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Original Paper

Expert Opinions on Web-Based Peer Education Interventions for Youth Sexual Health Promotion: Qualitative Study

Philippe Martin^{1,2,3,4*}, MSc; Corinne Alberti^{1*}, Prof Dr, PhD; Serge Gottot^{4*}, PhD; Aurelie Bourmaud^{1*}, MD, PhD; Elise de La Rochebrochard^{2,3*}, PhD

¹Institut National de la Santé Et de la Recherche Médicale (INSERM), Epidémiologie clinique et évaluation économique appliquées aux populations vulnérables (ECEVE), Université de Paris, Paris, France

²Institut National d'Etudes Démographiques (INED), UR14 – Sexual and Reproductive Health and Rights, Aubervilliers, France

³Centre de Recherche en épidémiologie et Santé des Populations (CESP) - UMR U1018 (UVSQ/INSERM), Université Paris-Saclay, Université Paris-Sud, Villejuif, France

⁴GDID Santé, Paris, France

*all authors contributed equally

Corresponding Author:

Philippe Martin, MSc

Institut National de la Santé Et de la Recherche Médicale (INSERM)

Epidémiologie clinique et évaluation économique appliquées aux populations vulnérables (ECEVE)

Université de Paris

10 Avenue de Verdun

Paris, 75010

France

Phone: 33 676606491

Email: philippe.martin@inserm.fr

Abstract

Background: Participatory education, in the form of peer education, may be an effective way to promote youth sexual health. With the advent of the internet, web-based interventions have potential as an attractive new tool for sexual health promotion by peers.

Objective: The aim of this study was to evaluate professional experts' opinions on the perspectives for web-based participatory interventions to promote sexual health by peers and among young people.

Methods: Semistructured interviews were carried out with 20 experts (stakeholders in direct contact with young people, researchers, and institutional actors) specializing in sexual health, health promotion, peer education, youth, internet, and social media. After coding with N'Vivo, data were subjected to qualitative thematic analysis.

Results: The majority of experts (18/20, 90%) found this kind of intervention to be attractive, but highlighted the necessary conditions, risks, and limitations attached to developing an acceptable peer intervention on the internet for sexual health promotion among young people. Five main themes were identified: (1) an internet intervention; (2) sexual health; (3) internet skills, and uses and the need for moderation; (4) multifaceted peers; and (5) minority peers. In the absence of youth interest for institutional messages, the experts highlighted the attractive participatory features of web-based interventions and the need for geolocalized resources. However, they also warned of the limitations associated with the possibility of integrating peers into education: peers should not be mere messengers, and should remain peers so as not to be outsiders to the target group. Experts highlighted concrete proposals to design an online participatory peer intervention, including the process of peer implication, online features in the intervention, and key points for conception and evaluation.

Conclusions: The experts agreed that web-based participatory interventions for youth sexual health promotion must be tailored to needs, uses, and preferences. This type of action requires youth involvement framed in an inclusive and holistic sexual health approach. Peer education can be implemented via the internet, but the design of the intervention also requires not being overly institutional in nature. Involving young people in their own education in an interactive, safe online space has the potential to develop their empowerment and to foster long-term positive behaviors, especially in the area of sexual health.

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KEYWORDS

youth; health promotion; internet; sexual health; peer education

Introduction

UNESCO (United Nations Educational, Scientific and Cultural Organization) emphasizes that adolescence is the time to develop healthy habits and lifestyles related to sexual health, when individuals are exploring their sexuality and establishing interpersonal relationships [1]. Young people have emerging questions about sexual health, which go beyond disease and integrate emotional dimensions [2,3]. Major sexual and reproductive health issues affect young people, including puberty, sexually transmitted infections [4], unwanted pregnancy [5], and sexual violence, but information/communication technologies also have an influence on sexual behavior [1].

To address these issues, top-down sexual health education has been developed. However, learning is not limited to receiving and processing information: young people learn best when they are allowed to build their own understanding of information [1]. Among young people, interactive models that promote social interaction and exchanges of experiences could be effective in acquiring this knowledge and developing positive health behavior over the long term [6]. In this process, peer education corresponds to an educational approach that uses peers (sharing the same age, social context, function, education, or experience) to provide information and to promote certain types of behaviors and values [7,8]. Through informal social learning, peers appear as resources offering support and sharing similar experiences. Health actors have tried to advance peer education to become a formal process in public policy and practice, particularly with respect to youth sexual health [9-12].

In the past, peer education programs have been implemented in physical life, especially for HIV prevention and sexual health education [9,13,14], with different peer-led group sessions [9]. Past experiences have highlighted the value of a comfortable and user-friendly space to exchange information and perspectives about sexuality, with peer educators facilitating youth engagement [15]. A recent review of college campus peer interventions found positive improvements in knowledge and behaviors such as condom use and HIV testing [16].

With the advent of new technologies, the internet offers wide access to health information, particularly in sexual health [3], with benefits of interactivity and personalization of information [17]. Social media offer users the ability to generate, share, and receive information through multidirectional exchanges, which can transcend geographical boundaries and provide anonymity in discussing intimate topics [18,19]. Young people can join online communities to benefit from social support and find responses to their concerns. The online media have potential to offer great opportunities for peer education interventions in sexual health for young people.

Despite these recognized benefits, there is little research evaluating participatory interventions on the internet and by peers in youth sexual health. One intervention study explored the feasibility of peer education among adults focusing on men who have sex with men (MSM) for HIV prevention, with the

training of leaders in a Facebook group [20]. Another study designed a social media “peer-led” intervention in a Facebook group for safer sex practices among young people [21]. Although the feasibility of these interventions has been demonstrated, much work remains to be done to determine whether this educational model is applicable and effective, and if it is complementary to traditional top-down systems. In particular, further research is needed to explore the educational and practical potential of these interventions, examining inherent risks and limitations. Feedback from experts (in the fields of internet, youth, and sexual education) should make it possible to address several of the key methodological issues.

Community-based participatory research brings together partners (actors in the field, designers and researchers, target audience) with different skills, knowledge, and expertise to address complex problems, including experienced professionals [22]. Collecting their views based on their experiences should inform the design of in-depth analyses, particularly for the development of peer education interventions on youth sexual health [15]. Currently, there are no data available on relevant stakeholders’ opinions and experiences on peer education, sexual health, youth, and the internet. Therefore, there is a need for informative research to fill these gaps, and to develop this new kind of intervention effectively.

Accordingly, the aim of this study was to evaluate expert opinions and to collect advice on web-based participatory interventions to promote young people’s sexual health through peers, and to study the inherent risks and limitations.

Methods**Design**

Our methodology followed the Consolidated criteria for reporting qualitative research (COREQ) checklist for writing and reading qualitative research reports [23] (see [Multimedia Appendix 1](#)).

Participant Recruitment

We identified 37 French experts on the subject from existing publications in which they were named as authors, as well as reports and health promotion programs in which they were credited as editors and managers. These experts had different functions in diverse fields of expertise, including sexual health, young people’s health, connected health, peer education, and program methodology. They all had concrete experience on the subject and had expertise related to some or all of the study topic. Some of the experts were in charge of websites promoting the sexual health of young people, were developing educational programs or national sexual health guidelines, or had studied the sexual health of young people, particularly through the internet. We invited these experts to participate in the study by email. Of the 37 identified experts, 20 agreed to participate. The characteristics of the participant experts are presented in [Table 1](#) (see [Multimedia Appendix 2](#) for more details).

Table 1. Expert characteristics (N=20).

Characteristic	Participants, N
Gender	
Female	13
Male	7
Organization type	
Association	5
Public institute for prevention/health promotion	5
Public hospital	4
National education	2
Public research institute	2
Public scientific/cultural/professional institution	1
Government agency	1
Occupation	
Professor of health (public health, health promotion, gynecology)	3
Nurses and midwives specializing in sexual health	3
Clinical psychologists/youth psychotherapists	2
Heads of prevention department/prevention project manager	2
Sociologist experts on online youth sexuality	2
College teacher (science and sexuality education)	1
Regional health education program coordinator	1
Prevention facilitator; specialized educator	1
Advisor in social and family economy	1
Social marketing expertise manager	1
Documentation and information officer	1
Epidemiologist	1
Social worker	1
Specializations	
Youth health	18
Sexual health	16
Education/prevention/promotion	12
Peer education	9
Internet and social media	5
Region	
Paris region	16
Rest of France	4

Interview Process

A researcher who is a graduate in public health (PhD candidate) and trained in interview techniques conducted the semistructured interviews with professional experts. Each interview began with a presentation of our research subject and key associated concepts. The interview guide was not constructed based on a specific theoretical framework. Open-ended questions organized in a convergent manner were used to possibly prompt the interviewee on a subject. The content of the questions was based

on factual information-seeking only. The semistructured interviews then followed the guide (see [Multimedia Appendix 3](#)) with adaptation depending on the interviewee's experience. The interview guide was structured in four main sections: (1) features of experts, (2) youth sexuality concerns, (3) mechanisms for seeking information or exchange of experiences, and (4) opinions and experiences on web-based interventions and participatory features as peer education.

Interviews were audio-recorded after having obtained the agreement of the interviewed expert. The interviews lasted

between 45 and 141 minutes with an average of 63 minutes. Most of the interviews were with individuals; only one interview was held with two experts working together. Interviews were carried out by telephone or at the experts' place of practice, allowing the expert to remain in his or her working environment to complete the interview.

