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About the journal

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Focus and Scope

Nordic Journal of Library and Information Studies, NJLIS, is a scholarly peer reviewed open access journal, covering scientific issues and current trends in Library and Information Studies. NJLIS publishes Nordic and international peer reviewed LIS articles and reviews of significant LIS literature. The editorial committee consists of representatives from LIS departments in Sweden, Denmark, Finland and Norway. The role of editor rotates annually between the members of the editorial committee. The journal is published on University of Copenhagen's online platform tidsskrift.dk.

Peer Review Process

Submitted articles are subject to double-blind peer-review to ensure a high level of quality. Two reviewers are assigned to each article. The editor decides on publishing after the review process and is in charge of communication with the contributor(s). Papers may be rejected directly by the editor if judged to be out of scope, deemed as sub-standard or not adhering to the author guidelines.

Open Access Policy

The journal provides immediate open access to its content on the principle that making research freely available to the public supports a greater global exchange of knowledge.

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Editorial

This issue of the *Nordic Journal of Library and Information Studies* presents three research articles – all genuine empirical contributions to the discipline of LIS. Some of the authors are in the early stages of their academic careers, working together with more experienced colleagues. As usual, the issue also comprises book and theses reviews, primarily but not exclusively, covering recent Nordic publications. Taken together, the various contributions reflect a vital community where both nestors and newcomers bring unique facets to the LIS prism.

The first article “Factors influencing health-seeking behaviours of asylum seekers, refugees, and undocumented immigrants: A systematic review of peer-reviewed articles” is authored by Hamed Ahmadinia and Kristina Eriksson-Backa. Their thorough review is based on scholarly records on health-related information seeking among the mentioned user groups. The findings show the difficulties in meeting the varied information needs of heterogeneous groups. The authors call for responsiveness and cross-cultural approaches when designing, developing and delivering health related information (and healthcare) services aimed at asylum seekers, refugees and undocumented immigrants.

Ann-Sofie Klareld, Emma Pihl Skoog and Kristofer Söderström stand behind the second article – “Managing the Past and the Future: Evolving professional roles of archivists in contemporary Sweden”. Against the backdrop of current changes in the professional work of archivists, Klareld and co-authors set out to identify the different aspects of archival work commonly described in job ads for archivists, including professional skills and personal traits sought by employers. According to the results, the roles and responsibilities of archival professionals described in the ads are very diverse; especially the desired personal traits often seem paradoxical and clashing.

The third article, “Opportunities and Obstacles for Citizen Science: Insights from Finnish Public Libraries” by Elena Svahn, Karolina Andersdotter and Miki Kallio, delves into an investigation of Finnish public library perspectives on citizen science. The study focuses on how libraries conceptualise a supportive environment for citizen science, and on the libraries’ conditions regarding physical space, digital space, and knowledge resources and infrastructure. Based on survey answers from Finnish public library representatives, the study shows the potential of public libraries to facilitate citizen science. Simultaneously, findings reveal challenges related to infrastructure, resources, and role delineation.

The book reviews cover quite a range of publications, two of which aim explicitly at breaking theoretical ground: Firstly, Ola Pilerot presents and discusses Nils Windfeld Lund's ambitious monograph *Introduction to Documentation Studies*, where Lund aims at developing the fundamental notions of documents and documentation further. Secondly, Jenny Glashoff has made a thorough read of the anthology *Information literacy through theory*, edited by Alison Hicks, Annemaree Lloyd and Ola Pilerot. It is striking how IL has developed over the years, from a matter of primary interest for library staff, to a research field in its own right, engaging and drawing on a broad analytical palette. The third book is also an anthology, *Rom for lesing og utforsking: Skolebibliotekets muligheter*, edited by Idunn Bøyum and Åse Kristine Tveit. Louise Limberg who is a well-suited reviewer through her firm position in the research field of information seeking and learning, empirically connected to the educational context of school libraries, concludes that the anthology has the potential to encourage and support professional development of school libraries.

The category of PhD theses reviews is an appreciated category with NJLIS. In the current issue Carin Graminius' (LU) dissertation *Research communication in the climate crisis: Open letters and the mobilization of information* is reviewed by Nils Pharo; Björn Ekström's (UB) thesis *Winding paths to species reports: Information practices in biodiversity citizen science* is presented and discussed by Olle Sköld, and finally, Ida Grönroos' (UU) thesis *'I can't play God, you know': Ethical dilemmas faced by archivists* is reviewed by Elizabeth Shepherd.

Even though this is an open issue where all papers may be regarded as independent contributions, some substantive themes emerge – possibly as signs of our time. To just mention one, citizen science – an area of growing research interest – is treated both from the perspective of Finnish public libraries and in depth by Sköld's discussion on Ekström's dissertation about specific information practices of volunteering citizens. The phenomenon of citizen science stands out as a thought-provoking challenge of established assumptions on scholarly knowledge production and adjacent professional practices.

Finally, overviewing the contributions of this issue, it becomes evident that most papers address current global and societal challenges in one way or another, be it the climate crises, the health information needs of refugees, the role of public libraries and archives in a digital age or the importance of strong school libraries. LIS undeniably has something to offer in our troubled times.

Wishing you a fruitful read!

Jenny Lindberg
Editor-in-chief, 2024

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Factors influencing health-seeking behaviours of asylum seekers, refugees, and undocumented immigrants

A systematic review of peer-reviewed articles

Abstract

This review investigates the impact of personal and contextual factors on health-seeking behaviours in terms of health-related information and healthcare service needs and utilization among asylum seekers, refugees, and undocumented immigrants using an adapted framework based on an extended Longo health information model. The 73 peer-reviewed records included in this systematic review were obtained from WoS, Ebsco, and Scopus. This review shows that culture, religion, policy, and systematic inequalities may play three different roles for our studied population, including facilitators, barriers, and health-related information sources. The findings indicated that providing universal health-related information and healthcare services may not meet all of the healthcare needs of our study population. As a result, healthcare providers must take a cross-cultural approach when designing, developing, and delivering specific health promotion programmes, treating patients with respect and attention, and providing health-related information and healthcare services based on ethnic, cultural, religious, and migration statuses.

Keywords: Asylum seekers, contextual factors, health-seeking behaviour, personal factors, refugees, three-part impact, undocumented immigrants

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Introduction

By 2020, over 84 million people had been forcibly displaced worldwide, including 26.6 million refugees and over 4 million asylum-seekers on six continents, according to the UN High Commissioner for Refugees (UNHCR, 2022). Undocumented immigrants are another vulnerable minority living in other countries. In 2017, the Pew Research Center reported over ten million undocumented immigrants in the US (Lopez et al., 2021). Asylum seekers, refugees, and undocumented immigrants need access to healthcare and health information to stay healthy (Barkensjö et al., 2018; Biswas et al., 2011; Claassen & Jäger, 2018; Teunissen et al., 2014; Wong et al., 2016).

Our prior systematic review of 57 peer-reviewed papers within the EU context highlighted a significant gap in research pertaining to the health information behaviour of these populations in Europe (Ahmadinia et al., 2021), unlike the more extensive studies conducted in the United States, Australia, African and Asian countries (e.g., Chandler et al., 2012; Doocy et al., 2016; Furuta & Mori, 2008; Tomasi et al., 2022). This underscores the need for further research, which our current study addresses.

Health information-seeking behaviour (HISB) and healthcare-seeking behaviour (HSB) are the main focus of this study, where HISB is considered any possible situation in which a person needs, uses, finds, selects, or ignores any health-related information (Lalazaryan & Zare-Farashbandi, 2014). Healthcare-seeking behaviour is described as “any activity undertaken by people who perceive themselves to have a health issue or to be sick for the purpose of finding an appropriate remedy” (Ward et al., 1997). Studies on health-seeking behaviour have examined coping with a health-threatening situation, behaviour change, and preventive behaviour, as well as factors or predictors of information seeking (Zimmerman & Shaw, 2020). The health information acquisition model (Freimuth et al., 1989), Johnson's comprehensive model of information seeking (Johnson, 1997), Lenz's information-seeking patterns of clients (Lenz, 1984), and the transtheoretical model of health behaviour change (Prochaska & Velicer, 1997) were used to study various aspects of people's health-seeking behaviour. These models have examined patient health seeking behaviour from various angles, including stimulus, coping styles, goals, stages of change to live a healthier life, actively seeking health services or information, and expectations and health beliefs (Jones et al., 2015; Miller, 1989).

Building on our previous work, this study utilises an adapted version of the extended Longo health information model (Longo et al., 2010) to explore the health-seeking process of asylum seekers, refugees, and undocumented immigrants on a global scale, including both active and passive responses from users. This model examines how context and personality affect health information and service seeking. Health, care delivery, the information environment, and networks are contextual factors, while socioeconomic and behavioural factors are personal (Hirvonen, 2015). These two categories of factors are considered to influence information behaviour, either in terms of active health seeking or passive reception of health-related information.

"Users" in this study are asylum seekers, refugees, and undocumented immigrants living in different countries. This study compares health-related information or service-seeking behaviour among this population, which may face similar or different challenges based on personal or contextual factors in different countries. We aim to answer three broad research questions:

RQ 1: *What personal and contextual factors influence the health-related information-seeking behaviour of asylum seekers, refugees, and undocumented immigrants?*

RQ 2: *How do asylum seekers, refugees, and undocumented immigrants seek and use health information and services?*

RQ 3: *Which health-related information sources do asylum seekers, refugees, and undocumented immigrants use to actively seek or passively receive health information?*

Methods

A literature search was conducted on March 11, 2022, and both the search and analysis of the found material followed the PRISMA guidelines (Moher et al., 2009) (see Supplementary 6 for more details). The inclusion criteria for this systematic review were adapted from the data collection process described by Lambert and Loiselle (2007) and were as follows: (a) published in English; (b) focus on actual behaviours of asylum seekers, refugees, and/or undocumented immigrants when seeking health-related information or healthcare services; (c) scholarly works published in peer-reviewed journals; (d) the inclusion of "health information seeking behaviour or health seeking behaviour or health utilisation or health need" (or with the US spelling of behavior and utilization) in the title or text; and (e) be original studies, not a brief review of an original study published in a conference paper.

This systematic review included original research articles that reported any personal or contextual factors influencing asylum seekers, refugees, and undocumented immigrants' healthcare-seeking behaviour without excluding any specific health-related need or utilization. The included studies investigated our target population's health-related information or health service-seeking activities rather than healthcare providers' interpretations. Studies on health-related information, needs, or utilisation were included if personal or contextual factors influenced our target population's healthcare-seeking behaviour. Indigenous ethnic minorities, subcultures, immigrants, and seasonal workers were excluded from studies on health-seeking behaviour. We excluded systematic reviews, literature reviews, editorial notes, and conference posters. All studies that did not focus on health-seeking behaviour were also excluded (i.e., human rights, health law, ambulatory care, safety science, mediators, health information systems, and health policy).

Research Model

We adapted the extended Longo health information model for our research (Longo et al., 2009). The expanded model addresses a new trend toward healthcare consumerism, where patients learn about their health issues and make treatment and management decisions (de Haes, 2006; Drain, 2003; Maly et al., 2004; Neuberger, 2000). This model accounts for both active seeking and passive receipt of health-related information, as well as individual characteristics that affect information use, and provides a more complete and accurate model of people's health-seeking behaviours and healthcare decision-making (Longo et al., 2009). This study used the main components of the extended Longo health information model to identify personal and contextual factors affecting active and passive health information reception among asylum seekers, refugees, and undocumented immigrants all over the world. Figure 1 presents an expanded Longo model-based framework for studying asylum seekers, refugees, and undocumented immigrants' health information and healthcare service-seeking behaviours. Contextual and personal factors influence health information and healthcare service needs and use in the adapted model. This systematic review excluded genetics, family medical history, and patient outcomes because we were unable to extract relevant data from the included studies. We also study our target population's health information sources. Thus, we modified the model to emphasise health-related sources in vulnerable populations' health-seeking rather than active seeking and passive receipt (Longo, 2005; Longo et al., 2009, 2010).

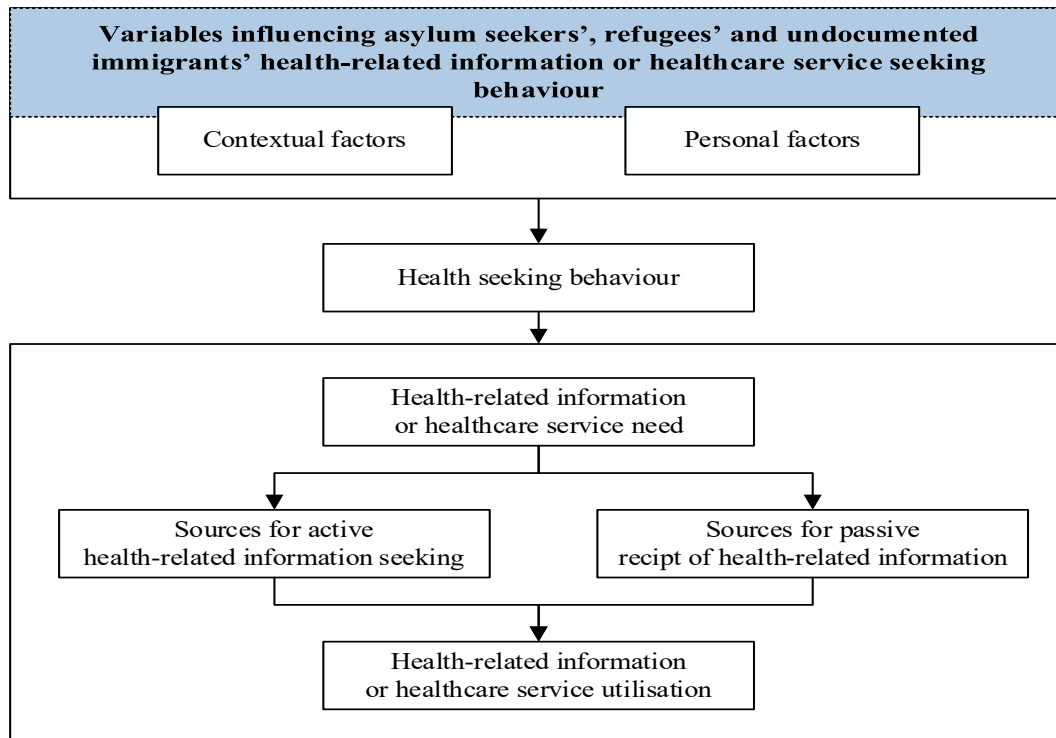


Figure 1. An adopted framework based on the expanded Longo model for investigating health-related information or healthcare service seeking, needs, and utilisation among asylum seekers, refugees, and undocumented immigrants in the world.

Information Sources and Search Strategy

We have employed three primary channels for data acquisition on scientific content including peer-reviewed journal articles, conference papers, books, and book chapters pertinent to our research, after consultation with information specialists. These channels include the Web of Science and Scopus platforms, as well as the use of EBSCOhost for accessing more specific datasets with studies relevant to our research.

- From the Web of Science, we strategically selected and searched databases such as the Web of Science Core Collection, KCI-Korean Journal Database, Medline, Russian Science Citation Index, and SciElo Citation Index to identify studies pertinent to our systematic review.
- From EBSCOhost, we accessed databases including Academic Search Complete, APA PsycInfo, APA PsycArticles, CINAHL, Communication & Mass Media Complete, and Library and Information Science & Technology Abstracts, which provide extensive coverage of Library and Information Science studies.
- Finally, we conducted searches in Scopus using our formulated search terms to locate relevant studies that might not be indexed in Web of Science, or the databases accessed through EBSCOhost (see Supplementary 5 for more details).

We included databases such as the KCI-Korean Journal Database and the Russian Science Citation Index to ensure comprehensive coverage of research on health-seeking behaviours, recognising that significant contributions might be published in different regions and might not be indexed in other databases. This review adapted a search statement consisting of free terms related to the main

objectives of the study, and truncation (*) as well as research subject terms and keywords. Asylum seekers, refugees, and undocumented immigrants' health-seeking behaviours were the primary research subjects in developing our search strategy. "Information literacy", "health behaviour", and "health communication" were the related MeSH (Medical Subject Headings) terms that we used to stay on track with this focus. The fundamental themes of our research field informed the selection of these subject terms. Moreover, we broadened the scope of our search to encompass a broader spectrum of terms that could be relevant, such as "health information", "health seeking", and "care seeking". This comprehensive approach, integrating both subject-specific terms and broader concepts, aimed to maximise the retrieval of pertinent studies. The adapted search terms were combined by using the Boolean operators AND and OR. Additionally, the terms "asylum seeker," "refugee," and "undocumented immigrant" along with all their synonyms and related terms were combined with proximity operators with a distance space of 10 (adj 10) to retrieve more results. The final search statement of this study was as follows:

((health information OR health seek* OR health help* OR care seek* OR health behavi* OR health commun* OR information practice* OR information literacy) AND (undocumented immigra* OR refuge* OR asylum seek*)).

We, furthermore, applied a backward reference search to identify relevant studies cited in the included studies extracted from the databases. This process was done after completing the full-text assessment of the records to search for additional relevant studies.

Selection of Studies

The studies were chosen based on the main components of our adapted framework, which included contextual factors, personal factors, health-related information or service needs, sources for actively seeking and passively receiving health-related information, and health-related information or service use by our target people. All selected databases were searched simultaneously, and articles were extracted either directly from EBSCO, Scopus, Web of Science or through Publish or Perish version 8. Search results were imported into Rayyan, a web application for the initial screening of abstracts and titles for inclusion, and duplicates were removed. During the review phase, the first author conducted a preliminary screening of all records, while both the first author and the co-author to ensure accuracy performed the subsequent full-text screening independently. We evaluated titles, abstracts, keywords, and, in some cases, discussions and conclusions when selecting records, among other strategies. To clarify, the discussions and conclusions were referenced during the initial screening only when necessary to resolve uncertainties about a study's relevance. In the second step, both authors independently double-checked the abstracts of the selected articles. The full texts were then assessed for relevance by the first author, with subsequent verification by the co-author. This iterative process aimed to minimise errors and biases. We acknowledge the limitation of not conducting blinded double-screening and have discussed this in the limitations section.

Data Extraction and Search Results

We retrieved 3,274 studies that were potentially relevant to our research. This number includes 3,269 records obtained from searching across 13 different databases and an additional 5 records identified through backwards reference searching. We used 'Publish or Perish' software to retrieve academic citations for the identified studies and downloaded the records in BibTeX format when direct download from investigated databases was not available. The next step involved uploading these BibTeX files into the Rayyan platform, which is a tool that assists with the screening and selection of studies in systematic reviews. After a thorough review process that involved removing duplicates and studies that did not directly address the health-seeking behaviours of asylum seekers, refugees, and undocumented immigrants or were not peer-reviewed, we narrowed the list down to 699 articles. Further detailed screening based on the relevance and accuracy of the content reduced this list to 73

final articles. These selected studies were then downloaded in full paper form as PDFs and imported into NVivo version 1.6.1 for in-depth qualitative data analysis. In NVivo, we initially created a coding framework that consisted of two principal categories. The first category, manuscript author and publication information, encompassed nine distinct codes. The second category was aligned with the components of the extended Longo health information model, comprising six codes to specifically extract data related to personal factors, contextual factors, active and passive health-seeking sources, health-related information needs, and the utilisation of health-related information. This coding structure enabled us to systematically dissect and analyse the qualitative data, ensuring a robust synthesis of the evidence. Figure 2 presents a complete overview of the whole screening and selection process.

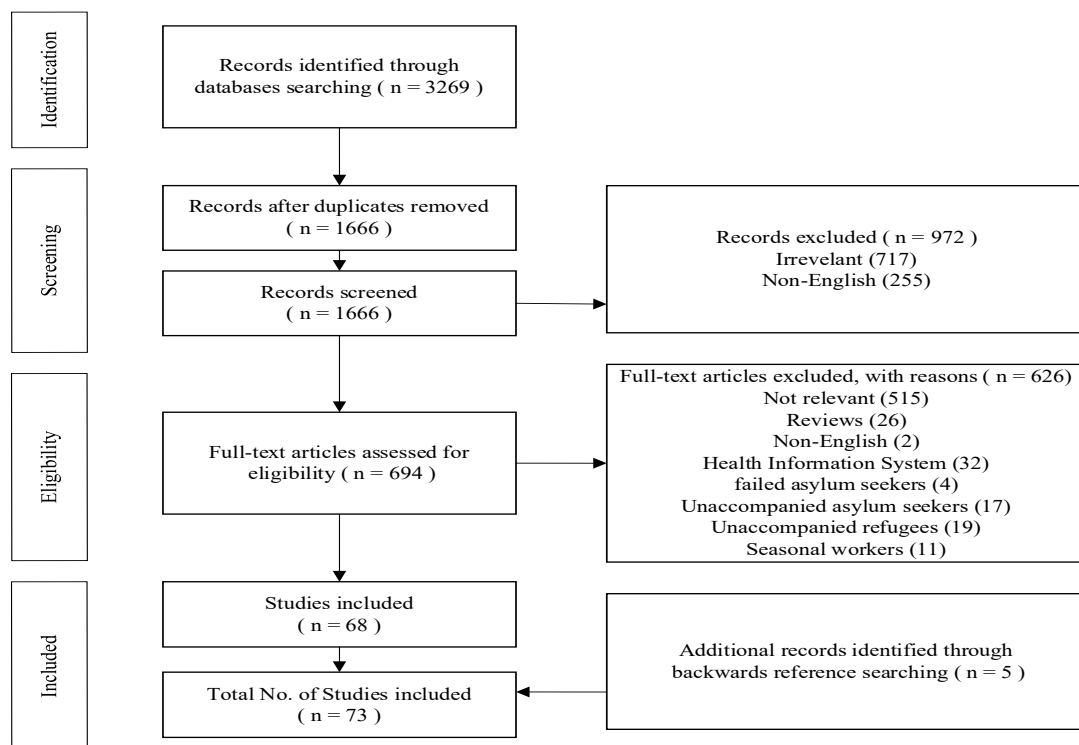


Figure 2. A PRISMA flow chart reports the final inclusion of 73 studies in this review.

Characteristics of the Included Studies

The final list (73 articles) included topics such as mental health and women's health. The majority of studies (64 percent) identified mental health issues among participants. Next were chronic diseases and women's health concerns. The least common explored health condition was related to communicable diseases (e.g., hepatitis). Figure 3 depicts a tree map of asylum seekers, refugees, and undocumented immigrants' health-related information and healthcare service needs.

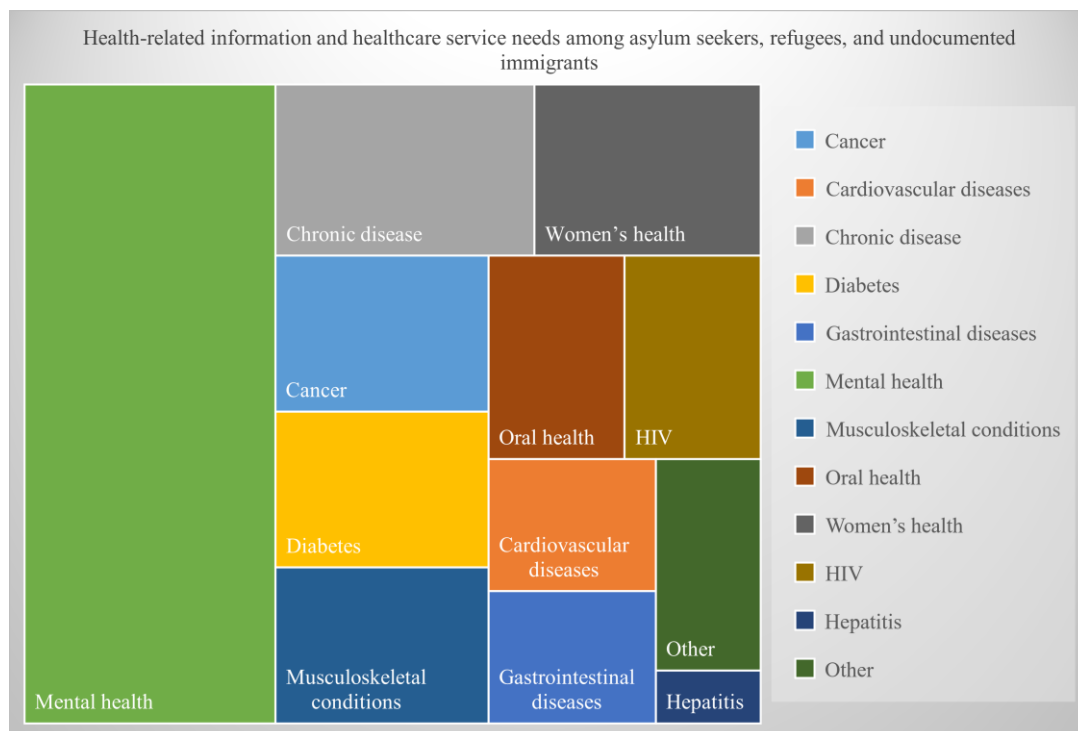


Figure 3. Health-related information and healthcare service needs among asylum seekers, refugees, and undocumented immigrants

We grouped study participants into five ethnic groups based on shared characteristics. The groups are African, Asian, Eastern and Balkan European, Indian subcontinent, Latin American and the Caribbean, and (Greater) Middle Eastern (Omi & Winant, 1986). Supplementary 1 lists ethnic groups, abbreviations, and nationalities from this review's studies. Supplementary 2 and 3 list the articles' source, continent, country, sample size, data collection method, theme, and participants' gender, ethnicity, and residency grounds.

Summary of Findings Based on the Research Model

In the following sections, we present findings based on our model of study.

Personal Factors

We identified and classified personal factors influencing health-related information or healthcare-seeking behaviours of our studied population into thirteen groups, including culture, ethnicity, formal education, gender, health literacy, language barriers, marital status, psychological factors, religion, residency status, segregation, social health and behavioural factors, and tradition. The sub-sections that follow provide more information about each personal factor, mostly from the standpoint of residency ground or ethnic background.

