



## OPEN ACCESS

## EDITED BY

Jacqueline Hendriks,  
Curtin University, Australia

## REVIEWED BY

Mark Vicars,  
Victoria University, Australia  
Jessie Ford,  
Columbia University, United States

## \*CORRESPONDENCE

Jennifer Power  
✉ Jennifer.power@latrobe.edu.au

RECEIVED 15 March 2024

ACCEPTED 20 September 2024

PUBLISHED 09 October 2024

## CITATION

Power J, James A, Waling A, Pym T and  
Lim G (2024) Digital sexual literacy: the  
potential for online spaces to support sexual  
literacy among young people.  
*Front. Educ.* 9:1401252.  
doi: 10.3389/feduc.2024.1401252

## COPYRIGHT

© 2024 Power, James, Waling, Pym and Lim.  
This is an open-access article distributed  
under the terms of the [Creative Commons  
Attribution License \(CC BY\)](https://creativecommons.org/licenses/by/4.0/). The use,  
distribution or reproduction in other forums is  
permitted, provided the original author(s) and  
the copyright owner(s) are credited and that  
the original publication in this journal is cited,  
in accordance with accepted academic  
practice. No use, distribution or reproduction  
is permitted which does not comply with  
these terms.

# Digital sexual literacy: the potential for online spaces to support sexual literacy among young people

Jennifer Power\*, Alexandra James, Andrea Waling,  
Tinonee Pym and Gene Lim

Australian Research Centre in Sex, Health and Society, La Trobe University, Melbourne, VIC, Australia

**Introduction:** Health literacy is defined as the capacity, resources and insight to seek information, ask critical questions and be an advocate for one's health. Sexual literacy is framed in similar terms, relating to the capacity to navigate emotionally and physically safe sexual encounters and to hold a critical and assertive stance on relationship dynamics, gender and consent. In this paper, we present findings from a qualitative study that explored how young people's use of the internet develops sexual literacy.

**Methods:** In-depth interviews were conducted with 22 young people (aged 18–25). Interviews explored the ways in which young people participate in online spaces to learn about sex, relationships, bodies and other aspects of sexual health. Data were analysed using qualitative, inductive thematic coding techniques.

**Results:** Young people described learning about sexual health online as a process of exploring ideas, topics or experiences (going down 'rabbit holes'). It was rarely the case that young people searched for specific information. Young people described engaging with multiple sources of content and multiple people online to learn about relationships or sex. This was often personal. Young people wanted to understand their own experiences and hear stories from people with similar experiences. Engaging with multiple sources, stories and people enabled critical reflection and peer-based learning.

**Discussion:** Building sexual health literacy is not simply about providing young people with sexual health information. Rather, it is about supporting young people to develop critical insight and capacity to reflect deeply on experiences and issues that affect their sexual relationships. The online environment supports sexual literacy as it enables critical inquiry, access to multiple perspectives, peer connection and personal reflection.

## KEYWORDS

sexual literacy, online, digital, health promotion, young people

## Introduction

Digital media and online environments play an increasingly important role in sexual health education. This includes facilitating young people's learning about sex, sexuality relationships, gender and bodies, as well as clinical aspects of sexual health, such as the prevention of sexually transmissible infections (STIs) (Döring, 2021; Farrugia et al., 2021;

Waling et al., 2022a). In part, online spaces are important because they host a vast array of sexual health content via various mediums (e.g., video, podcasts, social media, websites, and smart phone apps) and are spaces where that young people can access content privately, which is important for issues that are sensitive, embarrassing or stigmatized (Abdulai et al., 2022). Significantly, online spaces are also increasingly relevant for sexual health because this is where young people gather and spend a lot of their time socializing (Albury, 2018; Albury and Byron, 2018).

In this paper, we explore the extent to which online environments can support sexual literacy among young people. Conceptually, the term ‘sexual literacy’ (which is often used interchangeably with the term ‘sexual health literacy’) extends beyond the acquisition of information or knowledge. It draws from a complex definition of ‘literacy’ which involves both technical skills in reading and writing and insight into the complexities of human communication – understanding, being understood, and recognizing nuanced cultural cues and symbols (Schulz, 2012; Herdt et al., 2021). Sexual literacy refers to the capacity to make sense of, and communicate about, knowledge related to sex, sexual bodies, gender, sexuality, relationships, and sexual rights. Attaining a level of sexual literacy involves some knowledge of sex, bodily processes and sexual health as well as having a culturally grounded understanding of processes that shape one’s experience of sex and relationships, including factors that may impede sexual health. As such, interventions which aim to build sexual literacy are not just about providing sexual health information but are about building insight into social and relational aspects of sex. This may include insight into cultural, social and political processes that support, or undermine, people pursuing a safe and pleasurable sex life. It may also include critical insight into navigating health systems (Martin, 2017; McDaid et al., 2021). This concept of sexual literacy draws on holistic definitions of sexual health, which emphasize sexual health as being more than the absence of disease (World Health Organisation, 2006). ‘Good’ sexual health requires the opportunity and capacity to pursue consensual, safe and pleasurable sexual relationships (Gruskin et al., 2019). While the online environment clearly offers capacity to impart sexual health information to young people, such as through websites and videos, this is just one part of a comprehensive definition of sexual literacy. In this paper, we explore the extent to which online spaces have capacity to support sexual literacy among young people.

## A feminist approach to sexual literacy

The concept of sexual literacy sits in parallel with a broader definition of health literacy, articulated as having resources and capacity to access, understand, critically assess, and draw from health-related knowledge to take action to improve or maintain one’s health (Nutbeam, 2008). The capacity to access knowledge and take action, however, is largely dependent on resources. People with greater material wealth, cultural capital or opportunity will have greater capacity to access health information and make critical choices about how to draw from this knowledge to improve and sustain good health (Sørensen et al., 2012; McDaid et al., 2021; Power et al., 2022). Knowledge or information alone do not support health if people lack the capacity to act. Health literacy, therefore, is about supporting people or communities to build insight into factors that may be a

barrier to health, or taking action to support one’s health (Schulz, 2012).

This point is well made by Jones and Norton (2007) in their study of sexual literacy among young women in Uganda. As Jones and Norton write, in this setting, young women are “subject to powerful and restrictive sociocultural practices and beliefs that profoundly undermine their autonomy and decision-making abilities” (pg. 299). Knowledge of how to prevent unwanted pregnancy or STIs is insufficient for these young women to ensure their sexual health. They may not have capacity to reject sexual encounters or insist on condom use due to gendered power imbalance in their sexual relationships. Likewise, prevailing social or economic conditions may make condomless sex a desirable option in some instances. Sexual literacy for these young women must therefore also involve development of critical insight into gendered social norms, the expectations and treatment of women and girls, and the barriers and challenges they face in enacting practices which may protect their sexual health. Sexual literacy is different to sexual health promotion interventions which seek to address cultural and material conditions (e.g., micro finance or capacity building programs) to create ‘enabling environments’ for good health (Nutbeam et al., 2018). However, it is related to the extent that it recognizes that providing sexual health information is not enough to give value or purpose to such information. Material, social and cultural conditions matter (Jones and Norton, 2007).

