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SEX EDUCATION IN THE DIGITAL ERA

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Digital Pathways to Sex Education

Catherine Müller, Pauline Oosterhoff and Michelle Chakkalackal

Abstract For most young people in the world, sex and relationships have a big impact on their lives. However, various gatekeepers restrict reliable information on sexual health that has a positive take on pleasure and relationships. Therefore, online sex education is of vital importance for young people. Using online traffic data and information on operational realities from Love Matters – an online provider of sex education on web, mobile and social media platforms in China, Egypt, Kenya, Mexico and India – this article attempts to contribute to an understanding of how online information about sexual health education in different national contexts is accessed by users and restricted by gatekeepers. Our findings show the importance of understanding audiences, visible traditional and invisible online gatekeepers, and working with local and supranational commercial organisations for effective outreach and provision of sex education.

Keywords: sex education, gatekeepers, online, social media, censorship.

1 Motivation

For most young people in the world, getting reliable information about sex can be difficult. In many countries traditional gatekeepers such as religious and educational authorities are still powerfully restricting access, content and materials used for sex education. Researchers and sexual rights activists have argued that sharing information about the positive, pleasurable aspects of sexuality, rather than the risky aspects, can enhance the effectiveness of communicating sexual health information (Dyson *et al.* 2003; Allen 2001; Hirst 2013). The internet has been identified as a (potentially) very valuable avenue for comprehensive, interactive and youth-friendly sex education (Simon and Daneback 2013). Yet online sex education is directly and indirectly restricted in many countries by national laws that limit freedom of expression on the internet, prohibit pornography or criminalise same-sex relationships. There are also ‘new’ – as opposed to traditional – invisible gatekeepers, such as Facebook and Google in online spaces, which specifically restrict access to information about nudity, cleavage, adult content or sexually explicit content (APC 2010),¹ and impose

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strict rules. More often than not, faceless algorithms rather than humans make decisions about what is and is not acceptable, creating a new class of challenges. Research has not looked at how these rules shape the interactions between sex educators and the new internet gatekeepers, while these are arguably key in setting boundaries on strategies for reaching out to young people with information about sex and relationships.

Online sex education platforms such as Love Matters reach millions of young people in countries where they cannot access trustworthy information otherwise. How do young people reach these sites? Do they land accidentally on a sex education site while looking for pornography or are they purposely looking for reliable information about sexuality and/or relationships? Knowing more about different user pathways would help build more effective online sex education interventions in different sociopolitical contexts and environments, as sex educators could direct users more efficiently to relevant information. This article explores digital pathways that bring users from different countries to a sex education site.

2 Sex education in the digital age

An increasing number of countries are approaching comprehensive sex education through the dual lens of age-appropriateness and cultural relevance, with an eye to providing scientifically accurate, realistic and non-judgemental information.² However, few adolescents get effective, sex-positive sex education (Johnson *et al.* 2016). Instead, in many parts of the world, sex education focuses on the risks and biomedical aspects of sexuality such as sexually transmitted infections (STIs), contraception and the mechanics of conception. Research shows that adolescents would value more positive and realistic approaches (Allen 2006, 2007). For example, in her study of 515 New Zealanders aged 17–19, Allen found that young people lacked knowledge of and missed a discourse on the ‘‘lived’’ experience of sexual activity and details of this interaction’ (Allen 2001: 114) as a crucial piece in their sex education.

The internet could be a valuable avenue in providing sex education (Simon and Daneback 2013; Dyson *et al.* 2003; Hirst 2013) from a pedagogical point of view. Indeed, Simon and Daneback (2013) report that adolescents’ demands to learn about sexual experiences are likely to make the internet – with its unique characteristics of availability, acceptability, affordability and anonymity – a perfect complement to, if not substitute for, traditional sources of sex education. Online sex education could provide a more interactive space where young people could anonymously discuss experiences and questions about sexuality and relationships that they face in real life.

Indeed, as some studies show, mass media such as the internet and traditional media in the form of television, music, movies, magazines and so forth are highly influential in young people’s sex-related

knowledge, attitudes and behaviours (L'Engle, Brown and Kenneavy 2006; Lou *et al.* 2012). Ngo, Ross and Ratliff show that 'the internet is used to assemble sexual information that was not available from other sources such as the family and school' as well as a 'medium for expressing sexual identities and desires' (2008: S201).