Regulatory and Ethical Aspects

The study obtained a favorable opinion (no. 18-515) from the Institut National de la Santé Et de la Recherche Médicale (INSERM) Ethics Evaluation Committee (IRB0000003888) and was reported to the INSERM Data Protection Officer. Identifying information was anonymized in the transcripts. Expressed consent was given orally at the beginning of the interview, as was the authorization to record.

Analysis

The interviewer transcribed and coded the digitized interviews verbatim and the notes taken during the interviews using NVivo 10 software. Using an inductive theme identification process

to generate codes, an analytical framework was created. To ensure the validity of the results, the thematic analysis was carried out by two authors (PM, ELR), who followed the recommended phases and steps for the development of the themes in terms of qualitative content and thematic analysis [24]: Initialization, Construction, Rectification, and Finalization.

Results

Main Themes and Subthemes

Experts' opinions were structured according to five main themes: (1) internet intervention; (2) sexual health; (3) internet skills and uses, and need for moderation; (4) multifaceted peers; and (5) minority peers. These themes are complementary, connected, and should be considered together for the development of participatory internet-based and sexual health promotion peer interventions. The themes and subthemes are presented in [Textbox 1](#) (also see [Multimedia Appendix 4](#) for the most significant quotes used to develop these themes).

Textbox 1. Key themes and subthemes identified in the interviews.

Theme 1: Internet intervention

- Complementarity with existing offline sexual tools
- Secure, valid, and credible content
- Online personalized, interactive, and participatory features
- Adapting to rapid obsolescence of preferred media
- Social marketing to understand uses and preferences

Theme 2: Sexual health

- Importance of sexual health for young people
- Evolving sexual health concerns and issues

Theme 3: Internet skills and uses, and the need for moderation

- Heterogeneous internet use
- Diversity of skills in online information-seeking
- Need for online anonymity for sexual issues
- Risks of surfing the internet and social media
- Moderation of online social interactions
- Nonreceptivity of institutional messages

Theme 4: Multifaceted peers

- Importance of peer group for young people
- Peer education concept
- Notion of peers
- Peers' involvement
- Limits of young people as "peer educators"

Theme 5: Minority peers

- Online peer group dynamic
- Need to find peers outside the neighborhood
- Inclusiveness in health promotion interventions
- Risk of stigmatization and discrimination
- Self-rejection as a determinant of participation
- Collaboration with specialized organizations

Internet Intervention

In view of young people's daily internet use, the majority of experts (18/20, 90%) believe that web-based participatory interventions to promote youth sexual health are attractive, with essential prerequisites. One expert found the intervention to be attractive without suggesting any limit. Another did not find the intervention to be attractive (owing to too many limitations).

Complementarity With Existing Offline Sexual Tools

A program coordinator insisted that a web-based action must be complementary to existing offline sexual health tools and actions (ie, the internet does not replace human contact; expert S5). Another highlighted the need to "digitize" existing health promotion techniques (S17).

Secure, Valid, and Credible Content

An expert in direct contact with youth indicated that to address young people through a web-based intervention, she will need to be sure that it is well embedded and disseminates valid and credible contents (S13).

Online Personalized, Interactive, and Participatory Features

Three experts (S1, S15, and S17) insisted on the importance of using internet tools to develop participatory actions, to go beyond observing or receiving information. Two experts (S1 and S17) mentioned online participatory features as attractive components, including shared construction of knowledge, the possibility of including influencers (role models), serious games, and chatbots (artificial intelligence). Two other experts (S8 and

S19) considered that young people may have needs for health services offline beyond the internet, particularly in sexual health (eg, access to abortion, protection from violence). They also suggested providing geolocalized resources to allow for a personalized response, according to participant location.

For an internet site, it is important to be able to say, for a local area, where I can get more information, where can I get condoms? It must be locally sited and rooted in an area. [S8]

Adapting to Rapid Obsolescence of Preferred Media

One expert (S5) warned that young people's preferred online media sources are evolving quickly. Therefore, it is necessary to adapt actions to the evolution of internet uses and the rapid obsolescence of these preferred media.

It will already be obsolete, and will no longer correspond to their favorite network. This is something that changes fast, so for it to be set up and be effective, we have to be reactive. [S5]

Two experts (S5 and S15) also proposed to use multiple online media sources in parallel (interconnected), to observe preferences, and to be as close as possible to media uses.

Social Marketing to Understand Uses and Preferences

Moreover, a communications specialist pointed out the need for a social marketing strategy to understand young people's internet usage and to adapt to their preferences in implementing actions.

How to attract young people? It has to be a brand, there must be a marketing strategy, one has to think about several different sites. What we are studying is peer education, which is quite well known. But one just has to get on terms with different internet sites and know how to make them work. [S15]

Sexual Health

Importance of Sexual Health for Young People

Based on her research, a sociologist expert on young people's internet usage and sexuality (S19) explained that among other health issues, those related to sexual health appeared to be the most important among young people. Three experts (S1, S9, and S11) emphasized the emotional dimensions of sexual health: love and sentimentality, as well as sexual relationships are central for young people. In this sense, three experts (S1, S2, and S4) also recalled the importance of a holistic approach to sexual health action, treating it in a global way and going beyond the prevention of risks.

Evolving Sexual Health Concerns and Issues

A sociologist expert on young people's sexuality as manifested online (S16) emphasized the importance of taking into account, when planning actions, the evolution of a young person's sexuality concerns, especially following their sexual debut. He recommended recognizing that internet use evolves with life trajectories: "Internet usage is linked to one's situation, and depends on age and on the changing concerns implicated in one's emotional and gender relations" (S16).

Internet Skills and Uses, and the Need for Moderation

The majority of the experts (19/20, 95%) discussed young people's internet usage as a route to address sexual issues (preferred media, use of social media to interact and search information). They emphasized the heterogeneity of the young population.

Heterogeneous Internet Use

One sociologist (S16) explained that exploring the internet may be a solitary activity at first when seeking to understand sexuality; in this phase, young people do not necessarily want to interact with others. However, they may ask questions on online search engines to find information and observe the exchanges in forum discussions (S3, S16).

Early adolescence, before the first sexual relations, is often a time of very solitary exploration of the internet, it is not social networks that are the most important. But at this stage young people do follow forums [discussions online]. [S16]

Diversity of Skills in Online Information–Seeking

Based on her experience, another expert (S19) insisted that heterogeneous internet usage for information retrieval must be considered. There is a diversity of backgrounds and different skills in research, analysis, and critical thinking concerning online information:

Young people from better-off backgrounds, who have the greatest inclination and also the most social, educational, economic, and cultural capital, will be the ones who will make the most use of the different resources the internet has to offer. [S19]

On the same subject, four experts in direct contact with young people (S2, S3, S9, and S11) made the point that they are eager to find answers online and are not always critical as to the reliability of the source. However, two experts in direct contact with young people (S6) and in sociology (S16) considered young people to be sufficiently competent to screen online information.

Young people have quite a strong tendency to resort to the internet, and their grasp of technology enables them to know the difference between a site which gives valid advice and one which looks untrustworthy. [S16]

Need for Online Anonymity for Sexual Issues

Moreover, given the intimate and personal nature of the topic of sexual health, three experts (S5, S6, and S19) mentioned the advantage of online anonymity as protection for those needing to ask questions or seek information. In practical terms, one explained the advantage of this: "They have anonymity already, so they will be able to ask their questions more easily than face to face, from behind their screen...without embarrassment or fear of judgment by their peers." (S5)

One expert (S19) complemented this notion by explaining that young people generally leave their usual media sources that can identify them to go to other sites so as to have anonymity for questions on sexuality. However, two experts (S6 and S9) also pointed out that anonymity could have drawbacks, with the risk

of cyberbullying: “It can also be a protection for the most abusive or malicious, the internet ‘trolls’.” (S6)

Risks of Surfing the Internet and Social Media

Five experts in direct contact with young people (S2, S6, S9, S10, and S13) were those who gave the strongest warnings about online risks such as access to unreliable and invalid information (S3, S9), exposure of bodies by “nudes” (S2, S3, S10), or access to pornography (S2, S10).

In schools and colleges there are problems to be dealt with which arise on social media, on Snapchat. We have had quite a lot of trouble with photos where girls are posing on social network sites. [S3]

Moderation of Online Social Interactions

To address these risks, the majority of experts (15/20, 75%) expressed the view that online moderation is necessary, notably in web-based actions allowing social interactions. Even in a peer education intervention, educators should not disengage from their adult role (S7, S8). This moderation must make it possible to reduce hurtful acts and limit false information (S2, S3):

The moderator must be really good, so that as soon as there is a false statement, or one that is hurtful or insulting, the moderator intervenes. There would need to be a super-present moderator. [S3]

Nevertheless, two experts (S7 and S16) thought that young people might consider this moderation as imposed from the outside, thereby losing the desired “between young people” aspect.

Nonreceptivity of Institutional Messages

More generally, three experts (S6, S7, and S16) noted that young people are not attracted or receptive to traditional prevention actions and messages developed by institutions. Some experts (S5, S11, S15) pointed out that existing sexological tools (school interventions, websites) are effective. In contrast, two experts (S7 and S16) were critical of young people’s perception of formal actions, which are considered to be not effective or too institutional (S7).