Feminist health literacy has focused on the ways in which knowledge can be used to promote critical insight into gender-based inequality, including inequalities in health systems that affect women. Health literacy may involve provision of knowledge that supports women to effect personal or political change (Jones and Norton, 2007). In the introduction to a collection of essays celebrating the legacy of the iconic feminist health text, *Our Bodies Ourselves* (OBOS), originally published by the Boston Women’s Collection in 1970, DiCaglio and De Hertogh (2019) describe the effort to develop women’s health literacy through OBOS as “system disrupting” because the book encouraged women to view themselves as experts in their own bodies and question how, and by whom, decisions about their health were made. This challenged the conventional, gendered power structures of medicine:

As a set of instructions for women, the original edition functioned to encourage women to see themselves as a “potential expert” and to attempt to change the system of medical care for women ... This “system-disrupting” nature sets the book apart from other health manuals even today, which still often suggest that women should see themselves as inexperienced patients (DiCaglio and De Hertogh, 2019, page 565).

The ‘health literacy’ which OBOS sought to build included political and personal insight into how gender-based inequality affected women’s health and their sexual and reproductive decision-making. Since the 1970s, OBOS has been updated in subsequent editions to also be inclusive of intersectional forms of inequality, namely the relationship between gender, sexuality, race and ethnicity (DiCaglio and De Hertogh, 2019). Feminist approaches to health literacy emphasize the political nature of health-related knowledge, particularly in gender-based inequality and sexual health. Drawing from this framework, a feminist sexual literacy would be defined by a

capacity to make sense of sexual experiences and relationships in the context of gender-based power dynamics and other intersections of inequality.

In this project, we are interested in the extent to which the online environment has capacity to support young people to build this critical insight into themselves and the social dimensions of sex and relationships. There is a vast amount of online content related to sex, gender, bodies, relationships and other aspects of sexual health (Döring, 2021). However, we do not know whether young people engage with this content in ways that support personal or critical insight into the political or social aspects of sexual health.

## Learning about sex and relationships online

The range of content available online related to sex, sexuality, relationships, bodies, gender, or clinical aspects of sexual health is vast (Simon and Daneback, 2013; Waling et al., 2019; Döring, 2021). It also takes a variety of forms. Many sexual health or youth health organizations publish websites for young people with comprehensive sexual health information and links to further information or services and, in some cases, interactive content, such as question-and-answer forums (Aicken et al., 2016; Martin, 2017). Smartphone apps are also a popular way to provide educational content to young people or to connect them with services or supports (Albury, 2019). When it comes to sexual health promotion messaging, however, social media is a major medium through which young people are reached (Döring, 2021; Fowler et al., 2022). This can take the form of paid advertising to deliver health messages or health promotion agencies creating a 'presence' on social media—attracting followers, following other's content and creating a presence through commenting on posts, and producing their own content. In some cases, people with an existing social media presence may be engaged by health agencies to deliver content or promote advertising messages (Döring, 2021).

The online environment, however, goes far beyond conventional health promotion in which health messages are generally devised through 'experts' or health agencies (Albury and Byron, 2015; Albury, 2019). Content related to sexual health is produced by a wide range of people and much could be described as 'info-tainment' (Albury and Hendry, 2023). For example, social media forums have an increasing number of 'influencers' who post content related to sexual health, such as feminist posts on TikTok about sexual pleasure or doctors who create short, often funny but informative, videos about health issues (Van Eldik et al., 2019; Fowler et al., 2022; Stein et al., 2022; Albury and Hendry, 2023). There are also a large number of podcasts and video channels relating to sexual health, such as YouTube channels produced by sex therapists that discuss a range of sex and relationship issues and 'agony aunt' style advice podcasts (Döring, 2021; Porter et al., 2021; Albury and Hendry, 2023). Online forums, such as Reddit and Quora also often facilitate anonymous forums in which people pose questions or seek advice about sex or relationships (Yeo and Chu, 2017).

Young people are likely to use the internet to learn about topics not routinely taught in school-based relationships and sexuality education (RSE), such as the mechanics of sex (e.g., what to do in a sexual encounter), navigating the complexities of relationships (e.g., seeking advice following a relationship breakup), understanding

sexuality or gender diversity, or concerns about body image or appearance (Flowers-Coulson et al., 2000; Suzuki and Calzo, 2004; Levine et al., 2008; Simon and Daneback, 2013; Waling et al., 2019). Others may use online networks to connect with different communities or people with similar experiences, particularly sexually and gender diverse young people (Simon and Daneback, 2013; Waling et al., 2019). Often young people seek advice, reassurance or connection, more so than information about sexual health (Basinger et al., 2021). For example, an Australian study involving a content analysis of search terms entered in online youth sexual health forums showed that young people were often seeking information about themselves, such as whether their body is 'normal'. However, young people also asked questions about possible STI symptoms or signs of pregnancy (Cohn and Richters, 2013).

There is a burgeoning body of research that looks at the impact or outcomes of online sexual health promotion on young people's sexual health knowledge or practices (See for, e.g., Guse et al., 2012; Marques et al., 2015; Decker et al., 2020; Scull et al., 2022). While it is beyond the scope of this paper to offer a comprehensive review of this literature, studies show that online content can support learning about STI and HIV prevention (e.g., Wadham et al., 2019) and that influencers can play a role in creating awareness about sexual health or encouraging particular practices, such as STI screening or condom use (e.g., Wu et al., 2019). We know less about the role that the online environment plays in building critical insight into sexuality and sexual health, or the ways it facilitates other processes that may support sexual literacy such as community engagement or peer-to-peer learning (Albury and Byron, 2015; Albury, 2018; Albury, 2019).

## Conceptualizing online engagement

Albury and Hendry (2023) argue that, when conceptualising online sexual health promotion or education, we need to think beyond production and consumption of information. The online environment is not a site (or collection of sites) that are primarily used for acquiring information. Instead, online engagement is more accurately conceptualized as a form of participation in spaces, cultures and networks. Even where people consume information (e.g., read articles or other online content) this is done within the cultural codes of that online space, and often involves social elements such as commenting or sharing content. As Albury and Hendry write,

Information may be shared or acquired, but this occurs in the context of a cultural practice, as part of shared feelings, senses and aesthetic experiences. Here, digital communication takes place in (or aspires to create) community (Albury and Hendry, 2023, page 640).

Young people gather in online spaces where there are exchanges of ideas, information, attitudes, opinions, beliefs, feelings. This is not uniformly positive, of course, and can involve the development of highly cynical or dangerous collectives or abusive online cultures (Pilgrim and Bohnet-Joschko, 2019; Albury and Hendry, 2023). However, there are multiple examples of online communities and networks that do seek to make positive change or support people, such as networks for lesbian, gay, bisexual, trans, queer, asexual and

gender diverse (LGBTQA+) young people or digital activism relating to sexual rights, such as the #METOO movement (Byron and Hunt, 2017). Within this framework, imagining the process by which online spaces may support sexual literacy is not an exercise in evaluating content related to sex or health but in trying to make sense of the ways in which young people learn about themselves or others, or learn about ideas and opinions, in spaces where people (virtually) gather.

## This paper

In this paper, we report findings from a qualitative study in which we interviewed 22 young people about their engagement with the digital environment. We looked at: whether the online environment provides accessible knowledge and information about sex, relationships and bodies; opportunities for young people to talk about sex, relationships or bodies (with friends, experts, peers); and opportunities for critical political or personal reflection about sex, relationships or bodies.