In the first literature review of 36 articles focusing on use of the internet for sex educational purposes by adolescents aged 13–19, Simon and Daneback (2013) identified four distinct themes. First, adolescents engage with online sex information: depending on the sample, between 31.6 and 76.5 per cent of study participants in the United States, 20 per cent of a sample of school adolescents in Uganda, 34.3 per cent of Ghanaian adolescents, and 45 per cent of a female sample of adolescents in Nigeria had used the internet for information about sexual health. Second, the most commonly cited topics adolescents engage in online are HIV/AIDS/STIs, pregnancy and childbirth, sex acts and behaviour, contraception and protection, information about the body, relationships and social issues, and sexual identity and orientation.³ From the analyses, it was not clear whether these topics are pursued out of interest or because information on them exists; however, the authors stress that it is clear that 'adolescents are popularly engaging with information about pleasure-based and experiential sex, as well as sexual positions and behaviors' (Simon and Daneback 2013: 309). Third, several studies in the review – such as Bay-Cheng (2001), Keller *et al.* (2002, 2004) and Isaacson (2006) – suggest that user-driven and positive messaging seem to be rare, and that information about topics such as sexual orientation and identity, masturbation, and abortion are marginalised. Furthermore, indicators of quality and sources are often missing. However, while young people's knowledge should not be overestimated, their intelligence should not be underestimated; 'adolescents are savvy users capable of determining what makes an online resource trustworthy' (Simon and Daneback 2013: 310). Finally, studies show that web-based sexual health education increases awareness, knowledge and behaviour related to sexual and reproductive health issues.⁴

Insights from studies such as those above have helped a great deal with developing interactive and comprehensive content in online sex education. What practitioners, policymakers and researchers are missing is a better understanding of why, when and how adolescents are searching for and gathering information, what experiences they have online, and how changes in technology – which is more interactive and social nowadays – as well as legal and cultural contexts affect the use of (re)sources. This article attempts to contribute to an understanding of how online information about sexual health education offered by sex educators operating from offices in different national contexts is accessed by users and restricted by gatekeepers. We focus on online traffic data from Love Matters, an online provider of sex education in five countries: China, Egypt, Kenya, Mexico and India.

3 Study background – Love Matters

Love Matters is an initiative of RNW Media, which offers sexual health information with a positive take on sexual pleasure and relationships on web, mobile and social media platforms. Love Matters aims to provide 'plain-speaking' information on love, sex, and relationships. It offers playful and thought-provoking articles, testimonials, blogs and advice columns, and lively conversations on its platforms. Love Matters works with local and international partners to reach their target audience of young people aged 18–30 in China, the Arab world (currently focused on Egypt), Africa (focusing on Kenya), Latin America (focusing on Mexico and Venezuela), and India.

Before presenting the data, we discuss the national legal and political landscapes in which each of the Love Matters sites operates and how these could relate to our findings.

3.1 Legal and political landscape

Love Matters operates in national contexts with many different types of legal restrictions with regard to freedom of speech, and civil and political liberties. The legal environment is an important part of the context. Even if visitors do not reside locally, national Love Matters offices have to abide by these laws in their engagement with young people about sexuality and relationships. For example, a short information film, *My First Wedding Night*, on the Love Matters Egypt website attracted hundreds of thousands of viewers from Saudi Arabia.⁵ But while audiences may be regional or global, Love Matters offices operate within national legal policy frameworks, which can be restrictive or enabling. The most prominent restrictive example is China, where there is a high degree of internet censorship. Additionally, new gatekeepers such as Facebook and Google have significant power in choosing which content to make available, searchable, and thus accessible, which consequently often defines how sex education is delivered. Disapproval messages⁶ from Facebook refer to broad advertising policies but also give instructions on how to fix problems (e.g. by using a different image). Google's justifications for blocking an advert, however, are not particularly extensive and make no suggestions about how to fix problems.⁷

Censorship of nudity not only affects sex education; it has wider implications for all public education. A recent, very prominent example was that of documentary photography by Nick Ut from the Vietnam war, showing a victim of a Napalm attack in 1972 – a naked girl – running down a street.⁸ Additionally, some browsers are automatically fitted with ad-blocking capabilities. For example, the UC browser – developed by Chinese company UCWeb, which is more popular in India than Google Chrome, with over half a billion people in China and India using it – comes with a built-in ad blocker in India, which most people do not switch off. So, regardless of content, advertisements would be blocked because they are advertisements. We briefly describe the specific legal and political landscape of each country below, with information on the status of sex and reproductive health education.

