Matching Public Health Services with the Sexual and Reproductive Health Information Needs of Youth Anno 2021

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Abstract

For young people enrolled in lower levels of education, improvements to sexuality education and programs provided by the public health organization are required. This group is more at risk for sexual risk behaviour and more difficult to reach with sexual health programs. Therefore, this paper investigates how sexual health programs can be designed to match the sexual information needs of youth in lower levels of education. Fourteen semi-structured interviews with young people enrolled in lower levels of education were conducted and analysed using an inductive analysis approach. The following themes were identified: Young people **1)** want a trustful educator, **2)** want to be triggered, **3)** receive most of their information from parents, **4)** are confident they can find anything on the internet, and **5)** do not feel the need to know about public health organizations. It is clear from the results that big improvements can be made regarding sexuality education and sexual health prevention programs. With extra attention for the timing of sexuality education, level education and different actors in young people's lives. In general, different approaches should be used for sexual health programs for young people. This research shows promising results and should be taken to a larger level.

Samenvatting (Dutch summary)

Voor jongeren die praktische opleidingen (PRO, VMBO & MBO) volgen, zijn verbeteringen in seksuele voorlichting en programma's van de Gemeentelijke Gezondheidsdienst (GGD) vereist. Deze groep loopt meer risico op seksueel risicogedrag en is moeilijker te bereiken met seksuele gezondheidsprogramma's. Dit artikel onderzoekt hoe seksuele gezondheidsprogramma's goed kunnen aansluiten bij de seksuele informatiebehoeften van praktisch opgeleide jongeren. In totaal zijn er 14 interviews afgenomen met jonge mensen. Voor de analyse is een inductieve benadering gebruikt. De volgende thema's zijn geïdentificeerd: Jonge mensen **1)** willen een voorlichter die ze kunnen vertrouwen, **2)** willen worden getriggerd, **3)** ontvangen de meeste informatie van hun ouders**, 4)** vertrouwen erop dat ze alles op het internet kunnen vinden, **5)** voelen niet de behoefte om te weten wat de GGD doet. De resultaten laten duidelijk zien dat er grote verbeteringen mogelijk zijn op het gebied van seksuele voorlichting en programma's. Hierbij moet extra aandacht worden gegeven aan de timing van voorlichting, het onderwijsniveau en het netwerk om jongeren heen. Het is belangrijk dat er verschillende strategieën worden gebruikt om jonge mensen te bereiken met informatie. Dit onderzoek laat veelbelovende resultaten zien en geeft aan dat vervolgonderzoek van toegevoegde waarde is.

List of abbreviations

GGD	Gemeentelijke Gezondheidsdienst, (regional) public health organization in the Netherlands
LVB	Licht verstandelijke beperking (IQ of 50-85); Dutch category for people with a mild learning disability (IQ of 55-70) and below-average cognitive ability (IQ of 70-85)
MBO	Middelbaar beroepsonoderwijs, secondary vocational education
PRO	Praktijk onderwijs, practical education
SE	Sexuality education
SRH	Sexual and reproductive health
STDs	Sexually transmitted diseases
VMBO	Voorbereidend middelbaar beroepsonderwijs, pre-vocational secondary schools
ZHZ	Zuid-Holland Zuid, used as a reference to a GGD region in the Netherlands

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1. Introduction

During adolescence, young people get interested in sex and gradually start masturbating, touching, and perform other sexual acts (De Graaf, 2013). At the age of eighteen, half of the population of young people (12-24 years old) in the Netherlands has had sexual intercourse (De Graaf et al., 2017). At the same time, they start talking about sex with their friends and parents and look on the internet for information and sexual imagery (De Graaf, 2013). Although in every Dutch secondary school sexuality education (SE) is part of the curriculum (David et al., 2018; Van de Bongardt, 2012), on average, young people mark SE received at school with a 5,8 on a scale of one to ten (De Graaf et al., 2017). For the most part, schools are independent in determining the quality and quantity of the SE they provide (Van de Bongardt, 2012). This often leads to little structural attention to SE in the Netherlands (David et al., 2018; Storm et al., 2019). Moreover, the content of those lessons differs from school to school. There is a range from a one-time lesson on condom use during biology to a continuous curriculum using supportive, certified teaching materials (David et al., 2018; Storm et al., 2019). The public health organization Gemeentelijke Gezondheidsdienst [GGD] supports schools (per region) in their task to provide sexuality education, for example, through providing information sessions at schools (GGD GHOR Nederland, n.d.). However, this support by the GGD is not optimal in every region due to limited capacity and low priority setting (David et al., 2018). The GGD also collaborates with other organizations to provide young people with online information (jouwggd.nl & Sense) (David et al., 2018; GGD GHOR Nederland, n.d.). Lastly, the GGD provides free and anonymous sexual and reproductive health (SRH) care and information, online and at their regional health clinics (GGD GHOR Nederland, n.d.).[1] Thus, apart from what schools are educating adolescents on sexual behaviors, through different channels youth are informed about SRH information (for prevention purposes) and SRH care. These prevention programs play an important role in the SRH and wellbeing of youth (Cense et al., 2019; Nhass, 2019; Storm et al., 2019).

[1] This paper refers to sexual and reproductive health (SRH) as reproductive health and sexual health are inherently intertwined (Glasier et al., 2006; WHO, 2017). Even though sexual health and reproductive health both have unique aspects to them, reproductive health and rights are often referred to in the definition of sexual health (Edwards et al., 2004; WHO, 2006, 2017). Besides that, sexuality education and sexual health care and information by public health organizations such as the GGD, include topics that address both sexual and reproductive health. Therefore, to be all-compassing and explicit this paper refers to SRH.

Furthermore, SE plays an important role in increasing knowledge and awareness (Samkange-Zeeb et al., 2011).

1.1 Status Sexuality Education

Concerning SE, according to several researchers, its content can and should be improved (David et al., 2018; De Graaf et al., 2017; De Graaf et al., 2015; Grauvogl et al., 2012; Magee et al., 2012; Schutte et al., 2014; Storm et al., 2019). Based on Dutch adolescent reports, it is advised to update the content of the information (De Graaf et al., 2017). Young adults are keen to receive high-quality SE at school (Cense et al., 2019). They also want more attention for SE in higher classes, a variation in teaching methods, and a wider variety of topics (e.g. sex in the media; Cense et al., 2019; De Graaf et al., 2017; Groters & Nacken, 2018) Taken all of this into account, current SE does not seem to meet the needs of youth in the Netherlands.