Culture: cultural norms, values, stigma, and taboos were described as having significant roles in shaping the health seeking behaviour of study participants, particularly in the context of mental health (Assefa et al., 2021; Behnia, 2003; Mahajan, 2021; Mulé, 2021; Poudel-Tandukar, 2019; Teunissen, 2014; Tomasi, 2022). In Middle Eastern refugees and asylum seekers, cultural factors, country of origin, and religion affected perinatal health and oral health help-seeking (Due et al., 2020; Ejike et al., 2020). Asylum seekers and refugees who are more integrated into their host country's

culture, where mental health issues are not taboo, are more likely to seek mental health information and care (Fox et al., 2020). Finally, children of asylum seekers and refugees, who quickly adapt to the new culture, may help asylum seekers access and use healthcare early in resettlement (Kindermann et al., 2020).

Ethnicity: the most influential personal factors in the health-related information or healthcare service seeking behaviour of all ethnic groups were psychological factors, religion, and culture (e.g., Al Laham et al., 2020; Claassen & Jager, 2018; Ejike, 2020; Nikendei, 2019; Shrestha-Ranjan, 2017). Marital status and tradition had the least influence on the health information and healthcare service-seeking behaviour of vulnerable individuals (e.g., Hawkes et al., 2021; Marume et al., 2018; Slewa-Younan et al., 2017; Thikeo et al., 2015; Wang, 2005). Tradition was cited more frequently in studies with African, Asian, and Indian Subcontinent participants (e.g., Ballard-Kang et al., 2018; Furuta & Mori, 2008; Poudel-Tandukar et al., 2019; Thikeo et al., 2015; Wang, 2005), whereas social health and behaviour were cited more frequently in studies with African, Asian, and Greater Middle Eastern participants (e.g., Gottlieb et al., 2020; Hassan & Wolfram, 2020; Muuo et al., 2020; Nickerson et al., 2020; Wong et al., 2016).

Formal Education: many studies concluded that higher education affected asylum seekers, refugees, and undocumented immigrants' healthcare identification, access, and use (e.g., Devillanova, 2008; Due et al., 2020; Marume et al., 2018; Mattila et al., 2016; Suphanchaimat et al., 2020). Higher-educated Syrian refugees actively sought chronic disease care more often, according to Doocy et al. (2015). Other researchers found that individuals with a lower educational background, comprehensive health literacy, health awareness, or higher risk behaviours are more likely to report poor health conditions and use more outpatient or inpatient healthcare services (Wångdahl et al., 2018; Wong, 2016).

Gender: the majority of included studies recruited a mixture of participants of both genders. However, a few studies reported issues related to only one particular gender (e.g. Biswas et al., 2011; Chandler et al., 2012; Furuta and Mori, 2008; Hawkes et al., 2021; Nickerson et al., 2020). First, family stigma, fear of future violence, helplessness, insecurity, and being denied health services were common barriers to healthcare seeking for female asylum seekers and refugees in various health contexts, from women's health to mental health (e.g. Barkensjo et al., 2018, 2018; Chandler et al., 2012; Furuta and Mori, 2008; Hawkes et al., 2021; Lee et al., 2013; Muuo et al., 2020; Shrestha-Ranjit et al., 2017). For Syrian refugee women, "families play large roles in teaching and providing health-related information about Canada's health system, including mental health services, and social networks influence assumptions about mental and physical health services and may act as alternatives to seeking formal mental and emotional health care," according to Mahajan et al. (2021).

Older age and female gender were positively associated with professional help-seeking among Afghan and Iraqi refugees in Australia (Tomasi et al., 2022). Second, family and community stigma significantly impacted male asylum seekers and refugees' mental health help-seeking (Byrow et al., 2019; Nickerson et al., 2020). Finally, undocumented male immigrants cited limited medical rights, arbitrariness in healthcare professionals' attitudes, fear of being reported to the police, poor language skills, a lack of network with locals, a lack of knowledge about the healthcare system, and a lack of knowledge about informal networks of healthcare professionals as their common barriers to accessing healthcare (Biswas et al., 2011).

Health Literacy: many studies have highlighted improved health literacy, particularly mental health literacy, as an important skill for asylum seekers, refugees, and undocumented immigrants, especially in empowering their skills in navigating healthcare systems and promoting well-being (e.g., Kindermann et al., 2020; Martensson, 2020; Slewa-Younan, 2017; Wångdahl, 2018; Yun, 2016).

Language Barriers: many included studies have confirmed that language barriers significantly impact asylum seekers, refugees, and undocumented immigrants' healthcare access and behaviour (Hassan and Wolfram, 2020; Kleinert et al., 2019; Niedermaier et al., 2020; Shrestha-Ranjit et al., 2017). Professional mental health services were particularly affected (Hawkes et al., 2021). Web-based interpretation services may help refugees access health care, according to an Austrian study (Kohlenberger et al., 2019).

Marital Status: marital status as a factor in health-seeking behaviour was not extensively studied, but some research reported that married refugee women experienced more prearrival trauma and violence than unmarried women, which may increase their mental health needs (Hawkes et al., 2021; Slewa-Younan et al., 2017).

Psychological Factors: anxiety disorders, depressive disorders, and posttraumatic stress disorders are three types of psychological factors that can influence individual health-seeking behaviour (Strijk et al., 2011). The included studies examined the effects of fear, depression, psychological disorder, anxiety symptoms, mental stress, addiction disorder, and posttraumatic stress on these vulnerable people's health-seeking behaviours (e.g., Byrow et al., 2019; Claassen and Jäger, 2018; Führer et al., 2020; Nickerson, 2020; Shrestha-Ranjit, 2017; Toar, 2009). Psychological factors significantly affected the mental health-seeking behaviour of study participants from all ethnic groups in most reviewed studies (e.g., Al Laham et al., 2020; Bernardes et al., 2010; Misra et al., 2006; Nikendei et al., 2019; Wong et al., 2016). These psychological factors may affect perinatal and sexual health information or healthcare-seeking behaviour in the studied population (e.g., Barkensjo et al., 2018; Biswas et al., 2011; Devillanova, 2008; Huschke, 2014; Teunissen et al., 2014).

Religion: in the reviewed studies, religion played two roles in asylum seekers', refugees', undocumented immigrants' health-seeking behaviour. On the one hand, religious associations or following a certain religion might facilitate access to health-related information or following healthier behaviour (Devillanova, 2008; Noh et al., 2015). On the other hand, religious beliefs and religious actors were identified in many studies on asylum seekers and refugees as significant influencing factors shaping health beliefs and health-seeking behaviour (e.g., Al Laham et al., 2020; Assefa et al., 2021; Ballard-Kang et al., 2018; Fox et al., 2020; Poudel-Tandukar et al., 2019). For example, a study on health-seeking cultural patterns in the use of available healthcare services among refugees from diverse ethnic backgrounds highlighted that use of spiritual folk healers or folk remedies affects the health outcomes of refugees (Ejike et al., 2020). Religious helpers and rituals may play a role as an alternative health remedy or treatment for mental health issues among asylum seekers, refugees, and undocumented immigrants (e.g., Ballard-Kang et al., 2018; Hawkes et al., 2021; Laban et al., 2008; Poudel-Tandukar et al., 2019; Teunissen et al., 2014). However, religion and family were the least commonly cited sources of social support among LGBTQ asylum seekers in North America (Fox et al., 2020). Finally, a study on professional mental health support seeking in Australia argued that older Afghan refugees may seek health support more from informal sources than from professional sources such as religious leaders and prayer sessions (Hawkes et al., 2021).

Segregation: social isolation, lack of emotional support, identity disclosure, discrimination, feeling trapped, and separation from family and community have a major impact on vulnerable people's mental health (e.g., Al Laham et al., 2020; Hassan and Wolfram, 2020; Knipscheer et al., 2015; Mulé, 2021; Poudel-Tandukar et al., 2019). Isolation and discrimination were observed to be the biggest factors affecting LGBTQ asylum seekers' mental health (Fox et al., 2020; Mulé, 2021). LGBTQ+ asylum seekers, refugee claimants and refugees in Canada face health barriers such as minoritized status, systemic inequities, and structural disparities (Mulé, 2021). Refugees and asylum seekers without visas showed symptoms of post-traumatic stress disorder and depression, which can affect

integration and a safe and normal childhood (Barkensjo et al., 2018; Bauhoff & Göppfarth, 2018; Byrow, 2019; Knipscheer, 2015; Shrestha-Ranjit, 2017).

Social Health and Behavioural Factors: Getting along with the local community and integration with different ethnicities were mentioned as factors influencing adoption or changing health behaviour toward more favourable behaviour among vulnerable people (e.g., Furuta & Mori, 2008; Gottlieb et al., 2020; Muuo et al., 2020; Nickerson et al., 2020; Wong et al., 2016). Studies on the health-seeking behaviour of asylum seekers and refugees have highlighted changes in attitudes and behaviour in terms of acceptance and utilization of healthcare (e.g., Gottlieb et al., 2020; Hassan & Wolfram, 2020; Nickerson et al., 2020; Poudel-Tandukar et al., 2019; Wang, 2005).

Tradition: many studies on the health-seeking behaviour of asylum seekers and refugees identified that these vulnerable people would actively preserve and practise their culture and traditions after settling in a new country (e.g., Ballard-Kang et al., 2018; Furuta & Mori, 2008; Poudel-Tandukar et al., 2019; Thikeyo et al., 2015; Wang, 2005). After resettlement, vulnerable Asian and African people may use traditional healers and shamans (e.g., Ballard-Kang et al., 2018; Wang, 2005). A study on help-seeking attitudes among Cambodian and Laotian refugees found that women asylum seekers may continue their traditional role as carers to their children and husbands (Thikeyo et al., 2015). Finally, a study on Bhutanese refugees seeking mental health care found that “younger adult refugees balance their own traditional cultural values and beliefs while trying to assimilate to the new cultural context of the United States” (Poudel-Tandukar et al., 2019).

Contextual Factors and Health Seeking Behaviour

Our studied population's health-related information or healthcare-seeking behaviours were influenced by eight contextual factors: "Financial Factors", "Policy and Systematic Inequality", "Health Service-Related Issues", "Migration-Related Issues", "Healthcare Provider Communication Issues", "Attitudes and Behaviours", "Social Network and Support", and "Sociocultural Factors". In included studies, policy and systematic inequality were the most influential contextual factors in the health-related information or healthcare services seeking behaviour of all ethnic groups, especially asylum seekers and refugees with African, Asian, and Greater Middle Eastern backgrounds (e.g., Furuta & Mori, 2008; Muuo et al., 2020; Nikendei et al., 2019; Tomasi et al., 2022; Wang, 2005). Health-related information and healthcare service-seeking behaviour were least affected by healthcare provider communication issues in our studied populations (e.g., Bernardes et al., 2010; Mahajan et al., 2021; Martensson et al., 2020; Poudel-Tandukar et al., 2019; Toar et al., 2009). The sub-sections that follow provide more information about each contextual factor, mostly from the standpoint of residency grounds or ethnic backgrounds.

Financial Factors: out-of-pocket medical costs, unaffordable treatment costs, insurance access, and insurance coverage were cited as the most significant obstacles to healthcare access and utilisation (e.g., Correa-Velez et al., 2008; Doocy et al., 2015, 2016; Karaki et al., 2021; Lyles et al., 2018, 2020, 2021). The significant proportion of asylum seekers and refugees referenced financial barriers to accessing and utilising healthcare services for noncommunicable diseases such as diabetes and mental health (e.g., Correa-Velez et al., 2008; Doocy et al., 2016; Due et al., 2020; Fox et al., 2020; Suphanchaimat et al., 2020).

Policy and Systematic Inequality: many studies have revealed that minority status, systematic inequality, and structural disparities have a significant impact on healthcare access and utilisation (e.g., Bauhoff & Göppfarth, 2018; Biswas et al., 2011; Gottlieb et al., 2020; Mulé, 2021; Tomasi et al., 2022). Different examples of systemic inequality were given, such as difficulties in obtaining referrals to health services, adopting healthy behaviours, and using healthcare (e.g., Correa-Velez et al., 2008; Furuta and Mori, 2008; Gottlieb et al., 2020; Muuo et al., 2020; Suphanchaimat et al., 2020).

Health Service-related Issues: health service-related issues were described as obstacles to accessing primary health care, such as lack of awareness of the structure and function of the healthcare system, complex health insurance access, payment problems, limited healthcare-related life skills, scheduling conflicts, long waiting lists, a lack of knowledge about doctors, and difficulties in accessing both information and healthcare services (Biswas et al., 2011; Kohlenberger et al., 2019; O'Donnell et al., 2007; Yun et al., 2016).

Migration-related Issues: different migration-related issues, including housing instability, insecure visa status, employment, and difficulties in accessing public services, were highlighted as factors reducing care seeking among the studied population (e.g. Byrow et al., 2019; Hassan & Wolfram, 2020; Lyles et al., 2021; Strijk et al., 2011; Teunissen et al., 2014). According to Knipscheer et al. (2015), "severity of posttraumatic stress disorder (PTSD) and depression symptoms were significantly associated with lack of refugee status and the accumulation of traumatic events". According to Knipscheer et al. (2015), "severity of posttraumatic stress disorder (PTSD) and depression symptoms were significantly associated with lack of refugee status and the accumulation of traumatic events".

Healthcare Provider Communication Issues: communication problems between healthcare providers and asylum seekers, refugees, and undocumented immigrants were frequently mentioned (e.g., Bernardes et al., 2010; Kiss et al., 2013; Martensson et al., 2020; O'Donnell et al., 2007; Shrestha-Ranjit et al., 2017). Bockey et al. (2020) argued that "due to the language restrictions of the medical personnel and the lack of a permanent interpreter, language remains a barrier to non-English speaking asylum seekers and refugees".

Healthcare Provider Attitudes and Behaviours: studies showed that treating asylum seekers, refugees, and undocumented immigrants with empathy, personal attention, and listening to them increased patient satisfaction (Barkensjö et al., 2018; Bockey, 2020; Teunissen, 2014; Wong, 2016). When healthcare professionals showed empathy and listened, female undocumented immigrants felt empowered, acknowledged, and encouraged (Barkensjö et al., 2018).

Social Networks and Support: social networks and support shaped assumptions about physical and mental health services, alternative health seeking, mental health strategies, and quality of life (e.g., Behnia, 2003; Bernardes et al., 2010; Fox et al., 2020; Mahajan et al., 2021; Shrestha-Ranjit et al., 2017). Undocumented Latin American migrants' health-seeking behaviour showed that "social capital emerges as the key factor in undocumented immigrants developing the specific illegality knowledge needed to access medical care" (Huschke, 2014). Finally, the LGBTIQ shelter's health and social support services could enhance LGBTIQ asylum seekers' healthcare use (Gottlieb et al., 2020).

Sociocultural Factors: sociocultural factors that were influencing the health-seeking behaviour of our target population were described as stigma by family and community, fear of further violence from perpetrators, feelings of helplessness or insecurity, cultural competence, cultural differences, poor interprofessional communication, distrust, cultural or religious norms, and psychological or physical barriers (e.g. Kohlenberger et al., 2019; Muuo et al., 2020; Nickerson et al., 2020; Shrestha-Ranjit et al., 2017; Thikeo et al., 2015).

Health-related Information Sources

Twenty-eight articles discussed and covered the various types of health-related information sources that asylum seekers, refugees, and undocumented immigrants actively used to seek health care (e.g., Behnia, 2003; Byrow et al., 2019; Devillanova, 2008; Muuo et al., 2020; Poudel-Tandukar et al., 2019). Seven categories and sub-categories representing common health-related information sources are displayed in Supplementary 4. Some studies identified religious actors and activities as the most

preferred information source for participants seeking mental health-related information or healthcare services (e.g., Al Laham et al., 2020; Byrow et al., 2019; Hassan & Wolfram, 2020; Hawkes et al., 2021; Poudel-Tandukar et al., 2019). Community ties, family members, and prayer were identified by Zimmerman (2018) as significant resources used to seek and maintain women's health. Asylum seekers and refugees from Asia, Latin America, and the Caribbean sought health-related information primarily from family members, friends, and community connections (e.g., Ballard-Kang et al., 2018; Behnia, 2003; Fox et al., 2020; Huschke, 2014; Thikey et al., 2015). Participants with African, Indian Subcontinent, and Greater Middle Eastern backgrounds preferred religious actors and activities and integration officials as sources of health-related information (e.g., Al Laham et al., 2020; Byrow et al., 2019; Muuo et al., 2020; Nickerson et al., 2020; Poudel-Tandukar et al., 2019). Eastern and Balkan European asylum seekers and refugees preferred other health-related information sources over religious actors, activities, and integration officials (e.g., Barkensjo et al., 2018; Behnia, 2003; Devillanova, 2008; Fox et al., 2020; Strijk et al., 2011).

Passive Receipt of Health-related Sources

Eleven articles addressed passive health information receipt through two main channels: the community and network of support (including local community newspapers) and health promotion and educational programmes by our target population (Devillanova, 2008; Furuta & Mori, 2008; O'Donnell et al., 2007; Slewa-Younan et al., 2017; Wang, 2005). In studies with participants from the Greater Middle East, the Indian Subcontinent, and Latin America and the Caribbean, community and support were the most common ways to passively receive health information. Health promotion and educational programmes were the main sources of passive health information for African, Asian, Eastern, and Balkan Europeans (e.g., Al Laham et al., 2020; Byrow et al., 2019; Devillanova, 2008; Lee et al., 2013; Mattila et al., 2016). On one hand, health promotion or educational programmes were described as improving refugees' health, including during pregnancy and safe child delivery, changing attitudes, improving mental health literacy, and promoting Western medicine, thereby encouraging early and appropriate help-seeking (Furuta & Mori, 2008; Slewa-Younan et al., 2017; Wang, 2005). Refugees preferred interpersonal communication, interactive talks or presentations, and written, audio-visual, and web-based health information. Refugees preferred interpersonal communication, interactive talks or presentations, and written, audio-visual, and web-based health information (Lee et al., 2013b). However, community and support were noted as having a significant impact on traumatised refugees' positive attitudes toward psychological help-seeking or removing barriers to mental health treatment (Nickerson et al., 2020; Yun et al., 2016). Nickerson et al. (2020) suggested health education, service improvement, and advocacy to create a supportive political, social, and educational environment for safe motherhood. Finally, continuous educational programmes from early childhood to boost self-efficacy, self-esteem, and coherence are essential for developing self-managed health systems (Nickerson et al., 2020).

Health-related Information and Healthcare Service Needs

Sixty-five articles discussed and covered the various types of health-related information and healthcare services required by the study's target populations. Forty-seven articles identified mental health-related information and healthcare services as the most prevalent health need among all ethnic groups. Sixty-five articles discussed and covered the various types of health-related information and healthcare services required by the study's target populations (e.g., Al Laham et al., 2020; Byrow et al., 2019; Correa-Velez et al., 2008; Harris & Telfer, 2001; Hawkes et al., 2021). Chronic health-related information and healthcare services were cited as the second most common health-related need among individuals of African, Eastern European, and Balkan European descent (e.g., Doocy et al., 2015, 2016; Lyles et al., 2018; Niedermaier et al., 2020; Wong et al., 2016). Cancer-related health information and healthcare services were identified as the second most prevalent health-related need among asylum seekers and refugees with Asian and Indian subcontinent backgrounds (e.g., Bauhoff & Gopffarth, 2018; Blackwell et al., 2002; Kiss et al., 2013; Lyles et al.,

2018; Saleh et al., 2021). Asylum seekers, refugees, and undocumented immigrants from Latin America and the Caribbean and the Greater Middle East ranked information on diabetes and health-related services as their second most pressing health-related need (e.g., Chandler et al., 2012; Doocy et al., 2015; Huschke, 2014; Jervelund et al., 2019; Karaki et al., 2021). Women's health information was identified as essential health-related information by African, Asian, and Greater Middle Eastern participants (e.g., Barkensjo et al., 2018; Furuta & Mori, 2008; Lee et al., 2013; Muuo et al., 2020; Thikeo et al., 2015). In Sweden, undocumented immigrants of diverse racial and ethnic backgrounds were aware of perinatal care and relaxation exercises to alleviate labour pains (Barkensjo et al., 2018). In a study of female refugees from diverse ethnic backgrounds in Australia, Lee et al. (2013) found that mental health, women's health, exercise and nutrition, and alcohol and other drug issues were the women's highest priorities for health-related information and support. Studies on asylum seekers and refugees with predominantly African, Asian, Indian subcontinental, and Greater Middle Eastern backgrounds highlighted information about the healthcare system, specific health risks, rights in health issues, and navigating the healthcare system (Bauhoff & Gopffarth, 2018; Due et al., 2020; Führer et al., 2020; Kiss et al., 2013; Martensson et al., 2020). In addition, studies conducted with people from Greater Middle Eastern nations revealed the greatest need for information regarding cardiovascular disease, gastrointestinal disease, and oral health (e.g., Bockey et al., 2020; Due et al., 2020; Goodman et al., 2018; Hassan & Wolfram, 2020; Mattila et al., 2016). Lastly, a study conducted in North America with African participants identified the need for information on hospital locations, identifying healthcare professionals, seeing a doctor, and filling a prescription (Hassan & Wolfram, 2020).

Health-related Information and Health Service Utilisation

Forty articles described the utilisation of various health-related information and healthcare services. A significant portion of the studies (25 articles) examined the use of mental health-related information and healthcare services by all ethnic groups (e.g., Byrow et al., 2019; Hawkes et al., 2021; Lyles et al., 2020; Mattila et al., 2016; Tomasi et al., 2022). Other significant health-related information or healthcare services used by all ethnic groups in the selected studies included chronic diseases (11 articles), cancer (6 articles), cardiovascular diseases (6 articles), musculoskeletal conditions (6 articles), oral health (6 articles), and women's health (7 articles) (e.g., Doocy et al., 2016; Furuta & Mori, 2008; Mattila et al., 2016; Niedermaier et al., 2016). From the refugees' perspective, Syrian refugees utilised primary health care centres for non-communicable diseases more frequently than members of Lebanon's host communities, who sought care primarily in private clinics. Syrian refugees utilised primary health care centres for non-communicable diseases more frequently than members of Lebanon's host communities, who sought care primarily in private clinics (Doocy et al., 2016). Bhutanese and Somali refugees reportedly consult traditional healers prior to seeking professional medical care (Assefa et al., 2021; Poudel-Tandukar et al., 2019). Ballard-Kang et al. (2018) investigated refugee mental health service utilisation in the United States. Their research indicates that "female refugees are more likely to report and screen positive for psychological distress symptoms, but are not more likely than males to accept mental health services" (Ballard-Kang et al., 2018, p. 348). In a study of different groups of asylum seekers, Gottlieb et al. (2020) found that lesbian, gay, bisexual, transgender, intersex, and queer (LGBTIQ) asylum seekers had higher rates of chronic and mental illnesses than the other groups, and they utilised ambulatory and mental health services more frequently than the other groups. According to Mattila et al. (2016), asylum seekers had trouble scheduling dental appointments, had more dental issues, and were less satisfied with treatment and scheduling.

Discussion

This systematic review revealed that health services research, ethnic studies, and migration studies have examined the health-seeking behaviours of asylum seekers, refugees, and undocumented immigrants. Personal and contextual factors influenced health-seeking behaviour in the studied

population, but personal factors (73 articles) were reported more often than contextual factors (49 articles) (e.g., Chandler et al., 2012; Doocy, 2016; Mulé, 2021; Niedermaier, 2020; Saleh, 2021). Using an adapted version of the Longo model, we checked the influence of personal and contextual factors on health-seeking behaviour in this group. The modified framework enables observation of how personal characteristics, contextual factors, health-related information needs, sources, and utilisation, and passive health-related information reception influence healthcare decision-making (e.g., de Haes, 2006; Drain, 2003; Longo, 2005; Longo et al., 2009, 2010; Maly et al., 2004; Neuberger, 2000). The reviewed articles, the same as previous studies, emphasise the importance of psychological factors, religion, and culture in the studied groups' healthcare-seeking behaviour (e.g., Fox et al., 2020; Laban et al., 2007; Noh et al., 2015; Tomasi et al., 2022; Wong et al., 2016). However, this systematic review highlighted the three-part roles of culture and religion (e.g., Devillanova, 2008; Noh et al., 2015), barriers in health-seeking behaviour (e.g., Assefa et al., 2021; Behnia, 2003; Mahajan et al., 2021; Mulé, 2021; Tomasi et al., 2022), and sources for health-related information seeking (e.g., Due et al., 2020; Hawkes et al., 2021; Poudel-Tandukar, 2019; Samuel et al., 2018; Teunissen et al., 2014). Family members, acquaintances, and community connections had a three-part influence on how asylum seekers, refugees, and undocumented immigrants responded to their health issues. First, Ojaranta et al. (2020) suggested that language minorities with asylum-seeker, refugee, and immigrant backgrounds can use individuals as information sources. This systematic review confirmed the significance of individuals and community connections as sources of health-related information for the population under study (Barkensjö et al., 2018; Devillanova, 2008; Mahajan, 2019; O'Donnell, 2007; Thikeyo, 2015). Secondly, family and community stigma and fear of future violence can be significant barriers to health-seeking behaviours (Byrow et al., 2019; Kohlenberger et al., 2019; Muuo et al., 2020; Nickerson et al., 2020; Shrestha-Ranjit et al., 2017; Thikeyo et al., 2015). However, health promotion and educational programmes on the individual or community level can mitigate health-seeking barriers and facilitate health-seeking activities by facilitating the dissemination of reliable health-related information among the studied population (Al Laham et al., 2020; Byrow et al., 2019; Devillanova, 2008; Furuta & Mori, 2008; Lee et al., 2013; Mattila et al., 2016; O'Donnell et al., 2007; Slewa-Younan et al., 2017; Wang, 2005).