China

China is well known for its strict censorship laws and family planning policies. Almost every piece of information going into and out of China is moderated by an extensive internet filtering system, the so-called ‘Great Firewall’. International human rights organisations such as Human Rights Watch, Amnesty International and Reporters Without Borders (RSF) (Human Rights Watch 2013) have criticised China for its multi-layered internet censorship. Laws are broad and often vaguely written, leaving much room for subjectivity in their implementation. Spreading obscenity, pornography, gambling, violence, terror, or abetting the commission of a crime are illegal, but it is not clear what qualifies as pornography or obscenity.⁹ In response and in addition to legislation, media companies and websites also have their own house rules to avoid being punished or shut down for hosting pornographic content. Furthermore, the government often launches campaigns to purge internet pornography and immoral content.¹⁰ During these campaigns, internet companies temporarily tighten their censorship on all content related to sex and sexuality, including sex education content.

This unpredictable situation poses a constant challenge to the Love Matters editorial team, as there are no clear and consistent guidelines; it is left to the individual to err on the side of caution. As an editorial rule, no graphic content or details about sex are published, even if that material is available elsewhere in China, either online or offline. But what is ‘graphic’ can be the subject of debate. Although the state is committed to limiting population size and improving ‘population quality’ (Zhou *et al.* 2014), young people lack access to life skills-based education and high-quality, youth-friendly information on sexual and reproductive health and rights (SRHR) (United Nations 2015). Young people lack basic knowledge about sexual and reproductive health (UNESCO 2015).

Egypt

Internet access and freedom of expression are limited in Egypt. A multiplicity of bans and laws censor open, free discussions and information exchange (RSF 2016; Freedom House n.d.a; Amnesty International 2016).¹¹ This situation also affects Love Matters, because authorities target writers and creative people. For example, a blogger on Love Matters was arrested for something he had written somewhere else (ANHRI 2015). Sexual and reproductive rights in Egypt are conservative and heteronormative; and people have been arrested and tried on charges of ‘debauchery’ for their perceived sexual orientation or gender identity. Egypt’s population policy ‘explicitly addresses young adults only through the provision of healthcare for girls before marriage and premarital exams and counselling’ (Beamish 2003: 6).

Most sex education programmes are offered by non-governmental organisations (NGOs) (UNFPA 2014). More than once, such NGOs have abruptly been denied access to a school due to pressure from parents or teachers who are displeased with the material taught (EIPR 2014). Pornography is illegal, but pornographic sites are readily

available on the internet (Egyptian Streets 2015). The Love Matters editorial team is constantly assessing what might be accepted and culturally appropriate. Some topics, such as sex during menstruation, have triggered angry responses because, according to some, there is a Koranic verse against it. Others argue that these verses are actually about personal hygiene, leaving Love Matters in the middle of heated debates. Love Matters in Egypt positions itself in these debates as a 'scientific', user-friendly site that avoids using erotic or provocative language, a strategy that the authorities have accepted.

Kenya

Kenya does not actively block or filter online content, and Kenyans have unrestricted access to social networking platforms such as Facebook, Twitter, YouTube, and WhatsApp, as well as pornography. Censorship is more prominent in print and mostly focused on terrorism. The Kenyan government is interested in comprehensive sex education as part of a policy to improve SRHR, but faces public opposition to this idea due to differing sociocultural views, notably from religious groups as well as from teachers who hold the same conservative beliefs (Agbemenu and Schlenk 2010; Mbugua 2007). Authorities have interpreted these laws to restrict access to sexually explicit material. For example, a Durex commercial for condoms in Kenya and the screenings of the erotic film *Fifty Shades of Grey* were banned on these grounds (*The Star* 2015; Article 19 2015).

Love Matters has lost its presence in the print edition of *The Star* newspaper for being too explicit. Love Matters Kenya is careful to avoid conflicts with the traditional offline gatekeepers; its main challenge regarding its online content in Kenya comes in the form of censorship by gatekeepers such as Facebook and Google.

Mexico

Although no legislation actively restricts internet access in Mexico, there are indications that the government has increased requests to media and internet service providers to remove certain content.¹² However, internet freedom is severely limited by one of the highest levels of violence against journalists in the world. Online journalists, bloggers, and social media activists often risk their safety to report on local crime and corruption (Freedom House n.d.c); and Mexico is one of the most dangerous countries in the world to work in as a journalist (Committee to Protect Journalists 2016). However, these instances are usually restricted to journalists reporting on drug-related or political issues.

