Corrigendum to: Social media's role in support networks among LGBTQ adolescents: a qualitative study

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The author advises that there was an error in the Declaration of Funding section. The correct Declaration of Funding should have read:

Social media's role in support networks among LGBTQ adolescents: a qualitative study

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ABSTRACT

Background. Adolescents use social media more frequently than other age groups. Social media has been described as a safe environment for lesbian, gay, bisexual, transgender and queer and/or questioning (LGBTQ) adolescents. As part of mixed-methods research investigating the association between social networks and sexual agency, we present qualitative findings on how LGBTQ adolescents connect online to form support networks. **Methods**. We recruited 30 adolescents aged 14–17 years who identified as LGBTQ in terms of their gender or attraction in the longitudinal Social Networks and Agency Project. Semi-structured interviews were conducted online or face-to-face across Australia. Thematic analysis was used to explore perceptions and experiences of participants in relation to social media use and relationships. **Results**. Two overarching themes were identified: LGBTQ adolescents use social media for identity, relationships and wellbeing support. Social media is not always free of discrimination for LGBTQ adolescents. Many LGBTQ participants joined Facebook groups to connect with LGBTQ peers. Facebook was considered a vital support for those with mental health concerns including suicidal ideation. Participants gave and received support from group members, which was considered useful for those feeling isolated or victimised. LGBTQ adolescents formed friendships, romantic relationships and gained information on sex, relationships, and sexual health from these groups. Participants described negative experiences including discrimination within Facebook groups, mismanaged groups and exposure to anti-LGBTQ sentiments. **Conclusion**. Social media is an environment where LGBTQ adolescents can connect, educate and support each other, which may have beneficial effects for this marginalised group. There remain issues with social media including discrimination against and within LGBTQ communities.

Keywords: adolescent, internet, LGBTQ, mental health, social media, support, well-being, youth.

Introduction

Adolescents aged 15–17 years are the most frequent users of internet services, particularly social media.[1] A survey of secondary school students in Australia found that 66% accessed social media at least five times a day.[2] The most common social media platforms used by lesbian, gay, bisexual, transgender, and queer and/or questioning (LGBTQ) youth are Instagram, Facebook, Twitter, TikTok and Snapchat.[3] LGBTQ youth use social media for entertainment, identity development, LGBTQ information and social support.[4] Social media platforms such as Facebook create a fun and easy way to connect to LGBTQ communities, explore identity and access emotional support.[5] Social media possesses potential positive effects on sense of belonging, self-realisation and self-esteem.[6,7] However, social media has also been associated with negative experiences including confidentiality risks, cyberbullying, exposure to risky material and non-consensual sexting.[8,9]

Social media provides an online space where individuals can communicate privately or within groups, which is perceived as less risky than meeting in-person.[10] Young people can

explore and develop their identities via interaction and self-presentation on social media.[10,11] Older LGBTQ adolescents and young adults develop online and offline peer support networks to overcome adversity, and enhance psychological health and well-being in the face of social isolation, stigma and discrimination.[12,13] In contrast, social media is not always a safe environment for gender diverse adolescents as harmful and exclusionary behaviours online have been regularly reported by these young people.[12] Peer support has been noted as an important protective factor against poor mental health especially among LGBTQ communities.[14,15] LGBTQ individuals are at higher risk of alcohol and substance abuse, mood disorders (e.g. anxiety and depression), post-traumatic stress disorder (PTSD), psychiatric comorbidities, self-harm and suicidal ideation.[14,15]

Some LGBTQ youth are uncomfortable seeking help from friends and family and prefer to seek help online.[16] Thus, LGBTQ youth may use social media to explore and develop their sense of identity and connection with LGBTQ networks.[17,18] Limited partner options may also be a reason LGBTQ youth prefer approaching people online.[19] LGBTQ youth can also access information and support via these social networks.[17,20] For example, transgender youth can view vlogs documenting medical gender affirmation processes or seek emotional support from peers.[17] LGBTQ youth make use of these networks to reduce feelings of isolation and stigmatisation due to the pervasive impacts of a cisgenderist and heteronormative social environment.[18] Social media can also help connect LGBTQ individuals living outside of metropolitan locations.[21] Although social media may be safer now than in the past for exploring diverse sexualities and genders, it is still common for LGBTQ people to report negative experiences online including discrimination, abuse, racism, and coercion.[5,22,23]

Little is known about LGBTQ support networks on social media, including the benefits and motivations for LGBTQ adolescents using social media, although positive impacts have been identified.[24] This study builds on this limited amount of previous research by seeking to better understand LGBTQ young people's relationships in their online and offline networks.[25] The analysis reported in this paper focuses on the ways LGBTQ adolescents made use of social media for exploring identity and seeking support from other LGBTQ peers.