To address the nonreceptivity to institutional messages, two experts (S6 and S17) insisted on the need to involve young people in project reflection. Moreover, a teacher (S3) explained the importance of “peers” for the acceptance and integration of the information received: “We know that studies show that when information and knowledge are offered by a member of a peer group, it is better accepted and retained than when it is provided by the teacher.”

Multifaceted Peers

Importance of Peer Group for Young People

For a sociologist expert on young people’s sexuality online (S19), the peer group corresponds to one of the new spheres of socialization where peers will be chosen and will take up a lot of space in the lives of young people. Peers could then intervene in education.

Peer Education Concept

Among experts who had experience in peer education (9/20, 45%), the majority (S1, S6, S7, S8, S15, and S19) considered peer education as part of an approach that involves youth participation in action. For another expert (S4), peer education was described as a discussion time between young people. One expert insisted on the importance of not considering young people only as “action users,” but rather including them in all stages of action development, not only in design:

This is a group of young people who self-select to set up a project which can be designed and made available to young people who are like themselves. [...] They are the ones who will take the initiative, and will be involved in the design, the implementation, and the evaluation. [S6]

Notion of Peers

Six experts (S4, S6, S7, S8, S15, and S19) questioned the idea of “youth” being peers and the notion of “peers.” They insisted that peers must recognize and consider themselves as peers (S6, S7, S8, and S19). One (S6) advocated letting the group of peers form themselves within the action, without institutional involvement. One (S19) indicated that it is complicated to simply consider the “age” characteristic as the gateway. For one expert, young people are all peers and she considered this as a limitation: “It just means young people talking to young people, so they are ‘pseudo-pairs’.” (S4)

For others (S6, S8), it seemed more pertinent to define the notion of “peers” in terms of similarity in experiences or concerns, beyond the criterion of age:

“Similar” doesn’t mean in terms of gender or skin color, but similar in terms of daily realities of life. They will have unity in terms of place, geographical space, and age. [S6]

Peers’ Involvement

Two experts (S10 and S16) addressed the issue of young people’s involvement in web-based peer education. Some could be leaders and others more passive: “Some young people will immediately want to position themselves as leaders within the group, and others will prefer to come and look and say nothing.” (S10)

Three experts (S6, S7, and S8) identified different peer functions: moderators, educators, and receptors. One (S6) believed that peers could achieve online moderation: they are vigilant and autonomous for self-regulation. He suggested identifying “peer moderators” when the group is formed, based on peer involvement.

Limits of Young People as “Peer Educators”

In this sense, some young people could be selected to be “peer educators” (with young people taking over the action). However, three experts (S6, S7, and S8) highlighted the limitation of training peers to become “educators,” considering that they would only become institutional messengers (S7, S8) or reproduce the same effect as the prevention facilitators (S6).

If the peers have been formatted by the institutions, they will become outsiders to the group. The group will quickly realize that there is an institution behind them, and they will keep away...because as soon as adolescents are transformed into health educators, they are no longer adolescents, they are spokespersons for the adults. They are spokespersons for approved messages. That's what I call parrots, the faithful repeaters of adult speech. [S7]

Yet, for one expert (S8), peer educators can facilitate close relationships, and people will believe information from peer educators because they are trained. For this expert, such peer educators may also have an effect on their social environment beyond their peers.

Experts were then divided between the need to let young people take over the action, with the right to their imperfections (S7), and the need for institutions to moderate and validate information and exchanges.

Minority Peers

Online Peer Group Dynamic

Based on his experience, a sociologist expert on young people's sexuality online (S16) explained that online peers are mainly the same people as physical peers but are also those engaged with for online interactions. Online social life is not generally separated from daily physical life (S19), with one exception:

For adolescents, it is rare to have a group of friends online which is completely different or much larger than one's physical group of friends, but there is one exception to this which I think is important, and that is the case of sexual minorities. [S16]

Need to Find Peers Beyond the Neighborhood

Some specificities could lead people to search out peers in online areas (S16). Sexual minority populations have specific needs, including finding peers on the internet and far from their immediate geographical area (S10, S16, and S19). In particular, lesbian, gay, bisexual, transsexual (LGBT) peers would be present, but outside of the immediate environment. For these young people, "online peers" are then part of their real lives and are not to be considered as "virtual" (S19): "In LGBT contexts, this is something we often find: accessing the internet to get in touch with a network which can't be located in certain geographical areas." (S19)

Inclusiveness in Health Promotion Interventions

To adapt the action to specificities, three experts (S15, S18, and S19) mentioned inclusiveness issues to be considered to take vulnerable populations into account (eg, LGBT, people with disabilities, overweight, or deaf). For one expert (S15),

representing minority populations in mainstream communication actions is a way to be inclusive. Another (S19) addressed the issue of "ourselves" and the need to form more specific subgroups: "We need to be inclusive in all our statements, at the same time it is good to form subgroups and to offer services which also correspond to within-group expectations." (S19)

The difficulty of being inclusive was underlined, as it requires significant material, human, and financial resources (S18) to have an intervention that speaks to all (S15).

If we want to be inclusive, then young white heterosexual girls will have to come up against queer people, young men who have sex with men, and come to terms with different life experiences. [S15]

Risk of Stigmatization and Discrimination

Moreover, one sexual health communications expert (S15) explained that risks of discrimination and stigmatization of specific audiences can occur in an all-audience activity. Minority people could perceive stigmatization and feel excluded, looked down upon, or treated differently.

For HIV, the recommendations are a bit different. For example, for a heterosexual person, testing is needed at some point during one's lifetime, whereas for MSM it has to be 4 times per year. So there one has to work carefully, because there begins to be a risk of stigmatization. [S15]

Self-Rejection as a Determinant of Participation

One expert (S15) raised the problem of self-rejection affecting participation in a health program. A person who does not accept themselves will not want to be part of a peer group and take part in an action addressing issues of sexuality.

In the case of young MSM, some will not be at all willing to come near a peer-led health education program in which there is a risk of even raising the idea that desire for other men exists. There may be a kind of self-rejection. [S15]

Collaboration With Specialized Organizations

To address discrimination and self-rejection, one expert (S15) raised the importance of collaborating with specialized associations/organizations to take into account points of view and specificities. These organizations could intervene to moderate online peer exchanges (S19).

Proposals Derived From the Themes

From the thematic analysis, several proposals could be drawn out, which are presented in [Textbox 2](#), that may be of direct use in designing an online participatory intervention for peer sexual health promotion.

Textbox 2. Advice from experts for intervention conception and evaluation.

Domain 1: Peer intervention for sexual health promotion

- Conceptualize in advance what is behind the terms “peer,” “peer-led,” and “peer education”
- Complement existing online and offline educational practices by listing existing sexological tools
- Avoid institutional formatting of trained peer educators, as peers should remain peers. Peer leaders can be identified within an already formed community and then recruited as peer educators
- Define a framework for the involvement (interaction and participation) of young people
- Design a plan for facilitating and moderating peer exchanges
- Take a holistic approach to sexual and reproductive health, going beyond risk
- Identify in advance the specific needs of the populations
- Develop an inclusive, nonheteronormative approach that avoids stigmatization/discrimination of specific minority populations
- Involve local actors and associations to be as close as possible to the expectations of young people (with ability to provide answers in the moderation of exchanges)

Domain 2: Internet support

- Develop a secure online environment that fosters “self-confidence”
- Use online media that allow horizontal transmission of information (peer education), rather than top-down information systems
- Develop a brand image that is not institutional and that allows young people to recognize it in the online environment (use of social marketing techniques)
- Offer participatory (games, quizzes) and interactive (discussion forum, chatbot, questions and answers, possibility to contact a professional) features
- Integrate young people’s favorite influencers and online characters, and the possibility of interacting with them
- Propose individual spaces (messaging, information folders) within the intervention to take into account the needs of solitary exploration
- Ensure anonymity of participants to encourage youth participation in intimate issues
- Grasp “youth culture” to be as close as possible to digital and online uses
- Be responsive in understanding the preferred tools and their use in an intervention
- Propose an interconnection of online media (website and social networks) to retain young people, integrate them into daily use, and observe preferences
- Provide a geolocalized response for access to sexual and reproductive health services or to meet with resource professionals offline and close to people’s homes

Domain 3: Conception and evaluation

- Use the community-based participatory research model to involve all stakeholders at all stages of the project (bridge between research, field, and realities)
- Ensure the diversity of the peer group involved in the design and facilitation of the program to move beyond heterogeneity and integrate/represent minority populations (LGBTQ, deaf, disabled, overweight)
- Design a theoretical model to evaluate the effect of the intervention on:
 - Determinants of behavior change: knowledge, attitudes, literacy level, behaviors
 - Measure the effect of collective determinants on each of the determinants of behavior change: effects of online social interactions, perceived online social support, and online social capital
 - Analyze online peer social networks
- Define an operational framework for the online intervention, to define in advance the process indicators to be evaluated:
 - Journey within the youth intervention: those who are active or lurkers within the intervention
 - Most used features and tools
 - Number of visits, interaction and participation rates in the proposed activities (to be linked to the effectiveness evaluation)

Discussion

Principal Findings

This study is the first to highlight experts' opinions on key points and requisites for developing attractive and acceptable peer interventions on the internet for youth sexual health promotion. Experts considered this kind of intervention to be attractive, but warned of inherent risks and limitations. The experts interviewed provided very concrete and useful advice for developing web-based interventions for peer education, specifically in the field of sexual health.