Improving SRH information is even more important considering the quickly changing landscape in which young people develop. Research may be outdated due to the increased use of the internet and the changing sexual norms within the Netherlands and abroad. Young people are more tolerant of sex and relationships (De Graaf et al., 2017; Erlandsson et al., 2013). New developments such as online dating and sexting also influence the information needs of young people (De Graaf et al., 2017; Nhass, 2019). Besides that, the concept of SRH has progressed. SRH is important for the overall health and wellbeing of an individual and has a central place in life (World Health Organization [WHO], 2006). Now, the concept also focuses on the impact of socioeconomic and cultural contexts on SRH (Douglas & Fenton, 2013) (see annex A). This underlines the importance to provide SRH information in prevention programs that match the current needs of the target group (Donaldson et al., 2013; Groters & Nacken, 2018; Storm et al., 2019; Whitfield et al., 2013). So far research has investigated *what* should be part of the content of SRH information (De Graaf et al., 2017; Grauvogl et al., 2012; Storm et al., 2019). However, *how* the content should be presented remains unknown. Therefore, this paper investigates how SRH programs can be designed to match with the sexual information needs of youth, particularly those in lower levels of education.

1.2 Youth enrolled in lower levels of education

There is one group of youth that particularly is in need of improved SRH programs, which this paper will focus on, that is young people in lower levels of education. They are more at risk for sexual risk behavior such as an earlier sexual debut, unintended pregnancies, and non-

consensual sexual activity (De Graaf et al., 2009, 2015). Furthermore, this group seems to have less knowledge about sex, sexually transmitted diseases (STD's), and birth control, and have less access to information (de Graaf et al., 2017). Moreover, it is also more difficult to reach youth enrolled in lower education with SRH programs (De Graaf et al., 2017). Recent research revealed that GGD services barely reach people enrolled in lower education (Op den Camp, 2020). This makes it imperative to investigate how sexual healthy behaviors can be promoted among adolescents in lower levels of education.

Looking at the current situation of youth in lower levels of education, it stands out that they have less knowledge about SRH. This can be partly explained using three determinants that influence school-based SE for youth enrolled in lower education. First, individual capacities of teachers (Van de Bongardt, 2012), it might be more difficult to talk about sexuality in prevocational classes than in preuniversity classes, a task that teachers may not be well-enough equipped for (Van de Bongardt, 2012). Second, students might need more repetition (Van Keulen et al., 2015). This underlines the lack of continuity in SE in current programs. Third, the classroom context. Students in lower education often have a more diverse cultural and religious background asking for more knowledge and capabilities of the teacher (Van de Bongardt, 2012). Thus, less access to relevant information and lower levels of participation in relevant interventions may contribute to lower levels of knowledge about SRH among youth in lower levels of education. Yet, it is expected that there are more factors that play a role and should be investigated.

1.3 Sexual health information sources

Besides receiving SRH information at school, youths also use other sources of information. One frequently used source is the internet. However, the perception of sexuality and SRH of young adults is greatly influenced by information. Only looking for information on the internet based on their awareness or (lack of) knowledge, leads to only receiving information mainly limited to physical aspects of sex. If young people were to be made more aware of other aspects, such as sexual diversity and sexual pleasure, it would be easier and more acceptable to seek help for other aspects of SRH (Grauvogl et al., 2012). This shows that improving SRH programs would most likely also positively impact information seeking behavior of young people.

So far, several studies have independently investigated a) online (SRH) information-seeking behavior of adolescents (Buhi et al., 2009; Doornenbal et al., 2009; Magee et al., 2012; Mitchell et al., 2014; Simon & Daneback, 2013; Wartella et al., 2016; Whitfield et al., 2013), b) use of different information sources (Donaldson et al., 2013; Lim et al., 2014;

Whitfield et al., 2013), and c) possibilities to use technology as part of prevention programs (Goold et al., 2003; Lim et al., 2014; Magee et al., 2012; Perry et al., 2012; Simon & Daneback, 2013; Wartella et al., 2016). However, none of them compared different sources of information in one research or looked at motivation behind those choices. To improve SRH promotion programs, it is necessary to investigate where, how, and why youth in lower levels of education seek SRH information and how public health services can subsequently respond to information needs and information-seeking behavior. The goal of this paper is to improve SRH programs provided by a public health organization such as the GGD, with a focus on youth in lower levels of education. This contributes to implementation of SRH programs that effectively reach young people and increase their SRH and wellbeing. For these reasons, the following research questions are composed:

I. What are the needs of youth in lower levels of education on the sources and delivery systems of information about SRH?
II. How do youth in lower levels of education obtain information about SRH?
III. To what extent do these findings match the implementation of current SRH promotion programs of the GGD?

These questions will be answered by conducting a qualitative study, including adolescents in lower levels of education in the Netherlands.

2. Methods

To investigate how youth in lower education obtain their SRH information, a qualitative design was applied. Semi-structured interviews allowed for a conversation that is directed towards the researcher's particular needs for data (Green & Thorogood, 2014). Furthermore, as SRH remains an intimate topic in the Netherlands, participants were free to tell their stories in an intimate matter (Morse, 2012). These stories could go into detail about topics including feelings, responses actions, and decisions (Morse, 2012). Qualitative research is also person-centered, thus, participants are seen as whole human beings (Holloway, 2005). This is important because SRH involves several dimensions of human wellbeing. Lastly, it is the best method to research the experiences of people (Holloway, 2005), so that participants could elaborate on their choices of SRH information sources.

Given the changing landscape of SRH and SE, topics were formulated in advance, to improve comparability and future reliability. Further, interviews were open-ended which

allowed space and time for participants to elaborate on their stories. For the researcher, this is important to access knowledge, experience, and perspectives on the side of participants (Bourgeault et al., 2010).