Materials and methods

Data collection

As part of the Social Networks and Agency Project (SNAP), a longitudinal mixed methods study on online and offline social networks and sexual agency, adolescents aged 14–17 years (*n* = 84) were recruited into a range of research activities.[25,26] Paid targeted advertisements were displayed on Facebook and Instagram within Australia, and others recruited via peer referral. Flyers were also distributed at Family Planning clinics in New South Wales (NSW) and one Sydney private school. This paper analyses data collected with adolescents who took part in SNAP, were interviewed at baseline, and identified as LGBTQ in some way. Baseline questionnaires and interviews were the core methods of the SNAP longitudinal study with data collected from early 2016 to early 2017.[25] Participants (*n* = 50) were interviewed by KA, LL, and SC during the baseline interviews. Interviews explored the types of information shared online, sexual interactions, romantic relationships and sexual health information (Appendix 1). Participants completed questionnaires at baseline on basic demographics including sexual attraction and gender identity. Ethical approval was obtained from the Ethics Committees at University of Sydney (project number 2015/489) and NSW Family Planning (project number R2015-10) with the procedures adhering to the Declaration of Helsinki. Written and verbal consent was provided by all participants before data collection occurred. Participants were given the opportunity to ask for parental permission, but otherwise were assessed as mature minors.

Analysis

The six steps that Braun and Clarke argue are important in high quality thematic analysis was followed to capture the perceptions and insights of researchers MNB and MT in analysing the interview data.[27] Interview transcripts were read and re-read noting recurrent patterns. Interviews were double coded to ensure consistency and data entered into NVivo 12; inconsistencies were discussed between the authors leading to shared interpretation.[28] Data were organised into potential themes using thematic maps and iterative discussions between researchers. Themes were reviewed to ensure the themes were distinct and meaningful. Ongoing analysis occurred ensuring clear definitions of the themes and subthemes, and the relevance of the final analysis to the research question, and use of pertinent extracts.[27] Quotes are presented verbatim to illustrate the themes and include pseudonyms, age and their reported gender and attraction to potential partners.

Results

Demographics

The 30 LGBTQ participants who completed baseline interviews were aged between 14 and 17 years at enrolment with a mean age of 16.17 years (standard deviation = 0.99). Five were presumed male at birth and 25 presumed female at birth. At the time of entry into the study, four identified as cisgender men, 19 as cisgender women, four as non-binary and three as transgender men. Most (*n* = 27) were still enrolled in

school with 10 attending private/independent schools, 19 public/government schools and one Catholic school. Most ($n = 24$) identified with a diverse sexuality (19 as attracted to more than one gender, five to the same gender, four to a different gender, and two questioning). Participants resided across Australia with 73% in NSW, and the rest in five other states/territories. Table 1 outlines the demographic characteristics of participants. Facebook was the most used platform among participants in seeking social support, followed by Tumblr.

Two themes and six subthemes were identified from qualitative interviews, which describe participants' experiences, see Fig. 1. The overarching themes were LGBTQ adolescents use social media for identity, relationships and support and social media remains a virtual setting for discrimination.

LGBTQ adolescents use social media for identity, relationships and wellbeing support

LGBTQ adolescents connect on social media with like-minded people

LGBTQ adolescents used social media, in particular Facebook, to form groups to make connections. Facebook allows its members to create online spaces whereby users can join and interact with each other; either in private groups or in spaces open to anyone on the platform. LGBTQ Facebook groups varied in sizes with some up to around 1000 members. Beth (17 years old, female, attracted to same gender only) stated one of the groups 'has thousands of queer kids from [the city], or all of Australia'. Alternatively, there were Facebook subgroups focused on a particular interest or particular gender identity; Alex (17 years old, transgender man, attracted to different gender only) noticed subgroups 'specifically for transgender people and a lot of random ones like gardening'. Some groups were location specific facilitating in-person meetings or events such as rallies. The ability to message other group members directly facilitated the formation of friendships online. Members also had the opportunity to create friendships offline through group events or one-on-one meet ups. For some, friendships were made through groups with people who identified with a similar sexuality and/or gender.