As with individual factors, contextual factors, particularly policy and systematic inequality, influence the studied groups' healthcare-seeking behaviour (e.g., Bauhoff & Göppfarth, 2018; Biswas et al., 2011; Gottlieb et al., 2020; Mulé, 2021; Tomasi et al., 2022). Asylum seekers, refugees, and undocumented immigrants reported difficulties accessing and using healthcare services and increased health problems such as anxiety, depression, and posttraumatic stress disorder due to policy and systematic inequality and migration-related issues (e.g., Gottlieb et al., 2020; Hassan and Wolfram, 2020; Knipscheer, 2015; Mulé, 2021; Strijk, 2011; Tomasi, 2022). For example, issues related to mental health that are taboo topics in African and Asian cultures and a lack of knowledge or trust in physicians are general barriers to accessing and utilising healthcare services among asylum seekers and refugees (Behnia, 2003; Bernardes et al., 2010; Kiss et al., 2013; Mahajan et al., 2021; Martensson et al., 2020; O'Donnell et al., 2007; Shrestha-Ranjit et al., 2017). All ethnic groups reported that healthcare provider attitudes and behaviours, health literacy and health promotion, and psychological issues significantly affect their health-related seeking activities (e.g., Barkensjö et al., 2018; Bockey et al., 2020; Mattila, 2016; Slewa-Younan, 2017; Shrestha-Ranjit, 2017). The studies emphasised the importance of a cross-cultural approach in providing health-related information and healthcare services to asylum seekers, refugees, and undocumented immigrants, as well as in their integration into and adaptation to the local community (Bauhoff & Göppfarth, 2018; Claassen & Jäger, 2018; Fox et al., 2020; Kohlenberger, 2019; Mahajan, 2021). This study examines personal and contextual factors that may affect asylum seekers, refugees, and undocumented immigrants' health-related information and services, as well as cross-cultural adaptation and integration barriers and facilitators. This systematic review has several limitations. First, the inclusion criteria exclude non-English studies that may be relevant. The systematic literature search was comprehensive, but the

selected literature and findings of this study are not applicable to all asylum seekers, refugees, and undocumented immigrants in different countries. This systematic review used peer-reviewed articles and included qualitative and quantitative studies on the phenomenon as such meta-analyses were not possible. This review may not cover all relevant fields because the scientific databases used did not cover all key publications in the field. However, we are confident that the studies analysed here provide a comprehensive overview of academic publications in this multidisciplinary field.

Implications

Asylum seekers, refugees, and undocumented immigrants experience numerous health-related information and healthcare service needs, particularly related to non-communicable diseases. This systematic review highlighted the importance of addressing these issues by investigating the research topic from different angles, including individual and contextual levels. The results of this study have some implications for healthcare providers, health policymakers, and relevant authorities. First, this review identified a three-part impact of personal and contextual factors on health-seeking behaviour in the studied population, such as religion and culture as examples of personal factors and policy and systematic inequality as examples of contextual factors. Our findings revealed that providing universal health-related information and healthcare services will not meet all the healthcare needs of our studied population, and healthcare providers need to adopt a cross-cultural approach to design, develop, and provide specified health-related information and services based on ethnic, cultural, and religious factors and migration status. Secondly, this review identified that behavioural aspects of healthcare providers, such as attitudes and the ability to listen to patients from our studied groups, may influence the use of healthcare by different ethnic groups of vulnerable people, particularly women and LGBTQ asylum seekers who struggle with cultural and community taboos.

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Supplementary 1. Ethnic group and sub-ethnic groups of included studies in the review

Ethnic group	Sub-ethnic group
African (Af)	Angolan, Beninese, Burundian, Cabinda, Cameroonian, Chadian, Congolese, Eritrean, Ethiopian, Gambian, Ghanaian, Guinea-Bissauan, Guinean, Kenyan, Liberian, Nigerian, Rwandese, Sierra Leonean, Somalian, Tanzanian, Togolese, Ugandan, Zairean, Zambian, Zimbabwean
Asian (As)	Armenian, Azerbaijanian, Cambodian, Chinese, Georgian, Indonesian, Kazakhs, Laotian, Myanmarese, North Korean, Pilipino, Tajiks, Thai, Vietnamese
Eastern and Balkan European (Eu)	Albanian, Bela Russian, Bosnian, Czech, Estonian, Hungarian, Kosovan, Macedonian, Moldavian, Montenegrin, Polish, Romanian, Russian, Serbian, Slovakian, Ukrainian
Indian subcontinent (In)	Bangladeshi, Bhutanese, Indian, Nepalese, Sri Lankan
Latin American and the Caribbean (La)	Bahamians, Barbadian, Bolivian, Chilean, Colombian, Cuban, Dominican, El Salvadoran, Jamaican, Mexican, Peruvian, Saint Lucian, Surinamese
(Greater) Middle Eastern (Gm)	Afghan, Algerian, Egyptian, Iranian, Iraqi, Jordanian, Kuwaitis, Lebanese, Libyan, Moroccan, Pakistanis, Palestinian, Sudanese, Syrian, Tunisian, Turkish

Supplementary 2. Included studies in the systematic review

ID	Source	Country	Particip. gender	Sample size	ID	Source	Country	Particip. gender	Sample size
1	Muuo et al., 2020	Kenya	Women	209	38	Kleinert et al., 2019	Germany	Mixed	2252
2	Furuta et al., 2008	Sudan	Women	10	39	Niedermaier et al., 2020	Germany	Mixed	4107
3	Marume et al., 2018	Zimbabwe	Mixed	164	40	Nikendei et al., 2019	Germany	Mixed	228
4	Wong et al., 2016	Hong Kong	Mixed	374	41	Jervelund et al., 2019	Greece	Mixed	267
5	Doocy et al., 2015	Jordan	Mixed	1550	42	Gordon et al., 2021	Greece	Mixed	500
6	Al Laham et al., 2020	Lebanon	Mixed	46	43	Toar et al., 2009	Ireland	Mixed	88
7	Doocy et al., 2016	Lebanon	Mixed	2062	44	Devillanova, 2008	Italy	Mixed	786
8	Karaki et al., 2021	Lebanon	Mixed	101	45	Barkensjo et al., 2018	Sweden	Women	13
9	Lyles et al., 2018	Lebanon	Mixed	2062	46	Martensson et al., 2020	Sweden	Mixed	28
10	Lyles et al., 2020	Lebanon	Mixed	2062	47	Wangdahl et al., 2018	Sweden	Mixed	513
11	Lyles et al., 2021	Lebanon	Mixed	847	48	Maier et al., 2010	Switzerland	Mixed	78
12	Saleh et al., 2021	Lebanon	Mixed	3255	49	Pfortmueller et al., 2016	Switzerland	Mixed	880
13	Noh et al., 2015	South Korea	Mixed	123	50	Gerritsen et al., 2006a	Netherlands	Mixed	310
14	Suphanchaima et al., 2020	Thailand	Mixed	181	51	Knipscheer et al., 2015	Netherlands	Mixed	688
15	Byrow et al., 2019	Australia	Male	92	52	Laban et al., 2007	Netherlands	Mixed	294
16	Correa-Velez et al., 2008	Australia	Mixed	341	53	Strijk et al., 2011	Netherlands	Mixed	30
17	Due et al., 2020	Australia	Mixed	26	54	Teunissen et al., 2014	Netherlands	Mixed	15
18	Harris & Telfer, 2001	Australia	Mixed	102	55	Bernardes et al., 2010	U.K.	Mixed	29
19	Hawkes et al., 2021	Australia	Women	450	56	Blackwell et al., 2002	U.K.	Mixed	397
20	Lee et al., 2013	Australia	Women	268	57	Misraet al., 2006	U.K.	N/A	10
21	Nickerson et al., 2020	Australia	Men	103	58	O'Donnell et al., 2007	U.K.	Mixed	53
22	Samuel et al., 2018	Australia	Mixed	12	59	Behnia, 2003	Canada	Mixed	36
23	Slewa-Younan et al., 2017	Australia	Mixed	150	60	Kiss et al., 2011	Canada	Mixed	2280
24	Tomasi et al., 2022	Australia	Mixed	1180	61	Mabaya & Ray., 2014	Canada	Mixed	6
25	Wang, 2005	Australia	Mixed	41	62	Mahajan et al., 2019	Canada	Women	12
26	Shrestha-Ranjit et al., 2017	New Zealand	Mixed	40	63	Mulé, 2021	Canada	Mixed	85
27	Kohlenberger et al., 2019	Austria	Mixed	11425	64	Assefa et al., 2021	U.S.A	Mixed	20
28	Biswas et al., 2011	Denmark	Male	18	65	Ballard-Kang et al., 2018	U.S.A	Mixed	563
29	Mattila et al., 2016	Finland	Mixed	38	66	Chandler et al., 2012	U.S.A	Women	26
30	Bauhoff & Goepffarth, 2018	Germany	Mixed	3639	67	Ejike et al., 2020	U.S.A	Mixed	110
31	Bockey et al., 2020	Germany	Mixed	102	68	Fox et al., 2020	U.S.A	Mixed	308
32	Claassen & Jäger, 2018	Germany	Mixed	260	69	Hassan & Wolfram, 2020	U.S.A	Mixed	18
33	Fuehrer et al., 2020	Germany	Mixed	214	70	Marshall et al., 2006	U.S.A	Mixed	339
34	Goodman et al., 2008	Germany	Mixed	2753	71	Poudel-Tandukar et al., 2019	U.S.A	Mixed	67
35	Gottlieb et al., 2020	Germany	Mixed	309	72	Thikeo et al., 2015	U.S.A	Mixed	270
36	Huschke, 2014	Germany	Mixed	35	73	Yun et al., 2016	U.S.A	Mixed	35
37	Kindermann et al., 2020	Germany	Mixed	65					

Supplementary 3. Description of included studies (General characteristic of the study)

Participants	Africa		Asia		Australia/Oceania		Europe		North America	
	n	ID	n	ID	n	ID	n	ID	n	ID
Asylum seekers	0	---	2	4, 14	4	15, 16, 17, 18	21	29, 30, 31, 32, 33, 34, 35, 37, 39, 40, 42, 43, 48, 49, 50, 52, 53, 55, 56, 57, 58	2	63, 68
Refugees	3	1, 2, 3	11	5, 6, 7, 8, 9, 10, 11, 12, 13	10	15, 17, 19, 20, 21, 22, 23, 24, 25, 26	10	27, 38, 41, 43, 46, 47, 50, 51, 53, 57	13	59, 60, 61, 62, 63, 64, 65, 67, 69, 70, 71, 72, 73
Undocumented immigrants	0	---	0	---	0	---	5	28, 36, 44, 45, 54	1	66
N	3	---	13	---	14	---	36	---	16	---
%	1,60 %	---	6,95 %	---	7,49 %	---	19,25 %	---	8,56 %	---
Methodology	n	ID	n	ID	n	ID	n	ID	n	ID
Qualitative	1	2	1	6	5	17, 22, 23, 24, 26	8	28, 29, 36, 45, 46, 54, 57, 58	10	59, 61, 62, 63, 64, 66, 69, 70, 71, 73
Quantitative	1	3	8	5, 7, 8, 9, 10, 12, 13, 14	5	15, 16, 18, 19, 21	20	27, 30, 31, 32, 33, 34, 35, 37, 38, 39, 41, 42, 43, 44, 47, 48, 49, 50, 51, 56	5	60, 65, 67, 68, 72
Mixed-methods	1	1	2	4, 11	2	20, 25	4	40, 52, 53, 55	0	---
N	3	---	11	---	12	---	32	---	15	---
%	1,60 %	---	5,88 %	---	6,42 %	---	17,11 %	---	8,02 %	---

Supplementary 4. Health-related information sources, subcategories, and included articles' ID

Category	Sub-category	ID
Acquaintances	Friends, neighbours, online-friends, peers, schoolmates, workmate	1, 6, 15, 21, 23, 3, 44, 54, 57, 59, 62, 64, 65, 68, 71
Community connections	Community leader, community members, ethnic charity organisations, ethnic communities, ethnic social groups, NGOs, religious charity organisations, schoolteachers	15, 21, 23, 36, 45, 59, 65, 68, 69
Family members	Spouse, partner, family member	1, 2, 3, 6, 15, 21, 23, 25, 57, 59, 62, 64, 65, 68, 71, 72
Integration officials	Caseworker, immigration officials	15, 21, 69
Media sources ¹	Internet, social media, libraries	3, 20, 22, 46, 68, 69
Medical professionals	General practitioner, health professional, nurse, midwife, health workers	2, 3, 15, 21, 23, 24, 25, 36, 53, 59, 65, 69
Religious actors and activities	Religious leader, religious activities, holy book, religious beliefs	1, 3, 15, 17, 19, 21, 22, 54, 6, 64, 71

¹ According to some studies, media sources include television, radio, DVDs, CDs, and the internet, which can be used for either active or passive information reception. However, the participants of the included studies referred to the internet, social media, and libraries while they were describing their active health seeking behaviours.

Supplementary 5. Systematic review search terms, databases, channels, and results

Step	Database	Search Criteria	Selected databases:	Findings
1	Web of science	((health information OR health seek* OR health help* OR care seek* OR health behavi* OR health commun* OR information practice* OR information literacy) AND (undocumented immigra* OR refuge* OR asylum seek*))	1. Web of Science Core Collection	978
			2. KCI-Korean Journal Database	
			3. Medline	
			4. Russian science citation index	
			5. SciElo citation index	
2	EBSCO	((health information OR health seek* OR health help* OR care seek* OR health behavi* OR health commun* OR information practice* OR information literacy) AND (undocumented immigra* OR refuge* OR asylum seek*))	Filter 1: Language = English	903
			Filter 2: Document Types = Article	643
			Filter 3: Research Domains= SOCIAL SCIENCES	503
			1. Academic Search Complete	379
			2. APA PsycInfo	190
			3. APA PsycArticles	8
			4. CINAHL with Full Text	384
2	EBSCO	((health information OR health seek* OR health help* OR care seek* OR health behavi* OR health commun* OR information practice* OR information literacy) AND (undocumented immigra* OR refuge* OR asylum seek*))	5. Communication & Mass Media Complete	0
			6. Library, Information Science & Technology Abstracts	7
			7. MEDLINE	476
			Filter 1: Language = English	1389
			Filter 2: Document Types = Academic Journals	1277
			Filter 3: Full text = available	575
3	Scopus	((health information OR health seek* OR health help* OR care seek* OR health behavi* OR health commun* OR information practice* OR information literacy) AND (undocumented immigra* OR refuge* OR asylum seek*))		847
			Filter 1: Language = English	780
			Filter 2: Document Types = Academic Journals & conference	575

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Managing the Past and the Future

Evolving Roles of Archival professionals in Contemporary Sweden

Abstract

This paper focuses on contemporary archival professionals in Sweden. The research questions posed are: RQ1: What are the different facets of archival work commonly described in employment advertisements directed at archival professionals? RQ2: What are the desirable personal traits that employers seek when hiring an archival professional? The material consists of job advertisements from the year 2022 compiled from Historical ads. The methods applied are content analysis and reflexive thematic analysis, and we use the term archival professionals to denote employees that are responsible for society's information resources being created, shared, used and preserved in an adequate way. A well-functioning information supply is crucial for information security, transparency and public access to information, and for securing future digital cultural heritage. Archival professionals have often been described as somewhat mysterious and obscured. Due to digitalisation, new demands are being created. However, it is not self-evident what different facets of archival work are required and what personal characteristics are beneficial. Our conclusion is that there is a broad scope in the types of archival work described and wished by employers. The roles and responsibilities of archival professionals, as depicted in employment advertisements, are diverse and multifaceted. They are expected to develop, lead, and educate within their area of expertise. Personality wise, an archival professional should be meticulous and at the same time flexible, be prepared to do monotonous work but also be creative, be able to work alone and at the same time meet the public.

Keywords: archives, archivists, archival professionals, digitalisation, employment, information management, Sweden

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Introduction

The role of the archival professional is evolving in response to the increasing complexity of managing society's information resources. This paper explores the multifaceted nature of contemporary archival work, examining the evolving demands and expectations placed on archival professionals. By analysing job advertisements from 2022, it offers valuable insights into the skills, qualifications, and responsibilities sought in today's archival landscape. The analysis is grounded in the belief that archival professionals play a critical and growing role in ensuring effective information management, particularly in an era where the proactive handling of digital information is essential for long-term preservation and access. Our goal is to increase the knowledge about a profession that has often been described as invisible, passive and mysterious (Lee, 2021; Orchard et al, 2019; Schultz, 1996), and which is now undergoing changes due to the new demands that are placed on order and authenticity through increased digitalisation. Our research focus stems from a conviction that archives, and archival professionals have an increasingly important role, now as well as in the future, when it comes to managing society's information resources, not least because digital information requires more proactivity and control from the start.

Aim and purpose

The aim of the present study is twofold. First to increase the knowledge about the different facets of contemporary archival work by examining how it is described in job advertisements posted on the Swedish public employment services website in 2022. Second, to understand what type of persons employers wish for in an archival professional, by scrutinising the personality traits described in the same job advertisements.

Research questions

RQ1: What are the different facets of archival work commonly described in employment advertisements directed at archival professionals?

RQ2: What are the desirable personal traits that employers seek when hiring an archival professional?

Evolving roles of archival professionals

The traditional role of archival professionals has been, somewhat simplified, to function as objective and reliable trustees of the archival records that an organisation has chosen to preserve. The professional identity has partly been formed around the fact that archival professionals and the records they preserve are reliable. This reliability has traditionally been guaranteed by the custody, original order and authenticity of the records. The universal symbol for archives, embraced by organisations such as the Swedish National Archives and the International Council on Archives (ICA), features the enigmatic Roman god Janus, depicted with two faces. In Roman tradition, Janus symbolises a gaze directed simultaneously at the past and the future. While this dual-faced nature has sometimes been interpreted as treacherous or deceitful, it more profoundly represents completeness and a relentless drive to navigate both historical and future domains. The term "archive" is often associated with the preservation of the past, reflecting one aspect of Janus's duality. However, archival work extends beyond this, encompassing the management of contemporary information – an embodiment of Janus's forward-looking perspective – ensuring its enduring preservation and accessibility. In Sweden, where this study is conducted, the distinction between records management and archives management is less pronounced than in many other countries. Archival professionals often serve dual roles as both archivists and registrars, managing tasks ranging

from document labelling and registration to verifying authenticity, spanning the creation, use, and preservation of records, i.e., both looking backward and forward while also managing and making the information being created here and now searchable and accessible. To ensure accurate organisation and retrieval of information, Swedish authorities use “diary plans,” which align with organisational processes. Archival professionals are central to mapping these processes and maintaining the trustworthiness of information. This duality is visible also at the Swedish Public Employment Services’ website, where one can read about the profession:

The archivist’s most common duty is to look after the archives that exist today and to build new digital archives. The very idea of archived documents is that they should be available both now and in the future. In this way, the archivist stands with one foot in the future and one foot in the old archives. It is important to master both roles and to have the knowledge required to be able to bridge the technology shifts that occur continuously. (Arbetsförmedlingen, n.d., our translation)

Three “abilities that can be good to have” are listed in relation to working as an archivist: leadership skills, communicative ability, and organisational skills (Arbetsförmedlingen, n.d.). However, a communicative leader is most likely not the first thing that comes to mind when asking someone to visualise a ‘typical archivist’. Instead, the image of archival professionals tends to be more along the lines of “those shadowy figures in the cellars” (Edquist, 2021, p. 117). As Ann E Pederson, Senior Lecturer at the University of New South Wales, Australia emphasises “most people have minimal knowledge of archives/records work, much less understand the vital role it plays in society” (Pederson, 2003, p. 224). Archives are often described as obscured (Trace, 2021) or even invisible (Ilshammar, 2023). Nevertheless, archives are necessary for organisations and, on a more general level, society. As Vivien Petras, professor at the Berlin School of Library and Information Science at Humboldt University, writes: “For almost all human interactions, it is helpful to have a record – to remember the past, to coordinate the present and to prepare for the future” (Petras, 2023). So although the term “archive” commonly evokes notions of safeguarding the past, the domain of archival professionals stretches beyond: it encompasses current information, ensuring its lasting preservation and accessibility. According to the Swedish Agency for Digital Government (DIGG) “Information produced by public actors constitutes an extensive, diversified and valuable resource that can benefit the whole society” (DIGG, 2023). At the same time, resources invested in archives are often scant, even decreasing. The Swedish National Archives have had their funding cut back, resulting in layoffs and reorganisation (Riksarkivet, 2023, p. 3).

Societal changes and technical development affect the archival work as well as archival professionals, who become “entrenched and entangled in the shifting meanings and purposes of archives and their records” (Lee, 2021, p. 33). We argue that when more and more information become available, the archives, standing for authoritative information in context, have an important role to fill. The European commission’s white paper on archiving by design (2023) stresses that sustainably accessible information is: findable, available, readable, interpretable, reliable and future proof. It confirms our stance that different professions need to be involved to make this a reality: “To be successful it is necessary to collaborate with other information and data specialists such as architects, security and privacy officers. There is a lot of relevant knowledge among professionals who do not necessarily identify themselves as part of the archival field” (The European commission, 2023). British honorary senior research fellow in archives and records management Geoffrey Yeo (2019) similarly notes that while records managers and archivists can be referred to collectively as “records professionals”, they now often work in largely separate professional groupings and furthermore, many recordkeeping activities fall outside the purview of both these professions.

This paper is the first step in a larger project exploring archival professionals in a contemporary job-environment. We define the archiving process as encompassing “all activities and processes involved

in identifying information for long-term retention, setting it aside, and preserving, managing, and providing access to it” (Bak & Rostgaard, 2023, p. 9), whether carried out by archivists or other professionals. While much archival work is of course conducted by archivists, other job titles must also be considered when trying to understand how the ‘archival landscape’ is evolving. This will be further explained in the methods section.

Recording- and preservation techniques have been developed and refined during millennia, first through oral transmission, then successively by material support such as stone, parchment, papyrus and paper. Robust archives are a prerequisite for a functioning society in almost all areas: transportation planning, nature protection, healthcare, and more. Today’s information and records are largely created with the help of digital technology. Preserving them requires hardware, software and, not least, human resources. That society’s informational infrastructure increasingly consists of digital documents rather than paper ones, has disrupted several of the traditional ways of working that 20th-century archival professionals had established, and preservation today requires a different skill set than the preservation of paper documents.

The role of archival professionals in Sweden is evolving, visible in new titles such as document controller, e-archivist, and information management specialist reflecting expanded responsibilities, including digital recordkeeping, system procurement, and pedagogy. Traditional titles like archivist and registrar persist but now often involve broader tasks. Archival consultant Ole Ebbinghaus (2022) argues that while archivists once focused solely on ensuring compliance with regulations, today’s archivists must actively contribute to organisational goals, reducing the risk of information distortion and establishing principles for information management. Ebbinghaus also emphasises the importance of collaboration with other professionals, highlighting that while legal frameworks remain unchanged, modern methods and organisational structures must adapt to contemporary realities. This aligns with the findings of the Swedish Government Official Report on Archives (SOU 2019:58), which notes the need for updated competencies but criticises archival education programs for failing to sufficiently adapt to new demands.

The debate over whether archival studies should be academic or vocational remains relevant. Nearly 20 years ago, Swedish archivists were evenly split on this issue (Alfredsson & Knutsson, 2006). Historically, a PhD in humanities, particularly history, was often required, as at the Swedish National Archives until the 1970s, where archivists were trained on-site (Smedberg, 2006). However, subsidised employment programs in the archival sector, active between 1934 and 1980, often had minimal educational requirements, reinforcing the perception of archival work as low skill (Engelbrektsson, 1997). This notion persists, as Christina Sirtoft Breitholtz (2018) laments, with archival work still frequently framed as “simple jobs” tied to labour market initiatives. Today, many employers require 60 ECTS credits in archival studies, offered at the universities of Gothenburg, Karlstad, Lund, Mid Sweden, Södertörn and Uppsala at various levels. These programs range from A and B-level studies to full master’s degrees in archival science. A persistent challenge is determining the balance between theoretical and practical training to prepare students for the diverse and evolving demands of the profession.

Related research

According to Swedish professor in information studies Isto Huvila (2015) archival work has shifted from being a field dominated by a highly institutionalised and structured regime of information to “a complex field of multiple competing structural arrangements” (Huvila, 2015, p. 121). This is consistent with our perceptions as archival educators and researchers and is the reason why we see a need to examine how this becomes visible in recruitment. Archival scholars have argued that digitalisation will bring about a changed professional role since the digital reality puts traditional conceptualisations

of original, copy, and records placement on end (MacNeil, 2011; cf. MacNeil, 2005; MacNeil, 2008; Duncan, 2010); that increased focus is needed on collection and appraisal (e. g. Hoy, 2011); and that increased emphasis should be put on participation in the management, digitalisation and creation (Rolan, 2017). This section is divided in two parts: 1) different facets of archival work and 2) personal characteristics.

Different facets of archival work

Archivists are traditionally described as “the caretakers of historical material in the modern world” (Jenkins, 2016, p. 1). However, to preserve and care for historical material is far from all that archival professionals spend their time doing: they are also involved with planning, selecting, and providing access, just to mention a few other common types of archival work. In his study about Nordic archivists’ perceptions of what factors steer their work, Huvila (2015) identified five broad aspects: archival: archives servant the public sphere; organisational: the creating agency determines how archival work is prioritised; antiquarian: intrinsic historical and cultural usefulness; pluralistic: explicit needs of current and future users; and digital: digitalisation as a driver of archival work. Bak and Rostgaard similarly highlight that there are several different goals of contemporary recordkeeping, why archiving today “may have many objectives, including those related to government accountability and transparency, those related to collective memory and history, and those that are far more intimate and personal, including aspects of personal and familial identity, memory, and history” (Bak & Rostgaard, 2023, p. 10).