One of the strengths of this work is that the experts did not confine themselves in the very purpose of arguing their "professional" point of view. By contrast, they envisioned the intervention by considering all the other actors involved, especially young people, with the help of their field experience. The themes addressed are therefore very broad, allowing the intervention to be thought of in its different dimensions with a global vision. This positioning of the experts is a very good indication of feasibility for the intervention because it shows that the experts project themselves in a global approach.

These results raise the following points for discussion: (i) there is a need to understand online uses and risks to take advantage of the internet; (ii) if peers are integrated into participatory education, they must recognize themselves as peers and must be selected for other characteristics than merely age; (iii) the notion of peers and specific audiences still needs to be understood to be inclusive in the web-based intervention.

Understanding Online Uses and Risks to Take Advantage of the Internet

Young people are daily users of the internet, but the experts stressed their heterogeneous skills in seeking information about sexuality, depending on sexual development. To adapt a web-based intervention for sexual health promotion, they highlighted participatory features but also underlined the need to provide geolocated resources. They also emphasized the need to moderate content and exchanges. Understanding users by using social marketing and managing risks should make it possible to offer attractive, secure, and adapted interventions.

Grasping and understanding "youth culture" would make it possible to adapt health promotion actions to be as close as possible to users. Social marketing enables effective educational programs to be developed based on scientific knowledge and good communication [25]. To be reactive when faced with evolving preferences, it is advisable to design an interconnection of different media sources (eg, websites, apps, social network sites) and to offer attractive components (eg, games, individual spaces, forum discussions, or contact with influencers [26]). Important factors include the structure of the campaign and the content of the message (imaginative, fun, accessible, noninstitutionalized brand image, and engaging) [27].

However, young people may have difficulties in finding locally relevant information on health services [28]: needs may be expressed offline, and young users face many barriers of confidentiality, cost, and access to health services [29]. One

solution is to adapt to target population environments [30] by providing geolocated information about access to offline services close to home. One example of this approach is the Australian organization PASH [31], which offers available local resources, including on-call resources, for personalized information.

To cope with online risks (eg, cyberbullying, pornography, body exposure), moderation should control interactions and abusive content, and provide a secure space that maintains the quality of information [32], while leaving space for user-generated content. For example, individuals may report a greater intention to participate in an online community that shows signs of moderation [33], but not if this moderation is involved too early [32]. A moderator should have an engaged and an interactive presence, and should be designed to generate new interests, provide discussion material, and respond to user requests [32]. The paradox is then to enable this moderation while at the same time allowing young people to be fully involved in the action.

Integrate Peers in Participatory Sexual Health Promotion

Facing the lack of focus on institutional messages, experts recognized the value of peer integration in web-based interventions. However, when discussing this possibility, many experts warned of limitations: peers should not be mere messengers and should remain peers so as not to be seen as outsiders by the group. The challenge then lies in young people taking ownership of their own education. One solution evoked was to identify active peers who can take the role of peer leaders once the online group is formed. Some experts thought that young people should be included at all stages of the project.

For sexuality education using digital media, it is recommended to use a variety of interactive methods and nonformal settings [1]. The appeal of peer sexuality education is that it has always existed on an informal basis, with young people sharing information with each other, including personal experiences [34]. From an action perspective, young people must be allowed to identify themselves as peers, particularly through the formation of subgroups within the intervention. "Peer" education can appear at this time, since the feeling of being "among peers" influences participation.

From a peer-education perspective, we first need to define the degree of involvement of peers in different steps of the project so that it remains a "peer-led" intervention. Next, it is necessary to allow them, through informational or experiential exchanges, to develop their knowledge and skills (peer education) [8,9]. This is also about justifying the inclusion of peers [35]. Many online interventions mobilize peer interactions to promote sexual health [18,36-41]; thus, a framework should make it possible to define the types of interactions between peers and to clarify the knowledge or skills to be developed. Based on the attractiveness of social interactions, the challenge is then to move from this informal mode to formal and conceptualized action led by institutions, particularly on the internet. It is also important to conceptualize "peers" and to define the common characteristics required for peers to be considered.

Understanding the Notion of Peers and Specific Audiences to Achieve Inclusivity

Experts do not always consider peers in the same way, with some prioritizing the “similar” aspect of a common level of life experiences, and others age.

Concretely, it would be interesting to consider the peer group as a nonfrozen and shifting network, built on common characteristics or paths, sharing not only an age characteristic but also sexual orientation, gender, health problem, or life experience. When considering “peer” education, we must define what this means, and when to differentiate “young people” and “peers.” “Adolescent” peer groups can be characterized by a high degree of social solidarity and a code that contrasts with adult values [7]. Nevertheless, peers can find each other more easily by way of experience. For example, the transmission of older people’s experiences of sexuality can sometimes establish a stronger link between peers of similar sexual orientation.

Considering this notion of peers, some young LGBT people, or those with disabilities or other characteristics, may feel excluded or unaffected by a general public action. For example, heteronormativity creates a sense of invisibility, invalidation, and marginalization for people of gender and sexual diversity [42]. Involving local actors or associations in actions permits an inclusive approach, to be close to specificities. Recommendations for inclusive research include using culturally appropriate language, not assuming that participants are heterosexual or that certain behaviors are “normal,” and being aware of one’s prejudices and knowledge limitations as a researcher [43]. In addition, community-based participatory research should integrate “all” target audiences into action management to elicit an appropriate response [22].

Strengths and Limitations

The strength of our study lies in the fact that it is the first to analyze expert opinions on the potential web-based interventions for peer-to-peer promotion of youth sexual health. These opinions thus complement the results of the few existing studies showing the feasibility of this type of intervention. Beyond the practical aspects and first demonstrations of effectiveness, previous studies such as the Harnessing Online Peer Education

(HOPE) study and peer-led, social media–delivered interventions have highlighted the major aspect of involvement of peer leaders [20,21], which we temper with our results (ie, peers must remain peers).

Moreover, our study proposes guidelines to design and implement this kind of intervention. The diversity of the experts interviewed makes it possible to obtain opinions from institutional, research, and field professionals. The analysis has made it possible to take into account expectations, realities, and obstacles on the sexual health, youth, education, and internet aspects.

One of our limitations is that we were unable to find researchers who had evaluated this type of intervention, since it has not yet been developed and evaluated. This would certainly have provided new methodological tools essential for action research. Despite this, we were able to interview developers of online sexual health content for young people who also worked on peer education. However, we did not interview peer educators who have participated in peer education programs and could have provided more information about this specific topic. This is an inherent limitation of our recruitment methodology. We could also have asked young people about their needs, expectations, and attractions for this type of intervention. This should be included when developing programs of action through participatory research.

Conclusion

Experts expressed the view that web-based participatory interventions for youth sexual health promotion by peers must be tailored to sexual health needs (information-seeking, socialization, services), the evolution of internet uses, and preferences in terms of participatory features. This type of action requires youth involvement in an inclusive and holistic sexual health approach. Peer education can be implemented on the internet, but the quality of the intervention also relies on not making the intervention too institutional. Involving young people in their own education in an interactive, safe online space then has the potential to develop their empowerment and long-term positive behaviors, especially in the area of sexual health.

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Authors' Contributions

PM was responsible for all stages of the project, ELR, CA, SG, and AB participated in the design, analysis, and writing of the article.

Conflicts of Interest

None declared.

Multimedia Appendix 1

Consolidated criteria for reporting qualitative studies (COREQ): 32-item checklist.

[\[DOCX File , 15 KB-Multimedia Appendix 1\]](#)

Multimedia Appendix 2

Detailed table of experts' characteristics.

[\[DOCX File , 16 KB-Multimedia Appendix 2\]](#)

Multimedia Appendix 3

Interview guide.

[\[DOCX File , 15 KB-Multimedia Appendix 3\]](#)

Multimedia Appendix 4

Detailed themes and key quotes from the qualitative analysis.