Since 1995, sex education has been considered a fundamental human right in Mexico, but is heteronormative and focused on health and reproductive functions (Lozano-Veruzco and Rosales Mendoza 2016; UNESCO 2015). Pornography in Mexico is legal; and the regulation of internet content largely addresses the same concerns and strategies seen elsewhere in North America and Europe, with a focus on combating the spread of child pornography and restricting child access

Figure 1 Example of a banned Love Matters advert



Source Love Matters.

to age-inappropriate material. Facebook has also banned posts with explicit sexual images. Despite this relatively free environment, Love Matters editorial decisions are restricted on some topics. One such example is abortion, which is therefore also called ‘legal interruption of pregnancy’ to soften stigmas and change prejudices. This is because although abortion procedures have been decriminalised in Mexico City since 2007, they are forbidden or restricted in more than half of Mexico’s 31 states. Since 2010, all 31 states have recognised same-sex marriages performed within Mexico without exception. Editors regularly include lesbian, gay, bisexual and transgender topics, with the aim of encouraging users to adopt positive and inclusive language to reduce discrimination and intolerance, and open a dialogue with conservative groups.

India

The Indian constitution guarantees freedom of speech and expression with certain restrictions related to morality, decency, public order, and so on. The Indian Penal Code allows restricting free speech on grounds of inciting religious feelings, making statements about or creating or promoting enmity, hatred or ill will between classes on grounds of religion, caste, language or race. These exceptions also extend to expressions in the media. The 1923 Official Secrets Act empowers authorities to censor security-related articles and prosecute members of the press (Freedom House n.d.b). Punishment for violations of freedom of speech generally targets political dissidents (Kant 2014). Timelines of several internet censorship bans in the past 20 years in India illustrate an environment in which, increasingly, speech is quickly censored (News Laundry 2015; Tang *et al.* 2015). In 2012, journalists’ access to court cases was restricted and they were arrested for writing about the sexual assault and rape cases, reflecting mixed gender norms and attitudes about sexual attacks and the Indian state (Committee to Protect Journalists 2014).

In an increasingly religious and conservative political context, 12 Indian state governments have stopped providing sex education. Sex education is increasingly outsourced to non-profit or private organisations and remains off the school curriculum in most parts of India (Khomami 2015). It is not illegal to watch pornography, except child pornography, but it is illegal to distribute it (Brajesh 2011). This makes it difficult to implement restrictions on pornography. Recently, users flooded social media with complaints after the government blocked as many as 857 pornographic websites in an apparent bid to lower abuse against women, which resulted in a lifting of the ban on the websites. Love Matters has not faced any issue with the government or governing laws in India. In line with government rules, the website clearly states that users must be over 18 years of age. However, censorship via Google and Facebook applies here as it does for Love Matters offices in other countries. For example, a picture of a dog with sunglasses and the text ‘Doggy-style (Are all men dogs?)’ has been banned (Figure 1).

Table 1 Overview of types of traffic in the dataset

Type of traffic	Explanation
Direct	Traffic that does not come through any channel (i.e. the user types in the web address and hits 'enter')
Display	Traffic directed through advertisements and links ^a
Email	Traffic through a link included in an email (footer/signature) sent by Love Matters that links back to website ^b
Paid search	Traffic coming in through pay-per-click campaigns
Organic search	Traffic generated by people coming via search engines
Referrals	Traffic sent from other websites via links
Social	Traffic via a link on a social network, such as Twitter or Facebook
Other	Marketing campaigns that generate traffic but do not fit into any of the above categories

Notes (a) Only available for three of the countries (China, Kenya and India); (b) Given the very low number of observations on this channel, we have not included it in our analysis.

4 Data

This study uses data from Love Matters sex education sites in China, India, Kenya, Mexico and Egypt over a period of five months, from 16 July to 16 December 2015. At the lower and higher ends of the spectrum, 570,319 and 6,834,170 sessions (individual visits to Love Matters websites) were recorded during this timeframe in China and India, respectively. The Love Matters sites in Mexico, Kenya and Egypt counted 1,032,104, 1,102,987 and 1,468,242 sessions.

Looking at different types of channels that were used to reach the Love Matters country sites and investigating some of their properties, we can draw limited but nevertheless useful information about visitors' behaviour in each country, and compare experiences across countries to find whether 'universal' pathways could be relevant for sex educators and gatekeepers beyond the study countries. Table 1 explains the different types of traffic and channels.