The main topics discussed during interviews were sexuality education, information-seeking behavior, knowledge about the GGD, and (innovative) ideas on improving information provision. Focusing on why participants would choose a particular information source or (innovative) idea above others. Interview guidelines are attached in Annex B.

2.1 Procedure and participants

Before the start of the study, ethical clearance was obtained from the Ethics Committee of the Faculty of Social and Behavioral Sciences of Utrecht University (January 4th, 2021). Ethical issues were identified and are further illustrated in Annex C. General and practical information about the study, privacy and data safety was included in the letter for participants presented in Annex D. The informed consent form, attached in Annex E, confirms that participants have received this information and agree to the terms.

Students were eligible to enroll if they were 16-18 years old, Dutch-speaking, and enrolled in practical education (praktijkonderwijs, PRO), pre-vocational secondary schools (voorbereidend middelbaar beroepsonderwijs, VMBO), and secondary vocational education (middelbaar beroepsonderwijs, MBO) located in GGD region Zuid-Holland Zuid (ZHZ).

Recruitment of participants was done through three different ways. First, with the help of health care coordinators at VMBO and PRO schools. In total seven schools were approached via telephone of which six agreed to participate in the study. Ultimately, only one urban PRO school and one rural VMBO school were able to find students who agreed to participate in the study. Main reasons for withdrawal of schools were other activities that needed prioritization (mainly related to the corona pandemic) and a lack of students who were willing to participate in the study. Health care coordinators approached students individually who fit the inclusion criteria. At the same time, a date was set for the trained researcher to interview the students in-person at school. In total, twelve participants were recruited via schools. Second, six youth workers were approached, three were willing to help and one was able to recruit one participant for the study. Third, by asking colleagues, in-person and online, whether they knew eligible young adults who were willing to participate in this study. Via this network, one interview was conducted online. Schools, youth workers and colleagues at the GGD expressed a threshold that young adults experience to talk about SRH as a reason for not being able to find participants. Before the official start of all interviews the information letter was discussed, and the informed consent form was signed.

Ultimately, in the period between March 3, 2021, and March 31, 2021, a total of fourteen individual interviews with young people were conducted. Characteristics of the study participants are provided in Table 1. The interviews took between 8 and 32 minutes (mean duration = 24 minutes). All interviewees gave approval to audio-record the interviews.

2.2 Data analysis

All interviews were audio-recorded and then transcribed into written transcripts. Seeing that this was exploratory research, an inductive analysis approach was used to generate (new) ideas and concepts (Boeije, 2014). First, transcripts were re-read to increase familiarity with the data. Then open coding was used to analyze how young people obtain SRH information. One-by-one the first six transcripts were coded with a descriptive label. The codes found in the first six transcripts were used to code the other interviews. Second, axial coding was used to draw connections between codes and group the codes into categories. The third action was selective coding, all categories were connected around four core categories; context, needs, sources, and match with public health organizations. In doing so, a unified theory was defined. During this stage, all transcripts were re-read and coded according to the overarching category and code structure. Fourth and final, the story of the data was pulled together in a narrative that centers around the overarching category. Atlas.ti computer software was used to systematically label and categorize text with codes, themes, and subthemes (Green & Thorogood, 2014).

Table 1

Characteristics of Study Participants

Characteristic		**Number of participants per group (total N = 14)**
Level of education	PRO	10
	VMBO	4
	MBO	0
Age (years)	Sixteen	3
	Seventeen	9
	Eighteen	2
	Mean age	*17*
	SD	*0,6*
Geographical location hometown	Urban	5
	Rural	9
Gender	Boy	7
	Girl	6
	Non-binary	1
Country of birth	Dutch-born, Dutch-born parents	6
	Dutch-born, foreign born parents	6
	Foreign born, foreign born parents	3

3. Results

To better understand the findings, it is important to first explain the context in which the interviews were conducted by presenting three factors. First, participants were hesitant to talk about SRH. This feedback was also given by some participants after the interview:

"*To be honest I was a bit nervous, hope I did okay (17 years old (yo))"*.

Indicating that SRH is not a normalized subject to talk about for them. Second, interest in SRH and the participant's attitude towards this subject was influenced by their cultural and religious environment. For example, one student said about sexual diversity as a topic during SE:

"*It was sort of a fun movie, but yes, some of those things are not acceptable from our religion. Sometimes, it (sexuality education) goes too far (17 yo)*".

This, in turn also, influenced behavior of students in the classroom. Due to the wide variety of perceptions on SRH and behavior, a joint conversation or safe environment was harder to realize for educators. A student illustrated how one of these conversations would lay out during sexuality education:

"Yes, at home it is definitely not possible (to talk about sexual health). But here, some people are not serious. I know a classmate… We were having a normal conversation during sexuality education. Then, out of the blue, he says 'it is dirty, and we have to stop with this class'. I replied, 'if you are an adult, how are you then supposed to know what to do?'. He then said, 'yes but it is gross you should not start it anyway'. So here at school, you cannot always talk seriously, some boys and girls can, but not always (17 yo)".

This underlines the importance of SE at school for students who are not allowed to talk or obtain information about SRH at home. Third, a red thread through all interviews was diversity between students. On a personal level, there were big differences between participants in attitude and opinion towards sex and sexuality education, the desire to talk about the subject, and their preference for visual or written information given at school or by an external party. But also, a broad diversity of ideas and opinions on how to improve

information provision and how to approach young adults. Participants themselves were aware of this as well:

"I think everyone has their own taste (17 yo)".

In the next paragraphs, the five themes are discussed.

3.1 Young people want a trustful educator

Talking about SRH at school comes with its own challenges for young adults. The subject itself can be awkward to address, especially when most of the students in the class are giggling about the content. Participants also mentioned being afraid of gossiping:

"People talk a lot at this school. If I say I had sex, everyone at this school knows it. That is not what I want (17 yo)".

This fear could be heightened by possible feelings of shame and the wish to keep SRH a private topic:

"It is now such a subject you do not want to talk about because people are ashamed or something (17 yo)".

Even though most participants did not feel the need for SE in separate gender groups, the general notion did seem that boys talk easier about sex than girls. They were also more likely to be more indifferent:

"I am a guy who does not give a F. You know. I do not care. With a boy, together with boys, by myself or with girls. It does not make a difference (16 yo)".