Archival work is currently undergoing continuous development but in a dispersed way of which overarching knowledge is needed. Klareld (2017) has shown that decision makers’ understanding of the terms archive and recordkeeping in Sweden is fluid and changing, a circumstance that can make decision-making challenging and, we add, employment, as well. Previous research (Klareld & Gidlund, 2017) has also shown that the necessary components tied to digital preservation is understood in different ways by different individuals and colour thoughts on what a digital archive is and ought to be. Differing perspectives and understanding can also be seen in legal frameworks, rules and regulations, SOU-reports, referrals and other national steering documents and affect archival work. One example is the National Archives (2020) response to the Archives investigation (2019) expressing lack of answers to how the state should meet the demands of the outside world on digital administration and society’s access to information. Differences can also be seen regarding the digitalisation politics where it was expressed by the Digitalisation commission in their report (SOU 2013:31) where the ambition stated was for cultural activities, collections and archives to be increasingly preserved digitally and made available electronically to the public. However, the funding for the National Archives has decreased since and other agencies such as the State Service centre have been appointed to aid in digital preservation. Different perspectives and expectations regarding responsibilities and resource allocation affects operational work, steering, innovation, and of course also the role of archival professionals.

Yeo (2019) questions whether archival work has been fully professionalised yet but says archivists have moved far in this direction. Trace argues that “As an infrastructure maintained by a professional community, archives demonstrate a sense of commonality through professional standards and collaboration, and membership in professional bodies. Loosely coupled, what draws this infrastructure together are the shared norms, techniques, practices, and technical systems that workers use to support and sustain the archive” (Trace, 2021, p. 76). We contend that professional associations, standards and codes of ethics exist, as well as several growing professional and scholarly literature. However, there is a gap in understanding what archival professionals do, and should be doing, since they are most often associated with preserving records for cultural heritage use, when their work is just as much about evidence for legal, political, governmental purposes; appraisal,

preservation and use affects both individuals and society (Cook & Schwartz, 2002; Jimerson, 2007; Harris, 2007). Craig Gauld, Senior Lecturer in Archives and Records Management, highlights the importance of archivists reaching a professional consensus on their role as guardians of evidence, essential for establishing individual and societal truths. (Gauld, 2018). This paper examines what employers seek in the profession, offering insights into potential directions for its development.

Personal characteristics

In 1996 Charles R. Schultz, archivist at Texas A&M University, examined the personality types of American archivists using the Myers Briggs Type Indicator and the Keirsey Temperament Sorter. He found “substantial differences between archivists and the general population” (Schultz, 1996, p. 21), for example that archivists tended to be introverted, and prone to structure but not to innovation. Schultz argued that the archival profession could gain from introspection and “if need be, to counterbalance its predominant personality types and thereby to improve the work of the profession” (ibid, p. 18). Archivist, archival educator and scholar Barbara L. Craig (2000) conducted a similar survey among Canadian archivists and found that extroverted exceeded introverted, which she found “remarkable” and something that “certainly puts into question the stereotype of a reclusive and shy profession” (2000, p. 87). Australian information scholar Ann E. Pederson saw there to be a “lack of understanding and appreciation of archivists and archival work” (2003, p. 223) in archival literature from Australia, Canada and the United States. In her study, she concentrated on Australia and found that this population was slightly more prone to being introverted than the general population, that they were much less prone to be Artisans (who are associated with adventurous, artistic or skill-based occupations), but much more prone to be Guardians (who are dependable and orderly but less strong in the people management area, support and enforce society’s laws and rules, and believe that there is much to learn from studying the past). Pederson also found that many archivists are the oldest sibling or an only child. In their paper in *Information Management Journal*, American scholars Pemberton et al (2005) conducted another personality type-themed study among records management professionals from the US and several other countries, using the Lounsberry and Gibson’s Personal Style Inventory. The rationale put forward for studying personality traits within this profession was that when asked about the reasons for choosing a career path within archives and records management many professionals say they “fell into it” (Pemberton et al, 2005, p. 54) which makes it difficult for employers to know what traits to look for when hiring. The study resulted in a list of 13 traits that records professionals were more prone to, among them being assertive, service oriented, emotionally resilient, visionary, and adaptable. These four studies argued that archival professionals needed to become better at promoting themselves and their skills, to counteract as Pearson put it “vicious old stereotypes of archivists as caretakers in the boneyard of information” (2003, p. 260). Somewhat discouraging, improving the image of the archival personality seems to be a lingering goal: already in the early 1980s David B. Gracy, president of the Society for American Archivists, put together a task force aimed at overcoming the unflattering stereotypes of archives and archivists (Jimerson, 2014).

Another presumption about archival professionals has to do with gender roles. The profession has both in Sweden and internationally gone through a change, where “Archives originally descended from the male-dominated field of history, with many archivists initially trained as historians” (Orchard et al, 2019, p. 64). A feminine shift in Sweden occurred during the 1940s when war refugees came to Sweden and were assigned archives-work. One of four foreign archives-workers were women, compared to only one of ten Swedes. In 1960 almost half of the archive-workers were women. (Engelbertsson, 1997). This trend has continued and today an increasing number of archival professionals are women. We see this in our student cohorts that mainly consist of female students. An increasing number of women have entered the profession, leading some scholars to argue that there has been a feminisation of the profession (Lapp, 2019) resulting in inadequate understanding

and awareness of archives outside the profession (Orchard et al, 2019). This has affected the academic field as well since the conversation between humanities scholars and archival scholars is hampered by “a gendered and classed failure in which humanities scholars-even those whose work focuses on gender and class-have been blind to the intellectual contributions and labour of a field that has been construed as predominantly female, professional (that is, not academic), and service-oriented, and as such, unworthy of engagement” (Caswell, 2021, p. 4). In contrast, IT-professions, which are vital collaborative partners in digital recordkeeping, are typically male dominated fields. Gendered roles of archival professionals affect how the different professions collaborate and how organisational placement and status affect preservation. Gender roles, while interesting and relevant are, however, out of the scope of this paper.

Theoretical framework

The theoretical underpinning of this paper is based on the socio-constructivist assumption that the future role of archival professionals in society is influenced by how different stakeholder groups conceptualise the profession. What constitutes archives and archival work are therefore not self-evident. Archival theory and practice are influenced by current and former discourse about archives, and by related discourse on national governance, administration, concepts of order, etc. The ‘archival paradigm’ comprises the disciplinary and professional aspects of archival science; “a set of assumptions, principles, and practices that are common to the archival community and are a model for its activities and outlook” (Gilliland-Swetland, 2000, p. 7). A discourse is not only a way of talking about something, but literally creates reality by shaping, organising and circumscribing the phenomenon in question, in this case archival work and archival professionals. Discourse consequently affects perceived problems, opportunities and solutions.

Archival theory serves as a convergence point for various scientific and theoretical traditions (Eastwood, 1994). On the one hand, there is a practical core that delves into the formation of archives, optimal document preservation, and institutional perspectives. On the other hand, there are manifold theoretical aspects, and the approaches and methods within archival science intersect with disciplines such as law, media studies, history, and information and systems science. This dual nature of archival science encapsulates both interdisciplinary studies of archival objects based on theoretical perspectives and a more practical, normative focus, as evident in our discussion about democracy, transparency, accountability, and the preservation of archival documents for evidentiality (Iacovino, 2004).

Within archival science and practice, there has traditionally been a norm regarding the role of the archival function in relation to its principal. This has also established expectations for how a dutiful and effective archival professional should work and fulfil their work obligations. In his book *Manual of Archive Administration* (1922) British archivist and archival theorist Hilary Jenkinson argued that archivists ought to be impartial custodians who should not interfere in decisions on appraisal since this would corrupt the intentions of the archive’s creator. American associate professor of Digital Culture, Information, and Society Jamie A. Lee (2021) argues that this has contributed to making archival professionals more invisible since they from this perspective are regarded as mere keepers of the records, and not as active participants in their capture, preservation and use. A different approach, where the archival function was integrated into the archives-creating organisations, was later advocated by American archivist and archival theorist Theodore Schellenberg (1956). He argued for a proactive archiving process where records should be described and weeded while still in the custody of the archives-creator. Schellenberg’s principle has been used in Sweden since the beginning of the 1900s although Jenkinson’s principles and view of the archivist’s tasks have greatly influenced the image of the archival professionals at large. This description ties closely to the aim of the study by framing the evolving perceptions and expectations of the archivist’s and archival professionals’

role. In this paper, we use two ideal types – the archivist as guardian and the archivist as proactive coordinator – as a starting point to explore how these roles have shaped perceptions of the different facets of archival work and personal characteristics. We view archival professionals as having a formative role in selecting, arranging, and delivering records, while also serving as custodians of the records they are entrusted to guard. The contrasting principles of Hilary Jenkinson and Theodore Schellenberg – one emphasising impartial custodianship and the other advocating proactive integration into record creation – highlight how archival professionals’ duties and personal characteristics have been historically conceptualised. By applying the ideal types the study seeks to uncover how these roles resonate with contemporary demands. Examining Swedish job advertisements from 2022 provides a lens to explore how employers describe archival work and desired personality traits for these roles, thereby offering insights into the facets of modern archival work and the role and identity of archival professionals today.

Material and method

Internationally, records management and archives management are often divided responsibilities. A characteristic of the Nordic model of digital archiving is the close connection between records management and archiving (Bak & Rostgaard, 2023; Huvila, 2015). Sweden is one of the countries that have long worked toward proactive recordkeeping and where different professions have already since before digitalisation been cooperating to preserve information for the future. This makes Sweden suitable to conduct research on how different professions are working together toward the same archival and recordkeeping goals today. Sweden is also a country that has been eager to implement digital systems with the explicit goal to become “best in the world in the use of digitalisation opportunities” (Regeringskansliet, n.d.). That said, we do not see Sweden as an ideal but as a good case to conduct our research.

We obtained a dataset obtained from Historical ads (Historiska annonser, n.d.) a digital service that provides an overview of the Swedish labour market and how needs have changed over time. Historical ads contain all job advertisements published on the Swedish Employment Agency’s platform Platsbanken from 2006 until 2022. It includes different types of data found in advertisements, e.g. information about position, employer, place, time, etc. The dataset contains approximately 6.9 million ads. We downloaded ads containing the term archive in the job description and then filtered the dataset in two steps, due to its large size. First, we selected ads that had the word “archive” in the headline. Thus, the outtake was not limited to only include ads for archivists. We made this choice because it gave a broader scope to the study. Then, we limited the time scope to the year 2022, since this was the most recent year in the dataset and the more recent ads in the dataset contained better coverage of the metadata needed for the following step. Finally, we filtered the data for two categories or codes 4410: Archive- and library assistants and more, and 2622: Librarians and archivists. The code 4410 includes, among other titles or subcategories, municipal archivist, court clerk, archives manager. Code 2622 includes, among other titles, information management specialist, and municipal archivist. Thus, the categories were not mutually exclusive. These two codes were chosen because they are the ones where most archive-related ads are placed. The ads capture the distinctiveness of the profession and provided a data set that was manageable to analyse. These codes were also the ones with the largest number of ads with the word archive in the headline. The initial number of ads was 403. However, many of these were duplicates and were therefore removed from the dataset, rendering the total number of ads to 204 for the year 2022. The total number of employers in the material were 112. These included archival institutions, government agencies, municipalities, private companies and staffing companies. Qualitative content analysis (Zhang and Wildemuth, 2009; Krippendorff, 2013) was used to map and start to analyse what titles that occurred; what archival work that was described; and what personality characteristics that were sought after.

In this initial overview, we began by coding and categorising message variables from job advertisements, grouping them into themes based on a quantitative content analysis. Specifically, we examined the types of tasks described in the advertisements and the personal characteristics sought by employers. Categories were developed using nominal measurement techniques, allowing for flexible classification of key elements, such as the duties expected of archival professionals and the individual traits emphasised by employers. Textual analysis was then applied to interpret the characteristics of the job ads, focusing on their content, structure, and function. To uncover patterns and meanings, we conducted a qualitative content analysis, coding the data into categories to provide both qualitative and quantitative insights into the nature of the communication.

Reflexive thematic analysis (Braun & Clarke, 2022) was used to discern meaning from the data. This method allowed us as researchers to use our subjectivity to discern meaning from the data. With this approach we acknowledge our interaction with the data and our direct influence on the study as former archival professionals and present archival educators and researchers. We have not analysed the development of archival work and personal traits over time but focused on how archival professionals figure in the material during the chosen year of 2022.

This approach offered a structured framework for understanding the messages embedded within the advertisements. The core goal was to identify dominant themes and patterns within the discourse of the job ads, a concept informed by critical discourse analysis. This perspective examines how power, dominance, and inequality are maintained or challenged through communication in social and political contexts (van Dijk, 2015). While not a specific method, it provides a critical lens to explore the broader implications of discourse. This phase of the study connects to larger assumptions about the work of archival professionals and the characteristics and personalities associated with the profession. By integrating these analytical approaches, we aimed to better understand how the role of archival professionals is communicated and constructed within the context of job advertisements.

Together, the ads provided a basis for an initial overview of different facets of archival work and desirable personal characteristics from the employers' perspective. The types of archival work ranged from traditional archival duties such as organising and listing to responsibility for strategic development of information management. This broad spectrum gave us the opportunity to examine what common denominators there were and thus also a picture of the view of the archive profession today.

Result and analysis

The result shows some of the ways in which employers view the nature of archival work, responsibilities and personal characteristics of archival professionals. Employment advertisements is a text genre, and we cannot rely too heavily on the result when it comes to actual workdays of archival professionals. Flexibility, service mindedness and communicative skills are examples of words that are likely to occur in job advertisements for a lot of different professions. The dataset allows us to discern an image of how archival work and professions is framed and understood by employers. In the following sections we present our result under the headings Job titles; Different facets of archival work; and Desired personal characteristics.

Job titles

There were 78 unique professional titles in the material. Different types of archivists were in majority, for example departmental archivist, diocesan archivist, office archivist, etc. But not all titles had the word archive in it, for example coordinator, developer, informatician, information management specialist, project leader, production assistant, with the addition in the headline that the job revolved around archives. Sometimes more than one title appeared in the same advertisement. For example,

“Municipal archivist/information security manager” and “Information manager/archivist” and “Information strategist/Municipal archivist”. While this study has not gone deeper into the content of the respective titles and interrogated for example what the difference is between an archivist and an archival administration officer, or a registrar and a document controller, the number of titles is in line with previous research indicating that archival work and professions are becoming increasingly complex and multifaceted (e.g. Huvila, 2015; Klareld, 2021; Yeo, 2019). We contend that further research is needed to understand what different facets of archival work that are tied to different job titles, if some titles are increasing while others are decreasing, and what this means for the future role of archival professionals. This is however out of the scope of this paper. What we can say though based on our results is that archival professionals today are expected to be dynamic in many ways. They can be a generic office worker and a specialist, have a support function and a steering function, work with procurement and vehicle service, be flexible and meticulous, be able to inspire others and be prepared to work monotonously. In other words, the types of archival work described, and personality characteristics sought after to shoulder the responsibilities under these job titles varies a lot. Several ads emphasise that both the organisation and the work itself are prone to change. Some say the archival professional should partake in it-development projects, some that they will be part of a steering group. Many require leadership skills and pedagogical skills.

In the following sections we focus on the themes found regarding the different facets of archival work and have therefore chosen to name our themes Facet 1: Change and development; Facet 2: Service and support; Facet 3: Information management and planning; and Facet 4: Communication and education. We do not claim to have included all facets of archival work that exist today, but our result contributes with a snapshot of where the profession was at in 2022 which can both serve as an illumination of fact and to compare in the future where the profession has headed.

Different facets of archival work

The most common archival words used to describe archival work in the ads are develop, offer support and service, and manage information, after which comes destroy, organise, and describe, followed by plan, educate, and strategize.

Facet 1: Change & development

Archives management is traditionally considered a support function, and while this role remains, it is often combined with more strategic and steering responsibilities within the organisation at large. An e-archivist at a municipality has within their duties to “Participate in the development of requirements when business systems are newly developed, changed or discontinued” (ad nr. 903656). The work is commonly described as varied and changing, and many ads state that the employer is striving toward new and improved working methods, both technically and organisationally. Only in a few cases does it say that the applicant should expect the work to be monotonous, repetitive or routine. The archival professional is expected to take an active part in developing the employer’s recordkeeping, often by assuming a leading role. An ad seeking a Process manager for archives at a government agency sums up some of the things this can entail:

You will work with continuous improvements in the archive process, both independently and together with others. The work includes identifying and prioritising archival issues of tactical/strategic and principled importance; paying attention to the need for change, taking the initiative and independently driving change work; independently creating contacts and networks, leading collaboration councils, meetings and workshops. (ad nr.882925)

Related to the Janus-face mentioned in the introduction, the primary focus in the ads are forward facing, toward the future, often with emphasis on continuous change. An example where both faces are visible however is a municipality archive stating that they are on a “digitalisation journey” (ad nr.

366380) where the archival professional they seek should be someone who has “a perspective both back in time and forward, who knows the traditional archival duties and who wants to take the step towards digital information management”. Several ads mention e-archives or digital archiving. In many cases it says that while the organisation does not yet have an e-archive, the archival professional should partake in preparation for a coming e-archive, often in a leading role. Simultaneously, supportive and service-oriented work remains important.

Facet 2: Service and support

At the same time as working with change and development, the archival professionals are to offer support and service, duties that are directed both internally in the organisation and outward toward the public. As a university seeking an Expert in archiving says, “The work is very independent, varied and service-oriented and involves contacts with many different parties both internally and externally” (ad nr. 214796). Several ads state that the archival professional is an expert (e.g. ads nr. 290089; 214796; 784969) or specialist (e.g. ads nr. 12391; 1000873; 382855). Other ads describe the archival professional as more of a generalist, and someone who should be prepared to take on various non-archives related duties when needed, often formulated in general and unspecified terms; “other administrative duties may occur” (e.g. ads nr. 575806; 908313; 169663). One ad for an Archives manager to a national archival agency is however more specific:

The employment mainly involves work with case management of various case types and production of ordered archive volumes for the reading room. The main duties will consist of handling cases vis-à-vis authorities and the public through research, production and disclosure of information from archive documents. The service also includes janitorial duties such as transport, office service and property maintenance as well as simpler service and maintenance of technical equipment and vehicles. (ad nr. 994368)

Facet 3: Information management and planning

Traditional archival work – arrangement/organisation, description, and destruction – remains a core component of the profession and frequently occurs in the material examined, encompassing and referring to both analogue and digital records. Information management also appears regularly, often referring to and focusing on digital records. For instance, an ad seeking an IT-archivist notes: “The municipality’s traditional archive management has switched to information management” (ad nr. 18786). However, the sample of ads demonstrates that there is still a need to handle paper records, which may require a strong physical constitution. A museum seeking an archival assistant paints a vivid image: “You also need to be able to handle heavy lifting and work from ladders, in cramped environments” (ad nr. 385123). The information management part of archival work is however not limited to archives (analogue or digital) but has a broader scope. While archiving was traditionally not considered part of an organisation’s core business, our material shows that this is changing. One example comes from a government agency seeking an IT archivist: “As an IT archivist, you contribute to developing and enabling the [X agency]’s mission by ensuring correct and efficient information management in business processes and IT systems” (ad nr. 384096).

Related to both development and information management is planning. An ad for a part-time archivist at a government agency notes that the job includes “designing strategies and plans for a sustainable and long-term information supply based on current regulations” (ad nr. 78395).

Strategy and coordination also feature prominently, underscoring the active nature of contemporary archival work. This may include procurement, in which the archival professional is expected to partake in demand setting and help define requirements when purchasing new systems. An ad from a government agency seeking an archivist states: “You will work with the information from a holistic perspective, i.e. be involved in everything from procurement, new and further development,

investigations into conservation and destruction, advice and support, handling during decommissioning and long-term preservation” (ad nr. 25165). Creating and updating steering documents and routines, as well as instructing others about information management issues, are also common duties.

Facet 4: Communication and education

Educating other staff is closely related to the personal characteristics of collaborative, communicative, and social skills. According to the literature (c.f. Cook, 2013), archivists are anticipated to become more visible to the public. Although this is not commonly stated in the ads, there are examples, such as an ad from a municipality seeking an image archivist/cultural secretary: “Making both the analogue and digital material available is an essential part of the work. You are a resource for schools, the municipality’s citizens, associations and various organisations and you will participate in the unit’s outward-facing activities” (ad nr. 811550).

Summation

In our material, traditional archival work – such as arrangement, description, and destruction – remain important, pointing towards Jenkinson’s conventional view of the archivist as guardian and custodian. These traditional tasks frequently appear in job advertisements. It is noteworthy that some advertisements also emphasise the physical capabilities of archival professionals, including tasks such as handling paper records, which require physical endurance. However, the most common term found in these ads is “develop”, highlighting a shift in expectations. Archival professionals are increasingly expected to actively participate in developing recordkeeping systems, often assuming leadership roles. In this context the work of an archival professional is commonly described as varied and dynamic, with many employers emphasising the pursuit of new and improved working methods, both technically and organisationally. Job ads often describe archival professionals as either specialists or generalists, with the latter expected to take on various administrative duties. Fewer ads depict the work as monotonous or routine. Information management, especially related to digital records, is another frequent responsibility. Archival professionals are now seen as integral to the core business of organisations, contributing to efficient information management in business processes and IT systems. This broader scope of duties includes strategic planning, coordination, procurement and developing policies and routines. Service and support, offered both internally and to the public, remain critical components of the role.

Desired personal characteristics

The ‘typical archivist’ is in many people’s opinion an introverted person. The ads studied challenge this presumption by highlighting communicative and social skills as important. The most common words found in relation to characteristics are cooperation skills and independence, after which comes meticulousness, communicative skills and being responsible, followed by the skills of service, group/teamwork, pedagogy and analysis.

The contemporary archival professional must be able to collaborate with colleagues and stakeholders when necessary while also being capable of working alone on detailed duties without needing constant guidance. Based on the analysis of job advertisements, the following personality traits are particularly valued for archival professionals.

Interpersonal skills

The most frequently mentioned characteristic is cooperation skills, which highlights the ability to work effectively in teams and build relationships, both internally and externally. An ad for Data protection coordinator/archive manager to a municipal agency state “You are a natural relationship builder who easily creates trust and good relationships with employees at all levels” (ad nr. 1006263). Another

commonly mentioned trait is strong communication skills – both verbal and written – crucial for informing and supporting others, as well as collaborating with various stakeholders. Among interpersonal skills, the attribute of teamwork is also emphasised. “Since you will cooperate with others it is important that you are both pedagogical and clear in your way of communicating” (ad nr. 688688), says an ad for a municipal department archivist. Service-mindedness frequently appears as well, emphasising a positive attitude towards providing service and support, especially in roles involving customer contact or internal support functions. An ad from an administrative court looking for an archive administrator states “We want you to have a positive and good attitude, be service-oriented and be able to work independently but also in a team” (ad nr. 765827). The related characteristic of flexibility involves adaptability to changing circumstances and handling a variety of duties and environments. This trait is increasingly in demand in the modern labour market, and is likely mentioned in many job advertisements, not just for archival professionals. However, the evolving role of the archival professional, as seen in job ads and descriptions, now includes a wider range of duties, making flexibility crucial.

Independence & meticulousness

The emphasis on interpersonal skills is somewhat at odds with the second most mentioned trait, independence. This quality emphasises the ability to work independently, take initiative, and manage duties without constant supervision. As one ad seeking a municipal archivist state, “The position involves a lot of independent work as you are the only archivist” (ad nr. 858294). While organisations suggest teamwork, independence aligns more closely with the popular image of the solitary, invisible, passive and mysterious archival professional who organises records efficiently, discussed in the introduction (Edquist, 2021, p. 117; Lee 2021; Orchard et al, 2019; Schultz, 1996).

An archival professional is also desired and expected to be meticulous and responsible, qualities essential to their custodial role within an organisation. Being thorough and conscientious, as well as functioning as guardians, is crucial for ensuring the authenticity of archival records, a role traditionally emphasised by archival theorist Jenkinson in the early 20th century. Attention to detail and precision are vital for handling archives and documents correctly, adhering to regulations and standards, as highlighted in job advertisements. As stated in an ad for information manager/archivist at a government agency, “You take care for following laws and guidelines and keeping up to date in your area of expertise” (ad nr. 610562). Additionally, taking responsibility for one’s work, driving processes forward, and making necessary decisions are highly valued qualities.

Leadership skills

The ability to lead is also important, involving the ability to explain and teach clearly and engagingly to both colleagues and external parties. One advertisement from a court of appeal seeking an archivist says, “You are pedagogical and have experience from training others and leading projects” (ad nr. 805603). The capacity to inspire others is mentioned in an ad for a regional archivist with e-archiving focus, seeking the “ability to create commitment and interest in archive and information management issues” (ad nr. 31741). In the context of archival work, these skills have become increasingly important. Since the cultural investigations of the 1990s and the subsequent cultural cooperation model, archival institutions have placed greater emphasis on outward-oriented work and making archival material accessible. This shift makes communication and educational skills crucial for archival professionals, who must now play a more leading and active role in ensuring colleagues understand the need for and importance of sound information management and record registration. At the same time, these qualities can also be seen as reflecting broader demands in today’s labour market.

Although less frequently mentioned, analytical ability is also growing in importance. Archival professionals are increasingly expected to function and serve as overall coordinators for an organisation's information management, which involves setting requirements, process mapping, and solving problems effectively. These tasks highlight the need for strong analytical skills and often relate to leading or participating in change and development processes. One advertisement from a government agency states, "The role of an IT archivist includes analysing, setting requirements and evaluating information in a complex and extensive organisation. Therefore, it is important to have good analytical skills, responsibility and the ability to work independently" (ad nr. 382855).

Summation

An effective archival professional should be capable of working both strategically and operationally, integrating change as a natural aspect of their role. The characteristics of cooperation skills and independence in archival professionals may seem contradictory at first glance. Cooperation skills, mentioned 104 times, emphasise the ability to work effectively in teams and build relationships. Independence, mentioned 103 times, highlights the capacity to work independently, take initiative, and manage duties without constant supervision. While cooperation implies reliance on others, independence implies self-reliance and minimal dependence on others. However, these characteristics are not mutually exclusive. Similarly, the characteristics of meticulousness and flexibility might appear conflicting. Meticulousness requires attention to detail and precision, adhering strictly to rules and standards. Flexibility requires adaptability to changing circumstances and handling a variety of duties. Meticulousness demands a high level of accuracy, while flexibility necessitates openness to change. An archival professional needs to be meticulous in ensuring accuracy and compliance with standards while also being flexible enough to adapt to new processes, technologies, and unexpected challenges.