In line with feminist approaches to sexual literacy, our analysis draws from Bay-Cheng's (2017, 2019) critical approach to sexuality education. Bay-Cheng (2019) argues that neo-liberal approaches to sexuality education often draw on concepts of developing 'sexual empowerment' or 'sexual agency' among young people, young women in particular. The idea that 'empowerment' can be taught, while well intentioned and valuable to some extent, can also have the effect of minimizing structural and cultural inequalities and injustices that can place young people in situations where it is impossible to demonstrate 'sexual agency' in normative ways. Bay-Cheng writes,

Locating power completely within the individual is exciting and inspiring when talking about success. But when it comes to failure, these messages shame individuals for not being up to the task of being neoliberal agents (2017, page 346).

With this in mind, our aim with this analysis is not to interrogate the extent to which online spaces support individuals to enact a prescribed set of skills or capabilities, or to demonstrate achieving a level of sexual literacy. Rather, we aim to understand how the digital environment may support a critical engagement with issues related to sexual health or extend young people's opportunities to reflect on, or respond to, their social circumstances in relation to sexual health. We draw on Bay-Cheng's nuanced definition of sexual agency as, "individuals' efforts to influence their immediate experiences and/or the longer courses of their lives through sexuality" (2019, page 463). Agency, in this sense, is always contextual, specific to circumstances and related to an individual's capacity to act within frameworks of power and inequity. Literacy can be seen in similar terms as a set of practices or capacities that are connected to social and individual resources, bodies, relationships, community networks, sexual and gender politics, and the technologies through which young people live their everyday lives (Fox and Bale, 2018).

A note about language: we use the term sexual health in this paper to mean a range of potential topics including bodies, sexual consent, sexual wellbeing, healthy relationships as well as clinical aspects of sexual health such as STI prevention. In cases where we intentionally

refer to a specific element of sexual health, such as HIV or STI prevention, we use this specific terminology.

## Materials and method

Ethics approval for this project was received from the La Trobe University Human Research Ethics Committee (HEC20223) as well as two community-based ethics review boards, Thorne Harbor Health and ACON. These community boards specifically review research related to LGBTQA+ communities. The approval was sought to ensure the study could be promoted to queer young people as part of a broad advertising and recruitment strategy.

Twenty-two semi-structured interviews with young people aged between 18 and 25 years and living in Australia were conducted in 2021. Although we were interested in the experiences of younger teenagers, participation was restricted to people aged 18 years or older as the interviews potentially touched on use of pornography and sexually explicit material, which can be legally and ethically sensitive in research with children and young people. Participants were asked in interviews to reflect on their experiences as a younger teenager, particularly their experiences while at school.

All interviews were conducted via Zoom (audio and/or video, or via the instant messaging chat function). While it was not part of the study focus, it is notable that in 2021, Australia, as with other countries, was experiencing periods of social lockdown as part of public health responses to Covid-19. It is possible that speaking about online sexual engagement was particularly pertinent in this period. People may have been more responsive to the advertisements, or more tuned into the topic, because digital media played a greater role in people's social and intimate lives as a result of Covid-19 lockdowns (Watson et al., 2021).

The study was advertised on social media, Facebook and Instagram. The advertisement invited people to click on a link which took them to a webpage containing further information about the study and the option to provide contact details and complete a short survey which asked about demographic characteristics. This was to ensure participants were eligible for the study and to enable researchers to select a range of participants based on diversity of characteristics: age, gender, sexuality, rurality and ethnicity. As a small, yet diverse, range of participants expressed interest in the study all those who completed the survey were invited to participate. Eligible participants were contacted by a researcher who provided further information to ensure they could give informed consent and arrange interviews.

Interviews commenced by asking participants to describe what they considered to be sexual health. Subsequent questions asked people about their experiences of learning about sex, relationships, bodies or sexual health online so that it was clear to participants that we aimed to adopt a broad perspective on sexual health and sexual literacy in the interview. In relation to learning about sex, relationships, bodies or sexual health online, participants were asked: whether they had engaged with online resources or spaces, the ways in which they preferred to learn, where they had encountered learning, and what they considered to be the benefits or risks associated with online environments. Participants were also asked about their experiences of face-to-face learning about sex, relationships, bodies or sexual health from parents or in RSE and were encouraged to consider how this

differed to the content they engage with, or what they learn about, in online spaces.

Data analysis was initially undertaken by one researcher using a set of *a-priori* codes which related to: how people described or understood sexual health, topics of importance to young people, processes for searching for online content, types of online mediums or platforms engaged with, the nature of online engagement with others, perceptions of risk and benefit of online engagement, capacity to critically assess online content, and ideas for how to support RSE in online environments. Alongside this, following Braun and Clarke (2019), an inductive coding process was used to identify codes not recognized in the frame, as well as sub-codes, reflecting broadly on the concepts of learning about sexual health and online engagement outlined above. Themes were developed through development of analytical memos and several meetings of the research team to discuss how to interpret codes and develop themes. Themes related to processes for learning about sex, relationships and bodies online, engaging with others online to learn about sex, relationships and bodies and critical engagement with online content. The findings presented in this paper relate specifically to the development of sexual literacy. Other findings have been published elsewhere (Waling et al., 2022b). For this paper, two researchers independently recoded the data using an iterative method that draw from constructivist grounded theory (Charmaz, 2017), in which the concepts of sexual literacy and sexual agency informed identification of codes and the development of core concepts or themes. Draft themes were: (1) the internet allows for a 'patchwork' approach to learning about sex, bodies and relationships; (2) young people learn about sex, bodies and relationships online through talking and interacting and searching for other people's ideas and opinions; (3) sexual health information is complex and multi-faceted and this is reflected in the ways people learn online; (4) online spaces provide opportunities for self-reflection and that is what people want; (5) young people want to meet others online or hear stories that reflect their own experiences; (6) opportunity for self-reflection and critical engagement and challenges and barriers to online engagement; (7) nothing is straight forward and people learn over time/as they get older how to make the most of the internet. The research team collectively refined and articulated these themes through the process of writing this paper.

## Participants

There were nine participants who identified as a man/male, seven as a woman/female, four as non-binary, two as trans (one person identified as a trans man and one as a trans woman/trans femme), two as genderqueer and one used other terms to describe their gender. Note, several participants identified with more than one gender. There were seven participants who identified as heterosexual/straight, seven as bisexual, seven as gay or lesbian, one as queer and one as omni-sexual. Several participants identified with more than one sexual identity. Most participants ( $n=18$ ) resided in a suburban area or capital city and/or inner suburban area. There were four participants from regional/rural areas. Most participants ( $n=18$ ) were born in Australia although they described a range of ethnicities: 12 described their ethnicity as Anglo Celtic, white or European, seven identified their ethnicity with Asian countries including China, Malaysia, or

Singapore, one participant was South African, and one was Croatian. No participants were Aboriginal or Torres Strait Islander. Six participants indicated that they were living with disability, were neurodivergent or were experiencing a long-term chronic illness that affected their day-to-day life. Three participants indicated they were currently religious, while the rest held no religion or identified as atheist or agnostic.

## Results

Young people in this study did not describe learning about sexual health online as a neat process of searching for answers, or even having definable questions about sex and relationships or sexual health more broadly. Rather, they described processes of exploring multiple sources and engaging with multiple people to get a sense of what was going on in relation to the issues they were concerned about or interested in. The findings also showed the extent to which sexual health learning was personal. These young people were not searching for abstract information about their health or sexual practices. Rather, they were wanting to learn about themselves and make sense of their own experiences. The following presentation of findings is focused on the ways young people described how online spaces facilitated these processes of learning.