According to boys, girls would find the topic more sensitive and would not want to discuss the content in presence of boys:

"*I don't mean this in a mean way, but I think girls find it harder to talk about sexual health than boys (17 yo)".*

According to girls, boys would not want to know about SRH of girls:

"I think I rather have sexuality education in a group with the boys and girls a little bit separated. So, if you have questions about girls stuff you can just ask (17 yo)".

A couple of participants also referred to sexually transgressive behavior towards girls and stories of girls in their circle who were victims of sexual violence. This subject was not discussed with other peers or teachers.

Taken all of this into account, it speaks for itself that participants would talk about SRH only with a person they know well. It was important for them that this person was trustful:

"I know [person] already for a long time. She had an aura; you know something trustworthy around her. She is also very nice and always happy. It gives you the idea that you could talk with her about sexual health (17 yo)"

Also, it was important that this person would have a profound understanding of them. Besides that, they would go to a person who they knew could answer their questions. So, the informant must have a certain level of expertise in SRH. Besides knowledge on content, expertise was also linked to the ability to have a normal and open conversation on the topic:

"Well, (teacher) is a good example. He can have a normal conversation you know. So, if I would have a question, I think I would go to him (17 yo)".

Lastly, this person should be easily available and visible in their day-to-day lives.

3.2 Young people want to be triggered

When young adults were be asked about whether they want more information or a different presentation of the information, very few ideas come forward. They barely have an idea of how information can reach them. Some ideas came forward, but the following arguments were given:

"*That is for others, not for me (17 yo)*".

They were not interested:

"They should know for themselves; I really do not care (17 yo)".

Or they indicated they already knew everything:

"I understand what you are saying, but I do not need lessons or anything, I already get it (17)".

Or because sexuality was not (yet) part of their thoughts:

"I do not know. I do not really search anything about it (sexual health). Because I do not really plan to have sex with somebody (17 yo)".

On the other hand, some participants did find SRH an important topic. On the one hand for themselves, because they were getting older, and on the other hand for other peers who did not have experience (yet). Key in this whole story was to make the content of SE and other programs more interesting for young adults:

"*No, you are not triggered (by current sexuality education). Yes, it might be interesting given, but under young adults, it is taken with a grain of salt. Receiving sexuality education from a book… You are just sitting there a bit dull. You (schools) should be given it more attention (16 yo)".*

For instance, by giving information in *"youth language (17 yo)" rather* than *"children's language (17 yo)"* and engaging students and providing information related to their stage of life.

3.3 Young people receive most of their information from parents

Between friends or peers, SRH was barely discussed. Most participants received their information about SRH from their parents. But the topics discussed at home depend on the family environment of the participant:

"My mom talked with me about it, you should not send pictures of yourself to people, at any moment they could do something weird with your picture (17 yo)".

Parents would also be one of the first participants would go to with questions. Schools only provided a limited number of (about that one or two times) SE classes. During those classes people would look for pictures of genitals, they would laugh, and most of the time do not pay any attention:

"I think one time in our first year. We were all laughing. It was about the male and female genitals. That was it actually (17 yo)".

Many participants also thought that the received SE at school was sufficient. Hypothetically, if participants would have questions in the future, they mentioned that the topic of the question would influence their choice of information source.

3.4 Young people are confident they can find anything on the internet

Another possible source of knowledge was the internet. No specific websites, or social media channels, just google. They were confident they could find all information they needed in a short period of time. But this was only in case if they were interested in sex or if they were allowed to search for this kind of information. Most participants did not (yet) feel the need to look for more information on the internet.

"I do not always look for information on the internet. Most of the time I would ask my mom. If she does not know we would look on the internet. Or I would ask a teacher or something (17 yo)".

3.5 Young people do not feel the need to know about public health organizations

Important to note is that none of the participants knew about the GGD (some had a vague idea about its activities related to COVID-19), its SRH programs, or Sense:

"No, I do not even know what that is. GGD, I know only GGD in the politics. Like you have that one with Mark Rutte (Dutch prime minister) and those people (16 yo)".

Besides people in their direct environment, they did not have a clue where you could go for information or healthcare for your SRH. But, the GGD does have expertise about the topic that participants would want to see in their educator or information source. And trustworthiness that participants would look for. Participants indicated that they would be

more likely to visit the GGD if they would have seen an employer beforehand. However, they would not travel at least 30 minutes (or more) to the sexual health center of the GGD.[2] Participants said themselves barely to remember a thing from their sexuality education, and questions would be directed towards people in their daily lives, making it unlikely they visit the sexual health center.

4. Discussion

Results show that young people prefer an educator who they can trust and is visible and available in their daily lives. SRH information should be engaging and relevant. However, for adolescents included in the current study, SRH was not (yet) relevant. Information that they received was mostly from their parents and if they would need anything else they would search the internet. On a critical note, SE received at school could play a more important role once it is given regularly and includes more topics. Young people don't tend to know of or appreciate the activities on SRH implemented by the GGD, neither are they interested in getting to know them. So, it is clear from the results that improvements regarding SE and SRH prevention programs can be made.

In line with previous research, SRH is not (yet) a normalized topic; adolescents are reluctant to talk about this. Young people enrolled in lower levels of education have less knowledge of SRH compared to young people enrolled in higher levels of education, classroom context makes it more difficult for the teacher to uphold an open conversation about SRH, and SRH prevention programs indeed do not seem to reach this group. In the following two paragraphs, the influence of level of education on sexuality education, the timing of SE, and the role of different actors in young people's SRH education are emphasized.