[\[DOCX File , 30 KB-Multimedia Appendix 4\]](#)

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Abbreviations

INSERM: Institut National de la Santé Et de la Recherche Médicale

LGBT: lesbian, gay, bisexual, transsexual

MSM: men who have sex with men

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Multimedia Appendix 1: Consolidated criteria for reporting qualitative studies (COREQ): 32-item checklist

Domain 1 : Research team and reflexivity	Personal characteristics	
	1. Which author(s) conducted the interview?	Interviews conducted by PM
	2. What were the researcher's credentials?	MT: PhD candidate in public health; CA: MD-PhD; SG: MD; AB: MD-PhD; ER: PhD
	3. What was their occupation at the time of the study?	PM: PhD candidate in public health; CA: professor of epidemiology; SG: researcher in public health; AB: university lecturer, researcher in public health ; ER: Research Director, researcher in public health
	4. Was the researcher male or female?	3 females, 2 male
	5. What experience or training did the researcher have	Experience in conducting qualitative research (PM, SG), experience in interventional research surveys (PM, CA, AB), expertise in public health (all authors), expertise in sexual health (PM, AB, ER)
	Relationship with participants	
	6. Was a relationship established prior to study commencement	The interviewer did not know most of the participants before the study. Three professionals were colleagues by training. One participant taught a course in sexual health that the interviewer attended.
	7. What did the participants know about the researcher?	At the start of the study, the aim of the research project, as well as the objectives of the study was presented.
8. What characteristics were reported about the interviewer/facilitator?	Interviewer characteristics were not reported to participants	
Domain 2: Study design	Theoretical framework	
	9. What methodological orientation was stated to underpin the study?	We used thematic analysis in a sociological theoretical approach.
	Participant selection	
	10. How were the participants selected?	Participants were recruited for their experience in sexual health, prevention and health promotion, peer education, youth health; in in direct contact with youth, at the level of research and institutions. We tried to represent a diversity of profiles and backgrounds.
	11. How were the participants approached?	Originally by email
12. How many participants were in the study?	20	

	13. How many participants refused to participate or dropped out? Why?	1 (reservation notice following participation in a high public health council)
	Setting	
	14. Where was the data collected?	In the participant's office (11 interviews) or on the phone (9 interviews)
	15. Was anyone else present besides the participants and researcher?	No. One interview involved two participants.
	16. What are the important characteristics of the sample?	Diversity of backgrounds and occupation (see characteristics in table 1)
	Data collection	
	17. Were questions, prompts, guides provided by the author? Was it pilot tested?	The interview guide was tested, read and adapted during the interview according to the expertise of each participant.
	18. Were repeat interviews carried out? Details	No repeat interviews.
	19. Did the researcher use audio or visual recording to collect the data?	All interviews recorded.
	20. Were field notes made during and/or after the interview or focus group?	Notes taken during all interviews.
	21. What was the duration of interviews or focus groups?	From 43-141 minutes. Average: 61 minutes
	22. Was data saturation discussed?	Data saturation was discussed with authors after 15 interviews.
	23. Were transcripts returned to participants for comments and/or correction?	Transcripts not returned to participants
Domain 3: Analysis and findings	Data analysis	
	24. How many data coders coded the data?	Two authors (PM, ER) created the initial coding tree using first samples interview.
	25. Did authors provide a description of the coding tree?	The coding tree is the one presented in Table 2 and corresponds to the themes and sub-themes identified.
	26. Were themes identified in advance or derived from the data?	The themes were derived both inductively and deductively
	27. What software, if applicable, was used to manage the data?	Use of NVivo software.
	28. Did participants provide feedback on the findings?	No feedback was obtained from participants
	Reporting	
	29. Were participant quotations presented to illustrate the themes/findings? Was each quotation identified?	We present some quotations to illustrate findings.

	30. Was there consistency between the data presented and the findings	The data presented and the findings are consistent
	31. Were major themes clearly presented in the findings?	We present the most important themes related to the study objectives in the findings
	32. Is there a description of diverse cases or discussion of minor themes?	We report and describe diverse cases

Multimedia Appendix 2: Detailed table of experts' characteristics

Acronym	Gender	Occupation	Organization type	Specializations					Region	Interview duration
				Peer education	Sexual health	Youth health	Education Prevention Promotion	Internet		
S1	M	Professor of Public Health, Sexologist	Government agency	X	X	X	X		Paris	87
S2	F	Midwife, Nurse specialized in sexual health	Association		X	X			Paris	46
S3	F	College Teacher (Science and Sexuality Education)	National Education		X	X	X		Creteil	43
S4	F	Professor - Gynecology and Obstetrics	Public Hospital	X	X	X	X		Marseille	53
S5	F	Regional Health Education Program Coordinator	Public Hospital	X	X	X	X		Marseille	
S6	M	Head of Prevention Department - Prevention project manager	Public Institute for Prevention and Health Promotion	X	X	X	X		Paris	141
S7	M	National (former) Head of the Social and Youth sectors, facilitator of the national professional network "young people on the move"	Association	X		X	X		Saint-Denis	59

S8	M	Professor of Health Promotion, Sociologist	Public scientific, cultural and professional Institution	X		X	X		Rennes	47
S9	F	Nurse specialized in sexual health	Public Hospital		X	X			Clichy	43
S10	M	Clinical Psychologist - Psychotherapist	Public Hospital			X			Provins	54
S11	F	Nurse specialized in sexual health (school nurse), Sexologist, Trainer in sexuality education	National Education		X	X	X		Creteil	50
S12	M	Prevention facilitator - Specialized educator	Public Institute for Prevention and Health Promotion		X	X	X		Paris	47
S13	F	Advisor in Social and Family Economy	Association		X	X			Paris	54
S14	F	Clinical Psychologist - Psychotherapist	Association			X			Anthony	62
S15	F	Social Marketing expertise Manager	Public Institute for Prevention and Health Promotion	X	X	X	X	X	Saint-Maurice	70
S16	M	Sociologist, University Lecturer	Public Research Institute		X	X		X	Pantin	55

S17	F	Documentation and Information Officer	Public Institute for Prevention and Health Promotion		X		X	X	Dijon	54
S18	F	Epidemiologist, In charge of studies and research	Public Institute for Prevention and Health Promotion		X	X	X	X	Saint-Maurice	45
S19	F	Sociologist, In charge of studies and research	Public Research Institute	X	X	X		X	Paris	69
S20	F	Social worker	Association	X	X				Paris	72
										Mean duration = 61 min

Multimedia Appendix 3: Interview guide

We would like to point out that the professionals interviewed did not have the same degree of expertise according to the different themes covered.

For some, it was not relevant to address certain issues, particularly methodological ones.

For others, we explored the questions further if the expert consulted was an expert on the subject.

PARTICIPATING FEATURES

- What is your job?
- Place of exercise (establishment and geographical location)?
- In which population do you work (specificity, age group if possible)?
- What is the nature of your action for these young people?
- Have you ever been involved in implementing an action to promote the sexual health of young people? If so, can you describe this action and your role in it?

THEME: YOUTH-SEXUALITY CONCERNS

- What was your last exchange with a young person on the theme of sexuality?
- What are the recurring themes in your exchanges with young people (modulate according to the previous answer: is this a recurring theme, what are the other themes)?
- Insist if not answered: what do you think AYAs are interested in about their sexuality?
- Can you describe an action that you think best meets your needs? How did this one seem adapted to you?

THEME: MECHANISMS FOR SEEKING INFORMATION / EXCHANGE OF EXPERIENCES

- In your opinion, what are the sources that AYAs use to seek information about sexuality and to answer their questions?
- What do you think of the information found on the Internet?
- Do you think they take a critical look at this information?

- If social media not stated: What do you think of social media to disseminate information and share experiences about sexuality among AYAs?

THEME: INTERVENTIONS, PARTICIPATORY ONLINE COMMUNITIES

Sub-theme: Existing interventions and experiences

- For you, the Internet can be an intervention tool to promote the sexual health of AYAs?
- Are you aware of any sexual health promotion interventions deployed on the Internet for young people (if so, which ones)?
- If not said before: Have you ever participated in the development of an AYA sexual health promotion campaign on the Internet? If so, can you describe your involvement (if not already done before)? What were the opportunities for youth exchanges? Were there any exchanges with intervention professionals?

Sub-theme: "Participatory online community" type intervention

- Do you think that peer education (young people among themselves) on the Internet and social media would be a means of action to promote young people's knowledge and good behaviors in sexual health?
- In your opinion, to what extent are interactions between young people on the Internet, discussion forums, blogs or social networks beneficial in promoting youth sexual health education?
- What would also be the risks and limitations?
- If the professional's participation in the design of an online participatory community (because said before in the experience question)
- How did you build your participatory youth community?
- If not answered in the previous question: What are the essential methodological points in the construction of this type of intervention (to be relaunched if more information on moderation, interaction, recruitment, animation, information and others is needed)?
- Have you encountered any difficulties in developing and implementing this action?

Multimedia appendix 4: Detailed themes and principal verbatims from qualitative analysis

<p>An Internet intervention</p>	<p>Complementarity with existing offline sexual tools</p>	<p>« On the other hand, I think that it does not replace a face-to-face contact with a human and is a complement to the sexological tools. » (S5)</p> <p>« I also think that we have school nurses who are very present and who are close to the students, we have social workers and guidance counsellors who are also very present.... The psychologists of the national education specialized in guidance [...] If the online groups are well moderated, etc... If the online groups are well moderated, etc. After being well advised by the National Education or even we could organize sessions here today we will use such and such a website such and such a tool such and such a network. » (S3)</p> <p>« Yes, because everyone has different skills as well, and at some point they will have more need to go to sidainfoservice, then the hospital, to the forums... I think if it [sexual health education] is multifaceted, it also allows people to take what they need at some point in time » (S9)</p> <p>« Nous pouvons voir, grâce à nos interventions, pour aller dans des collèges très différents, que les jeunes peuvent avoir des problèmes totalement différents (même au sein d'une même classe), et qu'on ne peut pas le voir derrière un écran. C'est pourquoi je dis que cela doit être complémentaire avec des actions sur le terrain, pour répondre vraiment aux besoins d'un jeune. » (S5)</p> <p>« They [peers] are going to play a role, but in reality it will be more complex and more comprehensive strategies need to be put in place. For an internet site, it is important to be able to say, for a local area, where I can get more information, where can I get condoms? It must be locally sited and rooted in an area. » (S8)</p>
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A secure, valid and credible content