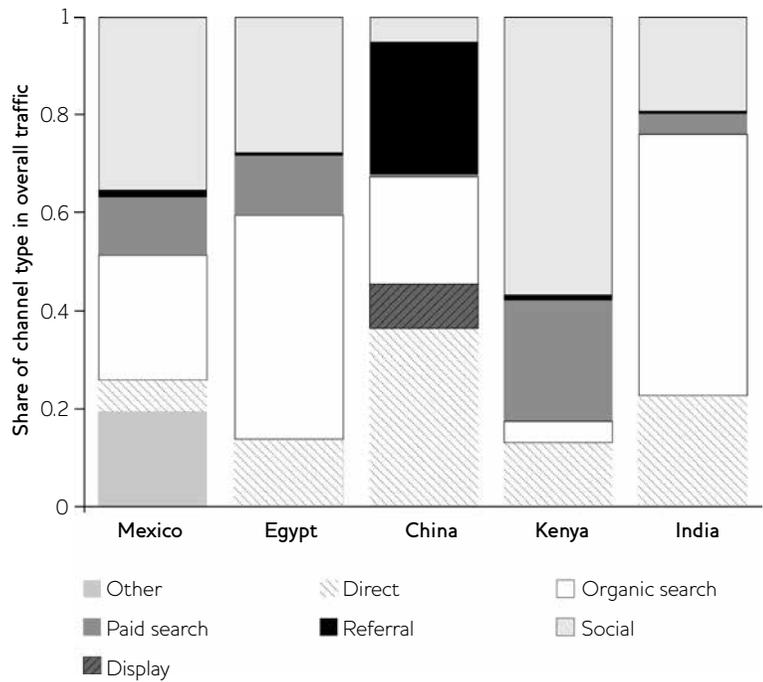
For each of the countries, channels and weeks between mid-July and mid-December 2015, we use the number of sessions per week as an indicator for reach and the following measures of engagement: average time spent per session; bounce rates; average number of pages viewed per session; and average time spent on site. A session is considered to have bounced when users leave the website from the same page that they entered without looking at anything else on that site. In what follows, we investigate what these numbers might tell us about how the visitors get to and interact with the websites.

5 Empirical results

5.1 General observations

Figure 2 shows the shares of different channels by which users reach Love Matters websites. Although some channels are important everywhere,

Figure 2 Share of channels on overall traffic by country



Source Love Matters Global Digital Pathways Dataset.

they seem to play very different roles across countries. For example, referrals are much more frequent in China than in any other country (27 per cent of traffic comes through referrals); whereas visits to Love Matters websites through social network sites play a very minor role and paid search almost none. Furthermore, direct and display traffic seem to play larger roles in China than in the other countries. However, to a large degree this is a result of ‘technical accounting’. Of the social media pages accessible in China, only one is counted as a social traffic source. Many of the other prominent social channels in China are blogs and therefore appear primarily as referrals and direct traffic in Google Analytics, which tracks and reports website traffic. The Love Matters team estimates that 85 per cent of referral traffic in China could actually be social traffic.

Organic searches, by people using search engines, are particularly important in Egypt and India (53 and 46 per cent of traffic, respectively); Kenya has the largest share of social traffic among the Love Matters countries (57 per cent of traffic); and ‘other’ channels only play a role in Mexico (19 per cent). One of the reasons why organic traffic figures are particularly high in Egypt and India is because both the Love Matters India and Love Matters Arabic (Egypt) websites offer pleasure-positive sex education information in local languages, Hindi and Arabic. Love Matters is the first ever, and one of very few SRHR websites in these languages. Before launching local sites in Hindi and Arabic, Love Matters conducted field research to assess the needs of

Table 2 Average session duration on Love Matters websites

Channel	Duration (seconds)	Page views	Bounce rate
Display	279.2	3.9	0.42
Referral	270.0	3.5	0.52
Other	195.5	2.9	0.68
Direct	154.3	2.1	0.70
Paid search	127.3	2.4	0.58
Social	123.4	1.9	0.76
Organic search	118.5	2.0	0.71
Country	Duration (seconds)	Page views	Bounce rate
India	239.9	3.0	0.57
Kenya	237.1	3.1	0.60
Egypt	147.7	2.2	0.70
China	135.1	2.8	0.60
Mexico	101.1	1.6	0.74

Source Love Matters Global Digital Pathways Dataset.

its audience members. Based on their feedback, Love Matters aimed to provide youth-friendly SRHR information in local languages so it would be accessible to the broadest possible audience. Therefore, if people search for sex education information in Hindi and Arabic (using modern standard Arabic, also referred to as 'literary Arabic' or *fusha*), Love Matters would be ranked higher by Google and thus often be listed on the first results page. The Love Matters Facebook page has a large number of users – over 4.5 million active users in 2015 – and the majority of these (95 per cent) access Facebook using mobile phones.