The characteristics highlighted in job advertisements for archival professionals reflect the complex and multifaceted nature of the role. These traits might initially seem contradictory, but they reflect the shifting nature of the role, and the diverse skills required in this profession. Archival professionals in contemporary administrations and organisations must balance working independently with collaborating effectively and maintaining meticulous standards with being adaptable to change.

The characteristics valued in archival professionals today, such as versatility, adaptability, independence, teamwork, detail-orientation, flexibility and strong communication skills, contrast with some of the findings from personality studies of archivists. For instance, Schultz (1996) found that archivists tend to be introverted and prone to structure. Craig (2000) and Perderson (2003) found similar tendencies towards structure. Perderson (2003) also emphasised that archivists were more prone to being guardian and orderly – in line with Jenkinsons more traditional archivist role – but less skilled in people management. At the same time Craig (2000) found a higher number than Schultz (1996) of extroverted archivists, challenging the stereotype of a reclusive profession. The evolving role of archival professionals requires a balance of more traditional and more extroverted personal characteristics. While the profession historically possibly attracted individuals with introverted and structured personalities, today's job advertisements reflect a need for a broader skill set of versatility, team-orientation, flexibility and effective communicators. This blend of characteristics shows that the profession is adapting to meet new demands, requiring archival professionals to balance their inherent characteristics with skills that promote extroversion and collaboration.

The Intersection of Roles

The description of archival work highlights two ideal types of archivists: the guardian and the proactive coordinator, each representing distinct but interconnected roles in the profession. The guardian aligns with the traditional Jenkinsonian view of the archivist as a meticulous custodian,

focusing on core duties such as arrangement, description, and destruction. These tasks, frequently mentioned in job advertisements, emphasise the importance of maintaining compliance with laws and standards to safeguard the authenticity and integrity of records. This role also includes physical responsibilities, such as handling paper records or managing archives in confined spaces, underscoring the hands-on aspect of archival custodianship. Guardians often operate in support roles, providing services internally and externally without directly influencing organisational strategies. This aligns with the historical image of archivists as introverted, detail-oriented professionals with a strong preference for structure and order.

In contrast, the proactive coordinator reflects a shift toward a more dynamic and future-oriented role, emphasising development, leadership, and strategic responsibilities. Job advertisements frequently mention “development,” indicating that archival professionals are increasingly expected to take active roles in improving recordkeeping systems, implementing new technologies, and preparing for digital archives. Coordinators engage in strategic planning, policymaking, and even procurement, often working collaboratively across departments to address complex organisational needs. They are described as communicative, team-oriented, and pedagogical, capable of educating colleagues, leading projects and inspiring others. This outward-facing approach aligns with modern archival theory, which predicts a greater public visibility for archival professionals and a more integrated role within organisations.

Despite their differences, these roles are not mutually exclusive but rather complementary. Modern archival professionals are often expected to embody traits from both ideal types, balancing traditional skills with the demands of contemporary information management. Job advertisements frequently describe a dual focus, emphasising the importance of preserving archival heritage while driving digitalisation and innovation. This duality also extends to personal characteristics. Archival professionals are expected to work independently on detail-oriented tasks, reflecting the guardian’s meticulousness, while also demonstrating flexibility and adaptability, traits more commonly associated with the proactive coordinator. The combination of these seemingly contradictory traits reflects the complex and evolving nature of the profession.

This blending of roles highlights the broader transformation of archival work. Traditional custodial responsibilities remain vital, but they are increasingly supplemented – and in some cases redefined – by strategic and developmental duties. The modern archival professional must navigate this shift by integrating the structured, protective qualities of the guardian with the dynamic, leadership-oriented approach of the coordinator. This evolution underscores the profession’s growing complexity and its need for versatile individuals capable of bridging the past and the future.

Concluding remarks

Our study gives the overall impression of an active role, far from the quiet, passive and invisible traditional image of the archivist. The roles and responsibilities of archival professionals, as depicted in employment advertisements, are diverse and multifaceted. Archival professionals are expected to develop, lead, and educate within their area of expertise. In conclusion, the ideal archival professional must be versatile and adaptable, able to work both independently and in a team. They should seamlessly switch between detailed, solitary duties and collaborative projects. They must maintain high standards of accuracy while being flexible enough to adapt to new situations and changes. Strong communication skills are essential for day-to-day interactions and training other employees within the organisation.

Employers seek individuals who are not only skilled in traditional archiving but also capable of taking on additional duties, demonstrating physical endurance, and excelling in communication. The

profession demands a blend of meticulousness, flexibility, and the ability to inspire and engage with others, challenging traditional stereotypes and emphasising the evolving nature of archival work. An ideal candidate is development-focused, pedagogical, unpretentious, and experienced in handling diverse roles and responsibilities. Additionally, experience in training others in document and archive management, and any leadership or coordination roles, are considered advantageous, linked to the personal characteristics of collaboration and communication. Yeo argues that “the biggest challenge that the advent of digital technology has brought for records professionals is the evident weakening, in many organisations, of what might be called a record-keeping mentality” (Yeo, 2019, p. 31), meaning that staff often do not realise that there is still a need to spend time on recordkeeping. As the result shows educating other staff about archival issues and creating steering documents.

The role of the archival professional is evolving. They should, according to the advertisements, become more visible to the public, engaging in outreach activities and making archival material accessible. They are expected to balance traditional archival duties with forward-facing, strategic tasks. This dual responsibility resonates with the image of Janus, who is looking both backward in time to preserve historical documents and forward to update standards and governing documents. The archival professional’s role is now seen as more dynamic and integral to organisational undertakings, blending meticulous attention to detail with a proactive approach to development and change. Technical development has significantly impacted the role, with frequent references to digital archives and e-archiving. The Swedish archival sector has described e-archives as “the hub of the municipalities’ information management” (Swedish Association of Local Authorities and Regions, 2024), which is not something we can see clearly in the material; however, the archival professional’s responsibilities include continuous improvements, strategic prioritisation and leading collaborative efforts. While archives management is still considered a support function, it increasingly involves strategic and steering responsibilities within organisations, the proactive role that archival theorist Schellenberg was advocating for.

Future research

Future research may delve deeper into the similarities, differences and interrelations among specific titles – such as archive assistant, archive manager, document controller and information management specialist. A useful approach might involve mapping out these various roles and then, through surveys and interviews, exploring whether there is any consensus on what characterises an archival assistant, a municipality archivist, a senior archivist, and so forth.

Another strand of future research concerns examining the collaborative partners of today’s archival professionals within contemporary organisations. The job advertisements reviewed in this paper occasionally identify other professions that the archival professionals are expected to collaborate closely with. Examples include administrative officer, document controller, informatician, information security coordinator, IT-specialist, lawyer, manager, registrar, system scientist, among others. The increasing need for archival professionals to interact with a diverse range of colleagues and collaborative partners from varied disciplinary backgrounds testifies to the importance of extending archival science even further into an interdisciplinary field and territory. At the same time, it remains crucial not to lose the ties to and sight of the core archival theories and practices that form the foundation of the profession.

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Opportunities and Obstacles for Citizen Science

Insights from Finnish Public Libraries

Abstract

The primary aim of this study was to gain understanding on public library perspectives on citizen science in Finland, through examining the conditions of public libraries in three key areas: physical space, digital space, and knowledge resources and infrastructure. Additionally, the study sought to explore how libraries conceptualise an environment supportive for citizen science. In April 2024, an online survey was conducted with 55 public library representatives from Finland, gathering data on their views about public libraries' capability to support citizen science. The survey included a series of questions focusing on the three aforementioned areas. The responses were analysed using thematic analysis. Eleven key concepts supporting citizen science in public libraries were identified: inclusivity and accessibility to diverse communities, meeting and event spaces, study and work areas, role of libraries as connectors, collaboration with educational institutions, national cooperation, community engagement and events, customer service, local collections and research, technology and digital resources, and library staff. Librarians perceived libraries as facilitators rather than leaders of citizen science projects, emphasising the importance of collaboration and accessibility of resources. The results show the potential of Finnish public libraries to facilitate citizen science, simultaneously revealing challenges related to infrastructure, resources, and role delineation. Findings confirm the potential of Finnish public libraries to support citizen science initiatives while highlighting areas for improvement. These insights may be useful in designing effective strategies for integrating citizen science into library services, thus responding to an important research, programmatic, and policy gap.

Keywords: public libraries, citizen science, Finland, thematic analysis, strategy design, library services

Introduction

Citizen science, research conducted partly or entirely by people who are outside the research community, is becoming an increasingly common method in research (Svahn et al., 2022). It involves engaging the general public, for example, in the collection, analysis, and interpretation of the data, thus enabling them to contribute to scientific knowledge and understanding (Requier et al., 2020; McKinley et al., 2017; Pocock et al., 2017; Pandya, 2012).

Research libraries and public libraries play distinct roles in supporting citizen science. Research libraries often engage in citizen science activities in collaboration with research institutions, focusing on specialised research areas and contributing to the advancement of scientific knowledge (Martek et al., 2022; Kim & Lee, 2021). Public libraries serve as community hubs that promote citizen science initiatives to involve the general public in research, emphasising accessibility and inclusivity (Cigarini et al., 2021).

The role of public libraries in the advancement of citizen science is significant, particularly in fostering community involvement, education, and scientific literacy. Public libraries can serve as hubs for engaging the general public in research endeavours, thereby enhancing the accessibility and understanding of science among community members. In contrast, research libraries primarily support the efforts of researchers by providing specialised resources and tools, and facilitating scholarly communication. This distinction underscores the complementary functions of public and academic libraries in promoting citizen science and advancing scientific knowledge.

This study seeks to address a gap in the existing literature by adopting a culturally and socially informed approach to examining librarians' perspectives on the facilitative role of public libraries in citizen science. By understanding the conditions that enable a citizen science friendly environment and exploring the perspectives of library staff and users, it is possible to develop strategies and policies to maximise the impact of libraries in this field. This, in turn, can enhance scientific literacy, community engagement, and the overall contribution of citizen science to society.

Literature Review

The potential of public libraries to act as hubs for citizen science has been a topic of interest in research but has not been fully explored, and has rarely gone beyond literature reviews and case studies (Mumelaš, 2023; Cigarini et al., 2021; League of European Research Universities, 2016). Public libraries, with their extensive reach and resources, are uniquely positioned to support citizen science initiatives by providing access to various resources (Mumelaš, 2023; Ignat et al., 2019). A large-scale U.S. survey of public perceptions and support for public libraries suggests that there is a desire to transform the traditional role of public libraries, i.e. quiet places with books and internet access, into community centres where library professionals take an active role (OCLC, 2018; American Library Association, 2018). Several studies have highlighted the role of public libraries as meeting places for activities related to different aspects of public space, such as writers' evenings or opportunities to learn about various social issues (Cigarini et al., 2021; Aabø et al., 2010).

According to previous literature, citizen science can benefit from the inclusive and accessible nature of libraries (Wu, 2023; Ignat et al., 2019; Phillips et al., 2019). To fully harness the potential of public libraries in enabling citizen science, it is crucial to understand the perspectives of library staff regarding the necessary conditions for a citizen science friendly environment. Understanding how libraries conceptualise their role in citizen science is essential for developing strategies that leverage their strengths and address any limitations (Cigarini et al., 2021). While libraries may excel in providing access to digital resources, they may require additional support in training staff to facilitate citizen science projects effectively (Cigarini et al., 2021). Exploring the ways in which libraries engage with

their communities can reveal opportunities for fostering a culture of scientific inquiry and participation among diverse populations (Cigarini et al., 2021). Integrating citizen science into public libraries not only promotes scientific literacy and community engagement but also helps bridge the gap between researchers and the public, enhancing the understanding of scientific processes and discoveries (Bonney et al., 2015). Such initiatives can contribute to broader societal goals and foster meaningful interactions between researchers and the public (Bonney et al., 2015).

Literature discussing citizen science in academic libraries tends to highlight the integration of citizen science into scholarly research, emphasising the generation of new knowledge and the research community's involvement (Buyannemekh, 2024; Mumelaš, 2023; Andersdotter & Nauwerck, 2022; Ayris & Ignat, 2018; Ignat et al., 2019). In contrast, literature on citizen science in public libraries emphasises the role of these institutions in fostering community engagement, promoting scientific literacy, and serving as local centres for citizen science activities (Wu, 2023; Cigarini et al., 2022; Cigarini et al., 2021; Rooney-Browne & McMenemy, 2010; Yoshida, 2016).

The participation of citizens in scientific research has facilitated data collection on various topics such as bird abundance (Santangeli et al., 2019), tick distribution (Laaksonen et al., 2017), and tick-borne diseases (Pakanen et al., 2020), while also enhancing public understanding of science (Bonney et al., 2015). Citizen science initiatives have played a crucial role in monitoring population trends of species like the house sparrow and the Eurasian tree sparrow (Jokimäki et al., 2021), highlighting the significance of citizen science projects in biodiversity monitoring.

Citizen science in Finland has garnered significant research interest, with studies showcasing the diverse applications and benefits of involving volunteers in scientific research. Case studies like Järviwiki illustrate successful volunteer engagement in environmental observatories initiatives (Palacin et al., 2020). There is a range of research areas where citizen science has been effectively utilised in Finland, such as tick-borne pathogen prevalence studies (Sormunen et al., 2018), monitoring bat activity (Lundberg et al., 2021) and contributions to ecosystem service measurement (Kaartinen et al., 2013). Studies in Finland have highlighted the collaborative nature of citizen science, emphasising citizen involvement in data collection and decision-making processes (Nieto et al., 2018) as well as presenting numerous case studies. However, the role and the potential of public libraries in facilitating these transactions have been less extensively studied indicating a need for further research in this area. While many citizen science projects tend to focus on STEM subjects (Ignat et al., 2019; Wazny, 2017), where participation in the data collection process has a low threshold, it is important to remember to include crowdsourcing projects in the humanities (Andersdotter & Nauwerck, 2022; Causer et al., 2018; Causer & Terras, 2014) under the citizen science umbrella, as they meet the requirement of people outside the research community participating in the research process.

Analytical Approach

The aim of this study is to examine existing perspectives of librarians on the facilitative role of public libraries in citizen science. The culturally and socially informed approach of the study builds on the Finnish public library law (29.12.2016/1492, Lag om allmänna bibliotek) and the Finnish research community's declaration for open science (Tieteellisten seurain valtuuskunta, 2020). The public library law states that public libraries should provide "information services, guidance and support in the acquisition and use of information and in versatile literacy skills"; provide "premises for learning, recreational activities, working, and civic activities"; and promote "social and cultural dialogue", meaning there is room to explore the role of public libraries in relation to citizen science that is included in the open science mission of the Finnish research community.

Since the study is built from a societal perspective grounded in the public library mission as formulated in the Finnish library legislation, it does not apply a specific library and information science (LIS) theory. Instead it adopts an analytical approach similar to grounded theory which builds theory from the analysis of collected research data (Glaser & Strauss, 2017), except without the explicit aim to build theory. Glaser and Strauss (2017, p. 3) described theory as “a strategy for handling data in research, providing modes of conceptualization for describing and explaining. The theory should provide clear enough categories and hypotheses so that crucial ones can be verified in present and future research.” This is similar to what happens in this paper, except that the aim of the study is to address a gap in the existing literature to inform both policy making and future research, making its scope broader than research and less concerned (but not uninterested) in formulating new research questions.

By understanding the practical conditions that enable a citizen science friendly environment and exploring the perspectives of library staff and users, it is possible to develop strategies and policies to maximise the impact of libraries in this field. By focusing on scoping out the role of public libraries in supporting and enabling citizen science activities and a citizen science friendly environment based on the perspectives of library staff and users, this study seeks to provide further insights for policymakers and organisations aiming to increase community participation in research as well as providing a background for further studies that can apply a more theoretical approach to understanding this phenomenon. Concentrating on this relatively unexplored area within the context of Finland, the study contributes to a more comprehensive understanding of the collaborative nature of citizen science and the role that public libraries can play in this domain.

Method

Research Design

This project was conducted in public libraries in Finland employing a qualitative research design to evaluate and describe various aspects of public libraries suitability to support citizen science activities. Based on the role of libraries as community hubs that emphasise inclusivity and accessibility, and their legal mission to provide premises for learning and civic activities we based our inquiry on three primary themes: physical space, digital space, and knowledge resources and infrastructure. The themes are based on space and infrastructure, something all public libraries have to various extent, and therefore they are not forcing a pre-supposed idea of concepts later explored by library staff in their responses or the authors of this paper. This consolidation allows us to focus on the fundamental elements that directly impact the libraries' capacity to support citizen science activities. Physical space, digital space, knowledge resources and infrastructure were evaluated by studying the data collected through a survey designed to gather in-depth qualitative insights from library staff.

Participants

The participants in this study were selected using purposive sampling to ensure a diverse representation of public libraries across different Finnish regions. The sample included librarians, administrative staff, and support staff. A total of 19 regions were invited to participate with responses received from 16 regions. In total, 55 responses were received. 70% of the respondents were librarians and information specialists, 22% library directors and managers, and 8% with other titles. 98% of respondents had an LIS education. 79% of respondents were from a main library and 20% worked in branch libraries.

Participants did not receive a definition of citizen science with the aim of not restricting the participants' views on what entails citizen science. 22% of the respondents were not familiar with the

term citizen science. 34% of the respondents indicated that their libraries had been previously involved in citizen science activities.

Data Collection Methods

Data was collected using an online survey consisting of eight background questions and 15 open ended questions. The survey was designed to bring out detailed qualitative responses and covered the following three main areas:

- *Physical space*: Questions focused on how the layout, accessibility and comfort of the library's physical environment would be suited to support citizen science activity.
- *Digital space*: Questions addressed the availability and suitability of digital resources and online services for citizen science activity.
- *Knowledge resources and infrastructure*: Questions examined the availability of knowledge resources, such as databases, specialised staff, networks and cooperation with external stakeholders that could be used to support citizen science activity.

The survey was developed based on a review of existing literature, and it includes eight background questions and 15 open ended questions (Appendix 1).

Data Analysis

The qualitative data collected from the survey was subjected to a thematic analysis that involves identifying, analysing, and reporting patterns (themes) within qualitative data (Chowdhury et al., n.d.; Nowell et al., 2017). This method allows researchers to systematically interpret the data, ensuring that the findings are both robust and reliable. In our study, thematic analysis was conducted independently by three researchers, which aligns with best practices in qualitative research to enhance the credibility of the findings (Edward, 2024; Jong et al., 2023; Buchan et al., 2022; Knox et al., 2017). The process began with open coding, where initial themes were identified, followed by a more detailed analysis to refine these themes and ensure they accurately represented the data (Eka et al., 2023; Rosairo, 2023).

The literature emphasises the importance of collaborative coding and theme development in qualitative research (Zahra et al., 2021; Alkhawaldeh, 2023). The thematic analysis process followed the phases outlined by Nowell et al. (2017) which include familiarisation with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the report (Aoki & Urushibara-Miyachi, 2019; Chauke, 2024) as well as the collaborative coding. The thematic analysis conducted in this study, characterised by independent coding and adherence to established methodological frameworks, provides a solid foundation for understanding the qualitative data collected (Attride-Stirling, 2001; Azmi et al., 2023). The data analysis process involved the following steps:

Step 1. Familiarisation: Each researcher familiarised themselves with the data by reading and re-reading the survey responses in order to gain a deep understanding of the content. Researchers noted initial impressions and potential patterns emerging from the data and discussed the findings in an initial online meeting.

Step 2. Independent coding: Each researcher independently conducted initial coding of the data. Researchers systematically identified and labelled segments of the data that were relevant to the research questions and searched for themes.

Step 3. Discussion: The researchers convened to discuss initial codes and impressions. During this meeting, researchers compared and contrasted their individual coding results, identified common themes, and resolved any discrepancies. This collaborative discussion ensured that diverse perspectives were considered and that the coding was comprehensive and consistent.

Step 4. Conceptual coding: Following the discussion, the researchers engaged in a round of conceptual coding. This involved grouping the initial codes into broader, more abstract categories or themes that encapsulated the core ideas emerging from the data. The researchers refined these themes through iterative discussions, ensuring that they accurately represent the underlying data patterns.

Main themes	Key concepts	Subconcepts
Space and facilities	Inclusivity and accessibility to diverse communities	- Spaces that can be booked free of charge
	Meeting and Event Spaces	- Multipurpose rooms - Spaces for organising lectures - Spaces for exhibitions - Makerspaces
	Study and work areas	- Researcher rooms and conference cubes - Quiet areas
People and partnerships	Role of libraries as connectors	- Library as potential hub or link between various entities involved in citizen science - Library as a facilitator for connections and collaboration
	Collaboration with educational institutions	- Dissemination of surveys for research purposes - Leveraging academic resources and expertise to support citizen science initiatives
	National cooperation	- National cooperation with public libraries and scientific libraries e.g. for interlibrary loans
	Community engagement and events	- Community engagement and events - Nature-themed and other thematic exhibition - Events related to literature, music, recycling and nature - Hosting clubs and groups focused on societal development and inventions - "Libraries could more clearly be gathering place for people and communities"
	Customer service	- Offering digital advice and support - Help with information sources and materials - Librarians existing skills could be targeted better
Knowledge resources and infrastructure	Local collections and research	- Local history and regional literature collections - Exhibitions on local history - Scientific resources
	Technology and digital resources	- Use of customer machines, printers, copiers, scanners and 3D printers - Digital exhibition and information points - Public computers - Information screens
	Library staff	- Understanding in information searching and retrieval - Librarians with IT and scientific knowledge - Enthusiasm of library staff - Effective resource management - Delineation of roles

Table 1. Summary of the concepts supporting citizen science in public libraries

Ethical Considerations

In conducting this survey, several ethical considerations were addressed to ensure the integrity and ethical soundness of the research. Informed consent was obtained from all participants prior to their engagement in the survey. This process involved providing a clear and concise explanation of the study's purpose, the nature of the questions, and the voluntary nature of participation, ensuring that respondents were fully aware of their rights and the scope of their involvement and how the data would be used and made available. Confidentiality and anonymity were maintained throughout the study; participants' responses were anonymised, and any identifying information was removed. The survey design adhered to ethical guidelines by avoiding any questions that could be deemed intrusive or sensitive, thereby respecting the personal and professional boundaries of the participants. The study also complied with relevant institutional and legal ethical standards, including data protection regulations, to safeguard participants' privacy and data security.

Results

In the sections below, results are presented along the three main themes that emerged from the survey data: 1) space and facilities, 2) people and partnerships, and 3) knowledge resources and infrastructure. The three themes deviate slightly from the survey areas (physical space, digital space, knowledge resources) and are a better thematic approach to accurately represent the findings from the survey. The themes serve to identify the public library conditions for supporting citizen science from the librarians' perspective and to explore how librarians conceptualise a citizen science friendly library.

While we have identified several overarching concepts within the data, it is important to acknowledge that the subconcepts exhibit significant areas of overlap and interconnection. Despite this complexity, we have chosen to present the findings within a structured framework to facilitate a coherent and comprehensible narrative. This approach allows us to systematically explain the intricate and intertwined nature of the subconcepts, thereby enhancing the clarity and accessibility of our analysis. By organising the data in this manner, we aim to provide a comprehensive understanding of the key insights while maintaining the integrity and depth of the qualitative findings.

Space and Facilities

Libraries have a wide range of different facilities (Q12, Q13, Q14), such as meeting, reading, group work, researcher and multipurpose rooms, conference cubes, quiet workspaces, project rooms, open study spaces, bookable rooms, exhibition spaces, info displays and, more recently, makerspaces and 3D printers. It is noteworthy that although the respondents did not indicate that the facilities were specifically designed to take into account the needs of citizen science, 31 respondents (Q12) nevertheless considered library facilities reasonably good for organising citizen science activities. Several respondents felt that it would be difficult to improve the premises without significant input, such as expansion, but smaller suggestions for improvement were also made (Q14), such as increasing the number of quiet workspaces, developing interactive research markets, space versatility, presentation technology and equipment, and providing sufficient storage space for various loanable devices. According to the responses, it was clear that a versatile selection of quiet and noisy spaces were needed.

Also according to our survey, some respondents thought that libraries could play a more active role in promoting citizen science and one respondent (Q14) noted that "it would be important to be able to disseminate information about citizen science projects also in the library premises".

The majority of respondents (Q14) presume that public libraries have the potential to act as hubs for citizen science, as they have a wide range of physical spaces that are reasonably suitable for organising citizen science activities, and the digital infrastructure of libraries generally supports the

promotion of citizen science projects well. However, there are also challenges (Q12, Q13), as library facilities are limited and there is often little quiet working space. One respondent (Q14) even saw the current situation quite desolate: "Not in these spaces, maybe in the next ones".

User involvement in public libraries can also raise critical questions. Libraries often have limited resources and budgets are rather being reduced, as some of the responses to our survey pointed out. On the other hand, participation can also collide with traditional use in a physical library, where activities such as reading may be disrupted due to noisier activities. (Rasmussen, 2016)

People and Partnerships

In the survey (Q22), most respondents think that public libraries should not take a leading role in citizen science activities; they rather view the libraries as a vehicle for citizen science projects initiated by other actors. Some respondents see the potential for public libraries to fill both of these roles, but highlight some difficulties for this to come to fruition. One respondent wrote: "In many ways, the university lives in its own bubble, and the public library operates outside of it", highlighting the gap between the two knowledge institutions. Another respondent underlined the issue with public libraries receiving new responsibilities and tasks, but no additional funding to undertake them. Indeed, resources for public libraries are rather being reduced, and the respondent compares this dilemma with the role public libraries "have been forced to play as digital guardians". The reluctance to leadership in citizen science projects seems to be based on the general conditions of libraries rather than a specific opposition to citizen science.

When asked about the type of partnerships (Q21) that would be beneficial for citizen science initiatives in the library, 19 of 34 respondents mention partnerships with universities, research libraries, or educational institutions, while researchers or scientists are mentioned in five responses. It is interesting to see that partnerships are viewed on an organisational level rather than a personal level, considering that citizen science projects are often initiated by a researcher in the context of a research project, rather than by an institution. Here is a gap between organisation and practice that needs to be considered.