Informal conversations (e.g., teachers, etc.) indicated a difference in information processing between students at PRO and VMBO. Interviewed PRO students received weekly SE from teachers, however, none of the interviewed students mentioned this. In view of this, literature was revisited. Most research conducted at schools did not define 'lower education' or included students from PRO schools in the data collection, which could mean that the

[2] There are ten municipalities part of the GGD region Zuid-Holland Zuid with a total land area of approximately 720 km^2. The sexual health center of the GGD is in Dordrecht. For young people living outside of Dordrecht, the duration of transportation by bicycle is ≥20 minutes, by foot ≥60 minutes, and by public transport ≥30 minutes. Public transport can take up to 90 minutes depending on the geographical location of their hometown.

literature does not properly reflect the needs of this group. In the Netherlands, PRO students are identified as people with a 'licht verstandelijke beperking (LVB)' (IQ of 50-85) (Zoon, 2012).[3] This group is characterized by deficits in their conceptual, social, and practical abilities (Zoon, 2012), making people with an LVB vulnerable. People with an LVB are more likely to have unsafe sex than their peers (Baines et al., 2018; Maris et al., 2020; McCabe, 1999; Schmidt et al., 2019), and are more likely to be a victim of sexual harassment and/or violence (Coppus, 2019; Coppus & Lagro-Janssen, 2017; Enow et al., 2015; Jones et al., 2012; Maris et al., 2020; Schmidt et al., 2019; Servais, 2006). This has consequences for how and how frequent SRH information should be presented to this group (Baines et al., 2018), and underlines its importance (Baines et al., 2018; Borawska-Charko et al., 2017; Coppus, 2019; Enow et al., 2015; Schmidt et al., 2019). Current findings add to the existing gap in research about how information about SRH should be provided to this group (Baines et al., 2018; Servais, 2006). To increase knowledge about SRH among all lower educated youth, and a potential subsequent behavior change, the timing of SE is important. Young people pay attention when they find information relevant (e.g., being involved in a relationship) or interestingly presented. It is often emphasized that young people in lower levels of education have an early sexual start (compared to young people in higher levels of education). However, the wide variety in age of sexual start, and a majority of young people following PRO, VMBO, or MBO education in the Netherlands who did not have oral or vaginal sex at the age of 15 (De Graaf et al., 2017), has consequences for when and how often SE should be given.[4] When only given in year one or two of high school, the message is likely not to be relevant for most students, which has an impact on its effectiveness (Brownson et al., 2017; Douglas & Fenton, 2013; Glanz et al., 2008). Therefore, it seems relevant that SE education should be

[3] Young people enrolled at PRO have an IQ of 55-80 (Rijksoverheid, n.d.), which links with the categories mild learning disability (IQ of 55-70) and below-average cognitive ability (IQ of 70-85) (American Psychiatric Association, 2013).

[4] Young people following VMBO or MBO education: boys 76% and girls 77% did not have oral or boys 78% and girls 76% vaginal sex aged fifteen and older (De Graaf et al., 2017). Young people following PRO education aged 15 or older have similar numbers: boys 86% and girls 76% did not have oral sex or boys 69% and girls 70% vaginal sex (De Graaf et al., 2017). Other studies found that people with mild learning disability have a later sexual start and are less sexually active than the general population (Baines et al., 2018; McCabe, 1999; Servais, 2006).

provided more frequently across several years so that it becomes more relevant to students and thereby increases the effectiveness.

Finally, there are multiple actors playing a role in young people's SRH education and care. Teachers can have an important role for SE at schools and should play a more prominent role. But, as discussed in the introduction, the individual capacities determine the quality and quantity of SE. Participants identified their parents as the most important SRH information source providing knowledge (possibly on a limited number of topics) (Wartella et al., 2016). This is in contrast with previous research (Cense et al., 2019; De Graaf et al., 2017; Doornenbal et al., 2009; Grauvogl et al., 2012; Inspectie van het Onderwijs, 2016; Ohlrichs & van der Vlugt, 2013; van Fulpen et al., 2002), that demonstrated children and/or parents being too uncomfortable to discuss the topic together. In that case, the internet could be a vital source of information for young people. However, though some studies about the role of parents did include lower education adolescents (VMBO), most studies were not specific about the level of education or did not include PRO students. Hence, this indicates a possible benefit for adolescents in lower education to actively involve their parent(s)/caregiver(s) in their SE. This is also in line with other research and guidelines on involving parents in SE (Grauvogl et al., 2012; Inspectie van het Onderwijs, 2016; Lara & Abdo, 2016; Maris et al., 2020; Whitfield et al., 2013). At present, the GGD does not play an important role in young people's lives in providing SRH care and information. Even though the GGD has the SRH expertise young people are looking for and online information available with text and video, young people seem not to look for information outside of the people they see on a regular basis (in case they are interested in search for information).

Actors playing a role in young people's SRH education and care are not limited to teachers, parent(s)/caregiver(s), and the GGD, there is an entire network surrounding one young person and an online world at their hand. An important role is also waiting to be filled for youth and health care professionals to give guidance on the topic of sexual health (Dalmijn & van Lisdonk, 2017). Peers, friends, and other actors that are not discussed here could also be included in the network or future research.

4.1 Recommendations

The results of this study have important implications for SE among lower-educated adolescents. First of all, based on current findings it is relevant to use different intervention strategies and take a multidisciplinary approach to SE to increase effectiveness and match the needs of the target group (De Graaf et al., 2009; Lara & Abdo, 2016; Servais, 2006). Furthermore, it is important to provide information at several points in adolescents'

development, depending on and adjusted to age, experience, and level of education (Cense et al., 2019; Lara & Abdo, 2016). This is extra important for young people who do not receive SRH information at home (Cense et al., 2019; Doorduin & van Lee, 2012; Janssens et al., 2009; Ohlrichs & van der Vlugt, 2013). Lastly, professionals should use a wide variety of methods to appeal to all students such as books, use of text and videos during class or on websites, and games (Helmer et al., 2015; Schmidt et al., 2019). At schools, SE does not have to be restricted to biology classes, it could also be included in Dutch classes or citizenship education. There are effective interventions available combining methods like "Lang Leve de Liefde" (Nederlands Jeugdinstituut, 2015). Asking a specialized organization (such as the GGD) for recommendations and guidance is advised looking at the variety of available licensed interventions.

The current study demonstrated that SRH prevention programs must be visible in the day-to-day lives of young people and preferably known by their parent(s)/caregiver(s) for young people to obtain the information. Ideally, there would also be a person (e.g., confidential counselor, teacher, or health professional) at schools for each student to build a bond of trust with (Janssens et al., 2009; Storm et al., 2019). That way, this person can direct students to SRH information and prevention programs. Expertise and fitting information sources (e.g., a website with text and movies) about SRH are available at the GGD. Public health organizations will not be known by young people with only a (social media) campaign or one-time SE on location. There are too many factors (e.g., timing, trust, content, and presentation of content) that have to be on-point for effective education or programs (Lim et al., 2014). Therefore, it is advised that public health organizations determine when they target lower educated people directly and when they use indirect measures such as closely collaborating with schools, training teachers and health professionals, and/or delivering materials.