« If I'm going to refer the young people I receive to an intervention on the Internet that deals with issues of sexuality, I'm going to have to be sure that the content is reliable and credible, that those behind it are reliable... the platform has to be safe as well. » (S13)

**Online personalized,
interactive and
participatory
features**

« I think geo-localized resources are just essential for everyone. » (S19)

« For an internet site, it is important to be able to say, for a local area, where I can get more information, where can I get condoms? It must be locally sited and rooted in an area. » (S8)

« Today, there are no tools that have been properly developed, educational and inclusive in sexual health. Tomorrow there will be. So what tools do we have? We can have "game changers" or serious games that can educate through play about the different dimensions of sexual health, there can be artificial intelligence, and I'm thinking of chat rooms. We could have chatbot on the first times... first kisses, first sexual intercourse with someone [...] the first time could be a very good chatbot tool. A chatbot about pornography education, answering a thousand questions about pornography. A chatbot about desire. On desire there's a lot to say, on lack... so I think we can bring things to answer individual things through a panel of prepared questions. » (S1)

« These are people [influencers] who have such powers of communication that when they have their own interest and well they can direct, and correctly communicate, and this in a way that is much superior to the State, much superior to national education, because in addition, they are admired. But when you admire someone, you are submissive. And when one is submissive to someone one admires, one is in terror, one is afraid. So for me, a blogger that I'm going to follow, the risk is that I'll lose my critical spirit and at some point he'll tell me that he has beliefs that are not mine and I'll feel bad. So the internet... which is under the control of professionals whose job it is, whose job it is, well we're here for the people and not for ourselves. » (S1)

**Adapting to rapid
obsolescence of
preferred media**

« It's a very good idea, it's very interesting... Digital tools are interesting for the future, knowing that it's evolving rapidly. It will already be obsolete, and will no longer correspond to their favourite network. This is something that changes fast, so for it to be set up and be effective, we have to be reactive. I think that before you set up an application or a website, or Facebook or Instagram for example, it may already be obsolete and it will no longer be their concern and their favourite network. » (S5)

« A typical intervention (I don't know what form it could take) that is linked to several social networks (Facebook, Snapchat, Instagram), all the social networks used by young people. We would have to create something in common that would be visible on these different applications and these different networks. » (S5)

« It would be necessary to have an exhaustive vision of the evolution of Internet usage as it evolves. » (S16)

« She was telling me that she preferred Snapchat and Instagram... it was a good separation between her teenage world and the adult world, maybe that's why it's always evolving at the network level, because yesterday's teens have become today's adults, and I think it's a bit like the Facebook community. Maybe new teens need to use new media. I think Facebook is a little bit out of fashion among teens. I think back to a teenage girl who told me it was used by her mother, so maybe there's something to be heard there. » (S10)

	<p>Social marketing to understand uses and preferences</p>	<p>«It would be necessary to have a very exhaustive vision of the evolution of Internet uses as they evolve. If we had, for a sufficiently large group of young people facing prevention on the Internet, to see how their uses evolve in a very precise way. What are you going to see now that you didn't see before, but for that you would need to have a very precise list of the sites visited and the groups to which you belong. » (S16)</p> <p>« You really have to look at the Internet as a tool and what we're looking at is peer education and that's something that's pretty well known... it's going to be the same thing on the Internet it's just a different place. What's complicated will be to master the environment because it requires a technological mastery. » (S15)</p> <p>« You have to define before you know where to go what you want to do, share. You're going to need to be multi social network. If the goal is to interact in a group that is defined in advance I recommend Whatsapp, signal... Possibly a closed Facebook group. How do you get young people to come and yes you need to be a brand and make a marketing strategy. You have to think in several places. » (S15)</p> <p>« We should be able to trace their route online. On social marketing issues we are not equipped. » (S15)</p>
<p>Sexual health</p>	<p>Importance of sexual health for young people</p>	<p>« Peer sexual health education is not disease education, sexual health is more than the physical act, it is the interaction of sexuality with other dimensions. » (S1)</p> <p>« Sexual health is about learning about healthy wellness in its four dimensions [physical, social, mental and emotional], with the emotional at the center. When we said that, nothing can be done without the environment. » (S1)</p> <p>« First of all, we're into the risks, benefits and pleasure of sexuality. We try to train them to deal with the positive aspects of sexuality, so as not to focus on the risks during the intervention. And over the years, this positive side of sexual well-being, as defined by the WHO, has been incorporated. It's something that was done gradually, and thanks to the planning, to professionals who brought me a lot of things that I didn't know. I had a vision of sexual health education that was quite old and risk-based, and we know that the programs that work are the holistic sexual health programs. » (S4)</p>

Evolving sexual health concerns and issues

«There are those for whom it's part of everyday life, and there are others for whom it's a total blur... "No, but why are you talking to us about this, why are you talking to us about this, we're not interested yet. I tell them, "You speak for yourself, there are 13-14 year olds around you who started a long time ago. " » (S2)

«When I had studied very broadly the reasons why people go on the Internet in relation to their health and not just their sexual health, we could see that sexual health was quite high on the list of health concerns. » (S19)

«Internet use is very much linked to the position one finds oneself in according to age, and concerns evolve with one's position in love relationships, in gender relationships. Once these young people have had their first sexual relations, the questions change. The questions tend to revolve around contraception, other issues, risk, HIV, and so on. » (S16)

« We can see from our interventions, to go to very different colleges, that young people can have totally different problems (even within the same class). » (S5)

« In high schools there are much more experienced young people than in colleges. Some of them are shocked by you, and some are already having a hard time with it. So in fact there are some groups that are too heterogeneous in (younger) secondary schools. » (S2)

« There is the psychological and behavioural side which this year was much more developed than other years, with really precise key words: research, questioning one's sexual orientation, asking oneself the question of the image one sends to others, that the image is important for oneself as an adolescent, the obligation to be virile asked of boys. » (S3)

« What I could say, not to speak of one and only one young person, I would say that the issue of sexuality, it's quite in an evolution over the years. It can always be questioned even if it is not something that is described at the outset in a crudeness, because when faced with an adult, the teenager will tend to hide the elements of his sexual curiosity and sexual questioning. Afterwards, some teenagers will perhaps approach things more from the angle of a love encounter, even if the question of love is still to be questioned, we are

		<p>talking about the feeling of falling in love or the question of sexual orientation, which may question some teenagers. » (S10)</p>
<p>Internet skills and uses and need of moderation</p>	<p>Heterogeneous use of the Internet</p>	<p>« Yes, many young people explain that at some point in their sexual trajectories, their socialization to sexuality, it [online social networks] becomes a place where they can ask questions. What we see is that despite everything, early adolescence, that is, before the first sexual relations, is often a time of exploration of the Internet, which is ultimately very solitary, and it's not through social networks that things are played out, but on the other hand, it's through forums. All the young people we've seen have already been to forums. However, no one ever posts on the forums. We use them very solitary, exploratory, without any dialogue. » (S16)</p> <p>« I know they're going to go on the internet so I told them to be careful about the keywords they're going to enter on the internet because otherwise you're going to come across sites that are forbidden to under 18 year olds. » (S3)</p> <p>« Early adolescence, that is to say before the first sexual intercourse, is often a very solitary time of exploration of the Internet and it is not through social networks that things are played out. On the other hand, we'll go to the forums. » (S16)</p> <p>«What's really unique to adolescence, and to the young period, is the need to feel normal. And we're going to find that in the use of the forums. In other words, when my question has already been asked, it's because I'm not crazy, it's not just me, I'm not isolated and I don't have a specific problem. And all this will also allow the person to feel that, whatever his question, whatever his practices, whatever his situation, he will feel less isolated and less stigmatized by his question or by his living conditions, his behavior, his practices, his questions. » (S19)</p> <p>« I know that they are going to look for information on the Internet, today it's a hyper-used medium [...] we prefer to tell them that there are sites that we know, that are reliable and recognized. » (S9)</p> <p>« What is certain is that it is almost exclusively via the Internet, I don't see any other means at the moment... we're asking ourselves a question, it's on the Internet that we're going to see it. » (S10)</p>

		<p>« It depends on the young people, some will talk very well about their sexuality, about the construction of their sexuality according to their questions, but others will very quickly evacuate this question because it is too intimate. On the contrary, they will consume very raw images but will be very modest about their sexuality. » (S10)</p> <p>« We have a great diversity of situations but we often see that in general, the research that is carried out is carried out in slight anticipation, that is to say that it is rare to have young people who say that ... while they imagine their first sexual intercourse in high school, they rarely go into 6th grade to do very precise research on first sexual intercourse for example. But on the other hand, a few months before, we can see that there is a form of anticipation: it's likely to happen in the coming months, so I'm going to do this research at that time. » (S16)</p>
	<p>Diversity of skills in online-seeking information</p>	<p>« On the one hand, there is the question of the dissemination of information, and it is certain that peer-to-peer education is easier, if young people are trained or made aware of knowledge in the first instance. This raises the question of who is the leader on the Internet. » (S8)</p> <p>« For the internet, when you talk to them about search engines, well it's Google already, and then in the search bar they will type a question and therefore the importance of teaching them how to use internet tools, because they don't know how to use them well. » (S3)</p> <p>« There is indeed a gap between individuals in the social dispositions to be able to sort information where young people from the most affluent backgrounds who have the most disposition and social, educational, economic, and cultural capital, will be the ones who will make greater use of the different resources that the internet can offer, crossing information by going to specific sites, while young people with fewer dispositions will go to the first three Google hits to do their research. » (S19)</p> <p>« We are obliged to tell them that there is not only Google, to put keywords, to pay attention to the source, and it is true that they are very impatient, there is a very fast aspect of research on the Internet. "I see the first link, I click on it" and finally they don't look at the name of the website which can already point to the reliability of the source. » (S3)</p>