Table 2 gives an overview of average times spent per session, average number of pages visited per session, and average bounce rates by channel on the one hand; and by Love Matters country site on the other. Overall, visitors who spend the most time on Love Matters sites – around 4.5 minutes – arrive at them primarily through advertisements and links ('Display'), closely followed by visitors who arrive from other websites ('Referral'). This indicates that advertisements and links are well placed. Furthermore, visitors who arrive through organic searches spend almost two minutes on the sites, which seems to suggest that people find the content they were looking for; and/or even if they do not find exactly what they were searching for, they still consider the information on Love Matters websites interesting and informative. This means that for an effective sex education website one needs to ensure the content is written in the appropriate local language, and that sufficient resources are allocated to search engine optimisation (SEO).

Table 3 Most 'successful' channels by country*

Country	Channel	Score	Time spent	Page views	Bounce rate
Mexico	Referral	3	✓	✓	
	Paid search	2	✓	–	✓
Egypt	Referral	3	✓	✓	✓
	Paid search	2	–	✓	✓
	Other	1	✓	–	–
China	Referral	3	✓	✓	✓
	Display	2	–	✓	✓
	Paid search	2	–	✓	✓
	Other	2	✓		✓
Kenya	Referral	3	✓	✓	✓
	Other	3	✓	✓	✓
	Display	3	✓	✓	✓
	Paid search	1	–	–	✓
India	Referral	3	✓	✓	✓
	Display	3	✓	✓	✓
	Paid search	1	–	–	✓
	Direct	1	✓	–	–
	Other	1	–	–	✓

* Channels scoring at least one point.

Source Love Matters Global Digital Pathways Dataset.

In terms of country differences, visitors in India and Kenya seem to spend most time on Love Matters websites; and they also show the highest average number of page views and lowest bounce rates, along with China. Possible explanations are the aforementioned use of local language on the Indian website, and that Chinese visitors face longer loading times of Love Matters web pages, which in turn could indicate that they are more willing to engage with the Love Matters website.

There are also differences between the types of channels. Display and referral traffic seems to be generated by viewers who stay on a site the longest, look at most pages and bounce least often. This reflects a certain type of self-selection and 'user bias'; in other words, users who reach the Love Matters website have chosen to click on the Love Matters URL on another website because they want to know more, and most probably know what to expect. In this respect, the positive engagement indicators are then a good sign, suggesting that the users do indeed find what they are looking for. Having seen the varying

importance of the different channels across countries, in the next section we investigate whether these averages obscure country differences, and whether the 'success' of channels differs across the countries.

5.2 'Channel behaviour' by country

To investigate whether country differences exist according to the performance of the various channels in attracting and holding traffic on Love Matters sex education web pages, we identify channels that are most 'successful' in each country. In the absence of information on return rates (repeat visits), we define success as engaging visitors who stay on sites for longer than on average, look at more pages per session than on average, and have below average bounce rates.¹³ Each of these three criteria feed into a score between zero and three, with the maximum three obtained if all criteria are met. Table 3 shows the channels in each country that scored at least one point.

Despite the country differences in the contribution of each channel to the overall share of traffic (Figure 1), there are some clear 'winners' in terms of performance. Referral is by far the most successful traffic source, followed by display and paid search traffic. The success of paid search traffic is interesting and triggers the question of what users are searching on exactly. Given the popularity of pornographic sites, it is an open question as to what extent people are looking for pornography and land on sex education pages instead. Oosterhoff, Gilder and Müller (2016, forthcoming) analysed 471,000 individual search terms by Kenyan users that brought them to the Love Matters site during the period of 16 July–16 December 2015. The five most popular search terms were 'sex' (7.9 per cent), 'love' (3.2 per cent), 'how' (3.0 per cent), 'penis' (2.8 per cent) and 'HIV' (1.17 per cent). The 'how' suggests – at least partially – audience members who are looking for educational material. Also, the low bounce rates for this type of traffic suggest this, as people looking for pornography would most probably immediately recognise the Love Matters web pages as non-pornographic.