4.2 Strengths and limitations

There are several limitations to this research. First, representativeness of this research may be limited by the study sample. The recruitment of participants was greatly restricted by corona measures and therefore only a limited number of adolescents participated. Second, only youth' perspective on their experience with SRH information is investigated. This doesn't necessarily mean that this reflects the actual provided education, therefore future research should also include the perspective of parents, teachers, and health professionals. Third, for young people with an LVB, open questions posed in an interview setting might be difficult to answer. Other qualitative methods of data collection should be explored in this specific group to gain better insight in their experiences.

In short, this research gives a good first impression of where and why young people obtain information about SRH. Future research is necessary to shed more light on information needs per topic and preferred delivery systems of young people enrolled in lower education.

References

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders : dsm-5* (5th ed.).

Baines, S., Emerson, E., Robertson, J., & Hatton, C. (2018). Sexual activity and sexual health among young adults with and without mild/moderate intellectual disability. *BMC Public Health*, *18*(1), 667. https://doi.org/10.1186/s12889-018-5572-9

Bleakley, A., Hennessy, M., Fishbein, M., & Jordan, A. (2011). Using the Integrative Model to Explain How Exposure to Sexual Media Content Influences Adolescent Sexual Behavior. *Health Education & Behavior*, *38*(5), 530–540. https://doi.org/10.1177/1090198110385775

Boeije, H. (2014). *Analyseren in kwalitatief onderzoek: Denken en doen* (Boom Lemma Uitgevers (ed.); 2nd ed.).

Borawska-Charko, M., Rohleder, P., & Finlay, W. M. L. (2017). The Sexual Health Knowledge of People with Intellectual Disabilities: a Review. *Sexuality Research and Social Policy*, *14*(4), 393–409. https://doi.org/10.1007/s13178-016-0267-4

Bos, J. (2020). *Research Ethics for Students in the Social Sciences*. Springer International Publishing. https://doi.org/10.1007/978-3-030-48415-6

Bronfenbrenner, U. (1977). Toward an experimental ecology of human development. *American Psychologist*, *32*(7), 513–531. https://doi.org/10.1037/0003-066X.32.7.513

Brownson, R. C., Colditz, G. A., & Proctor, E. K. (2017). *Dissemination and Implementation Research in Health* (Ross C. Brownson, G. A. Colditz, & E. K. Proctor (eds.); 2nd ed., Vol. 1). Oxford University Press. https://doi.org/10.1093/oso/9780190683214.001.0001

Buhi, E. R., Daley, E. M., Fuhrmann, H. J., & Smith, S. A. (2009). An Observational Study of How Young People Search for Online Sexual Health Information. *Journal of American College Health*, *58*(2), 101–111. https://doi.org/10.1080/07448480903221236

CCMO. (n.d.). *Toestemming*. https://www.ccmo.nl/onderzoekers/wet-en-regelgeving-voor-medisch-wetenschappelijk-onderzoek/wmo-bescherming-proefpersoon-centraal/toestemming

Cense, M., de Grauw, S., & Vermeulen, M. (2019). *"Gewoon het taboe eraf halen" Wat leerlingen willen van seksuele vorming*.

Coppus, T. (2019). Mensen met een verstandelijke beperking en seksueel misbruik. *Bijblijven*, *35*(6–7), 73–80. https://doi.org/10.1007/s12414-019-0060-4

Coppus, T., & Lagro-Janssen, T. (2017). Seksueel misbruik bij verstandelijk beperkte meisjes. *Huisarts En Wetenschap*, *60*(8), 410–412. https://doi.org/10.1007/s12445-017-0247-9

Dalmijn, E. W., & van Lisdonk, J. (2017). Tienerzwangerschap bij meiden met een lichte verstandelijke beperking. *JGZ Tijdschrift Voor Jeugdgezondheidszorg*, *49*(1), 8–13. https://doi.org/10.1007/s12452-016-0091-5

David, S., van Benthem, B., Deug, F., & van Haastrecht, P. (2018). *Nationaal Actieplan soa, hiv en seksuele gezondheid 2017-2022*. https://doi.org/10.21945/RIVM-2018-0034

De Graaf, H. (2013). *Van alle leeftijden: De seksuele levensloop van conceptie tot overlijden*. Eburon.

De Graaf, H., Meijer, S., Poelman, J., & Vanwesenbeeck, I. (2017). *Seks onder je 25e: Seksuele gezondheid van jongeren in Nederland anno 2017*. https://seksonderje25e.nl/files/uploads/Onderzoeksboek Seks onder je 25e 2017.pdf

De Graaf, H., Vanwesenbeeck, I., & Meijer, S. (2015). Educational Differences in Adolescents' Sexual Health: A Pervasive Phenomenon in a National Dutch Sample. *The Journal of Sex Research*, *52*(7), 747–757. https://doi.org/10.1080/00224499.2014.945111

De Graaf, H., Vanwesenbeeck, I., Meijer, S., Woertman, L., & Meeus, W. (2009). Sexual Trajectories during Adolescence: Relation to Demographic Characteristics and Sexual Risk. *Archives of Sexual Behavior*, *38*(2), 276–282. https://doi.org/10.1007/s10508-007-9281-1

Deptula, D. P., Henry, D. B., & Schoeny, M. E. (2010). How can parents make a difference? Longitudinal associations with adolescent sexual behavior. *Journal of Family Psychology*, *24*(6), 731–739. https://doi.org/10.1037/a0021760

Donaldson, A. A., Lindberg, L. D., Ellen, J. M., & Marcell, A. V. (2013). Receipt of Sexual Health Information From Parents, Teachers, and Healthcare Providers by Sexually Experienced U.S. Adolescents. *Journal of Adolescent Health*, *53*(2), 235–240. https://doi.org/10.1016/j.jadohealth.2013.03.017

Doorduin, T., & van Lee, L. (2012). *Gaat het ook over mij? De behoeften van LHBT-jongeren aan informatie en hulpverlening rondom seksuele gezondheid*.