'My friendships have doubled ever since I joined [group], I try to at least meet them in real life.' (Pat, 15 years old, non-binary, attracted to more than one gender)

Some participants described the difficulties they had experienced in finding peers with shared experiences in their offline groups. In-person networks of cisgender or heterosexual individuals could be alienating for LGBTQ participants, as they felt they were not able to discuss topics of unique relevance to LGBTQ populations in those groups. Social isolation and stigmatisation were described as a

Table 1. Demographic table of LGBTQ participants in baseline interviews.

	n (%)
Age (years)	
n	30
Mean (s.d.)	16.17 (0.99)
Median	16.5
Range	14–17
Race	
Aboriginal or Torres Strait Islander	1 (3%)
Neither	29 (97%)
Gender presumed at birth	
Male	5 (17%)
Female	25 (83%)
Gender identity	
Cisgender man	4 (13%)
Cisgender woman	19 (63%)
Transgender man	3 (10%)
Non-binary	4 (13%)
Attraction	
Attracted to different gender only	4 (13%)
Attracted to same gender only	5 (17%)
Attracted to more than one gender	19 (63%)
Questioning	2 (7%)
School type	
Attending	27 (90%)
Not attending	3 (10%)
Public/government school	19 (63%)
Private/independent school	10 (33%)
Catholic non-government school	1 (3%)
State/Territory	
Australian Capital Territory	2 (7%)
New South Wales	22 (73%)
Queensland	1 (3%)
South Australia	2 (7%)
Victoria	1 (3%)
Western Australia	2 (7%)
Metropolitan or rural	
Those living in metropolitan areas	20 (67%)
Those living in rural areas	10 (33%)

Note: percentages have been rounded to whole numbers.

cause for poor mental health. As Michael (16 years old, transgender man, attracted to different gender only) noted 'it [poor LGBTQ mental health] is because people go to Catholic school or they live in communities that aren't LGBTQ tolerant'. To combat social isolation, adolescents described turning to social media as a way to connect with
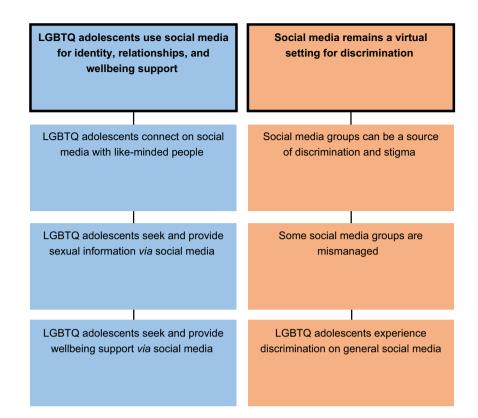
Fig. 1. Thematic map of overarching themes and subthemes.

the LGBTQ community. Michael (16 years old, transgender man, attracted to different gender only) described social media as 'a really good tool for socially awkward people to not feel isolated'. As an example of how adolescents may feel disconnected in offline groups, and relate more to those on LGBTQ Facebook groups, Michael said:

'It [school] is mostly middle class snobby private school people who I don't really relate to. Who aren't great on queer issues, but I guess with this new group of people we have similar interests and we are more likely to connect.' (Michael, 16 years old, transgender man, attracted to different gender only)

Social media was also perceived as an environment conducive to discussing sensitive topics, including mental health concerns, sexual experiences, or relationships. Some described feeling less open or comfortable discussing these topics in person.

'Without social media, probably would not be so open, social media means that you're open to a whole lot of conversations that you weren't going to have face-to-face.' (Dakota, 16 years old, female, attracted to more than one gender)

Romantic relationships could also be formed in LGBTQ online groups. Micah (17 years old, non-binary, questioning) explained that 'there are two or three couples within that group' and Alex (17 years old, transgender man, attracted to different gender only) mentioned that relationships 'happen a lot in the group'. Alex further explained that 'people would be forming relationships through these groups then being able to meet up'. Online friendships also developed through virtual interactions and could be strengthened by having similar interests or experiences. LGBTQ adolescents appeared more comfortable to connect with others who were also LGBTQ-identified, potentially compared with those who were not, for example:

'I met quite a few people online actually, I was like 'cool, yeah strangers, that's fine. ' (Tessa, 17 years old, female, attracted to more than one gender)

LGBTQ adolescents seek and provide information on sex, relationships and sexual health via social media

Some LGBTQ adolescents preferred receiving information on sex, relationships and sexual health from internet sources including social media, due to its accessibility and feeling uncomfortable approaching parents or their offline social network. Facebook and Tumblr were platforms participants used often to seek and provide this information. Facebook was commonly used and allowed users to provide and seek information through groups, post, or direct messages. Tumblr was less commonly used and information was mostly shared via posts and comments. Some reported feeling that it was not

safe to approach parents and potentially alert them to a stigmatised sexual or gender identity. Alternatively, participants with supportive in-person networks did have experiences of discussing relevant information with peers offline. This normally included friendship groups and formal sex education, although sex education at school was considered limited; 'I did not get very good sex education in school; it came from friends, it allowed me to think maybe I am not straight either' (Ellie, 17 years old, non-binary, attracted to different gender only). Additionally, participants may have felt more informed when asking questions of those who are believed to possess information relevant to the specific sexuality and/or gender of the participant. Below are examples of rationales for seeking these forms of information from social media:

> 'I come from a pretty conservative family and I would not feel comfortable asking questions about certain things.' (Tania, 17 years old, female, attracted to more than one gender)

Social media sources of information on sex, relationships and sexual health included group communications (e.g. commenting on posts) and sharing and/or creating websites and videos through social media. Sydney (15 years old, female, attracted to more than one gender) stated 'from Tumblr, I learned a lot about sexuality and gender'. In at least one instance, to share information regarding sexually explicit content; Ellie (17 years old, non-binary, attracted to different gender only) used Tumblr to share pornography: 'it's BDSM [bondage, discipline, sadism, and masochism] and lesbian stuff, I don't post my own stuff, just other people's'. YouTube was less commonly used for securing desired information. Below are examples of how useful participants found social media for learning sexual information:

> 'I like that there are so many platforms of learning stuff, there are people that have come into the [group] not knowing anything, and within a couple of weeks have been brought up to speed.' (Beth, 17 years odl, female, attracted to same gender only)

> 'I was very self-taught; I watched a lot of YouTube videos. It taught me a lot about the myth about popping the cherry and the violence behind virginity, I learned most of my safe sex practices through there.' (Zara, 17 years old, female, attracted to same gender only)

LGBTQ adolescents seek and provide wellbeing support via social media

LGBTQ adolescents also sought and provided forms of support with the peers they connected with online. LGBTQ participants thus demonstrated that social media can be a powerful tool in constructing a support network; 'our community is more vulnerable in the world so we're going to turn to social media for support with one another' Lee (16 years old, transgender man, questioning). Most LGBTQ participants who had been members of these groups noted that people within the LGBTQ community had experienced mental health issues. This included depression and suicidal ideation; as Michael (16 years old, transgender man, attracted to different gender only) mentioned 'almost all of my friends are suicidal, it is not funny'. Some participants became accustomed to regularly helping LGBTQ peers; 'I am really adept at helping them through their problems as we do not see each other often, social media is a really helpful platform' (Michael, 16 years old, transgender man, attracted to different gender only). Users could post their concerns into the group allowing quick responses. Some of the subgroup options were specifically for mental health and was described as: 'mental health support, it's a very loving and supportive community' (Sunny, 16 years old, non-binary, attracted to different gender only).

Social media groups were described as safe for LGBTQ participants to access in order to feel protected from discrimination. Users engaged and interacted with like-minded peers where they felt accepted and supported. Group members sought support if they feel upset by exposure to stigma and discrimination in other contexts:

> 'It is sort of like a little hub where you can go to get away from people who are intolerant.' (Michael, 16 years old, transgender man, attracted to different gender only)

> 'We gravitate towards each other and the group is set up to be a safer space for everyone, it's a really nice space and you can talk about anything.' (Micah, 17 years old, non-binary, questioning)

Social media was described as convenient for LGBTQ participants to ask for support quickly and easily, and able to be tailored and followed up with other methods of support including phone calls or meeting in-person. As Lee (16 years old, transgender man, questioning) pointed out: 'it's more convenient as we are all spread out – we have our place to congregate even if it's not a physical setting. If someone is struggling with something, they will put it in there and it's just easier to support them'. Being online is an important factor in making it possible for these groups to reach a larger number, as Micah (17 years old, non-binary, questioning) noted 'if it was face-to-face, it might exist, there might be fewer people'.