### The internet facilitates self-directed inquiry and exploration about sexual health

Participants had varied perspectives on how they might be likely to approach learning about sexual health online, including the issues they would be likely to explore, the questions they may want answered, and the type of medium they preferred for talking or learning about sexual health (e.g., YouTube, websites, discussion forums). Common to most interviews, however, were participant's descriptions of a 'patchwork' approach to online engagement. No-one spoke about finding one particular site or source of information to learn about sexual health. Rather, they described the ways they read across multiple websites; how they participated in forums or social media while cross-checking ideas or information on various websites; or how they followed 'influencers' or particular content creators, but also read up on particular issues when they wanted to know more. Several participants described an approach to online engagement that involved following multiple links or ideas – going down the virtual 'rabbit hole'. This process of engagement facilitated a type of bespoke learning about sexual health in which participants were able to engage with issues, concerns or questions that were personal and immediate to their needs, while also connecting them with sources they valued and trusted. For example, Hannah (aged 20) subscribes to content produced by a range of creators, largely sexologists and queer community creators on YouTube, which she described as exposing her to conversations she would not be likely to have elsewhere and in a forum where she can easily cross-check information. Hannah said,

I kind of prefer a bit of a mix between those personal lived experiences and stories, and that more solid information, facts, type thing, because I think it can definitely have a lot more of an impact on you if it's more of a personal experience, but I think

definitely there would need to be incorporation of those facts and traditional education type stuff, yeah.

Hannah's experience was typical of many participants, in that it involved multiple information sources and a process of following up information on various sites. Others expanded on this, describing a process of slowly working out sources, creators, organisations or locations that aligned with their identity or interests, and that they trusted. Gabriel (age 20) said,

[Like] you will start with one link and basically in like the next couple minutes or even couple of hours or such like that you would be onto new terms and stuff.

This process of learning was particularly relevant to LGBTQA+ young people who were often figuring out their own experiences, feelings and identity. However, it was also about developing a deeper understanding of complex issues and working out which information to trust. Ashton (age 20), for example, told us that the internet is useful for official government information that's "evidence-based" and "prioritize[s] safety" and which cited statistics and references to support it. However, he also scanned blogs or forums that were enjoyable and engaging to read and included "personal experiences or complex situations" or "trivial dating advice." He wanted to compare multiple sources of information for queries where there are no clear-cut answers. Kaleb (aged 20) similarly talked about how he would follow up any ideas, opinions or information whose credibility he was unsure of with further searching and reading. Kaleb said,

If it feels like I've got a definitive answer from like the first place I look, say like a Reddit forum, then I feel like I'd stop there. But if I'm like I don't really trust these people's opinions or, this just seems wrong, I feel like I'd go further into it.

For young people in this study, the form and function of the internet allowed them to move easily between multiple places and sources—sometimes concurrently—whilst engaging with a wide array of content. This facilitated a level of critical engagement with the ideas or content they encountered. Young people were not passively absorbing information about sexual health, but actively seeking content that was relevant and of most interest to them. They were also very attuned to the creators and sources of content, but, like Kaleb above, willing to question and critique sources they did not trust. The process of engaging with multiple sources and ideas, and cross-checking information, encouraged a critical approach to learning about sexual health.

## Gathering online facilitates learning about sexual health

Previous researchers have noted that we need to think about the internet as a place in which people gather or participate (Albury and Hendry, 2023). This has relevance for sexual health promotion because it means that, rather than thinking about content that needs to be created to inform young people (e.g., a website), online sexual health promotion is about engaging with people in social spaces (Albury, 2018; Albury and Hendry, 2023). The findings in this study

support this perspective. Participants described their online engagement in terms that revealed their awareness of, and contact with, others in those spaces. For example, in describing her engagement with sexuality/sex therapy and queer content creators on YouTube, Hannah (aged 20) said that the creators are often oriented toward engaging with followers and building a community around their content. Hannah said,

Yeah and I also think it creates a bit more of a community I guess as well, especially as, like, a queer woman, it's like that sense of community I guess and kind of education that you don't really get too often in more of the mainstream stuff, yeah.

Diana (aged 25), a trans woman, similarly described the importance of online community to her when it came to learning about her gender and sexuality. In part this was because it exposed Diana to multiple perspectives on complex issues and helped her to make sense of her personal experiences. Diana did not, however, go online to seek out information or in response to any particular concerns or queries. Rather, her general online engagement led her to communities through which she was gradually introduced to new ways of viewing the world and herself. Diana said,

When I was a teenager, Twitter was incredibly important in developing my sense of sexuality and gender and stuff like that, even if I didn't really know it at the time, because I was interacting and listening to a lot of perspectives from trans women and queer people, and from there I kind of understood a lot more than any really, any kind of deliberate resource ever did. And I feel like a lot of that kind of just interaction with people who I felt similar to, ... and hearing them explain why things are good or things are bad or why they like the things that they like, especially when it's around such tricky things like gender, were much more helpful than reading it ... And when I was trying to learn about this stuff, I wasn't trying to learn about it, I just kind of listened to a lot of stuff and then just kind of eventually it seeped into my brain and then like, then it worked.

Diana's experience is, to some extent, what is unique about the internet in that there are opportunities to find connections or ideas even if someone is not clear about what they are wanting or needing. There is a lot of interaction and communication to tap into. This also generates support networks. Kit (aged 22) described how the internet enabled them to find other people with similar lived experiences. It was in these groups that conversations about sex or relationships came up. Kit stated,

I'm on a couple of autistic Facebook groups because I'm autistic myself and there is quite often questions about, like, what do we do about sex especially in terms of, like, over-stimulation and stuff like that. These are things a lot of people wouldn't think about ... You will get people in my disability groups in my gender groups asking about specifically like sexual relationships, romantic relationships like how that works and if anyone has any tips to make it work and stuff like that.

Ellis (aged 24) similarly spoke about being part of multiple different groups online in which they learned a lot about sexual health through everyday conversations. Ellis said,

I guess, from actually having real contact with people who kind of pointed out places where my understanding was wrong, or were just willing to listen to me asking questions or you were creating material that was more healthy and more talking about relationships, and actually mentioned things like new safe sex and the STDs being a reality and that type of content, I guess. And from there, yeah, that's kind of started. And I do remember going back again, looking for more answers from official sources.

As well as developing a sense of community, some participants spoke about the ways in which sexual health content became part of a group conversation. Lydia (aged 21), for example, spoke about accessing forums where people sought relationship advice from other forum participants. These forums tended to draw in a lot of people in and were often shared around in ways that created multiple conversations about the issue or query posed. Lydia said.

I think the responses [to questions posed on the forum] generally are pretty helpful. I mean, some of them would just be people tagging their friends saying, 'Hey, come look at this.'

Similarly, Jules (aged 18), spoke about posting questions on Quora or other sites and finding a range of perspectives or responses that were helpful, but also represented what other people were dealing with. Jules said, "It was definitely good to know I wasn't alone in whatever I was needing help with, and to hear advice from people who know firsthand."

Overall, *people* were very present in participants' description of learning about sexual health online. Participants did not talk about websites or resources as much as they did their interactions with other people online, including content creators or the followers of creators. This was not only a reflection of the ways that young people tend to think about the internet, as a place for chatting or connecting, but also speaks to the processes of learning about sexual health that young people valued, such as space to hear others' opinions, and opportunities to feel validated and not alone. For sexually or gender diverse young people, learning about sex and relationships relied heavily on developing affiliation with others who had similar experiences or identities, something facilitated through online interactions.