Doornenbal, F., Schouten, B., de Graaf, H., & Meijer, S. (2009). Seksuele mediaconsumptie van Nederlandse, Turkse en Marokkaanse jongeren: een voorspellend model op basis van seksuele karakteristieken. *Tijdschrift Voor Seksuologie*, *33*, 134–140.

Douglas, J. M., & Fenton, K. A. (2013). Understanding Sexual Health and its Role in More Effective Prevention Programs. *Public Health Reports*, *128*(2_suppl1), 1–4. https://doi.org/10.1177/00333549131282S101

Edwards, W. M., Div, M., & Coleman, E. (2004). Defining Sexual Health: A Descriptive Overview. In *Archives of Sexual Behavior* (Vol. 33, Issue 3).

Enow, H., Nagalingam, P., Singh, R., & Deepak Thalitaya, M. (2015). Need for a Comprehensive Sex and Relationship Education Programme for Adults with Learning Disability. In *Psychiatria Danubina* (Vol. 27). http://media.education.gov.uk/assets/files/pdf/s/sex an

Erlandsson, K., Jinghede Nordvall, C., Öhman, A., & Häggström-Nordin, E. (2013). Qualitative Interviews with Adolescents about "Friends-with-Benefits" Relationships. *Public Health Nursing*, *30*(1), 47–57. https://doi.org/10.1111/j.1525-1446.2012.01040.x

GGD GHOR Nederland. (n.d.). *Seksuele gezondheid*. Retrieved February 3, 2021, from https://ggdghor.nl/thema/seksuele-gezondheid/

Glanz, K., Rimer, B. K., & Viswanath, K. (2008). *Health behavior and health education : theory, research, and practice* (4th ed.). Jossey-Bass.

Glasier, A., Gülmezoglu, A. M., Schmid, G. P., Moreno, C. G., & Van Look, P. F. (2006). Sexual and reproductive health: a matter of life and death. *Lancet*, *368*(9547), 1595–1607. https://doi.org/10.1016/S0140-6736(06)69478-6

Goold, P. C., Ward, M., & Carlin, E. M. (2003). Can the Internet be used to improve sexual health awareness in web-wise young people? *Journal of Family Planning and Reproductive Health Care*, *29*(1), 28–30. https://doi.org/10.1783/147118903101196864

Grauvogl, A., Stutterheim, S. E., Evers, S. M. A. A., & van Lankveld, J. J. D. M. (2012). Perceptions of sexuality and sexual health among young people in the Netherlands. *Sexual and Relationship Therapy*, *27*(2), 110–121. https://doi.org/10.1080/14681994.2012.702894

Green, J., & Thorogood, N. (2014). *Qualitative Methods for Health Research 3rd Ed.*

Groters, M., & Nacken, N. (2018). *Behoeften van middelbare scholieren in relationele en seksuele voorlichting*. https://vrln.databank.nl/handlers/ballroom.ashx?function=download&id=44&rnd=0.8251956194755897

Helmer, J., Senior, K., Davison, B., & Vodic, A. (2015). Improving sexual health for young people: making sexuality education a priority. *Sex Education*, *15*(2), 158–171. https://doi.org/10.1080/14681811.2014.989201

Holloway, I. (2005). *Qualitative Research in Health Care*. McGraw-Hill Education .

Inspectie van het Onderwijs. (2016). *Omgaan met seksualiteit en seksuele diversiteit. Een beschrijving van het onderwijsaanbod van scholen*.

Ivankovich, M. B., Fenton, K. A., & Douglas, J. M. (2013). Considerations for National Public Health Leadership in Advancing Sexual Health. *Public Health Reports*, *128*(2_suppl1), 102–110. https://doi.org/10.1177/00333549131282S112

Janssens, K., Schakenraad, W., Lammers, M., & Brants, M. (2009). *Seks: waar ligt de grens? Jongeren en docenten uit het Amsterdamse praktijkonderwijs aan het woord*.

Jones, L., Bellis, M. A., Wood, S., Hughes, K., McCoy, E., Eckley, L., Bates, G., Mikton, C., Shakespeare, T., & Officer, A. (2012). Prevalence and risk of violence against children with disabilities: a systematic review and meta-analysis of observational studies. *The Lancet*, *380*(9845), 899–907. https://doi.org/10.1016/S0140-6736(12)60692-8

Kotchick, B. A., Shaffer, A., Miller, K. S., & Forehand, R. (2001). Adolescent sexual risk behavior: a multi-system perspective. *Clinical Psychology Review*, *21*(4), 493–519. https://doi.org/10.1016/S0272-7358(99)00070-7

Lara, L. A. S., & Abdo, C. H. N. (2016). Age at Time of Initial Sexual Intercourse and Health of Adolescent Girls. *Journal of Pediatric and Adolescent Gynecology*, *29*(5), 417–423. https://doi.org/10.1016/j.jpag.2015.11.012

Lim, M. S., Vella, A., Sacks-Davis, R., & Hellard, M. E. (2014). Young people's comfort receiving sexual health information via social media and other sources. *International Journal of STD & AIDS*, *25*(14), 1003–1008. https://doi.org/10.1177/0956462414527264

Lind, C., Anderson, B., & Oberle, K. (2003). Ethical Issues in Adolescent Consent for Research. *Nursing Ethics*, *10*(5), 504–511. https://doi.org/10.1191/0969733003ne632oa

Magee, J. C., Bigelow, L., DeHaan, S., & Mustanski, B. S. (2012). Sexual Health Information Seeking Online: A Mixed-Methods Study Among Lesbian, Gay, Bisexual, and Transgender Young People. *Health Education & Behavior*, *39*(3), 276–289. https://doi.org/10.1177/1090198111401384

Maris, S., Vink, R., Deurloo, J., Oud, B., de Lijster-van Kampen, G., & Kuyper, A. (2020). *Richtlijn Seksuele ontwikkeling voor jeugdhulp en jeugdbescherming* . www.meldknop.nl,

McCabe, M. P. (1999). Sexual Knowledge, Experience and Feelings Among People with Disability. *Sexuality and Disability*, *17*(2), 157–170. https://doi.org/10.1023/A:1021476418440

Mitchell, K. J., Ybarra, M. L., Korchmaros, J. D., & Kosciw, J. G. (2014). Accessing sexual health information online: use, motivations and consequences for youth with different sexual orientations. *Health Education Research*, *29*(1), 147–157. https://doi.org/10.1093/her/cyt071

Morse, J. M. (2012). *Qualitative health research : creating a new discipline*. Left Coast Press.