Most referrals come from Facebook. The success of referrals could thus indicate the self-selective nature of users who engage with Love Matters websites, who come through Facebook or click on advertisements or links expecting to learn more. The success of display traffic is because advertisements and links are placed strategically; in other words, Love Matters pays more for advertisements on more relevant sites to engage its users more often. For example, in addition to promoting content using Facebook advertisements, the Love Matters Kenya team runs weekly campaigns on hot topics to attract and engage users to the Facebook page and website.

Legal and internet censorship clearly influence the content either after it is publicised or through self-censorship. But it is less clear if and how national legal censorship influences the traffic patterns we see. While politically China, Egypt, Kenya, Mexico and India may have multiple laws that restrict and/or censor freedom of expression offline

and online, it is up to their governments to implement these laws. Implementation has often been haphazard. However, regardless of the implementation of restrictive laws, the fear of being censored, arrested or harassed affects editorial teams' decisions to publish certain content. In practice, editorial teams practise a certain level of discretion when it comes to publishing content. This could be because they want to preserve relationships with more traditional NGO and media partners.

Additionally, internet censorship by new gatekeepers has the potential to affect traffic patterns. Between December 2015 and July 2016, 24 per cent of Love Matters India's Facebook campaigns were disallowed; for Love Matters Hablemos, 27 per cent; for Love Matters Arabic, 6 per cent; and for Love Matters Kenya, 8 per cent. During that period, we estimate that 500,000 session or visits to Love Matters were potentially missed. Although marketers invariably launch a separate advertisement when one is rejected – thus probably minimising outreach loss – this still means that they spend large amounts of resources on developing campaigns and advertisements when it is often not even clear why they were rejected.

6 Conclusions and recommendations

Traditional gatekeepers such as governments play a role in legislating laws and policies on what kinds of information on sexuality are available and accessible for young people within state boundaries. Sex educators' relationships and networks can be endangered by pushing certain editorial content. Often it is difficult to predict when and where there will be opposition or from whom; and local staff have to make judgement calls in complex situations without clear guidelines. All country contexts are very different, but staff work with other partners and NGOs everywhere, with or without state support. In Kenya, the state and Love Matters share a commitment to SRHR for young people and both have similarly unpredictable enemies among religious authorities, some of whom – such as militant Islamist group al-Shabaab – are self-appointed and violent. In India, federal states have considerable authority to ban or allow sex education or NGO operations. In most of the countries where Love Matters operates, with the possible exception of China, the state does not hold a monopoly over legitimate use of physical force and is challenged by insurgent forces, such as ISIS or al-Shabaab. SRHR is often a contested area for both the state and these insurgent forces, which drapes layers of insecurity over editorial decisions. Therefore the challenge in each country is to figure out how to promote editorial content without jeopardising relationships with local NGOs or governmental organisations. Given the importance of wider civil and political liberties on freedom of speech in all forms, including that of online sex educators, it is important to follow these developments closely to help understand local contextual changes in the performance of national teams.

There are several aspects to the censorship of sex education online. First, government effectiveness in online censorship is dependent on resources and technological know-how, as well as the technological

'savviness' of the population. While blocking and filtering are effective tools for non-technical audiences, countries with a growing internet-savvy population are seeing a number of techniques applied to circumvent internet censorship from the user side; for example, using circumvention software tools, cached pages, proxy websites, and so on. Thus, users are not necessarily passive recipients of online content, even if there are rules in place. Second, traditional gatekeepers share their online power with supranational commercial organisations such as Facebook and Google, which censor content based on their rules and algorithms. Our findings show that these new gatekeepers control access to information in two very powerful ways: (1) by using broad policies implemented through algorithms to restrict access to content; and (2) through monetary mechanisms, such as paid advertisements.

Sex educators are learning to engage with these commercial organisations and need to lobby private companies to acknowledge accurate, credible sources of sex education information. This is particularly important in countries where this information is censored offline and the internet is one of the few places that could offset these restrictions. Three open areas of enquiry in particular seem worth exploring here.