## The internet can facilitate access to personal stories that enables personal reflection

As described in the above section, many participants spoke about using the internet to seek personal stories or advice from people they relate to, or with whom they have had similar life experiences. Seeking relationship advice or support was mentioned by many as something that initiated their engagement in online spaces, others were also interested in testing whether their perspectives aligned with others. Kaleb (aged 20), for example, stated that the online environment was the main place he was able to find people with relatable experiences, which he found valuable. Kaleb said,

It's 100% the personal story [I am looking for] ... I don't think people, like, when they, like, look for this kind of stuff they're

looking for something that's like peer reviewed and credited ... They just want something that's personal and kind of, like, matches their current situation ... It is, like, you can type anything, put Reddit at the end of it and then some guy like 10 years ago has the exact same situation as you.

For Kaleb, these forums helped him find reassurance and to realize he was not alone in his situation or feelings, via a process that was relatively low investment—he did not need to reveal too much about himself or even try very hard to find that person who had a similar experience. This type of content and connection is readily available online. Kaleb also found these forums useful for challenging his perspective, stating, "My judgement might be clouded because I'm really in love with this person, or I've had bad past experiences, let us get other people's opinions that aren't swayed by my biases."

Diana (aged 25), similarly looked for personal stories online. Diana pointed out that "people being themselves on the internet" would be very hard to replicate in "official" education content. This authenticity was seen as unique to this environment, where networks of people were constantly sharing parts of themselves and their experiences. Diana said,

But yeah, I think that one thing that I credit with more than anything is like people being themselves on the internet and talking about their lives and going, like, oh wait yeah this maps up to this and this maps up to this. And I can find these parallels in another person's experience and I can go, oh, okay maybe I should think about this.

Wren (aged 23) also described online engagement in sexual health as often starting from a personal experience or question. Recalling an experience when they were younger Wren said,

So I just started with a really, really broad sort of search just like, basically, because I had fallen in love with my best friend. So, I ended up just looking up ... how do you know you're in love with your best friend? It really started as simple as that. And then once I read through a few articles, and was like, okay, I think this applies to me. Then I went from there to be like, how do you know that you're, that you're gay? Because I thought I was gay at the time.

Seeking insight from others about their relationships was one way participants described using online content to facilitate self-reflection or insight. Others, however, spoke about what they gained from exposure to different perspectives. Kaleb (aged 20), for example, described how he felt that he was very much still learning about sex and sexuality and that he continually picked up snippets of information or ideas from the internet that led him to think about himself, or that he reflected on. Kaleb said,

I find sometimes you learn a lot from social media platforms about like what the norms are, especially regarding sex, it's like oh you didn't understand that either, it's like oh you only learnt that as well now, it's like oh that's the thing, like ... Sometimes yeah just like people sharing their experiences in like a random tweet, it's like did you think this was this up until that age, or like are

you normal, and then the tweet has like 300,000 likes and people resonate with it.

Participants' descriptions of seeking self-reflection or insight reveal what they valued about the internet as a place to connect with others and find people and stories with which they felt some affiliation. Self-reflection, however, is more than affiliation or connection with others, it is also a process of checking one's experiences or ideas against others, of questioning where one sits in the world, or where one's values align. Several participants spoke about this as being part of how they learnt about sex and relationships.

## Learning about sexuality and sexual health is complicated: where to begin is not obvious

As Wren's quotation in the previous section showed ("So, I ended up just looking up... how do you know you are in love with your best friend?"), many young people in this study described challenges to learning about sexual health online that related to the complexity, or vagueness, of what they were wanting to know. This was particularly the case when they were younger teenagers. They did not necessarily understand what they wanted or needed to learn about, or what issues they were worried about, or what they needed to be resolved. Nor did they necessarily know where to start with learning. Most said they felt more confident with this as they grew older and had more sexual experiences.

Online spaces were both a challenge and a resource for young people in beginning to explore sex and relationships. The benefit, of course, was the opportunity provided by online spaces for young people to explore multiple queries or issues. For Wren, searching "how do you know if you are in love with your best friend" led down a rabbit hole where they eventually came to reflect on their sexuality. Similarly, Kit (aged 22), spoke about their experience as a teenager in which they were figuring out their sexuality and gender identity through a process of searching. As a person who is asexual and non-binary, it was not straightforward for Kit to find information online as they did not necessarily know the search terms to input or what they were looking for. However, gradually, they found social media sites and groups with which they felt aligned, and their learning grew from there. Kit stated,

It was still a process. I had to look at multiple different websites and you'd have some information that kind of conflicted with each other and then like you start looking at Facebook groups and stuff and they start recommending what organizations you should be looking at because they have kind of figured that out before you.

However, for other young people, the online environment was a challenge to the extent that finding relevant content can be difficult, and knowing how to access relevant spaces takes time. Many described that, as a younger teenager, they found it much more difficult to engage with online content relating to sex because they felt less confident or more embarrassed to search for sex-related content. For some, this was a general, almost abstract, embarrassment while others spoke about finding online porn to be confronting, something they inevitably came across. For others, such as several participants who

were raised in conservative households, they were genuinely concerned about their parents reacting badly if they saw their web browsing history. Others stated that they found sexual material intimidating or not well targeted to their age group. As Hannah (aged 20) said,

As a 15–16-year-old, looking stuff up, I found quite a lot of it was a bit more targeted at the more adult crowd ... I think, on YouTube, I found that a lot of the time it is more targeted at a bit more of an adult audience.

Many participants spoke about developing confidence to engage with spaces or content related to sexual health as they grew older and became more familiar with it and/or as it became more normal in their friendship circles to talk about sex.

Some participants expressed their frustrations that relevant content or connections could be hard to find, even in a diverse online environment. Two participants with disability, for example, mentioned their challenges finding relevant information about disability and sexuality, as Ira (aged 18) said, "So I'm a wheelchair user. So, if anything, I find it hard to find disability related content. And then, you know, it's really hard to find queer related stuff. So, then it's even a nightmare to find ones that actually include both that intersect." However, several young people observed that this issue was not unique to the internet. The internet, in this way, reflects broader understanding and attitudes toward sexuality and bodies.

## Discussion

The definition of sexual literacy we adopted for this study articulates 'good' sexual literacy as the capacity to access, make sense of, and communicate about, knowledge related to sex, sexual bodies, sexuality and sexual rights. Developing sexual literacy with young people is therefore not just about ensuring people have a good knowledge of issues to do with individual or clinical aspects of sexual health, but also encouraging critical insight into the social and relational aspects of sex and the cultural, social and political barriers to achieving a safe and satisfying sex life (Jones and Norton, 2007; McDaid et al., 2021). The ways in which young people described learning about sexual health online in this study points to various ways in which the online environment has potential to support sexual literacy.

Firstly, young people in this study described exploring sexual health issues from multiple perspectives and sources online. They were aware that the online environment allowed them to seek various opinions and perspectives on issues related to sex, sexuality, their relationships or sexual health, and sought this out. Tapping into multiple sources was, in part, related to young people's process of critically evaluating the quality of information, or identifying misinformation. However, it was also about learning from others and engaging in a process of exploring and reflecting on their personal experiences. What was striking in these interviews, was the extent to which the form and function of the internet facilitated this. The ease with which young people could move between an entertainment (or info-tainment) forum such as YouTube and other websites or social media sites to gather ideas or check information enabled critical engagement with the content. Young people were not passively absorbing information but asking questions and exploring lines of thinking. These findings show the ways in which



online spaces have potential to support understanding of information and issues but also embed, as normal process, curious and critical approaches to learning about sex, relationships and sexual health.