« It is not only a question of reliability, but also of the diversity of information. On the one hand there is reliability and that's one thing, they're all looking for reliability, and they're all questioning what's being said on the Internet, maybe a lot more than the adults are. I really think it's looking for information and finding information. » (S19)

« There is a selective sorting of information found on the Internet among young people, particularly on online discussion forums. » (S8)

« The hard question of the ability to search, to discriminate information, to categorize, to classify information, to be wary of bad information, pseudo medical ... It's the same thing, teenagers and young adults are not necessarily trained to do this. When I see the way young students do research on the Internet and rush headlong into any data, any information because it's on the Internet. It sucks if they go looking for health information. » (S7)

«They are sometimes told to beware of the forums, as there may not necessarily be good information [...] it can be a bit worrying for them these false informations.» (S9)

« There is a tendency to underestimate the critical capacity of young people on the Internet, to think that they take all information for granted, that only those who have sufficient educational capital would be able to distinguish between things...what we see...is that young people have a fairly significant distance on the Internet, a mastery of technology that still allows them to know what a valid site is, a site that looks dubious.... » (S16)

	<p>Need for online anonymity for sexual issues</p>	<p>« Anonymity can be protection, certainly with other conditions, because anonymity can also be protection for unpacking things, but it can also be protection for the worst nastiness or the worst judgments, the "trolls" of the Internet. » (S6)</p> <p>« You have to be able to be anonymous, it's better not to be recognized, especially in relation to teenage modesty... » (S10).</p> <p>« They will be able to ask their questions more easily than in person, behind their screen. They can ask their questions without being ashamed or afraid of the judgement of their peers. » (S5)</p> <p>« Anything we're a little ashamed to talk about because it calls into question either one's place in the peer group, or one's respectability, or one's practices, so sometimes it's easier to use the Internet to get the first answers. » (S19)</p>
	<p>Risks of surfing the Internet and social media</p>	<p>« Since young people have smartphones, since they have Snapchat, they don't realize the impact, apart from the porn or sites and all that, but also the social life on the networks. » (S2)</p> <p>« Access to pornography is commonplace, girls are more reserved about it, parents need to be able to verbalize with teenagers. All we know is that the earlier it is, the worse it is in terms of the construction of sexuality, it can become very damaging. And it's a lie to think that an image has no impact. Everything is image nowadays in the construction of young people. » (S10)</p> <p>« Sometimes in college we have stories, problems to be dealt with that are born on social networks, on Snapchat, "oh but that's her, she put her picture like that. " " Yes, but you posted it " etc. after the story gets bigger and bigger. In college we had a lot of stories about girls posing in photos on social networks and we had it handled when it all started on social networks. » (S3)</p> <p>« We had cases in 7th grade of students filming each other, but it wasn't on social networks. The last story was maybe five years ago. He would go to one of the students' homes and film himself naked. I don't know what they were planning to do with the video if we in the school know about it. But in any case, we in sex</p>

education feel that something had to be done. From the 6th grade on, we work on the image, cyber-harassment, cyber sexism, we also put a diaper back on in the 5th grade, we can say it's really young, but on top of that, this thing happened twice in the 5th grade with different kids, yes, there are definitely things going on between students. There are those who are very pro on the issue but there are also those who put themselves in danger. There is a whole panel of young people. » (S3)

« I saw a story about a 10-year-old girl, already trained, who sent a picture of her bare breasts to her boyfriend who posted it on Snapchat. Prevention has to start much earlier... but how are you going to do prevention in a heterogeneous group, in fifth grade, before they go to college, before it starts, without shocking more than half of them? » (S2)

« Anonymity can be protection, certainly with other conditions, because anonymity can also be protection for unpacking things, but it can also be protection for the worst nastiness or the worst judgments, the "trolls" of the Internet. » (S6)

« It is also new ways of getting in touch, even sometimes to enter into an almost sentimental relationship, where the body is more exposed, especially in fragile young people. » (S10)

« I am thinking in particular of social networks or rather the exchange of videos and photos, knowing that some young people, because of their greater fragility, do not always realize what they are doing and the repercussions it can have on them. I really work with fragile young people, and when it comes to videos, photos, it's already gone very far sometimes, it's already young people met by the police, it's stories of child pornography, or exchanges in high school that rub shoulders with harassment afterwards but not necessarily. Some young people themselves deliver photos on social networks in closed groups but distributed to the group as long as they sometimes show themselves naked, it's also new ways to get in touch even sometimes to enter into an almost sentimental relationship, where the body is more exposed, especially among fragile young people. » (S10)

« There are many groups of young people around adolescent issues, for example scarification, suicide attempts, suicidal thoughts... some young people have already created closed groups. These are groups where some young people can post their thoughts, their state, and in what I could perceive (it is young people who

		<p>revealed it to me), others help each other ... but what is complicated is that it maintains the difficulty that the young person encounters and it can even lead to encounters that are a bit limited. » (S10)</p>
	<p>Moderation of online social interactions</p>	<p>« The moderator of the network should be really good, that as soon as there is a false, hurtful, insulting word, the moderator should intervene. There should be a moderator who is super present. » (S3)</p> <p>« Finally, when you look at the different online discussions, the messages are pretty benevolent, it's pretty inclusive, usually at a point where someone has been insulted or discriminated against or discredited, there's a point where the person comes back and says "thank you for supporting me". » (S6)</p> <p>« On a rarement besoin d'intervenir car il y avait beaucoup d'autorégulation. L'autorégulation se fait beaucoup et assez facilement car je pense que les gens savent dans quel endroit ils sont. » (S15)</p> <p>« If a girl asks how to get contraception, we'll answer right away by telling her to take the pill or something, but what the girl will expect is to be judged and to see how much she will be judged. So we anonymize her question, we pause it and see how people react. Often it's not bad because they are self-regulating, there is always a troll who says something stupid, there are people who say "yes, you're a bit stupid but no, there's no problem", we say what we said, and there is no medical emergency. There's always someone else who arrives saying "no, but that can make you sterile" and someone else who comes back saying "no, that's not true". » (S15)</p> <p>« I think there's really a space for that, with young people who can talk to other young people... self-directed by offering a program [...] » (S6)</p> <p>« Moderation can be done a priori on the way in which discussion rules are set but always with the same pitfalls, i.e. these rules are perceived as imposed from outside. » (S16)</p> <p>« Moderation can be done by peers, after what is complicated is that not everyone has the resources to always respond adequately. » (S19)</p>

		<p>« The principle of the walkers of the net is to be integrated in the list of friends of a group where they can intervene smoothly to put there a little bit of information a little bit of common sense sometimes. » (S7)</p> <p>« The main thing we have to work on is that the institutions should not be afraid of what it can lead to. Today the major reticence is that young people are saying things that aren't true. I think we're not looking at it the right way. The goal is not for them to provide good information, the goal is for them to motivate people like them to take an interest in an issue. » (S6)</p> <p>« I think it might be a good idea... I don't know about the quality of the information, that there isn't any false information circulating or things that are a bit stigmatizing, it's rather that limitation that would scare me a bit... the whole exchange side, we understand each other among young people, I think it's really good, to talk about each one's feelings, their experiences, their experiences, how to do it, I think it's really good. What could frighten me is the limits of moderation and stigmatization. The Internet can sometimes be hard. » (S9)</p> <p>« As long as it's supervised by an adult I would say yes, because the teenager still needs supervision, otherwise it would quickly fall into what we already see, the groups that already exist... so there is mutual help on the social networks. » (S10)</p> <p>« Moderation can be done a priori on the way in which discussion rules are set, but always with the same pitfalls, i.e. these rules will either be perceived as being imposed from the outside, so we will no longer be too much into a peer-to-peer thing, or they will go through the peers, but through peers who will be perceived as agents of the institution. » (S16)</p>
	<p>Non-receptivity of institutional messages</p>	<p>« Young people are not going to see what the institutions are proposing, I think that there is something to think about in terms of the fact that they are not able to capture these young people. » (S16)</p>