Social media is not always free of discrimination for LGBTQ adolescents

Social media groups can be a source of discrimination and stigma

Concerns were expressed by participants about the fact that stigma and discrimination also existed within the LGBTQ

groups. For example, Beth (17 years old, female, attracted to same gender only) described some other social media users expressing 'elitism' within the group: 'there have been people thinking they are better than others, and others saying, 'you cannot be in here, you are not gay enough''. Racism and transphobia were also mentioned; 'I get racist comments' (Michael, 16 years old, transgender man, attracted to different gender only); 'there was a lot of racism and transphobia within the group' (Micah, 17 years old, non-binary, questioning). Some users would engage in arguments within the group about sensitive topics such as 'body positivity and gender, ' as mentioned by Beth (17 years old, female, attracted to same gender only). Asexuality and sexual 'kinks' could be stigmatised, adding to feelings of social isolation for some people. Below are examples of these issues coming up in the LGBTQ Facebook groups:

'There was recently 'beef' about whether asexual belongs to the LGBT community and a lot of people got angry towards the person who posted that, and that person retaliated, and it just got really messy. ' (Michael, 16 years old, transgender man, attracted to different gender only)

'There is a subgroup for kinks, but I have had to deal with quite a bit of kink shaming. ' (Beth, 17 years old, female, attracted to same gender only)

Many participants who had experienced stigma in social media groups reported leaving and joining a smaller or more geographically specific group. Michael (16 years old, transgender man, attracted to different gender only) mentioned that 'people left that group and started another group with nice people, and so did I'. This was described as an effective measure to prevent further negative interactions among participants.

Some social media groups are mismanaged

One of the highlighted issues in Facebook groups was that they were often created and moderated by other adolescents. As Alex (17 years old, transgender man, attracted to different gender only) explained:

'it's not good for teenagers to have this much authority … sometimes lines are crossed … the admin [group administrators] are still just teenagers like the rest of us, they usually just see it and go 'gosh, I don't know what to do'. It just gets swept aside' (Alex, 17 years old, transgender man, attracted to different gender only).

Participants believed some of these groups were consistently problematic, describing some as 'infamous' and with users who 'wanted to stir things up' (Michael, 16 years old, transgender man, attracted to different gender only). These larger groups were commonly associated with experiences of discrimination, including racism. Smaller groups

appeared to combat these kinds of issues by implementing strict rules regarding how you can join groups and increasing the number of administrators. Administrators are those in charge of groups and can also act as moderators.[29] Micah (17 years old, non-binary, questioning) explained that one group had:

'three administrators and it is a secret group, if we want to add anyone, we have to talk about it with every other member. People who are not sensitive about other people's feelings or have a tendency to bully other people are just not allowed in at all'.

LGBTQ adolescents can experience discrimination on general social media

Social media that was not LGBTQ-specific was also described as an environment likely to be unsafe for LGBTQ individuals. For example, Ellie (17 years old non-binary, attracted to different gender only), said that: '[People] give opinions that attack me personally as an LGBTQ person'. Anti-LGBTQ sentiment can be expressed in the form of posts or comments from individuals, groups, or organisations. Exposure to this kind of negative material on social media was perceived as contributing to the poor mental health of LGBTQ adolescents. As Beth (17 years old, female, attracted to same gender only) put it, some of these young people are 'sad and mad' and have a 'f**k the world' view. Participants noted that anti-LGBTQ comments would be expressed more commonly and easily online compared to in-person. As Ellie (17 years old, non-binary, attracted to different gender only) stated 'people would not dare say some of that stuff face-to-face'.

Some users developed coping strategies to counter the negative effects of viewing discriminatory social media posts, on both LGBTQ groups and general social media. Strategies articulated by participants included unfollowing the source or focusing on alternative activities such as watching television or exercising to distract oneself. Beth (17 years old, female, attracted to same gender only) described strategies she used to distract herself including 'binge watching a show, turning off the internet and immersing in the real world … You do not want death threats'. These avoidance strategies may be useful in reducing frustration and avoiding conflicts, but also do not help to change the context in which the harmful communications are occurring.