Another element relevant to our definition of sexual literacy is the social nature of online engagement. In young people's interviews, there were many references to other people, alliances, finding connections and learning from others. This is an important aspect of sexual literacy to the extent that learning from others is part of a process of learning about sex within social networks and cultures. In effect, learning from others is a necessary part of learning about the norms and ethics of sex and relationships (Albury and Hendry, 2023). This type of peer-based learning is not, of course, unique to online spaces. People are learning about human relationships in all spaces. However, the internet clearly provides opportunities for peer-to-peer interaction in various forums, such as discussion sites where people post questions or online groups where people with similar experiences gather.

As a concept, sexual literacy is inherently political in that literacy about sex and sexual health requires consideration of political, social or cultural barriers to sexual health or sexual pleasure (which we might define as limits to sexual rights) (Jones and Norton, 2007; McDaid et al., 2021). For example, understanding the ways women are often culturally discouraged from, or shamed for, asserting desire or expressing sexual pleasure may be part of developing critical cultural and political insight into how one has experienced their sex life (Ford et al., 2019).

Most young people in this study did not speak overtly about sexual politics or the ways in which they engaged with online spaces to challenge political or cultural barriers to sexual health or pleasure. However, they spoke about information sharing, and building connections online, in ways that showed the significance of these alliances in understanding sexual differences and inequalities. In particular, the sexually or gender diverse young people in this study, and those with disability, were aware of areas where their experiences were not represented online (or offline) and their experience of online engagement was often about looking between mainstream content to find groups, alliances or information that was relevant to them. This process of connecting with others, or learning about others' experiences, is often about overcoming social barriers or inequities.

This point is made by Byron and Hunt (2017) in their discussion about engagement in informal social networks, both online and offline, among young people. Byron and Hunt argue that politics, activism, personal storytelling and exploration of sexuality and gender often sit together in complex ways. Reflecting on experiences working with, or observing, online networks of young people, Byron writes:

Here, users address audiences that are both fictional and real, often comprised of unknown others whose marginalisations and/or differences are similarly composed. Many conversations I've witnessed seem to be about turning these differences around – from a space of discomfort and non-acceptance, to an accepted experience of selfhood (made more acceptable in light of these experiences being communal). This suggests a practice not restricted to 'finding self', but very much integrated with the practice of 'finding community', where affirmation is sought through shared understandings and experiences (Byron and Hunt, 2017, page 326).

Byron and Hunt argue that this informal, peer-based learning provides personal support for young people who are marginalized in ways that can profoundly improve their confidence or sense of self. This often happens through sharing personal stories and building a

sense of collective identity and community – even in forums where other people may be anonymous. In this way, online spaces where young people share personal stories are often also generating critical insight, and often resistance to, homophobia or normative ideas about young people, sexuality, sex and risk. This type of learning and personal/political insight is not always considered to be a core part of sex education. However, it is a core part of developing sexual literacy if we think of sexual literacy as a conglomerate of skills, awareness, resources and potential to act within the bounds of what is available to a young person (Bay-Cheng, 2019). The findings in this study certainly speak to the potential for online spaces to enable this process of connecting with others, sharing personal stories and developing critical insight in ways that likely give young people insight into how to navigate sex and relationships in their social world.

The lens of sexual literacy is a valuable way to understand the potential for online spaces to support sexual health and wellbeing. As Albury and Hendry (2023) have argued, consumption of information does not describe the ways in which young people engage with online spaces. Indeed, Hendry and Albury suggest the term 'participate' online is more apt. With this in mind, effective online sexual health promotion or sexuality education needs to be conceived of as a process of interacting with young people or supporting young people to develop insight or capacities – not as an exercise in producing information. As a concept, sexual literacy is more expansive than 'information' or knowledge (Herdt et al., 2021). It taps into what is needed to support young people to act in relation to their sexual health. This does not mean young people will always be in a position to act, but thinking of what young people need in online spaces to support sexual literacy widens our focus to consider how online interactions or processes of learning may enhance critical insight, personal awareness and reflection or build alliances and community. This in turn may support a young person's confidence with their sexuality, gender or their body, or foster capacity to act in ways that are reflexive or assertive in relation to sexual health, safety or wellbeing. When it comes to evaluating the impact on online resources, or spaces – or designing online sexual health interventions—sexual literacy may be a useful concept to draw from. In particular, it may help frame understanding of the impact of peer-based interactions and learning for supporting sexual health (Byron and Hunt, 2017; Albury, 2018).

A lot has been written about the ways in which misinformation or the darker elements of the internet – trolling, bullying, body image pressure from social media, inappropriate sexual representation in pornography or over-exposure to pornography—have potential to undermine sexual health and contribute to gender-based violence (see for, e.g., Henry and Powell, 2016; Henry et al., 2017; Henry et al., 2020; Jitsa et al., 2021; Svedin et al., 2023). Our intention here is not to disregard this as, of course, the potential for online spaces to support sexual health will inevitably sit alongside the risks and challenges. Indeed, there were challenges and limitations spoken about by our participants. There is a need consider how to engage the skills and confidence young people have in navigating online environments (including skills in critically assessing content) to support digital safety and build what we might term *digital sexual literacy*—the skills, resourcefulness, and critical capacity to safely and confidently participate in online environments in order to learn, and communicate, about sexual health, sexual rights, sex and relationships.

There are some considerations and potential limitations to note from this study. Firstly, the sample was small and focused directly on young people's experiences of learning about sex, relationships and

bodies online. We did not ask about the many broad experiences young people may have online, including negative experiences. Future research could be expanded into a more comprehensive study that looks at the ways young people engage with online spaces over time to learn about sexual health. Further, this sample was drawn from young people who explicitly responded to an advertisement about this topic. As such, we heard from people who were likely quite engaged with online spaces. As such, these findings cannot speak to broader sexual health promotion and education concerns about how to engage young people in sexual health who are not interested or who are not already engaged, to some degree, with online spaces or issues related to sexuality and sexual health.

## Conclusion

Young people are not going online to passively absorb information about sexual health. They are going online to participate in social life – to communicate and connect with other people. This is how we need to think about building sexual literacy online. The aim is not to create content to fill young people's heads with new knowledge, or even to control what they are learning. It is about encouraging young people to be curious and critical about what they are hearing or talking about online. In online spaces, young people are in a position to engage with many different perspectives and participate in many different conversations. They will be exposed to a wide range of ideas and opinions. This has potential to build critical sexual literacy if we work with young people to make the most of this space.

Sexual literacy is a valuable concept for understanding and evaluating the effectiveness of sexual health promotion and educational interventions beyond measures framed in risk or harm. That is, building sexual literacy is not just about providing skills for young people to avoid illness or harm, although this is certainly part of it. Rather, it is about supporting people to build insight and capacities that may help them pursue safe, respectful and pleasurable sex. This study shows the potential for online spaces to support sexual literacy through enabling communication, interaction and critical reflection about sex and relationships.

## Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation, subject to approval by an appropriate ethics review board.