As for the roles library staff can play in citizen science projects, focus often fell on certain skills needed to support them. Interestingly, many responses noted that librarians already have good skill sets that could be marketed, better valued, and better targeted in potential citizen science projects. A prime example is the information literacy skills librarians teach users, that help the users to access and use information and digital tools.

Throughout the survey, respondents call for more resources to be able to develop this area in public libraries, and a central message seems to be that these resources should be spent on library staff; on developing their skills and on freeing up more time to spend on citizen science activities.

Knowledge Resources and Infrastructure

Knowledge resources encompass access to various databases, digital tools, specialised staff, and comprehensive collections. Respondents consistently highlighted the importance of having access to scientific databases, statistical programs, and reference management software to support citizen science initiatives (Q15, Q16, Q17, Q19, Q20). Specialised staff or librarians with IT and scientific knowledge were also deemed essential for guiding and assisting patrons (Q19 and Q20). While some respondents emphasised the need for specialised personnel, others suggested that enthusiastic and well-informed staff could suffice. The integration of digital platforms and mobile applications was seen as vital for modernising the library's knowledge resources, making them more accessible and engaging for patrons. Two respondents noted that "access to scientific databases and professional

staff would significantly enhance our ability to support citizen science projects." The necessity for up-to-date digital collections (Q15, Q16, Q17), as well as improved promotion of existing resources and staff expertise to the public, was also emphasised. On the other hand, several respondents pointed out that the provision of access to scientific content should be the responsibility of scientific libraries. This perspective introduces an interesting discussion regarding the roles of various stakeholders in citizen science and the specific responsibilities each party should assume. Based on the survey responses, it appears that the delineation of these roles still requires further clarification.

Knowledge infrastructure included essential equipment, reliable internet connections, and interactive digital platforms. Respondents frequently mentioned the necessity of having computers, tablets, microfilm readers, and a stable internet connection to facilitate seamless access to digital resources. The importance of interactive digital platforms and teamwork environments like Teams was highlighted as a means to optimise the library's infrastructure for citizen science activities. Collaboration with universities and other scientific organisations was also seen as crucial for enriching the library's infrastructure and resources. Effective budget allocation and resource management were deemed vital to ensure the library can support these initiatives without compromising other services. One respondent highlighted the significance of integrating digital tools and collaborating with scientific organisations to enhance the library infrastructure for citizen science. The need for better integration and collaboration was emphasised to ensure that the library's infrastructure could support citizen science effectively.

Discussion

This study aimed to clarify the potential of public libraries to serve as actors in citizen science initiatives. While previous studies (Mumelaš & Martek, 2024; Cigarini et al., 2021; Ignat et al., 2019; Ayris & Ignat, 2018 Aabø et al., 2010) have explored the role of citizen science within the context of public libraries, previous studies have not explicitly sought the perspectives of librarians and library staff regarding how they perceive the potential of public libraries to act as enablers of citizen science. This gap in the literature underscores the need for a more nuanced understanding of the views and experiences of those who are directly involved in the day-to-day operations of public libraries.

The findings from this study reveal a nuanced perspective among librarians regarding the potential for libraries to assume a role in citizen science initiatives. While there is evident enthusiasm for the educational and community engagement opportunities that citizen science could offer, significant concerns persist about the practical challenges involved. Survey respondents highlighted the potential benefits of leveraging existing library resources and infrastructure to support scientific literacy and hands-on learning. However, they also pointed to substantial barriers, including space constraints, limited staff capacity, and inadequate funding. These findings suggest that while libraries are well-positioned to contribute to citizen science, successful implementation would necessitate strategic partnerships with research organisations, additional training for library staff, and enhanced institutional support. Addressing these challenges is crucial to ensure that libraries can expand their role in citizen science without compromising their core functions and services.

The concept map (Figure 1) illustrates the understanding of public library staff on the operating environment that promotes citizen science. This study identified for the first time several new concepts or concepts related to the three main themes (Table 1) that were conceptualised in a new way. The concept map also highlights the key concepts identified in previous studies, which are correspondingly divided into all three main thematic areas.

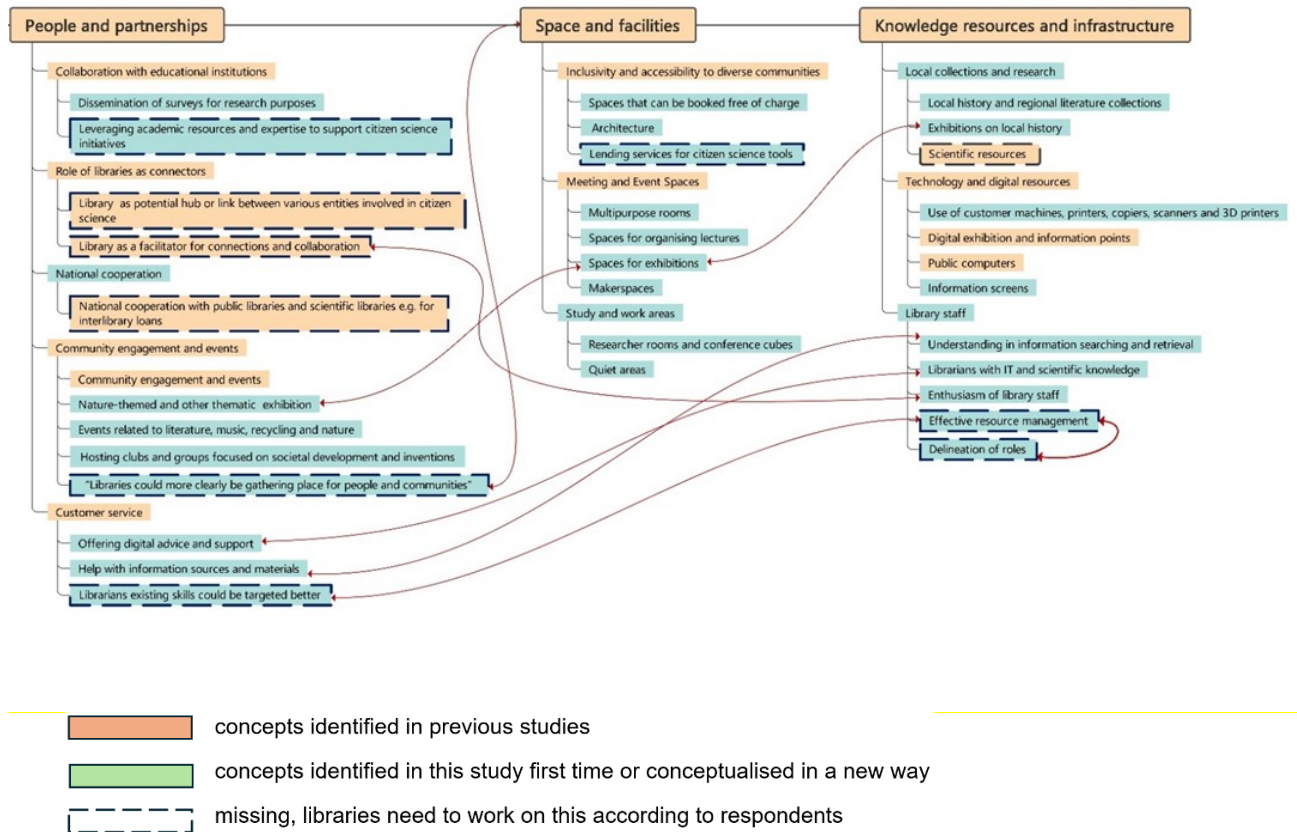


Figure 1. Concept map illustrating public libraries' comprehension of an environment conducive to citizen science

Our results indicate that in the case of physical space, almost every library can take the first step towards becoming a centre of citizen science activities in their community. As our survey also pointed out, the current facilities of libraries can mainly be considered suitable for carrying out citizen science activities. The usability of the facilities is promoted by the fact that they are open and safe learning environments for all members of the community (Mumelaš & Martek, 2024).

The current infrastructure of public libraries is not always adequate and needs to be upgraded to successfully implement citizen science projects (Cigarini et al., 2021b). Citizen science projects can also lead to the creation of new services and making libraries communal spaces for building knowledge (Mumelaš & Martek, 2024). For example, makerspaces in public libraries can take advantage of flexibility where there is not just a "one size fits all" model for learning and doing, but purpose and materials can change depending on facilitators and participants (Willett, 2018). Improving the infrastructure of public libraries would sometimes be necessary to better support these projects, but in most cases existing facilities allow citizen science activities to be launched to some extent. According to the results, the current digital infrastructure of libraries also enables the promotion of citizen science projects reasonably well, although there is room for improvement.

A toolkit for citizen science (Cigarini et al., 2021b, 2021a; Ignat et al., 2018) has been seen as a useful instrument that libraries could utilise. Our survey did not specifically ask about the use of toolkits, but some responses brought up the idea that libraries could have a lending service for citizen science

tools. In the United States, the "Libraries as Community Hubs for Citizen Science" project developed and evaluated CS toolkits for public libraries and created related resources to train and support librarians and citizen scientists (Libraries as Community Hubs for Citizen Science Final Summative Evaluation Report (IMLS) Phase 1 and Phase 2 (Supplement), 2017). Also this project showed that citizen science can be integrated into library activities.

The survey responses underscore a critical discussion on the adequacy and allocation of knowledge resources and infrastructure in supporting citizen science initiatives. Respondents highlighted the importance of access to scientific databases and the expertise of professional staff, which are seen as pivotal in enhancing the effectiveness of such projects. The access to scientific databases is sometimes hindered by subscription costs that the public library cannot afford. This underlines the necessity of open science, specifically open access research publications, because these are openly accessible for everyone, including public library users. Considering citizen science is a method often brought up in the open science context, it seemingly rhymes well with the principle of open access publication. Additionally, there was a strong call for the maintenance of up-to-date digital collections and the need for better promotion of existing resources and staff capabilities to the public. However, a notable divergence in opinion emerged, with some respondents arguing that the responsibility for providing access to scientific content should rest with research libraries. This divergence brings to light the broader issue of role delineation among stakeholders involved in citizen science. It suggests that while there is consensus on the need for robust knowledge resources and infrastructure, there is ambiguity regarding which parties should be accountable for these provisions. This ambiguity indicates a need for clearer definitions and agreements on the roles and responsibilities of different stakeholders to ensure the effective support and advancement of citizen science projects.

The expressed need for access to scientific databases and tools is supported by Cigarini et al., (2022) where libraries were found to serve as venues for citizen science activities, providing digital platforms for data sharing and collaboration, as well as access to literature and resources that support citizen science projects.

While the infrastructure is deemed as mainly sufficient, the largest obstacle to successfully working with citizen science activities seems to be time. In the results, we can see many mentions of how library staff do not have the time to develop this area, or do not have the time to develop the skills needed to support this area. At the same time there is a clear indication that library staff are deemed as well suited to take on this area in terms of competencies and interest. In short, if more resources were allocated to public libraries it would allow them to explore this area further. However, one might consider whether these resources should be part of the public library budget (and if so: why should citizen science activities be prioritised over other public library activities) or whether joint citizen science projects should start already in funding applications. The latter brings to mind the notion of partnerships, where the results indicate the respondents mainly think about organisations as partners, rather than individual researchers or citizen scientists. This makes sense in the way that it might seem intuitively easier for organisations to build sustainable partnerships, but at the same time citizen science methods are often employed by individual research projects, and some successful citizen science projects highlight personal partnerships as key success factors (Andersdotter & Nauwerck, 2022; Peet, 2018). There is a gap between organisational partnerships and person level partnerships that brings to light whether citizen science collaborations should be built from top-down (universities and libraries providing infrastructure and opportunities for citizen science so that researchers can be encouraged to use the method) or bottom-up (researchers and library staff collaborating on research projects and getting support from their respective organisations).

Addressing these challenges is crucial to ensure that libraries can expand their role in citizen science without compromising their core functions and services. While public libraries are well positioned to become hubs for citizen science activities, several critical factors need to be addressed. These include improving infrastructure, clarifying the roles and responsibilities of various stakeholders, and ensuring adequate time and resources for library staff. Additionally, strategic partnerships with scientific organisations, targeted training for staff, and enhanced institutional support are essential.

Conclusion

This study provides regional and cultural insights into the potential role of public libraries in supporting citizen science initiatives. By highlighting both the opportunities and challenges, it responds to the growing interest in leveraging public library resources to enhance scientific literacy and community engagement through citizen science.

The findings underscore the need for versatile physical library space, strategic partnerships with organisations and people, targeted staff training, clear role delineation, and enhanced institutional support to successfully integrate citizen science activities into public libraries. This research contributes to the broader discourse on expanding the functions of public libraries and offers practical recommendations for enhancing their role in community-based scientific endeavours.

This study confirms existing findings on the potential of public libraries to serve as hubs for citizen science, while highlighting new perspectives on the practical challenges and opportunities involved. By capturing the nuanced opinions of library staff, this study addresses a gap in understanding the practicalities of implementing citizen science initiatives within public libraries on a grassroots level, providing a more comprehensive view of the necessary resources and support.

Findings from this study contribute to identifying pathways for policymakers, public libraries, national and regional development libraries (VAKE¹ & AKE²) to effectively support citizen science initiatives in Finland and internationally. The study underscores the importance of leveraging existing library resources and infrastructure to promote scientific literacy and community engagement through citizen science, while also addressing space constraints, role delineation, limited staff capacity, and inadequate funding. By clarifying the roles and responsibilities of various stakeholders, libraries can better position themselves to expand their role in citizen science without compromising their core functions and services.

While the findings of this study provide valuable insights into the operations and challenges of Finnish public libraries, it is important to acknowledge certain limitations that may affect the applicability of the results. Primarily, the data collected pertains exclusively to public libraries in Finland, which may limit the generalisability of the conclusions to public libraries in other countries or regions with different cultural, economic, and institutional contexts. Additionally, despite the survey being distributed to all public libraries in Finland, assessing the representativeness of the sample remains challenging. Variations in response rates and potential non-response bias could mean that the sample may not accurately reflect the entire population of Finnish public libraries. These limitations should be considered when interpreting the results and applying them to broader contexts.

¹ The National Development Task (VAKE) is a set of responsibilities defined by the Library Act. It is managed by the Helsinki City Library and funded by the Ministry of Education and Culture. According to the 2016 Library Act, the purpose of VAKE is to support public libraries equally by implementing shared services and promoting cooperation among them.

² There are nine libraries responsible for regional development tasks (AKE). The national and regional development tasks replace the previous central and provincial library system. The regional development task aims to strengthen the operations of public libraries within their areas, support their development and staff expertise, and promote cooperation among libraries. Libraries with this task work together with other regional development libraries, the national development library, and other libraries.

Future research could benefit from a more diverse and representative sample, as well as comparative studies across different countries to enhance the generalisability of the findings. Additionally, longitudinal studies could provide deeper insights into the evolving trends and long-term impacts on public libraries perspectives on acting as hubs for citizen science. Exploring qualitative methods, such as in-depth interviews and case studies (either by following a citizen science project in a library or by being part of one with the dedicated mission to study the citizen science process), could also enrich the understanding of specific challenges and best practices within the library sector. By addressing these areas, future research can build on the current study's findings and contribute to a more comprehensive understanding of public library operations and their role in society.

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Data Accessibility Statement: An anonymised full dataset is available under a CC-BY compatible licence after publication at the Finnish Social Science Data Archive.

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Appendix 1. Survey questions

Background questions	Open ended questions
Q1) Informed consent question	Q7) How do you understand the term “citizen science”
Q2) Library Municipality	Q9) Describe collaboration
Q3) Number of librarians working at your library?	Q11) Describe other activity, that could be classified as citizen science
Q4) Is the library a main library or a branch library?	Q12) How do you perceive the current physical spaces of the library in terms of its suitability for hosting citizen science activities?
Q5) What is your role in the library?	Q13) What physical resources or facilities within the library do you believe could be utilised to support citizen science initiatives?
Q6) Do you have LIS education?	Q14) In what ways do you think the physical spaces of the library could be optimised to encourage citizen science participation and engagement?
Q8) Does your library collaborate with universities or researchers?	Q15) To what extent do you perceive the library's digital infrastructure supports the integration of citizen science projects?
Q10) Does your library take part in another activity that could be classified as citizen science?	Q16) What digital tools or platforms do you think would enhance the digital infrastructure for citizen science engagement within the library?
	Q17) In what ways do you think the digital spaces (infrastructure and platforms) of the library could be optimised to encourage citizen science participation and engagement?
	Q18) How do you perceive the availability of scientific resources and materials within the library to support citizen science projects?
	Q19) What types of knowledge resources (e.g. databases, specialised staff) do you think are essential for promoting citizen science initiatives within the library?
	Q20) In what ways do you believe the library's knowledge resource infrastructure could be enhanced to better facilitate citizen science engagement?
	Q21) What type of partnerships do you think would be beneficial for citizen science initiatives within the library?
	Q22) Do you think the library should take a leading role in citizen science initiatives/partnerships or should libraries act as a vehicle for citizen science projects initiated by other actors?
	Q23) Please add any further thoughts on citizen science in public libraries

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Book review:

Introduction to Documentation Studies

Lund, Nils Windfeld (2024). Introduction to documentation studies: complementary studies of documentation, communication and information. London: Facet Publishing, ISBN 9781783301898

That I had the opportunity to review this book pleases me. Those familiar with my research might find it somewhat surprising that I have taken on this task. My research is primarily located in the field, which I choose to call information practices research, a subfield of library and information studies. Am I then the right person to comment on a book about documentation studies? Maybe, maybe not. My readers will be my judges.

Over the past, roughly, 15 years, I have indeed been interested in the concept of the document, although not in a structured manner such that I have meticulously and systematically followed the literature in the field. It has more been a matter of encountering texts that sparked my interest, leading me to explore the document track mostly out of pleasure and curiosity. Memorable encounters along the way have included texts by Otlet and Briet (naturally), Brown and Duguid (1996), and of course Buckland (1997) and Frohmann (2004); plus many other pleasant acquaintances, particularly those where I have perceived that my usual path has intersected with the document path through questions focusing on the relationship between documents and people: what do people do with documents? And what do documents do to people? How do they play into sociomaterial practices? These are the kinds of questions that have thus far interested me the most, which also means that the concept that has been central for me is *documentary practices* (see, for example, Pilerot and Maurin Söderholm, 2019). But to be able to say something about such practices, one needs a reasonably well-thought-out understanding of how a document can be said to be constituted. It is on this matter that I have greatly benefited over the years from the works of Niels Windfeld Lund, not least his idea of documentation in a complementary perspective (2004). In short, this idea means that documents can simultaneously be seen as 100% material, since they necessarily have physical qualities as material objects, 100% social, as they contribute to linking and coordinating human

activity, and, finally, 100% cognitive (which I deliberately choose to say, rather than mental), in the sense that what we usually mean when we talk about a particular document, such as a book, is its content, which we necessarily have to access through cognitive processes.

These were my starting points when I began tackling "Introduction to Documentation Studies". In the following, I will present an overview of the book's content. After that, I will offer a concluding, more evaluative, discussion of the book as a whole.

I note that the book, as is customary for this type of research monograph, begins with no fewer than nine highly positive endorsements. That they are positive is, of course, no surprise; it comes with the genre. Referring to this feature, I would now, using Lund's own terminology, call them *docemes* – specific parts or components of a document. Let us return to the concept of doceme later, when we discuss Lund's way of defining or suggesting how a document should or can be understood. And we will briefly revisit these endorsements as we come to the end of this text.

The book is divided into three parts and consists of eleven chapters. Part 1 deals with documentation theory, Part 2 with documentation in practice, and Part 3 with documentation in theory and practice. Part 1 is preceded by a short introduction, where a crucial indication for the entire presentation is made right under the first subheading. There, it is asserted that when a newborn baby cries for the first time, its first document is created. Lund's understanding of what constitutes a document is thus very inclusive. In his own words, it involves an "all-embracing definition of documentation, covering all kinds of human communication" (p. 136).

The introduction also launches another central premise for the book, namely that documentation must necessarily be understood from the complementary perspective that the author introduced in 2004. Here, as I perceive it, the idea is slightly tweaked. Whereas the 2004 chapter discussed the different qualities or functions of a document – material, social, and cognitive – it is now rather the situation within which the documentation takes place that is attributed these dimensions. These three dimensions are simultaneously found in a process of communication, information, and documentation. All three are necessary and dependent on each other. And, as the author notes, through this complementary process "come documents which play an essential role in human life. That is what this book is about – why and how all these processes and document work" (p. xxvi). Throughout the book, documentation is presented as a general dimension of human life, occurring whenever people interact with each other.

Part 1 (chapters 1-3) constitutes a theoretical foundation for the case studies presented in Part 2 (chapters 4-9). In this first part, the initial discussion revolves around the starting points for the "Complementary Theory of Documentation". A theory which is elaborated in Chapter 2. Lund works extensively etymologically and shows that the terms documentation, communication, and information have "a more or less shared meaning" (p. 3). If communication is about making something common and sharing it, then the concept of information highlights how this something is given form. A central meaning in the concept of the document is that of demonstrating and showing. Both the concepts of communication and information are integrated into the theory of documentation, even though the concept of the document remains the primary focus.

In his theorizing, Lund takes inspiration from Niels Bohr's concept of complementarity. The main idea is that what is studied must be viewed from different angles and that what emerges must be understood as a set of interrelated, interacting, and complementary qualities. While Bohr, being a physicist, saw time and space as two complementary perspectives, Lund focuses on materiality, mentality, and sociality in his study of documentation.

Following this initial introduction to the concept of complementarity, three other components of the theory are introduced. From an ontological perspective, it is noted that human life can be understood as "the continuous creation and change of three intertwined kinds of orders: an order of physical action, a social order, and an order of mental configuration" (p. 20). At this stage of the theoretical construction, Lund refers to Foucault's discussions on how a society can be said to be ordered. The other two components are drawn from the French sociologist Henri Lefebvre: the idea that modern society consists of a set of subsystems and the notion of human practice. With Lefebvre, it is also emphasised that practices over time form into dominant orders, established ways of doing things, and traditions, although these orders can also be broken.

It is interesting to note that Lund clearly positions his theory within what I would call a sociological tradition. One that focuses on human activity, rather than on what is traditionally meant by documents, (i.e., typically, informative material objects). This approach, combined with the all-embracing definition of documentation that Lund advocates, makes me think that it might be possible to replace the concept of documentation with the notion of sociomaterial practices. This is particularly evident when he provides the reader with an initial example of the components that can constitute a document. He describes a family dinner where he identifies several different *agents*, such as the person cooking the food, the person who did the shopping, and the person who takes care of the dishes, among others. He also identifies various *means* such as ingredients, kitchen equipment, tablecloth, plates, and cutlery. Additionally, there is some kind of *mode* according to which the dinner is conducted, which might involve whether it is an everyday meal or if there is a particular order in which the courses are to be eaten. He concludes this example by saying that "all this comes together in a family dinner document" (p. 26). It seems to me that what is being studied may not be documentation but rather what I would call a dinner practice. But I realise that Lund's concept of a document extends beyond what I think of as documented. It also includes the actual performance that results in the document. His own explicit definition, which is etymologically based, is briefly: "*doceo*, I show, plus *mentum*, by some means" (p. 133); for example, when a baby demands attention by crying. The longer version states that a document is "any results of human efforts to tell, instruct, demonstrate, teach, or to produce a play, in short to document, by using some means in some ways. In this way we can use human actions as documentative actions [...]" (p. 25).

In the previously cited dinner example, we could also observe that the theory encompasses a number of constitutive elements that form the complementary process: agents, means, and modes. Additionally, documents can also be understood as occurring on different levels: collections or complexes of documents, individual documents, as well as parts of individual documents, so-called "docemes". An example of the latter is a photograph that illustrates a newspaper article.

The first part of the book concludes with a short chapter (3) where an analytical model based on the complementary theory of documentation is presented. Different types of analytical approaches are discussed here – diachronic, synchronic, comparative, and experimental – all of which are built on the key concepts introduced in the previous chapter. The analysis aims to identify a complementary situation, subsystems, agents, means and modes, as well as different document complexes, individual documents, and docemes in what is being studied.

Armed with the theory of documentation, it is then time for the reader to delve into the case studies that make up the six chapters of the book's second part, "Documentation in Practice". Here, Lund demonstrates how he applies the theory by analysing, in turn and in separate chapters, the creation of, respectively, Mozart's Requiem, Hemingway's short story "Indian Camp", Edvard Munch's "The Girls on the Bridge" ("One Title Many Works"), and the Danish dissertation "The Danish Revolution, 1500-1800". These four initial case studies share the commonality of being examples that, even with

a decidedly narrower definition of the concept of a document, could pass as document studies. The case in the following chapter deals with a phenomenon that many might not think of as a case of documentation or as a document. Here, the reader gets to take part in an analysis of a political march, "The March on Washington for Jobs and Freedom, August 28, 1963". A march that is described as "a temporal document which is primarily defined by time" (p. 118). The series of case studies then concludes with chapter 9, which offers an analysis of the process of obtaining a US social security card; "Identity Documentation: Name and Number". Throughout, the case study analyses focus on observations regarding subsystems (which often collide), various agents, means and modes, and different types and components of documents (documents, document complexes, and docemes).

127 pages into the book, we reach its third and final part, "Documentation in Theory and Practice," which consists of chapters 10 and 11. In the first of these, the six case studies are compared, as I understand it, to identify common features in documentation across various subsystems. Among other things, it is stated through the succinct phrase "Naming is framing" (p. 129) that all documents are discrete entities. Likewise, it is noted that all documents have a history and that they are parts of document complexes. Especially with the help of the notion of doceme, it is further asserted that all documents have an element structure. It is also noted that all documents have been created by somebody and that they have come into being through certain means and in some mode. The idea that permeates the entire book reappears here, namely the assertion that all documents are complementary objects: "No document can exist only as a concept, only as a physical entity, or only in a social position" (p. 135). Based on these observations, the author arrives at what he calls "the principle of documentation". Although I initially said that I would save my evaluations for the end of the review, I must already interject here and state that this principle seems somewhat unclear. I note that the author again revisits the relationship between communication, information, and documentation. If I understand correctly, he sees these as complementary and giving rise to processes that are somehow intertwined. He says: "We can talk about documentative action, informative action, and communicative action – complementary actions, depending on each other, whenever a person is talking, writing, marching, composing, doing observations in nature, etc." (p. 137). Chapter 10 then concludes with a discussion about the fact that not all documents are preserved. In this context, he emphasises the importance of "liberating the definition of documents from being a matter of being recorded and preserved" (p. 137). Furthermore, and in dialogue with IFLA's library reference model, he notes that a work is not just ideas and that not all documentation is true for all, "[i]t depends on who you are, your life-world, [and] your subsystem" (p. 144).