Discussion

This analysis found that social media networks are perceived as an effective method for securing social support among LGBTQ adolescents. Our findings indicate that LGBTQ adolescents view social media as protective against commonly

experienced mental health issues. However, LGBTQ participants also reported experiences of discrimination, including homophobia, transphobia and racism in larger LGBTQ Facebook groups, indicating that these virtual 'safe spaces' are not immune to facilitating negative interactions. This study described the many ways that social media is utilised by LGBTQ adolescents for prosocial activities. LGBTQ participants use social media to find friends and romantic partners and to facilitate in-person connections. LGBTQ participants tended to be more dissatisfied with the information on sex, relationships and sexual health they could secure through online sources, including through social media.

As Tiidenberg and colleagues[30] note, most popular social media platforms (including Facebook and Tumblr) offer a range of similar affordances, or 'possibilities for action' – including the capacity to easily share, archive and search for multi-modal posts (i.e. written text, photographs, screenshots and video).[30] In terms of peer-support for LGBTQ+ young people, there are some key differences between Facebook's affordances and those of Tumblr.[30] While public Facebook profiles are easily accessible and searchable, Facebook's 'real name' policy, and policy of facilitating connection through automated recommendations (i.e. 'People You May Know') can compromise LGBTQ+ young people's privacy and security.[24,30] In contrast, Tumblr facilitates anonymity, but does not offer the same capacity for young people to easily search for specific local communities.[24] Hanckel and colleagues (2019) have observed that these diverse platform affordances require young people to carefully curate their online accounts in order to meet their specific contextual needs.[24]

Social media is associated with increased connectivity and social capital with benefits for wellbeing.[9,31,32] The findings of this study support previous research that has found social media can offer a safe environment for LGBTQ adolescents.[5,18,20,32] Research has shown that LGBTQ adolescents are at risk for mood disorders, PTSD, other mental illnesses, and alcohol and substance abuse.[14,15] Online platforms are associated with reduced stigmatisation compared with offline alternatives, thus improving the potential for positive mental health benefits for users.[32,33] Online representations of LGBTQ individuals and communities can validate these identities and experiences, as we see in the popularity of YouTube and Instagram accounts documenting medical gender affirmation processes.[12,34] Although LGBTQ representation is becoming more common in media platforms of all kinds, these sexual and/or romantic journeys are less commonly portrayed, and negative representations of transgender people remain common.[35]

Our findings demonstrate the potential positive effects of social support through social media on LGBTQ adolescents, which may result in improved mental health outcomes. Adolescents who do not access online groups are at risk of social isolation unless they have an in-person support network.[36] Social isolation is compounded by a lack of belonging and heightened by contributing factors (stigma,

heterosexual norms or rejection).[37] Social and/or physical isolation and lack of mental health support can be particular risks for mental health issues among LGBTQ people who are living in regional and remote locations.[21,37–39] Social media or online groups are not geographically restricted and have the ability to cater to those in rural and remote areas.[21,40] This is especially pertinent in times when physical isolation is more pronounced, such as during periods of restrictions on movement due to the COVID-19 pandemic.[41] Young people have felt more isolated, alone and overwhelmed due to COVID-19 restrictions.[42,43] Attention to maintaining the mental health of LGBTQ adolescents whilst in isolation should be a priority due to their vulnerable state.[20,41]

In line with previous research, we found that LGBTQ youth use social media to connect with others and seek romantic partners more than non-LGBTQ peers.[19] Participants described how connections are initiated by exploring shared experiences or interests. This is likely due to the reduced number of romantic options and social risks associated with disclosures, as LGBTQ youth are a stigmatised minority.[19] Our findings reflect similar patterns with LGBTQ adolescents using Facebook groups to communicate and organise individual meetings or group events. Ethical and privacy concerns were also motivating some participants to leave Facebook and use alternative social media platforms.[44] This suggests that this study may not capture all of the ways in which young people use current forms of LGBTQ social media, including Facebook.