## Ethics statement

This study obtained ethics approval from La Trobe University Human Research Ethics Committee (HEC21223) and two community

ethics review boards: ACON Health (NSW, 202130) and Thorne Harbour Health (VIC, THH/CREP 21-012). The study was conducted in accordance with local legislation and institutional requirements. The participants provided their written informed consent to participate.

## Author contributions

JP: Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Resources, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing. AJ: Conceptualization, Data curation, Formal analysis, Investigation, Visualization, Writing – review & editing. AW: Conceptualization, Formal analysis, Funding acquisition, Project administration, Supervision, Writing – original draft, Writing – review & editing. TP: Formal analysis, Visualization, Writing – original draft, Writing – review & editing. GL: Formal analysis, Validation, Writing – review & editing.

## Funding

The author(s) declare that financial support was received for the research, authorship, and/or publication of this article. This project was funded by the Australian Department of Health and Aged Care.

## Acknowledgments

We are grateful to all young people who participated in this study. Thank you also to Professor Adam Bourne for support with the funding application and project oversight.

## Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

## Publisher's note

All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.

## References

- Abdulai, A., Howard, A. F., and Currie, L. (2022). Stigmatizing and de-stigmatizing properties of web apps for sexual health-related conditions: a scoping review. *Int. J. Sex. Health* 34, 144–159. doi: 10.1080/19317611.2021.1949655
- Aicken, C. R., Estcourt, C. S., Johnson, A. M., Sonnenberg, P., Wellings, K., and Mercer, C. H. (2016). Use of the internet for sexual health among sexually experienced persons aged 16 to 44 years: evidence from a nationally representative survey of the British population. *J. Med. Internet Res.* 18:e 4373. doi: 10.2196/jmir.4373
- Albury, K. (2018). Young people, digital media research and counterpublic sexual health. *Sexualities* 21, 1331–1336. doi: 10.1177/1363460718771338
- Albury, K. (2019). 'Recognition of competition' versus will to app: rethinking digital engagement in Australian youth sexual health promotion policy and practice. *Media Int. Aust.* 171, 38–50. doi: 10.1177/1329878X19850224
- Albury, K., and Byron, P. (2015). Rethinking media and sexuality education. Sydney, NSW: University of New South Wales Kensington.