In the final chapter, what must be considered a draft of a proposal for a new scientific discipline is presented, which is suggested to include the study of documentation, information, and communication under one and the same umbrella.

After the last chapter, there is a very short section of one and a half pages titled Epilogue. It sequentially discusses how the complementary worldview that Lund proposes has the potential to enrich our understanding of the present. This is followed by a brief paragraph, which I interpret as a call to unite "craftsmanship" and researchers from all types of scientific fields. Finally, there is a rather elusive short reflection on "the condition of contingency".

To begin my final, more evaluative discussion, I can start with the aforementioned epilogue, which I perceive as unfinished, a rather awkward and peculiar addition that should have either been excluded or further developed. In its current form, it perplexes more than it adds value. In fact, even the concluding chapter, which contains the proposal for a new discipline, would have needed more work to appear as something other than just a sketch, which, although imaginative, is not entirely easy to take seriously.

It has probably become apparent through my summary that I personally have issues with the extremely inclusive definition of documentation and the concept of a document, according to which virtually all human activity can be considered as a document. Marching, in my view, is not documenting; it is demonstrating. I will therefore continue to limit the category of documents to the kinds of material objects that I perceive as potentially informative for someone. Thus, I do not accept that the performative aspect, the very act of producing a document, if we put it that way, is meaningful to include in our understanding of what constitutes a document. However, with this said, I can simultaneously acknowledge that the three parts of the book (excluding chapter 11 and the epilogue) form a thought-provoking, coherent, and logical presentation, which I am happy to have spent time with for a few days.

I have particularly appreciated finding myself in the second part of the book with the case studies. It was entertaining to follow the stories of Mozart's requiem, Hemingway's short story, and the other cases. And I can conclude that the analytical model has been put to work according to the theory and model in chapters 2 and 3. The case studies are indeed analyses in the etymological sense of the word. It is about breaking down what is studied into its components and considering the relationships between them, but more than once during the reading, I have pondered the results of these analyses. The rather blunt question arises: what have we learned through these analyses? On the back of the book, I read that the model and method are relevant for a range of scientific and scholarly fields. However, I find somewhat unclear in what ways, more specifically, they are relevant. I would have wanted to read more about that.

I realise that I have now ended up in a rather dull way to conclude a review, somewhat in a minor key. But I cannot fully join the choir of endorsements.

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Book review:

Research communication in the climate crisis: Open letters and the mobilization of information

Graminius, Carin (2023). Research communication in the climate crisis: Open letters and the mobilization of information [Doctoral Thesis (compilation)]. Department of Arts and Cultural Sciences, Lund University.

Carin Graminius defended her PhD-thesis *Research communication in the climate crisis: open letters and the mobilization of information* at Lund University on 24th of November 2023. In the thesis Graminius (2023), via five articles and an introductory summary chapter (kappa), investigates scholars'¹ engagement in the climate crisis through the use of open letters.

Open letters constitute a genre that, as far as I know, has not been the subject of previous research – at least not from a library and information science (LIS)/scholarly communication perspective. Graminius thus enters an unexplored territory and she clears the land.

Three research questions guide the thesis (p. 21):

RQ1): What does climate scholars' engagement in open letters contribute to understandings of research communication?

¹ Like Graminius I will switch between using the terms scholars and researchers in this text.

RQ2): In which ways do researchers intend to make information matter (mobilize information) through their open letter communication practices?

RQ3): How, and in which ways, does open letter communication come to shape, reshape and affirm researchers' professional identities?

Further, the thesis addresses five specific problems (p. 22), each of which are allocated an individual article:

- How do open letters, seen as a communication form and practice, bridge and conflate notions of scholarly and science communication?
- How the concept of information shape researchers' communication does practices in open letters, and in turn, how is information shaped by these same practices?
- What kind of social collectives are presented and enacted in the open letters through affective practices?
- What kind of professional identities does engagement in the open letters on climate change shape, reshape, and affirm?
- In which ways do researchers enact "media logic" in their open letter engagements, and why?

In the introduction Graminiuś does a good job in coupling each article with their corresponding research questions.

I teach, perform research in, and supervise students theses within 'scholarly communication', thus I was first a little confused when I saw the term 'research communication' used in the title. Fortunately, it is defined early on in the thesis and put in contrast with the related concepts 'scholarly communication' and 'science communication'. Graminiuś uses research communication as "an umbrella term to signal a theoretical integration of scholarly and science communication" (p. 25) and further states that scholarly communication denotes peer-to-peer communication whereas science communication is directed towards non-experts. Research communication, on the other hand, can have both peers and non-experts as the intended audiences, and in her work, Graminiuś shows how open letters may be targeted towards both groups.

Another core concept is 'open letters', which traditionally were published in newspapers with the intent of advocating some kind of (political) change. The most famous example being Emile Zola's *J'accuse* letter, which was addressed to the President of France and aimed at mobilizing support for the release of Alfred Dreyfus, a French artillery officer of Jewish ancestry, who had been falsely accused for treason and sentenced to lifelong deportation. The letter was published on the front page of the newspaper *L'Aurore*. Eventually, and without doubt partly as a result of Zola's letter, Dreyfus was exonerated and returned to his work in the army.

Today's open letters are typically written and signed by groups of academics or other groups that hold some form of authority. The addressee is often someone with the power to make a change. The climate crisis, along with the Covid-19 pandemic are among the topics being subject for many such letters in recent times.

Graminiuś takes an interdisciplinary approach in her examination of open letters. She situates her study in environmental communication, science communication and scholarly communication, the latter being part of information studies (or, in this reviewer's perspective: library and information science). Central to her study is the use of a practice theory perspective. Practices are understood as

the everyday work activities of those who are observed, Graminius uses Latour and Woolgar's (1986) study of the scientists 'laboratory life' and how this affects their knowledge construction as a famous example. She goes on to explain that practice studies can mean different things in studies of information, but "the general consensus is that different fields, objects, and actors come together and become observable in a practice" (p. 47). Central analytical units in Graminius' thesis are academic institutions, scholars, climate change communication, the environment, and media. In the five articles she addresses different practices through the analysis of interviews and texts.

Originally, open letters were not decided upon as the focus of the study. Graminius explains that she was interested in investigating collaborative research communication on issues related to climate change and "how different actors and contexts shape climate change information and communicative imperatives" (p. 62). The engagement through open letters constitute one out of many activities. By choosing open letters, I believe she made an interesting choice. As already mentioned, there is a lack of research on this genre of texts.

In all, 17 letters were selected for analysis, following a screening process. The letters were selected on the basis that they should be written by European academics and address "anthropogenic climate change" (p. 65). The letters could have been published in print news media, community and organisational homepages or social media sites. In addition, Graminius contacted the initiators and authors of letters in order to interview them. Thirteen of the authors responded positively, but for four of the letters none of the authors replied. In other words, she ended up conducting interviews with 13 authors of nine different letters. All 13 were interviewed in a first round of interviews whereas in a second round six interviews were performed.

The five articles address the production of open letters (Article I), temporal aspects (Article II), emotional/affective characteristics (Article III), and researchers' professional identities (Article IV and V).

The engagement in open letters initiation and writing typically starts with the wish to make a change, wake those in charge, and rise the public to action. This undeniably is also the case for the initiators of open letters concerning the climate crisis. It also exemplifies an exception from the 'normal life' of research who, according to one of Graminius' interlocutors (which is her own preferred term) who are quoted in Article I "Conflating scholarly and science communication practices: the production of open letters on climate change" and states that "it is not really good for our careers to prioritise public communication. We should instead write peer reviewed articles that no one reads" (p. 166). On the other hand, as Graminius shows, the engagement in open letters writing may also have a positive professional effect as the activity forms an arena where academic networks are developed, and the letters connected "researchers who were previously unknown to each other to collaborate in other forms, such as scholarly papers for high impact journals or external projects" (p. 167). It is also interesting to learn how the open letters writing process imitates scholarly writing with respect to the extensive use of (external) peer review. In the thesis, we learn that often several rounds of editing take place before the letters were submitted to the appropriate venue. In contrast to traditional scholarly writing, after review rounds the reviewers themselves were offered to be included as co-authors (p. 169-170).

Article II "Fast-food information, information quality and information gap: a temporal exploration of the notion of information in science communication on climate change" address, amongst other things, venues for open letters. In this article Graminius explores what temporal aspect of 'concepts of information' can reveal about how scholars view their open letter activities. The accelerating climate change influencing life of earth represents a fundamental temporal backbone, but this is not

the main issue in the analysis. One interesting concept is what Graminius coins 'fast-food information'. The 'fast' having little to do with the content but is associated with the speed of digestion and the information's lack of fulfilment. The quality of the content is not what causes information's inability to "stick", rather it is the channels where information is communicated that makes information fast-food. Social media foremost being such a fast-food information channel, as in the following quote from one of the interlocutors:

I do not want to go on Twitter and I do not want to use it. Because I think Twitter really contributes to this superfast information environment, fast-food information environment. I see people who are constantly tweeting, but then they do not pay attention to what is actually happening, they do not listen to the talk when they are there because they are only tweeting about it. And people just click on it and say "like", "yes", or "retweet", and that is it. What is the quality of this information? What is the quality? Then you can say like, "oh, I have been retweeted 20 times", but it really does not say anything about what people actually do with the information. (p. 188)

An interpretation I really find interesting follows; "the digital functions and the speed they encourage direct readers' attention away from the actual content of information to numerical ratings", i.e. easily digestion of information. Along with very interesting analysis of the concepts of 'information quality', where 'quality' is associated with slow pace and publishing in news media, and 'information gap', which is signified by intersection between lack of content and information; the latter resonating with classical views of information both in information science and communication science as something that is communicated or transferred, the article makes a very interesting read, which I highly recommend to be read on its own.

In article III "Research Communication on Climate Change through Open Letters: Uniting Cognition, Affect and Action by Affective Alignments", the scholars' use of affective means are explored. The article starts with Greta Thunberg' "I want you to panic"-quote and does not hide the intention and engagement in the climate issue of neither the open letter authors nor the author of the thesis. I do not find this "lack of neutrality" problematic; Graminius investigates in a thorough manner affect and emotions used as "alignments as representation and practice" (p. 204). Among the affective techniques she identifies are discourses to create collectives of different actors, e.g., encouraging children and youths and scholars and business leaders stand together. Also, she finds that in the letters there is no conflict between affect and cognition, quite the opposite, Graminius emphasises how the letters combines scientific arguments with affect; that it is rational to be anxious "if one understands the facts" (p. 214).

In the final two articles (no IV "Open letters and climate communication: the professional roles and identities of researchers in times of crisis" and V "Publishing strategies and professional demarcations: enacting media logic in academic climate communication through open letters") the effect of open letters writing on researchers' identities is central. In article IV she uses two analytical tools to investigate how open letter writing shape the scholars identities; practice-inspired analysis and storytelling. The analysis results in an apparently Janus-faced group of scholars; on the one hand engagement in open letters "could pave the way towards a new professional role" (p. 238) whereas on the other hand the open letter writing could be viewed as a practice within the current normal science-activities which were encouraged by the scholars' institutions. In the final article, the scholars' enactment of media logic is central. 'Media logic' I understand as their perception of how news media work. Interestingly, she returns to the importance of news media and why this media form is so important to the researchers. Graminius used thematic analysis to identify three 'components' of media logic: celebrity, confrontation/style, and timeliness. The study participants appeared to be sceptic to the logic and seeing it as something not belonging in academia; nevertheless they actively made use of it as a "publication strategy" (p. 257), e.g. by actively seeking to include prominent

researchers, i.e. celebrities, among the signatories. In addition to using them for analysing the researchers strategies, Graminius elegantly points out how these media logic components are also present in traditional scholarly writing, e.g. how timeliness is often extremely important in order to gain credit for findings as well as how “known” researchers easier get additional credit than newcomers in a field, described by Merton as the so-called Matthew effect (Merton, 1973). Again, news media is put in contrast with social media, and it would have been interesting to know whether there is any effect of the interlocutors’ age in the material, e.g. when they (the interlocutors) stress that “social media can be used for self-promotion and communication with fellow peers in terms of their research. However, in matters of outreach, the news media was still perceived as unparalleled in terms of impact and power” (p. 254).

To sum up, Graminius documents a well-designed and interesting project with this thesis. As with any thesis there are missing parts or parts that could have been detailed better. In this case I could have wished for a discussion of how her choice of the climate crisis as the context of the study. What would we have learned from analysing a different case, such as the pandemic? Research communication as a topic of study has many interesting possibilities; with this study Carin Graminius gives us valuable insight into how important actors address the climate crisis.

The reviewer served at the committee at the viva of this dissertation.

Graminius, C. (2023). *Research communication in the climate crisis: Open letters and the mobilization of information* [Doctoral Thesis (compilation)]. Department of Arts and Cultural Sciences, Lund University.

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Book review:

Information Literacy Through Theory

Hicks, A, Lloyd, A & Pilerot, O. (2023). Information Literacy Through Theory. Facet Publishing.

In the field of library and information science (LIS), the concept of information literacy stands as a cornerstone, influencing research, education, and practice. Yet, according to the authors, information literacy often remains narrowly explored, with an emphasis on practicality over theoretical depth. Addressing this gap, *Information Literacy Through Theory* offers a diverse collection of theoretical perspectives that enrich our understanding of this multifaceted domain.

The book consists of 13 chapters, each authored by known theorists in the field of information literacy. These contributors explore the practical application of various theories to information literacy. The editors, Alison Hicks, Annemaree Lloyd and Ola Pilerot, guided the authors to address a specific set of questions in each chapter, ensuring a focus on key concepts and their relevance to the field.

In Chapter 1, Buschman highlights the critical role of information literacy in promoting democracy and the need for information literacy to combat misinformation and support informed political participation. Through theoretical analysis, he explains the evidence, the normative values of information literacy, and the actual role of libraries and information literacy in democratic societies.

In Chapter 2, Lloyd describes information literacy using a practice theory approach, emphasizing its connection to sociality and materiality. This perspective helps us understand how context shapes information literacy and its associated activities. By examining the interplay between people, information, and sociocultural context, practice theory reveals that information literacy extends beyond competencies, highlighting its integral role in everyday life and lived experiences.

In Chapter 3, Hirvonen explores mediated discourse theory (MDT) as a discursive theory of human action. According to her, MDT highlights the tension between individual and community perspectives

on information literacy. It examines actions and practices within their historical and situational contexts, focusing on both individual and collective aspects. MDT centers on social action while recognizing the critical role of discourses in these actions.

In Chapter 4, Bezerra and Schneider examine the foundations of critical information literacy, linking it to the concept of theoretically informed praxis - awareness of inequalities and oppression - rooted in Paulo Freire's philosophy. They argue that North American research often intentionally overlooks the influence of Marx's philosophical legacy due to political controversy, particularly in applied fields like information sciences. This omission creates a notable distinction between critical information literacy studies in North America and Brazil.

In Chapter 5, Hicks explores how information literacy is conceptualized through the lens of positioning theory, which sees it as a result of discursive construction within social contexts, closely connected to changing local values and norms. These concepts highlight the linguistic influence on information construction, revealing how social dynamics shape the information environments examined in literacy research.

In chapter 6, Rivano Eckerdal presents Chantal Mouffe's theory of plural agonistics, a radical strand of democracy theories, to shed light on how information literacy and democracy are possibly connected. Acknowledging that Mouffe did not use the concept of information literacy, Rivano Eckerdal presents core elements of the theory that helps to understand information literacy as a political concept and emphasize the importance of institutions for democracy as democratic sites.

In Chapter 7, Johansson comprehensively demonstrates how critical design concepts and theories can be applied to understand critical literacy. She aims to reveal and discuss the limitations and biases in information representations. Her approach is grounded in post-structuralist and sociomaterial definitions of critical design. Johansson argues that designers of information systems and critical literacy should expose and challenge biased information representations to transform them. Additionally, she offers insights and potential areas for future research on applying a critical design perspective to critical literacy.

In Chapter 8, Folk explores information literacy using Bensimon's concept of equity mindset. This involves using data to identify and analyze inequities within specific contexts and applying an equity perspective to data interpretation. Folk outlines three key assumptions for this approach:

1. Information literacy is shaped by community-specific value systems.
2. It involves complex thinking, knowing, and communication, not just transferable skills.
3. Power, privilege, oppression, and exclusion are inherent in the contexts where information literacy occurs.

Folk argues that traditional information literacy research must be re-examined to address systemic barriers, focusing on meaningful change rather than "fixing" marginalized individuals.

In Chapter 9, Haider and Sundin advocate using sociomateriality to understand information literacy, highlighting the interplay between social and material elements. They discuss the entanglement of humans and infrastructures, emphasizing that artifacts should be seen as entities with agency that interact with their environment. Introducing anti-anthropocentrism, they argue for focusing on the relationality of all actors in an interaction, acknowledging the significant impact of technology on human behavior. They note that traditional information literacy research often overlooks or portrays

technologies as neutral. Sociomateriality, they suggest, can provide deeper insights into how people engage with information through platforms and search engines.

In Chapter 10, Lloyd highlights the impact of embodiment to approach information literacy theoretically, emphasizing that embodiment still is underestimated as secondary knowledge among the field of LIS. She advocates to foreground bodies as information sources, stressing the ontological value that emphasizes how knowledge emerges among communities or practices and epistemologically it gives answers to the questions about how we know and what it is that is worth knowing. By focusing on embodiment, researchers can explore the complex ways in which the body serves as a source of information and as a knowledge repository, both spatially and temporally.

In Chapter 11, Maybee describes information literacy through a lens of learning, highlighting that variation theory guides research aimed at understanding how people learn to use information. Additionally, it helps to recognize the link between information literacy and subject-specific learning.

In Chapter 12, Budd describes the importance of consciousness and cognition for information literacy. Relating to Habermas, he argues that the theory of consciousness can enhance our understanding of how individuals process information. Specifically, those who engage in critical thinking can utilize information to make well-reasoned decisions. Furthermore, he introduces his framework for phenomenological cognitive action, emphasizing the dialogical nature of reading, thinking, and reacting to information. According to him these elements are central to information literacy.

In Chapter 13, Pilerot emphasizes the importance of understanding information literacy through an institutional ethnographical lens. He argues that literacy is deeply connected to social practices, each with its own historically developed ways of knowing. The term “institutional” clarifies how knowledge, values, and discourses shape societal spheres like the market, healthcare, and higher education. Ethnography involves examining these institutions locally, focusing on interactions, behaviors, and texts that link local contexts to broader settings. Pilerot asserts that societal organization is influenced by ruling relations mediated through texts and documents. An institutional ethnography perspective reveals how information literacy is shaped by broader elements such as ideologies, governance practices, and accountability mechanisms, highlighting the connection between local practices and wider social and historical structures.

The editors have skillfully contextualized the individual chapters within the broader framework of information literacy theory. The introduction offers a comprehensive overview of the research conducted in the field over the past decades. The conclusion is particularly valuable, as it synthesizes the book’s 13 chapters into four overarching themes: discourse and power, decentering language, revising the premise of information literacy, and examining privilege as a critical reflection on teaching information literacy. This thematic organization enhances the understanding of each chapter’s contribution to the development of information literacy theory. The editors provide a table illustrating how each chapter aligns with these themes, with some chapters fitting into multiple themes. This approach highlights the interconnectedness of the book’s content and reinforces the importance of considering the broader context.

The book comprises 13 standalone chapters, each authored by different individuals, with each chapter focusing on distinct theory related to information literacy. As a result, the chapters exhibit variations in both style and quality. While the editors have provided guidelines, there remains space for each author’s interpretation, leading to diverse focal points and varying levels of pedagogical proficiency across the chapters. However, the authors frequently cross-reference other chapters, creating a rich web of intertextuality. This interconnectedness highlights the relatedness of ideas

across the chapters, contributing to a more comprehensive and holistic understanding of the field. By weaving these references throughout the book, the authors ensure that readers can appreciate the broader context and relationships among the concepts discussed, enhancing the overall coherence and depth of the work.

According to the authors, their aim was to provide a book for a broader audience of students, practitioners, and researchers - and they succeeded. Practitioners benefit from the clear and pedagogical structure of each chapter, which provides basic assumptions of each theory and connects them to information literacy. Students can also make use of this setup. On the one hand they can use this book to gain a comprehensive overview of different theories in the field of LIS. Moreover, it provides profound insights into the broad concept of information literacy and how to approach it theoretically. Therefore, the book would be highly valuable as course literature in the student program. Above all, researchers and students alike will appreciate the book's invitation to chart new territories, inspiring them to contribute to the ongoing evolution of information literacy theory. By reframing theory as a dynamic process, the book instills a sense of agency, empowering readers to actively participate in shaping the future trajectory of LIS scholarship.

In conclusion, *Information Literacy Through Theory* is a relevant book that transcends disciplinary boundaries to provide a complex examination of information literacy. Its combination of theoretical depth and practical relevance makes it essential reading for students, practitioners, and researchers. As we navigate an increasingly complex information landscape, this book serves as both a guide and a catalyst for innovation, reminding us that theory is dynamic, constantly evolving, and essential for continued discovery and growth. This aligns with Haider and Sundin's assertion in their chapter that "Theories are always in motion and not meant to be rigid templates; they are always being adapted and further developed in the research process." This quote encapsulates the dynamic and evolving nature of the theories explored throughout the book, underscoring its innovative approach and reinforcing its value as a key resource in the field.

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Book review:

Rom for lesing og utforsking: Skolebibliotekets muligheter

*Rom for lesing og utforsking: Skolebibliotekets muligheter (2023). Red. av Idunn
Bøyum og Åse Kristine Tveit. ABM-media AS, Oslo. ISBN 978-82-93298-23-6, 341 s.*

Rom for lesing og utforsking är en omfattande och innehållsrik handbok/kursbok om skolbibliotek i norsk kontext. Enligt redaktörerna, Idunn Bøyum och Åse Kristine Tveit, skall boken vara ett bidrag till utveckling av norsk skolbiblioteksverksamhet, dels som kursbok i bibliotekarieutbildningar, dels som handbok för praktiskt skolbiblioteksarbete. Boken på 340 sidor innehåller 16 kapitel ordnade i fyra delar: 1) Bakgrunn og rammer, 2) Det praktiske hverdagslivet i skolebiblioteket, 3) Litteraturen i skolen och 4) Utforskende læring. Det övergripande syftet är, enligt redaktörerna, att lyfta fram skolbibliotekets möjligheter att bidra till elevernas lärande, bildning och glädje. Sammanlagt 18 författare har medverkat, bland dem finns forskare och lärare i biblioteks- och informationsvetenskap, litteraturvetenskap och utbildningsvetenskap samt ett antal yrkesverksamma skolbibliotekarier. Många kapitel presenterar resultat från empiriska studier som författarna genomfört specifikt för boken. Majoriteten av författarna är knutna till OsloMet – Storbyuniversitet.

Bokens första del placerar skolbibliotek i en historisk och skolpolitisk kontext. Den inleds med ett kapitel av Øivind Frisvold & Åse Kristine Tveit som behandlar relationen mellan skolbibliotek och barnbibliotek i ett historiskt perspektiv med avstamp i medeltida katedralskolor och med tyngdpunkt

på utvecklingen under 1900-talet. Kapitlets tes är att skolbibliotek genom historien hamnat mellan stolarna, i konkurrens mellan politiska och professionella satsningar på barn- respektive skolbibliotek. Huvuddelen av kapitlet ägnas åt en kronologisk genomgång av åtgärder för skolbibliotek så som de framträder via statlig styrning i läroplaner och bibliotekslagar. Avslutningsvis identifieras olikheter och motsättningar mellan bibliotekarieprofessionen och lärarprofessionen som huvudorsaker till skolbibliotekens svaga formella position i Norge.

Utifrån en analys av begreppet skolbibliotek i spänningsfältet mellan skola och bibliotek diskuterar Ingeborg Eidsvåg Fredwall i andra kapitlet hur skolbiblioteksanvändning kan bidra till att uppfylla målen i den norska läroplanen (LK20) nu och i framtidens skola. Ett konkret exempel på lokalt utvecklingsarbete med en skolbiblioteksplan (skolebibliotekstandard) för Oslo kommun presenteras av Catherine Bergan i kapitel fyra. Planen är knuten till Biblioteksplan for Oslo kommune 2019-2022 och bygger på noggrann kartläggning av utgångsläge, behovsanalys, kopplingar till läroplaner och forskning. Den innehåller beskrivningar av mål, strategier och ansvarsfördelning mellan olika aktörer som rektor, bibliotekarie och lärare och ger en intressant inblick i professionellt arbete i bibliotekspraktiken.

Del 2 går igenom och diskuterar det praktiska arbetet i skolbiblioteket mycket konkret i fem kapitel: samarbete mellan bibliotekarier och lärare, skolbiblioteket som rum, organisation av samlingarna som klassifikation och hyllplacering, beståndsutveckling med tyngdpunkt på gallring samt beräkningar och analyser av resurser i termer av ekonomi och personal. Idunn Bøyum redovisar en kvalitativ intervjustudie med tolv bibliotekarier vid gymnasieskolor spridda över olika regioner i Norge. Studien fokuserar på vilken betydelse skolbibliotekets placering i skolans organisation har. Resultatet visar att informella och personliga relationer till skolledning och lärare har avgörande betydelse, medan samarbetet knappast påverkas av bibliotekets formella placering i organisationen. Sunniva Evjen undersöker åtta skolbibliotek och intervjuar bibliotekarierna om hur rummet används, vilka handlingsmöjligheter som eleverna erbjuds socialt och för undervisning, rummets inredning, skolbibliotekarien som rummets förvaltare och rummets atmosfär. Hon landar i skolbibliotek som möjlighetsrummet som balanserar mellan styrning och frihet. Ämnena klassifikation, kategorisering och hyllplacering, beståndsutveckling med gallring diskuteras utförligt i kapitel 7 och 8. Kapitel 9 presenterar en rad metoder för resursberäkningar för skolbiblioteksverksamhet.