- The first question is to what extent content providers depend on these gatekeepers for traffic, and whether users could use alternative channels to find information they seek; in other words, would overall traffic reduce drastically if one channel was restricted or would other channels gain importance?
- The second question relates to the type of visitors coming from social media platforms through different channels. In our analysis, we found that referrals from Facebook are very engaged on Love Matters websites. However, part of the traffic from Facebook is captured in the 'social' traffic category, which as shown above does not seem very successful. It is crucial to understand whether this is just a technical 'categorisation issue' (i.e. whether they should be in the same category) or whether there could be inherent differences between Facebook visitors via referral and Facebook visitors via social traffic that are worth exploring.
- The third question is: who exactly are the visitors to sex education websites? If Facebook is driving large amounts of traffic, then there is a high chance of a large female audience, as more women than men tend to use Facebook. They are also much more active, with more than twice as many posts on their walls and 8 per cent more friends than men.¹⁴ However, looking at discussion board entries on the Love Matters India website, we find that mainly men are actively engaged in asking questions there. It would provide insight into whether these are gender differences in terms of preference or in access to technologies.

Understanding the audience better would enable sex education providers to tailor their content and outreach activities even better.

Another aspect related to attracting local populations is the importance of tailoring online content in local languages that are accessible and youth friendly, as shown in the high proportion of organic traffic that comes to the Love Matters India and Arabic sites. It allows them leveraging their limited resources most effectively within increasingly restrictive online and offline environments. Tailoring also means paying less money for marketing that targets young people.

The advantages of comprehensive online sex education that focuses on pleasurable aspects of sexuality have already been pointed out. These include that it is anonymous, interactive, portable, accessible at any time, and can be easily adapted based on users' needs and demands. There are five areas that we think require special attention to effectively reach out to young people and provide them with sex education in the digital age. Some of these are already happening and others are more forward looking and might need broadening coalitions:

- 1 Understand your audience: what do they want, what do they need, how can they engage, and how do they prefer to engage? This means more than simply providing a needs assessment. It means asking audience members how they want this information provided, in what language, with what type of imagery, and how often; and asking them to prioritise what matters to them. Sex educators need to employ and embrace online marketing and advertising mechanisms to reach their audience. In the digital era, sex educators are constantly competing for the audience's attention. With Facebook and other apps, audiences are expecting and consuming content in smaller bites (shorter visits), but more often. Content strategies need to be planned around this.
- 2 Understand to what extent interests of users and providers of sex education overlap or can be aligned with those of traditional gatekeepers such as the state and religious authorities, and engage and cooperate wherever possible. Limits can be pushed as long as they do not endanger people – users or staff.
- 3 Work with local organisations that have networks, experience and a deep understanding of the local context. They can help sex educators to understand how to deliver content, and if and how far one can push boundaries.
- 4 There needs to be a greater understanding of the power of invisible online gatekeepers to balance the attention given to traditional gatekeepers vs new gatekeepers, especially when it comes to return on investment. Sex educators need to invest in SEO and marketing.
- 5 Engage with supranational commercial organisations to make them understand the importance of sex education and push the boundaries of their understanding of 'explicit material' and 'pornography'.

Notes

- 1 www.apc.org/en/system/files/EroTICsBriefingEN_0.pdf.
- 2 www.unesco.org/new/en/hiv-and-aids/our-priorities-in-hiv/sexuality-education/.
- 3 Ordered by numbers of mentioning in the studies under review.
- 4 See, for example, Pendry and Salvatore (2015); Subrahmanyam, Greenfield and Tynes (2004).
- 5 <https://lmarabic.com/news/video-wedding-night-sex>.
- 6 'Your advert wasn't approved because it doesn't follow our Advertising Policies for advertising adult products or services. We don't allow images or videos that show nudity or cleavage, even if it's portrayed for artistic or educational reasons. How to fix: We suggest using a different image or video and checking that the destination link is compliant, too. If you think that your advert follows our policies, you can appeal against this disapproval.'
- 7 'This ad has been disapproved. Adult content.'
- 8 www.aftenposten.no/meninger/kommentar/Dear-Mark-I-am-writing-this-to-inform-you-that-I-shall-not-comply-with-your-requirement-to-remove-this-picture-604156b.html.
- 9 www.hrw.org/reports/2006/china0806/3.htm.
- 10 See, for example, China in 2014: <http://in.reuters.com/article/china-internet-pornography-idINKBN0D704Q20140421>.
- 11 <https://freedomhouse.org/report/freedom-press/2015/egypt>.
- 12 <http://aristeguinoticias.com/0904/mundo/censura-de-internet-en-13-paises-del-mundo-mexico-sera-uno-mas/>.
- 13 Poor website navigation could also result in people spending a long time on sites, with lots of page visits, because they cannot find what they are looking for.
- 14 www.brandwatch.com/2015/01/men-vs-women-active-social-media/.

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