- Albury, K., and Byron, P. (2018). "Taking off the risk goggles: Exploring the intersection of young people's sexual and digital citizenship in sexual health promotion" in *Youth, sexuality and sexual citizenship*. eds. P. Aggleton, R. Cover, D. Leahy, D. Marshall and M. L. Rasmussen (Abingdon: Routledge), 168–183.
- Albury, K., and Hendry, N. (2023). Information, influence, ritual, participation: defining digital sexual health. *J. Sociol.* 59, 628–645. doi: 10.1177/1440783221136579
- Basinger, E. D., Delaney, A. L., and Williams, C. (2021). Uncertainty Management in Online Sexual Health Forums. *Health Commun.* 38, 875–884. doi: 10.1080/10410236.2021.1980253
- Bay-Cheng, L. Y. (2017). "Critically sex/ed: asking critical questions of neoliberal truths in sexuality education" in *The Palgrave handbook of sexuality education*. eds. L. Allen and M. L. Rasmussen (London: MacMillan), 343–367.
- Bay-Cheng, L. Y. (2019). Agency is everywhere, but agency is not enough: a conceptual analysis of young women's sexual agency. *J. Sex Res.* 56, 462–474. doi: 10.1080/00224499.2019.1578330
- Braun, V., and Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qual. Res. Sport Exerc. Health* 11, 589–597. doi: 10.1080/2159676X.2019.1628806
- Byron, P., and Hunt, J. (2017). 'That happened to me too': young people's informal knowledge of diverse genders and sexualities. *Sex Educ.* 17, 319–332. doi: 10.1080/14681811.2017.1292899
- Charmaz, K. (2017). Constructivist grounded theory. *J. Posit. Psychol.* 12, 299–300. doi: 10.1080/17439760.2016.1262612
- Cohn, A., and Richters, J. (2013). 'My vagina makes funny noises': analyzing online forums to assess the real sexual health concerns of young people. *Int. J. Sex. Health* 25, 93–103. doi: 10.1080/19317611.2012.719852
- Decker, M. J., Gutmann-Gonzalez, A., Price, M., Romero, J., Sheoran, B., and Yarger, J. (2020). Evaluating the effectiveness of an intervention integrating technology and in-person sexual health education for adolescents (in the know): protocol for a cluster randomized controlled trial. *JMIR Res. Protoc.* 9:e18060. doi: 10.2196/18060
- DiCaglio, S., and De Hertogh, L. B. (2019). Introduction to "rhetorical pasts, rhetorical futures: reflecting on the legacy of our bodies, ourselves and the future of feminist health literacy". *Peitho* 21, 565–575. Available at: <https://wac.colostate.edu/docs/peitho/article/introduction-to-rhetorical-pasts-rhetorical-futures-reflecting-on-the-legacy-of-our-bodies-ourselves-and-the-future-of-feminist-health-literacy/>
- Döring, N. (2021). "Sex education on social media" in *Encyclopedia of sexuality and gender*. ed. A. D. Lykins (Cham: Springer), 1–12.
- Farrugia, A., Waling, A., Pienaar, K., and Fraser, S. (2021). The "be all and end all"? Young people, online sexual health information, science and skepticism. *Qual. Health Res.* 31, 2097–2110. doi: 10.1177/10497323211003543
- Flowers-Coulson, P. A., Kushner, M. A., and Bankowski, S. (2000). The information is out there, but is anyone getting it? Adolescent misconceptions about sexuality education and reproductive health and the use of the internet to get answers. *J. Sex Educ. Therapy* 25, 178–188. doi: 10.1080/01614576.2000.11074346
- Ford, J. V., Corona Vargas, E., Finotelli, I., Fortenberry, J. D., Kismödi, E., Philpott, A., et al. (2019). Why pleasure matters: its global relevance for sexual health, sexual rights and wellbeing. *Int. J. Sex. Health* 31, 217–230. doi: 10.1080/19317611.2019.1654587
- Fowler, L. R., Schoen, L., Smith, H. S., and Morain, S. R. (2022). Sex education on TikTok: a content analysis of themes. *Health Promot. Pract.* 23, 739–742. doi: 10.1177/15248399211031536
- Fox, N. J., and Bale, C. (2018). Bodies, pornography and the circumscription of sexuality: a new materialist study of young people's sexual practices. *Sexualities* 21, 393–409. doi: 10.1177/1363460717699769
- Gruskin, S., Yadav, V., Castellanos-Usigli, A., Khizanishvili, G., and Kismödi, E. (2019). Sexual health, sexual rights and sexual pleasure: meaningfully engaging the perfect triangle. *Sex. Reprod. Health Matters* 27, 29–40. doi: 10.1080/26410397.2019.1593787
- Guse, K., Levine, D., Martins, S., Lira, A., Gaarde, J., Westmorland, W., et al. (2012). Interventions using new digital media to improve adolescent sexual health: a systematic review. *J. Adolesc. Health* 51, 535–543. doi: 10.1016/j.jadohealth.2012.03.014
- Henry, N., McGlynn, C., Flynn, A., Johnson, K., Powell, A., and Scott, A. J. (2020). Image-based sexual abuse: A study on the causes and consequences of non-consensual nude or sexual imagery. London: Routledge.
- Henry, N., and Powell, A. (2016). Sexual violence in the digital age: the scope and limits of criminal law. *Soc. Leg. Stud.* 25, 397–418. doi: 10.1177/0964663915624273
- Henry, N., Powell, A., and Flynn, A. (2017). Not just 'revenge pornography': Australians' experiences of image-based abuse: A summary report. Melbourne: RMIT University.
- Herd, G., Marzullo, M., and Polen Petit, N. (2021). "Introduction: what we mean by critical sexual literacy" in *Critical sexual literacy: Forecasting trends in sexual politics, diversity and pedagogy*. eds. G. Herd, M. Marzullo and N. Polen Petit (London: Anthem Press).
- Jiotsa, B., Naccache, B., Duval, M., Rocher, B., and Grall-Bronnec, M. (2021). Social media use and body image disorders: association between frequency of comparing one's own physical appearance to that of people being followed on social media and body dissatisfaction and drive for thinness. *Int. J. Environ. Res. Public Health* 18:2880. doi: 10.3390/ijerph18062880
- Jones, S., and Norton, B. (2007). On the limits of sexual health literacy: insights from Ugandan schoolgirls. *Diaspora Indigenous Minor. Educ.* 1, 285–305. doi: 10.1080/15595690701563998
- Levine, D., McCright, J., Dobkin, L., Woodruff, A. J., and Klausner, J. D. (2008). SEXINFO: a sexual health text messaging service for San Francisco youth. *Am. J. Public Health* 98, 393–395. doi: 10.2105/AJPH.2007.110767
- Marques, S. S., Lin, J. S., Starling, M. S., Daquiza, A. G., Goldfarb, E. S., Garcia, K. C., et al. (2015). Sexuality education websites for adolescents: a framework-based content analysis. *J. Health Commun.* 20, 1310–1319. doi: 10.1080/10810730.2015.1018621
- Martin, S. P. (2017). Young people's sexual health literacy: Seeking, understanding, and evaluating online sexual health information. University of Glasgow. Available at: <https://theses.gla.ac.uk/8528/>
- McDaid, L., Flowers, P., Ferlatte, O., Young, I., Patterson, S., and Gilbert, M. (2021). Sexual health literacy among gay, bisexual and other men who have sex with men: a conceptual framework for future research. *Cult. Health Sex.* 23, 207–223. doi: 10.1080/13691058.2019.1700307
- Nutbeam, D. (2008). The evolving concept of health literacy. *Soc. Sci. Med.* 67, 2072–2078. doi: 10.1016/j.socscimed.2008.09.050
- Nutbeam, D., Levin-Zamir, D., and Rowlands, G. (2018). Health literacy and health promotion in context. *Glob. Health Promot.* 25, 3–5. doi: 10.1177/1757975918814436
- Pilgrim, K., and Bohnet-Joschko, S. (2019). Selling health and happiness how influencers communicate on Instagram about dieting and exercise: mixed methods research. *BMC Public Health* 19, 1–9. doi: 10.1186/s12889-019-7387-8
- Porter, A. W., Cooper, S. C., Palmedo, P. C., Wojtowicz, N., Chong, J., and Maddalon, M. (2021). Podcasts and their potential to improve sexual health literacy in adolescents and Young adults. *Am. J. Sex. Educ.* 17, 125–136. doi: 10.1080/15546128.2021.1987365
- Power, J., Lea, T., Melendez-Torres, G., Lyons, A., Norman, T., Hill, A. O., et al. (2022). Health literacy, financial insecurity and health outcomes among people living with HIV in Australia. *Health Promot. Int.* 37:161. doi: 10.1093/heapro/daac161
- Schulz, P. J. (2012). "The concept of health literacy" in *Science environment| health: Towards a renewed pedagogy for science education*. eds. A. Zeyer and R. Kyburz-Graber (Dordrecht: Springer), 69–84.
- Scull, T. M., Dodson, C. V., Geller, J. G., Reeder, L. C., and Stump, K. N. (2022). A media literacy education approach to high school sexual health education: immediate effects of media aware on adolescents' media, sexual health, and communication outcomes. *J. Youth Adolesc.* 51, 708–723. doi: 10.1007/s10964-021-01567-0
- Simon, L., and Daneback, K. (2013). Adolescents' use of the internet for sex education: a thematic and critical review of the literature. *Int. J. Sex. Health* 25, 305–319. doi: 10.1080/19317611.2013.823899
- Sorensen, K., Van den Broucke, S., Fullam, J., Doyle, G., Pelikan, J., Slonska, Z., et al. (2012). Health literacy and public health: a systematic review and integration of definitions and models. *BMC Public Health* 12:80. doi: 10.1186/1471-2458-12-80
- Stein, K., Yao, Y., and Aitamurto, T. (2022). Examining communicative forms in#TikTokDocs' sexual health videos. *Int. J. Commun.* 16, 1309–1331.
- Suzuki, L. K., and Calzo, J. P. (2004). The search for peer advice in cyberspace: an examination of online teen bulletin boards about health and sexuality. *J. Appl. Dev. Psychol.* 25, 685–698. doi: 10.1016/j.appdev.2004.09.002
- Svedin, C. G., Donevan, M., Bladh, M., Priebe, G., Fredlund, C., and Jonsson, L. S. (2023). Associations between adolescents watching pornography and poor mental health in three Swedish surveys. *Eur. Child Adolesc. Psychiatry* 32, 1765–1780. doi: 10.1007/s00787-022-01992-x
- Van Eldik, A. K., Kneer, J., Lutkenhaus, R. O., and Jansz, J. (2019). Urban influencers: an analysis of urban identity in YouTube content of local social media influencers in a super-diverse city. *Front. Psychol.* 10:2876. doi: 10.3389/fpsyg.2019.02876
- Wadhwa, E., Green, C., Debattista, J., Somerset, S., and Sav, A. (2019). New digital media interventions for sexual health promotion among young people: a systematic review. *Sex. Health* 16, 101–123. doi: 10.1071/SH18127
- Waling, A., Farrugia, A., and Fraser, S. (2022a). Embarrassment, shame, and reassurance: emotion and Young People's access to online sexual health information. *Sex. Res. Soc. Policy* 20, 45–57.
- Waling, A., James, A., Lim, G., and Power, J. (2022b). Building young people's sexual literacy in digital spaces. Melbourne: La Trobe University.
- Waling, A., Kerr, L., Fraser, S., Bourne, A., and Carman, M. (2019). Young people, sexual literacy, and sources of knowledge: A review. Melbourne: La Trobe University.
- Watson, A., Lupton, D., and Michael, M. (2021). Enacting intimacy and sociality at a distance in the COVID-19 crisis: the sociomaterialities of home-based communication technologies. *Media Int. Aust.* 178, 136–150. doi: 10.1177/1329878X20961568
- World Health Organisation (2006). Defining sexual health: Report of a technical consultation on sexual health. Geneva: World Health Organisation.
- Wu, D., Tang, W., Lu, H., Zhang, T. P., Cao, B., Ong, J. J., et al. (2019). Leading by example: web-based sexual health influencers among men who have sex with men have higher HIV and syphilis testing rates in China. *J. Med. Internet Res.* 21:e10171. doi: 10.2196/10171
- Yeo, T. E. D., and Chu, T. H. (2017). Sharing "sex secrets" on Facebook: a content analysis of youth peer communication and advice exchange on social media about sexual health and intimate relations. *J. Health Commun.* 22, 753–762. doi: 10.1080/10810730.2017.1347217