Del 3 om litteraturförmedling inleds med ett kapitel om "Lystlesingens betydning", och behandlar främst elevernas fria och frivilliga läsning och betydelsen av hur skolbibliotekarier kan utveckla och stimulera elevernas läslust. Kapitlet utmynnar i ett brandtal för elevers rätt till fri läsning och läslust, där författaren Joron Pihl uppmanar politiker på Utbildningsdepartementet (Kunnskapsdepartementet) att införa bestämmelser i skollag och läroplaner om elevers rätt till "lustläsning" och skolbibliotek på den egna skolan. Kapitel 11 fokuserar på litteraturförmedling till elever med lässvårigheter med utförliga exempel på metoder och medier. Kapitel 12 rapporterar en undersökning av elevers, lärares och bibliotekariers erfarenheter av ett omfattande läsprojekt. Resultaten visade att grundläggande förutsättningar som organisation och förankring hos skolledning, lärare och bibliotekarier är avgörande för att forma ett framgångsrikt projekt. Elevernas erfarenheter visar på betydelsen av ett brett urval av litteratur med både fack- och skönlitteratur och texter av olika svårighetsgrad. Kapitel 13 om litteraturförmedling i gymnasiebibliotek är författat av en praktiskt verksam och djupt engagerad bibliotekarie.

Olika infallsvinklar på informationssökning och lärande är ämnet för bokens del 4. I kapitel 14 presenterar Idunn Bøyum en undersökning av gymnasieelevers sökning och användning av information för en skoluppgift. Undersökningen relateras till begreppet informationskompetens med fokus på urval och användning av källor, källkritik, källtillit, elevers bedömning av den egna kompetensen och

hur de lärt sig att värdera källor. Resultaten överensstämmer med mycket tidigare forskning på området. Kapitel 15 av Jannica Heinström och Anu Ojaranta presenterar Carol Kuhlthaus modell av vejledet utforskning (Guided Inquiry) med ett exempel på tillämpning av modellen. Bokens sista kapitel ger ytterligare ett bidrag från den professionella praktiken, där gymnasiebibliotekarie Ingrid Svennevi Hagen berättar om sina erfarenheter från att tillsammans med lärare handleda elever som arbetar undersökande i ett projekt.

Som framgår av mitt referat har boken en närmast heltäckande ambition med avseende på skolbiblioteksarbete.

Boken balanserar mellan genrerna kursbok och handbok. Särskilt del 2 om det praktiska skolbiblioteksarbetet har en tydlig karaktär av handbok med inriktning mot "så här gör man". Jag ifrågasätter relevansen av detaljnivån i resonemangen om klassifikation, kategorisering och hyllplacering, gallringsmetoder och resursberäkningar. En konsekvens av detaljriktigheten är att boken riktas strikt mot bibliotekarer och därmed riskerar att gå miste om vidare tänkbara målgrupper som lärare, skolledare och andra maktbärare. Boken har också ett utpräglat norskt fokus, visserligen med referenser till internationell forskning men med intresset tydligt avgränsat till norska förhållanden. De många empiriska studier som genomförts i norsk kontext och redovisas i olika kapitel kan ses som ett uttryck för detta norska intresse. Studierna är relativt små och begränsade och tillför knappast något nytt till den internationella forskning som redan finns på de olika områdena.

Ett avsnitt om grundläggande aktuella fakta om skolbibliotek i Norge hade varit välgörande, exempelvis uppgifter om antal skolor, antal elever i norska skolor, antal skolbibliotek och skolbibliotekarier, huvudmannaskap och organisationsstrukturer.

En grundton i boken är en besvikelse över skolbibliotekens svaga ställning i Norge och en övertygelse att välfungerande skolbibliotek kan stärka undervisningen och höja kvaliteten på elevernas lärande. Här argumenteras tvärsäkert för allt det goda som skolbibliotek kan tillföra. Vissa kapitel framstår som rena partsinlagor (t ex kapitel 10 och 13). Jag saknar problematisering, utrymme för osäkerhet och en djupare diskussion om skolbibliotekens potential och begränsningar relaterade till såväl intellektuella som materiella förhållanden – i skolan och i omvärlden. Bokens avgränsade inriktning mot bibliotek och bibliotekariearbete har lett till ett snävt omvärldsperspektiv. En större öppning mot samhälls- och teknikförändringar hade kunnat bidra till en djupare förståelse för skolbibliotekens aktuella situation och framtida möjligheter.

Av bokens 340 sidor handlar 53 om informationssökning, informationskompetens och undersökande arbetssätt och placeras i bokens fjärde, sista och kortaste del. Jag finner detta anmärkningsvärt med tanke på hur argumentation för skolbibliotek, både i samhällsdebatt, professionell verksamhet och i forskning, ofta vilar på deras betydelse i de nya informationsvärldar vi idag befinner oss. Ingenting nämns om hur digitalisering, sociala medier, desinformation, lögn eller nya AI-verktyg påverkar villkor och uppgifter för skolbibliotek. Inte heller något om migration och mångspråkighet.

Boken formar en bred exposé över olika delar av skolbiblioteksarbete och ger en rad exempel på vad skolbibliotek har att erbjuda. Det är möjligt att antologiformatet begränsat möjligheterna för en mer övergripande ansats på en mer analytisk nivå bortom raden av konkreta exempel. Samtidigt är det uppenbart att *Rom for lesing og utforskning* är ett viktigt bidrag till den norska facklitteraturen om skolbibliotek.

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Book review:

The messiness and orderliness of data-making in biodiversity citizen science

Ekström, B. (2024). Winding paths to species reports : Information practices in biodiversity citizen science. [Doctoral thesis (compilation)]. Department of Library and information science, University of Borås. Accessible in University of Borås' Digital Academic Archive (DiVA).

If I go out to see what I can find, I always keep binoculars and a [magnifying] loupe around my neck. I have some tubes in my pockets with labels and alcohol. [...] But then I can stop at a spot and use my net as a beat net. I will beat around the vegetation among plants without seeing what is there. Then you will find quite a lot of insects and then you have to kneel and see what you have captured in the net (Adam). (Ekström, 2022a, p. 255)

Introduction

In *Winding paths to species reports*, Björn Ekström sets out to explore a key question in library and information science research. What do we uncover when we look beyond the surface of 'research data'—a principal currency in many contemporary domains, including academia and AI—and begin to untangle what data is, where it originates, and how the complexities of its making shape its interpretation and application in various epistemic pursuits?

Although also explored using alternate and at times competing conceptualizations, like information and documentation (cf. Frohmann, 2014), library and information studies (LIS) has demonstrated longstanding interest in research data, particularly in how research data comes to be (see e.g., Huvila et al., 2024). Under the broader information-studies umbrella, this interest spans also, for example, the extensive archival-studies literature on provenance (Lemieux, 2018). Several overarching findings emerge from this body of work on research data-making. A key insight is that research data-making is inherently bounded, as it is shaped by specific practices, material resources, and epistemic elements such as disciplinary horizons and intellectual traditions. Another important finding is while the making of research data is in this sense constrained, modes of data-making have the potential to evolve quickly and vary greatly across and within scholarly domains in a way that is difficult to quantify. Continuous and naturalistic inquiry into different areas of research data-making emerges as the primary approach to grasping the moving target of scholarly data work and, ultimately, what research data is and how it can be used to elicit insight about the workings of the world.

Björn Ekström's doctoral dissertation in LIS, fully titled *Winding paths to species reports: Information practices in biodiversity citizen science* (2024b; University of Borås) contributes to this line of research by addressing the understudied issue of how data is made in citizen science. Citizen science is a prevalent area of scholarly research, characterized by substantial volunteer ('citizen') participation and contribution. *Winding paths* focuses specifically on biodiversity citizen science—an area of data-making on flora and fauna in service of a wide range of research objectives related to climate and environment issues, including sustainability, biological variety, and climate change. Ekström's approach to studying how data is made within the sociomaterial and complex informational space of biodiversity citizen science is exemplified by the quote above. The quote highlights a common first step in biodiversity data-making: observations made in the field by volunteers conducting plant and animal inventories in a specific area. Through interviews, participant observation, and trace data analysis and visualization (see Figure 1) conducted in a Swedish context, *Winding paths* seeks to follow the trajectories and transformations of biodiversity citizen science data from initial field observations to published datasets accessible in repositories such as Artportalen and iNaturalist.

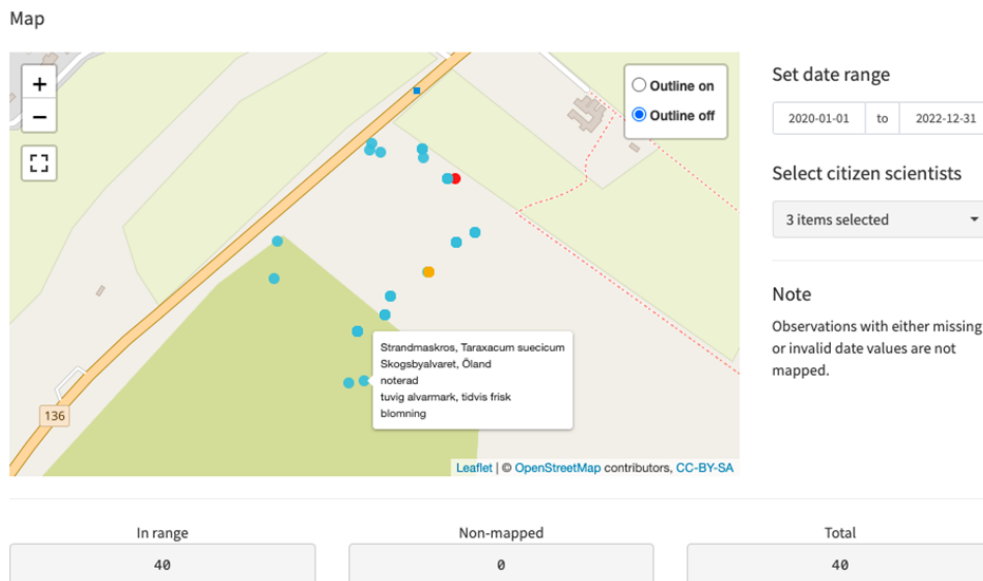


Figure 1. An example of how Ekström supplements his inquiries into data-making in biodiversity citizen science using a GIS-driven methodology based on participant observations and trace data analyses. (Ekström, 2024a, p. 12)

The path to *Winding paths*: theoretical and empirical underpinnings

Winding paths is based on four single-authored papers published in both LIS and science and technology studies (STS) outlets. The dissertation's theoretical foundation reflects this multidisciplinary approach: while the cornerstone of the framework for exploring citizen science data-making is practice theory—operationalized primarily through the concept of information practices—additional components are drawn from STS and STS-adjacent fields of research. These include, for example, boundary objects, epistemic objects, and theories addressing the interconnectedness social and material aspects in endeavors of humans (and things).

The dissertation's four papers demonstrate breadth and complexity in both conceptual and empirical work. The first paper (Ekström, 2022b) builds on a small interview study of biodiversity volunteers, supplemented with trace data analysis, to develop 'trace data visualization enquiry'. This visual method is designed to facilitate studying temporal and geographic aspects of information practices within scholarly settings. The second (Ekström, 2022a) and third (Ekström, 2023) papers report on a more comprehensive interview study of biodiversity volunteers. Together, these papers make two crucial contributions to the empirical findings of *Winding paths*: they offer a mapping of the nexus information practices enacted in biodiversity citizen science data-making and an analysis of how the fields' scholarly value base—specifically authority, credibility, and validity, to lesser degree quality and trustworthiness—arise from and throughout the same nexus of practices. Finally, the dissertation's fourth paper (Ekström, 2024a) applies Ekström's trace data visualization approach to, on the basis of participant observation of a field excursion, elucidate the opportunities and constraints offered by tools, repositories, and other material resources enacted in the information practices underpinning data-making in biodiversity citizen science.

Advancing trace analysis and the understanding of data trajectories

Ekström's *Winding paths* advances the state-of-the-art by showing how information practices of data-making unfold in biodiversity citizen science, convincingly highlighting the sociomaterial complexities inherent in these practices. A major finding in the dissertation is that data-making in this context is enacted through information practices such as observation, identification, reporting, collecting, and curating, validating, and making decisions based on species reports. These practices, as revealed through the dissertation's constitutive papers, emerge as interconnected, variable, messy, and constrained by the diverse sociomaterial realities at play. The identified information practices are shaped not only by the objects and information systems they involved but also by social dynamics. For instance, competition among volunteers is shown to impact the comprehensiveness of biodiversity data. Another important contribution of *Winding paths* is its analysis of the wide range of tools and resources—ranging from loupes to taxonomic features in data-reporting information systems—and their material qualities, which influence how biodiversity data-related information practices unfold through the mechanism of negotiation. These negotiations occur both in the field and during the critical data transitions, such as when species observations are transformed into observational data and when observational data is reported to repositories. Additionally, Ekström's dissertation contributes to a long line of studies (e.g., Faniel et al., 2016; Yakel et al., 2024) exploring how authority, credibility, and validity intersects with different modes of research-in-practice. While the manifestations and underpinnings of these values are relatively well documented in other collaborative settings, such as the wiki-domain and in other research environments (e.g., Rolland and Lee, 2013; Sköld, 2017), they remain comparably under-studied in the context of citizen science.

Ultimately, *Winding paths* addresses the questions it set out to explore and provokes new reflections and considerations. While trace-data analysis is not a new approach (cf. Geiger and Ribes, 2011; Schuurman, 2008; Sköld, 2013), it offers significant promise for understanding and reconstructing the practices and processes of human-machine interactions in information systems.

Despite its potential, this approach has seen relatively little research attention even as recent LIS studies have highlighted its great value (see e.g., Börjesson et al., 2022a; Börjesson et al., 2022b; Huvila et al., 2023). Ekström's contributions to trace methodology serves as a timely reminder of the many benefits that a more extensive use of trace data could bring to LIS inquiry. Equally important to discerning how varieties of trace data can be matched to different research objectives are the metatheoretical considerations raised by Ekström's contributions, particularly those underlined by the combination of trace data analyses with interviews and participant observations in this dissertation. Central to these considerations is the issue of how the often information-poor but quantitatively abundant characteristics of trace data can be combined with and support constructionist research ventures, where the research paradigm is frequently adapted to processing multifocal and 'rich' qualitative data.

Treading further down winding paths

Through messy and entwined practices, streamlined and tidy species data are eventually formed. (Ekström, 2024b, p. iv)

Winding paths also emphasizes the need for continued inquiry into the machinery of scholarly knowledge production, particularly the interplay of human and non-human actors and the structures that they work through, in relation to, and sometimes against. Ekström concludes that the information practices of data-making in biodiversity citizen science are simultaneously messy and orderly. In other words, the doings and sayings comprising these the practices are carried out in local settings using various of means and yielding different outputs, yet they remain but ordered within the teleoaffective constraints of information practices they manifest. Questions remaining for future research ventures building on the path set by *Winding paths* might explore the extent to which the 'orderly' set of biodiversity information practices are indeed 'messy', and to look for order in the diverse minutiae of action and tool-use in the field, among the bushes, reeds, and swarms of insects. Expanding on this line of thought, the depiction in *Winding Paths* of how biodiversity data travels from not seldom app-based observation sheets to pre-processed and downloadable datasets presents a fairly ordered and stable sociomaterial and epistemic world. Further inquiry into citizen science data-making could offer new insights by turning the analytical searchlight to find and reflect on also conflict, processuality, and ambiguity across the many settings and sociomaterial actors present in volunteer-driven science.

In summary, Ekström's *Winding paths* makes a notable contribution to information-practice research in scholarly settings, offering a comprehensive analysis of data-making in an area of science with notable importance and weight. Additionally, the dissertation provides methodological advancements in trace data analysis, with potential applications across a wide range of areas and topics within LIS research.

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Book review:

‘I can’t play God, you know’: Ethical dilemmas faced by archivists

Grönroos, I. (2025). “I Can't Play God, You Know”. Ethical Dilemmas that Archivists Face in the Assessment of Records from Social and Psychiatric Care. Doctoral thesis. Skrifter utgivna vid institutionen för ABM vid Uppsala universitet 11. 209 pp. Uppsala: Department of ALM, Uppsala University. ISBN 978-91-506-3082-4.

Introduction

Ida Grönroos successfully defended her PhD dissertation at Uppsala University in February 2025. In *“I Can't Play God, You Know”: Ethical Dilemmas that Archivists Face in the Assessment of Records from Social and Psychiatric Care*, Dr Grönroos considers how archivists navigate their dual role as part of societal interventions in people’s lives and as an impartial agent between individual and state. She draws on her own experience as an archivist and her work in a nursing home for people with dementia to understand and interrogate the issues that archivists face in the assessment of records from social and psychiatric care, which sometimes requires them to exercise judgement beyond what is knowable. Her dissertation makes a significant and original contribution to the growing literature on trauma-informed approaches to archives and the treatment of official records that hold highly personal data, such as files relating to medical and out-of-home childcare interventions.

Archivists who work in municipal and regional archives have many tasks and can wield great power, including deciding what records should be preserved for future generations and providing access to the records held in their archives. One important activity is to review closed files to which a user has requested access and to make decisions about whether the file should be accessed at all, in full, or with parts of the file withheld (the technical term is ‘redacted’). Often such files relate to sensitive and personal information about people who were in social or foster care as children or who were in a psychiatric hospital or under medical supervision. These files may be recent or date back several

decades and may relate to the requestor themselves or to their family members. In every case, the files hold highly personal information about citizens: reports, decisions, opinions and information which the state created in order to exercise control over the life of the citizen when they were ill or vulnerable. Such files therefore embody information inequalities between the state and the requestor or subject of the file. Social workers, medical and health practitioners, foster carers, teachers and others contribute to the creation of the patient file and the care record and these professionals generally have access to the file in order to provide social or medical care to the person. However, can the subject of the social care or psychiatric file have access to this information, if they ask to do so? Or are their information access rights restricted? And what is the role of the archivist in the process of deciding about access to the file? The issue that this dissertation examines is the bureaucratic role of archivists, as agents of the state, in deciding who may have access to information. The dissertation considers how public archives are entangled with societal interventions in people's lives and how archives are perceived as impartial agents between the state and its citizens. It considers how archivists make decisions about access to files, how individual archivists balance the legal rules around disclosure of official records and the ethics of care that they use to navigate decision making about access. Archivists take many issues into account as part of their decision making: privacy, access rights, the ethics of disclosure, vulnerability, and detriment, and the thesis shows that different ethical views may lead to different decisions about access. The gap between the law about disclosure and the practice of decisions about access in particular cases is navigated by archivists, who do their best to make good decisions in impossible situations.

Literature and disciplinary perspectives

As is usual in archival science research, this dissertation draws from a range of disciplinary perspectives, including archival science and information studies, social and management sciences, and philosophy. A key idea is around the nature of bureaucracy, defined in foundational work by Max Weber (1968), who identified a rules-based hierarchical ideal system, where experts make well-documented decisions. This system left little room for human intervention or the exercise of moral and ethical aspects of decision making. Archival scholars Michelle Caswell (2016), Anna Sexton (2023, 2025) and others have argued against this distancing of the bureaucrat as an impartial part of a system, calling for an ethics of care even in bureaucratic decisions.

A useful concept employed in this dissertation is the 'street-level bureaucrat', coined by sociologist Michael Lipsky (2010). This refers to public service workers who make complex daily decisions on matters which directly affect the lives of individual citizens; people such as police, nurses, teachers, and social workers. Grönroos suggests that archivists also ought to be seen as street-level bureaucrats, especially in their current paradigm, defined by archival scholar Terry Cook (2013) as societal mediators and community facilitators. In other words, archivists are now servants of the *citizens* more than they are servants of the *state*, and they should seek to document not only the evidence and actions of the state but also the social values in records that matter to citizens and communities. This requires archivists to be both impartial followers of legal rules around records, but also subjective interpreters of records and their meaning to individuals and communities. Archivists are thus expected to span the gap between law and ethics.

This dilemma has sometimes been characterised as a move towards the feminization of archival work, a move from masculine, legalistic ethics towards a feminist ethics of care. Dilemmas can cause stress and there is emerging scholarly work on grief and emotion by Jennifer Douglas and others (2022), Cheryl Regehr, Duff et al (2023), and on trauma informed approaches to archives by Nicola Laurent and Kirsten Wright (2020) in Australia. Several Swedish archival scholars have considered different aspects of the challenges that archivists face in being state employees, independent professionals, and the human face of state interventions. This dissertation takes some of these arguments further

and considers the relationships between the state and the individual, focusing on the discretion that the system allows bureaucrats to exercise. The idea of vulnerability and the need for archivists to assess detriment to individuals, both the requestor and others in the file, make navigating that discretion complicated. Individuals in the care of the state may lack the capacity to act or need reciprocity from the archivist, who must take the perspectives of other people into account when making decisions in order to arrive at a fair outcome. Consideration of information inequalities and asymmetries and societal inequities is a recent area of research within the wider topic of archives and power and the social contract, such as work by Anne Gilliland and James Lowry (2020) and Lowry (2019). Grönroos's dissertation suggests that the idea of narrative, that is telling a story about what is and is not recorded, may help the archivist to make decisions and help the requestor to understand both the decision and the information in the file.

Key issues and topics in the dissertation

Important concepts addressed in this dissertation are ethics and privacy. Ethics have been much discussed in archival science in recent years and a shift identified from accountability and rights-based interventions to an affective relationship with citizens based on radical empathy. The interaction of social justice and archival practices is complex. The right to information is argued to enable accountability, transparency and good governance.

Two ethical perspectives are identified as significant to this dissertation topic: first, legal ethics, the ethics of justice, law and the rights of citizens and secondly, the ethics of care towards the person requesting information that is highly personal to them. Much of the analysis hinges on these two frameworks and the balance between them in practice. Since this is a dissertation which is about the issues faced by archivists (rather than by others involved in creating and accessing records), Grönroos has drawn on qualitative data from interviews with 26 Swedish archivists from nine Swedish archives (all pseudonymised), supplemented by 'document ethnography' analysis of some sample care files. She presents a series of chapters which discuss different themes which derive from the data she collected. Grönroos poses two research questions in the dissertation. 1: how do the ethical questions which emerge in the data affect the focus of the archivists's work and the results of the assessments of files for access and 2: how do these ethical perspectives relate to the tasks which archivists carry out and their professional roles?

After the Introduction, Chapter 2 discusses bureaucratic narratives and the concepts of legal ethics and the ethics of care. This chapter considers the nature of care files, which are narratives constructed by social workers, medical practitioners and others, but which generally lack the voice of the subject of the file, i.e. the child or patient themselves. It considers whose story or narrative is captured in the file and who is entitled to read it. Care files are also often collective and multi-generational and contain many views and fractured stories. As Grönroos notes, the job of the archivist is not to give people peace of mind but to give them the information they are legally entitled to.

Chapter 3 focuses on the professional context for archival work. How do archivists do their work in practice? This chapter makes the point that 'document work' is not faceless bureaucracy but is work done by individual human archivists, so their private views and their public tasks come together in decision making, not always harmoniously. Archivists, even though they are state officials, need to bring themselves to their professional work in order to act with care and empathy. This chapter discusses a number of related ideas including trust. Care leavers and patients trust the state with their personal information and vulnerability, but a council may give a rather impersonal official response to their request for data. The archivist is a significant human mediator in the interaction.

Chapter 4 outlines the legislative context, the words and the law. Here Grönroos distinguishes between the role of the archivists, who make initial decisions about access to the file, and of the lawyers, who frame the basis for any appeals over access or redaction. The chapter considers some examples such as Britta's case where she wanted access to social service files for her parents and siblings in order to help her to understand what had happened in her childhood, but as the information belonged to other people, her request was refused twice, leaving her resentful of the council's behaviour. Her appeal was a legal right but in human and emotional terms it made things worse.

Chapter 5 focuses on privacy and the idea of detriment and how these can be assessed by different professionals. The capacity to define and control one's own data imposes obligations on others. The idea of privacy is multi-faceted and to give one person access to data may harm the rights of another person. When assessing files which document state intervention into the private sphere of the family, archivists have to mediate between the privacy rights of different members of a family and decide what individuals have a right to know.

Chapter 6 considers the rights of people who have died. Swedish law says that a dead person should be left in peace and that their will should be respected, even if that means that a living person is denied access. Again, archivists have to judge between detriment to the deceased and to the (living) requestor.

Chapter 7 presents recordkeeping and archival practices as forms of care. In this chapter, Grönroos considers power inequalities (I might extend this to information inequalities) between the archivist and the requestor. Her research has shown that some archivists employ a legalistic ethic in seeking to treat citizens equally under the law, while others might lean towards a care ethic in seeking to give as much help as possible while obeying the law. If archivists employ an ethic of care, does that make their decisions more arbitrary because it is more personal? Is it more honest to accept that records are a means of surveillance and control, and that decisions should be more purely legalistic? Archivists are professionals and have to exercise their professional judgement as best they can in each case.

This dissertation presents many interesting and complex issues, none of which has a simple or single answer. It shows us the power that archivists have not only over records but over people, and the need for archivists to judge difficult questions and make decisions. There are lots of ideas here about ways in which the current education of archivists in Sweden could develop to better prepare archivists for access and review work. Grönroos concludes that often there is no clear right decision, and that while this makes the work of archivists in deciding about access very difficult, nevertheless, archivists are well placed to try and balance the views of jurists, social workers and medical professionals, operating at the intersection of the individual and the state, past and present, the living and the dead, care and control.

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