Anti-LGBTQ attitudes are often expressed by communities, families, religious groups and schools.[15,45] This has been shown to impact LGBTQ community involvement, networks and identity development.[15,45] Strategies to eliminate or at least reduce prejudice in individual attitudes and institutions can lead to a strengthened sense of identity, community, belonging and mental health.[15,45] Legislation may prove useful in preventing or reducing mental health issues.[46] Within our study, negative attitudes were present on social media such as in news articles or in friends' posts with discriminatory comments. Popular Facebook groups within this study were also not immune to discriminatory views being expressed. In combatting these negative experiences, participants would join other groups that were often smaller and with stricter rules. Our study also described how some inexperienced peer group moderators were unsuccessful in preventing negative LGBTQ sentiments.

This study has a number of strengths. Even though the SNAP study did not specifically seek to recruit this group, a high proportion of participants identified as LGBTQ (51%). To our knowledge, this study is the first to address specific issues relating to the experience of participating in LGBTQ social media groups. Limitations included that recruitment was primarily via Facebook and Instagram, and so users of other social media and non-users may not have been captured. Those adolescents not comfortable discussing sexual topics would likely also not have participated. Lastly, baseline questionnaires only asked about attraction rather

than sexuality, and although subsequently this was rectified in the endpoint questionnaires, participation had dropped by 15%.

Implications

These findings help to expand our understanding of how LGBTQ adolescents connect and support peers, and potential issues associated with participation in social media platforms. It is vital that professionals working with LGBTQ adolescents, including clinicians, support workers, teachers (i.e. sex education) and policy makers be made aware of the advantages and disadvantages of social media groups for this group of young people. Professionals should be aware of the effect adults have in online adolescent groups. Rather than having adult moderators, support could be offered to those peers already acting as group administrators (e.g. mental health first aid and mental health hotlines). Inexperienced peers currently managing groups may benefit from this support. Professionals may be willing to refer adolescents to more reputable and well managed groups run by adolescents to avoid negative interactions. This would help in avoiding the mismanagement and potentially hostile nature of some groups. Adolescents appreciate spaces where adults are not present, to engage openly with their peers.[47]

Conclusion

Social media is fundamental to supporting adolescents as they learn to socialise, develop identities and experience their world. Our study showed that LGBTQ adolescents use social media in ways that can provide positive influences on wellbeing. Awareness of LGBTQ use of social media highlights areas for support that can be addressed by professionals. It is important to support wellbeing and improve mental health in this vulnerable population.

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Appendix 1. Baseline interview guide

Social media

1. Can you tell me what interested you about this study? What made you sign up?
2. Tell me a bit about what social media you use.
   - What do you use them for?
   - How do they differ from each other?
   - Which do you use most frequently?
   - Do you prefer to use social networks on a mobile, on a desk computer, or something else?
   - Why do you prefer the platforms you use the most?
   - How is your use of social media influenced by your friends?

** If they are not big users of social media

   - Why do you think some young people use social media a lot and others do not?
   - How do you think other young people use social media differently than you do? (attention, show off . . . .)

Sharing information

3. Tell me a bit about the types of information you share online? Can you give me some examples of this?
   - How do you decide to what to share online?
   - Do you share different things on different platforms? Why/why not?
   - Who do you share information with?
   - How do you decide to what to share online?
   - Do you share different things on different platforms? Why/why not?

Sexual interactions online

4. Have you ever seen something online that bothered you? Can you tell me about it?
   - What did you do when you saw it?
   - If I used the term sexual online communication, what does that mean to you?
   - Are sexual texts or images easily misinterpreted? Can you share an example?
   - Some people say that sharing sexual images is a joke or it is funny. Can you talk to me about this?
   - How do you think young people learn about sexuality and sex – online?

Romantic relationships

5. Tell me about how people use social media in romantic or sexual relationships.
   - Have you met someone this way? How did this happen?
   - How do you think online and offline relationships different?
   - How do you let someone know that you like them when you are online?
   - How much time do you spend communicating with your boyfriend/girlfriend or people you are interested in on-line vs to offline?
   - Are there things you would say in one space you would not say in another?
   - Does the type (e.g. friendship; boyfriend/girlfriend) and quality of relationship (e.g. flirt, sexual, close friends) influence your choice of interaction? How so?

** If they are not in a relationship or flirting online

   - How do you think young people use social media when they like someone romantically?
   - Do you think romantic relationships form online? Can you tell me about this?
   - How do you think flirting works online? Any examples?

6. Imagine you live in a world without social media, how would this affect your friendships? Relationships? Sexual attitudes?