		<p>« What I'm noticing is that even if there are prevention campaigns, they don't necessarily reach everyone, it's not possible, and some young people are not going to be in there, even if we give them a sexuality education course, they're going to completely miss out, because it's going to make them laugh or it's too intimate. » (S10)</p> <p>« It is well known that, in order to do real prevention, we have to talk to young people before they are really concerned, and not wait until they are already in it, already experiencing it. » (S3)</p> <p>« They will soon find out that there's an institution behind it and they'll run away. » (S7)</p> <p>« Studies show that when information or knowledge is provided by a peer, by another student, it is better retained than when it is provided by the teacher. » (S3)</p>
<p>Multi-faceted peers</p>	<p>Importance of peer group for young people</p>	<p>« The peer group is going to start to take up space in their lives, they started to be on buddies they really chose. And the parents are going to take up less space and the space is going to be shared through the different spheres of socialization. » (S19)</p>
	<p>Peer education concept</p>	<p>« A group of young people who designate themselves to set up a project that is conceivable and that they implement with young people who are similar to them, similar does not mean similar in gender or skin colour, but rather similar in terms of the daily realities of life. » (S6)</p> <p>« If we have a shared construction of messages between peers, it is much more effective than the stamp of Public Health France, Unesco Chair or Directorate General of Health. What would be nice would be to have platforms with the partnership of the institution but led by young people. » (S1)</p> <p>« Studies show that when information or knowledge is provided by a peer, by another student, it is better retained than when it is provided by the teacher. » (S3)</p> <p>« They are the ones who are going to take the initiative, they are the ones who are going to design, they are the ones who are going to implement and they are the ones who are going to evaluate. » (S6)</p>

	<p>« Two things: one the notion of invisible peer is interesting because it is perhaps there that we would have a in-between between the too even and the not even at all. Maybe that's where there is something there. Maybe there is something to be created on this invisible peer but taking care that it doesn't end up too quickly as the bearer of the good word, that's always the problem. Secondly, what we learn from those who are not like ourselves, I think that there is an adult responsibility in history, adults have a responsibility to contribute to adolescents and young people. » (S7)</p> <p>« Yes, but there has to be a trigger, there has to be an interest, there has to be someone who has the right idea of triggering the thing, or by mutual agreement together, at some point they say to each other, we have to think about what we are going through and what is happening to us. The trigger has to be internal to the group. » (S7)</p> <p>« They [peer educators] are the primary beneficiaries of peer education, since they are the ones who will be involved in the knowledge and training issues, and these are some interesting effects to see. Then we can say to ourselves, for the other peers, we reinforce inequalities, I would say yes and no because it allows access to a social existence that we would not know, there are other registers that will intervene. » (S8)</p>
<p>Notion of peers</p>	<p>« It's a peer education program, and I put it in quotation marks, because not all the users are the same age at all, it's just young people talking to young people, you might say, so it's pseudo-peers. » (S4)</p> <p>« Similar does not mean similar in gender or skin colour, but rather similar in terms of the everyday realities of life. » (S6)</p> <p>« It's more the question of the common characteristic, even if age obviously plays a role, but we are young people from local missions who are going to speak to other young people from local missions, high school students who are going to speak to other high school students. The idea of a framework of experience and expertise still plays an important role. » (S8)</p>

	<p>« The acceptance of "peers" that we have today is that, it's a group of young people or something else that defines itself as a group, so for example, high school students from the same school, well, they're peers. They have a unity of place, of geographical space, of age... » (S6)</p> <p>« The peer must recognize the one who speaks as a peer. And if the speaker is not from his or her culture or background or from his or her corner or language it does not work. » (S7)</p> <p>« We could talk about gender identity, social belonging, shared life trajectories, et cetera. There are people who make a living out of it, ex-convicts. They're credible in the sense that they know what they're talking about. » (S7)</p>
<p>Peers' implications</p>	<p>« It is the question of how a group is built, there are always leaders in a group, it always happens a little automatically. In a recruitment process, some young people will immediately want to position themselves as leaders within the group, and then others will no longer want to come and watch and say nothing as well. But for all that, get informed. You have to give each young person the freedom to take on the role he or she wants. » (S10)</p>
<p>Limits of young people as "peer educators"</p>	<p>« I have seen a number of peer education programmes produced by young people within the framework of a working group of the Ministry of Youth and Sport and each time the tools proposed were tools that were pure reproduction of the ineffectiveness of the adult campaigns. » (S7)</p> <p>« If we train young people to do what we do, we don't complete, we do the same thing, done by young people, but globally, we do the same thing. If they are very well trained, they will do the same thing as our animators who do this on a recurring basis. If we really want to complement, we have to act on another lever. » (S6)</p> <p>« I've seen it in health peers, every time it implies that the peer must be a model of perfection. Let's start by relieving them of that by telling them that they are entitled to their inconsistencies, their practices... Yes, perhaps in this case we can support the peer a little dynamic. But above all we must be careful not to restrain them and not to restrain themselves by preaching the good word. » (S7)</p>

		<p>« If they are trained to think about health communication and they are trained to pass it on to their peers, they are no longer peers, that's the problem. You can make them think they are peers, but they are no longer peers. » (S7)</p> <p>« If peers have been formatted by institutions, they quickly become strangers to the group. » (S16)</p> <p>« What I have observed is that just because one is young, the other will believe us. It makes it easier to have close relationships, on the other hand, on health information, we will believe him because he [the peer educator] has been trained. » (S8)</p>
Minority peers	Online peer group dynamic	« For adolescents, it is rare to have a group of friends online which is completely different or much larger than one's physical group of friends, but there is one exception to this which I think is important, and that is the case of sexual minorities » (S16)
	Need to find peers outside the neighbour	<p>« Facebook is going to be the place where we're going to go on specific groups, we're going to, eventually meet people through that, and so yes, it's a place to expand the network. » (S16)</p> <p>« In LGBT contexts, this is something we often find: accessing the internet to get in touch with a network which can't be located in certain geographical areas. As a result, they are not virtual peers, that is to say that very quickly they will take up a lot of space, that because they are also other humans, that they are also incarnated, that it will also be possible and credible, that it will take up that place in the lives of young people. » (S19)</p>
	Inclusiveness in health promotion interventions	« I'm thinking of deaf audiences. There are many ways to communicate, there is sign language, there is writing, not everyone reads, you're going to have blind audiences..., to develop online accessibility, it requires means [...] everything depends on where you place the cursor on inclusiveness. » (S18)

« It would be super interesting to create an inclusive group where everyone could ask questions openly and where the others even if they don't feel concerned by the question asked, either they let it go, or on the contrary they say the answer because they are also interested even if it doesn't affect them personally. » (S3)

« But I think you can integrate... it's going to take a lot of work and attention from you, from the supervisors, in the co-construction of young people... in my opinion you can integrate sexual and sexist violence, some of the validist discriminations but not all of them [handicap], grossophobic discriminations must be able to be included and discriminations on sexual orientation and gender discriminations must be able to be integrated... with terms that must be accessible, we are going to have a public that is not going to have access to the exact terminology and the conception of discrimination and difference is also built on terminology... in fact, it would be almost necessary to bring this terminology back to them in order to be able to give them access to this diversity and inclusiveness in their words and conceptions... » (S18)

« I highly doubt it. I look at the long experience of AIDES. Adolescents who are most in difficulty in the future are in a close relationship with risk and most impervious to the good word, the professions of faith. This goes beyond the technique of communication. They see no future they have no self-esteem so they don't pay attention to them. » (S7)

« We need to be inclusive in all our statements, at the same time it is good to form sub-groups and to offer services which also correspond to within-group expectations » (S19)

« If we want to be inclusive, if there are only young heterosexual white girls who want to participate because they're interested in health and because they want to study nursing, and there are 10 of them, how are you going to bring inclusiveness into this approach? In other words, they're going to have to rub shoulders with queers, MSM boys for a while. They're going to have to take into account a different experience of the femininities of women in working-class neighborhoods, for example, they're going to have to confront different concepts that they're not necessarily used to. That's what we have to be attentive to. How to work with people who are really concerned. » (S15)

	<p>Risk of stigmatization and discrimination</p>	<p>« For example, for HIV testing, the recommendations are a little different. For example, for a straight person it is a lifetime test while for MSM it is 4 times a year. So there we have to play it a little fine because there is a risk of stigmatization, when we have populations that are more concerned by public health messages because they are more concerned by discrimination, by stigmatization, by marginalization due to precariousness. » (S15)</p>
	<p>Self-rejection as a determinant of participation</p>	<p>«In the case of young MSM, it is not going to be at all attractive to approach a health peer education program where there is a risk of even evoking the idea that there is a desire for men. There is a form of self rejection. » (S15)</p> <p>« They have to want to participate and they have to want to fight... » (S15)</p>
	<p>Collaboration with specialized organizations</p>	<p>« Work with concerned associations that work on HIV, so we will work with African associations or MSM that are in fact associations of concerned people. In general, these associations "do" for but also "are" made up of concerned people, so that's what also allows us to have this approach... We think about our communications with these people, we can have messages that can be addressed to everyone. When we put condoms on, it's addressed to everyone, no matter who they are, and then we have to represent the people they feel concerned about as well. When we say MSM and when we say African migrants right away we think that it's not the only problem they have with HIV in today's society. So we will try to get closer to people through the associations we know and in places where they live so that this message more specifically to them alone is not seen too much by the rest of the world and that this message is seen mainly by the people concerned. » (S15)</p> <p>« Adults from associations of specific populations can be found with whom to discuss how to integrate young people from these populations into an Internet-based peer education programme. » (S15)</p> <p>« That was also the originality of our program, and that's why it worked, because we brought together the different professionals who were already doing sexual health interventions (in school we called it sexual education), family planning, general counselling, etc. and we created this free education with as teachers the</p>

		<p>people who were in the field, who were already doing that in the field, we used their experience to create peer education, by federating people around a project". Groundwork for curriculum development. » (S4)</p>
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« Adults from associations of specific populations can be found to discuss how to integrate young people from these populations into an online peer education programme. » (S15)