concepts of information poverty that define the basis of an impoverished information world [17]; and variously utilised by our participants to cope with small world life, and/or to circumvent sociocultural boundaries and move between social and information worlds, but not without risk of social transgression, and appearing dependent on a broad set of digital literacies beyond functional technical skills.

Our findings contribute to our understanding of the scope of digital literacy, a topic of ongoing debate and interpretation. Described as "ambiguous from the outset" [26, p444], digital literacy has over time been variously conceptualized and applied as a set of functional skills, social values and practices, or both. Whilst often operationalized from a functional and largely technical perspective [26, 27], scholars [26-29] have argued for a broader perspective of digital literacy that encompasses functional, cognitive, and sociocultural aspects. In consideration, Bawden identifies four "generally agreed" components of such a broader perspective, that it is suggested might form a framework of digital literacies. These four components are defined as [29, p.29]:

1. "Underpinnings" including literacy *per se* and ICT literacies, described as "the basic skill sets without which little can be achieved" [p.30].
2. "Background knowledge" of sources and forms of information, described as "an essential start in being digitally literate" [p.29].
3. "Central competencies" to be able to access, process, and use information, encompassing media and information literacies, and described as "the basic skills and competences, without which any claim to digital literacy has to be regarded sceptically" [p.29].
4. "Attitudes and perspectives" that encompass independent learning capabilities and moral frameworks, and described as reflecting the idea that "the ultimate purpose of digital literacy is to help each person learn what is necessary for their particular situation" including an "understanding of sensible and correct behaviour in the digital environment and may include issues of privacy and security" [p.30].

However, whilst several scholars (as discussed above) continue to argue for a broader perspective of digital literacy variously encompassing the above four components, a recent review by Pangrazio et al. [26] reports that in practice, digital literacy continues to be largely discussed and applied from a functional technical perspective, with social approaches to digital literacy described by the authors as "on the sideline" [26, p.455]. Our findings provide an important empirical contribution to the ongoing argument for a broader perspective of digital literacy, evidencing, amongst our participants, a broad range of competencies and capabilities at play beyond functional technical skills, including evidence of the important role of Bawden's [29] fourth component discussed above (i.e. attitudes and perspectives). We evidence the importance of moral understanding of online behaviours for agency and the management of risk in the problematic sociocultural context, including awareness of the risks associated with the use of particular information sources and information content societally disapproved of, yet fundamental to our participants everyday lives. In relation, we evidence online privacy as complex and variable by

audience group and topic of communication, requiring both technical and sociocultural understanding grounded in moral understanding. Without such broad understanding and competencies, our participants social and information worlds would arguably be much smaller. How such competencies and capabilities are fostered in society remains an open question discussed further below.

6   Limitations and Further Research

Our findings should not be considered representative of Muslim women as a whole as Muslim women are not a homogenous group, and Arabian Peninsula nations variously more conservative or liberal than others. Our participants were majority university educated, in employment, and urban residents of a capital city within a high wealth Arab nation with a high rate of population Internet use. Further, all presented as competent users of social media. We thus provide insight into the social media use of a particular group within a particular socioeconomic environment. We encourage further studies with further population groups including socioeconomically disadvantaged groups and marginal Internet users who are often reported as less proficient and confident online, and who may not possess sufficient digital literacies to practice the same degree of agency online as our participants exhibited. Such women are potentially further marginalised.

Our findings raise important questions regarding how we foster more advanced competencies and intellectual traits for digital citizenship and personal growth within education programmes (and society more broadly). As Pangrazio et al. [26, p455] asks, "Is the goal of digital literacy education to create productive workers in the 'knowledge economy', or is it to help individuals realise personal and social liberation?". Similar to Pangrazio et al. [26] we would argue that it is both, but the extent of current attention to social, moral, and intellectual aspects of digital literacy within education programmes appears an ongoing question warranting further research attention. Variously described as "the most complex of all the types of digital literacy" [30, p.102], and as "arguably the most difficult to teach or inculcate" [29, p30], pedagogical insights appear limited. Some insights are provided in a recent study by McMenemy and Buchanan [31], who explored attention to intellectual character development in two widely cited information literacy models (the Big6 and the ACRL framework). McMenemy and Buchanan concluded that, "we have identified limited presence of concepts of intellectual character in our sample of information literacy models, with none explicit, and all subject to interpretation" [31, p.81], and called for further research attention including how to operationalise the development of intellectual character within information literacy educational programmes. For our purposes, further research would also consider social and moral aspects. In addition, we would also draw further attention to the importance of online privacy literacy, described as a "comparatively new concept in online research" [26], and again warranting further research attention.

7   Conclusion

Our Muslim women participants are all active social media users, and describe social media as an important source of everyday information, and important medium for social connection and personal expression.   However, their use of social media is closely monitored and controlled by family, and in particular, by husbands and/or male relatives.   Pseudonym accounts, and carefully managed privacy settings and content management, are used to circumvent sociocultural boundaries and move between social and information worlds, but not without risk of social transgression, and appearing dependent on a broad set of digital literacies.

Findings contribute to our understanding of digital inequalities and sociocultural influencing factors; and the role of digital literacy to circumvent societal boundaries and manage risk.   Findings also contribute to our conceptual understanding of the scope of digital literacy, evidencing important social, moral, and intellectual aspects; and contributing to calls for research attention to further advance our understanding of how such aspects of digital literacy are fostered in society.

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