Nederlands Jeugdinstituut. (2015). *Lang Leve de Liefde - Onderbouw - Effectieve jeugdinterventies | NJi*. https://www.nji.nl/nl/Databank/Effectieve-Jeugdinterventies/Interventies/Erkend/Lang-Leve-de-Liefde-Onderbouw

Nhass, H. (2019). *Niet jouw schuld!* https://www.kis.nl/sites/default/files/bestanden/Publicaties/niet-jouw-schuld-verkenning-shame-sexting.pdf

Ohlrichs, Y., & van der Vlugt, I. (2013). *Zwijgen is Zonde*. Rutgers WPF.

Op den Camp, K. (2020). *Thermometer 2019 Seksuele Gezondheid Jongeren Limburg*.

Perry, R. C. W., Kayekjian, K. C., Braun, R. A., Cantu, M., Sheoran, B., & Chung, P. J. (2012). Adolescents' Perspectives on the Use of a Text Messaging Service for Preventive Sexual Health Promotion. *Journal of Adolescent Health*, *51*(3), 220–225. https://doi.org/10.1016/j.jadohealth.2011.11.012

Rijksoverheid. (n.d.). *Hoe krijgt mijn kind praktijkonderwijs (pro)?* . Rijksoverheid . Retrieved April 30, 2021, from https://www.rijksoverheid.nl/onderwerpen/passend-onderwijs/vraag-en-antwoord/hoe-krijgt-mijn-kind-praktijkonderwijs

Samkange-Zeeb, F. N., Spallek, L., & Zeeb, H. (2011). Awareness and knowledge of sexually transmitted diseases (STDs) among school-going adolescents in Europe: a systematic review of published literature. *BMC Public Health*, *11*(1), 727. https://doi.org/10.1186/1471-2458-11-727

Schmidt, E. K., Brown, C., & Darragh, A. (2019). Scoping Review of Sexual Health Education Interventions for Adolescents and Young Adults with Intellectual or Developmental Disabilities. *Sexuality and Disability*, *38*(3), 439–453. https://doi.org/10.1007/s11195-019-09593-4

Schutte, L., Meertens, R. M., Mevissen, F. E. F., Schaalma, H., Meijer, S., & Kok, G. (2014). Long Live Love. The implementation of a school-based sex-education program in the Netherlands. *Health Education Research*, *29*(4), 583–597. https://doi.org/10.1093/her/cyu021

Servais, L. (2006). Sexual health care in persons with intellectual disabilities. *Mental Retardation and Developmental Disabilities Research Reviews*, *12*(1), 48–56. https://doi.org/10.1002/mrdd.20093

Simon, L., & Daneback, K. (2013). Adolescents' Use of the Internet for Sex Education: A Thematic and Critical Review of the Literature. *International Journal of Sexual Health*, *25*(4), 305–319. https://doi.org/10.1080/19317611.2013.823899

Stinson, R. D. (2010). Hooking Up in Young Adulthood: A Review of Factors Influencing the Sexual Behavior of College Students. *Journal of College Student Psychotherapy*, *24*(2), 98–115. https://doi.org/10.1080/87568220903558596

Storm, I., Albers, L., Meijer, S., & Sturkenboom, M. (2019). *Seksuele en relationele vorming in het onderwijs. Een inventarisatie van ervaringen, behoeften en aanbod*.

United States Department of Health and Human Services, & Centers for Disease Control and Prevention. (2012). *Record of the proceedings : Meeting of the CDC/HRSA Advisory Committee on HIV, Viral Hepatitis and STD Prevention and Treatment*. https://stacks.cdc.gov/view/cdc/27562

Van de Bongardt, D. (2012). Teaching sexuality and relationships education in multicultural

classrooms in the Netherlands. In E. R. Meiners & T. Quinn (Eds.), *Sexualities in education: A reader*.

Van der Graaf, R. (2018). Ethiek van onderzoek met kinderen. *DCRF Jaarcongres*. https://dcrfonline.nl/wp-content/uploads/sites/12/2018/10/Rieke-van-der-Graaf.pdf

Van Fulpen, M., Bakker, F., Breeman, L., Poelman, J., Schaalma, H., & Vanwesenbeeck, I. (2002). *Vmbo scholieren, seksualiteit en seksuele voorlichting. Een effectonderzoek naar de vernieuwde versie van het lespakket "Lang leve de liefde."*

Van Keulen, H. M., Hofstetter, H., Peters, L. W. H., Meijer, S., Schutte, L., & Van Empelen, P. (2015). *Effectiveness of the Long Live Love 4 program for 13-and 14-year-old secondary school students in the Netherlands: a quasiexperimental design.*

Wartella, E., Rideout, V., Montague, H., Beaudoin-Ryan, L., & Lauricella, A. (2016). Teens, Health and Technology: A National Survey. *Media and Communication*, *4*(3), 13–23. https://doi.org/10.17645/mac.v4i3.515

Whitfield, C., Jomeen, J., Hayter, M., & Gardiner, E. (2013). Sexual health information seeking: a survey of adolescent practices. *Journal of Clinical Nursing*, *22*(23–24), 3259–3269. https://doi.org/10.1111/jocn.12192

WHO. (2006). *Defining sexual health*. https://www.who.int/reproductivehealth/publications/sexual_health/defining_sexual_health.pdf?ua=1

WHO. (2017). *Sexual health and its linkages to reproductive health: an operational approach*.

Widman, L., Choukas-Bradley, S., Helms, S. W., & Prinstein, M. J. (2016). Adolescent Susceptibility to Peer Influence in Sexual Situations. *Journal of Adolescent Health*, *58*(3), 323–329. https://doi.org/10.1016/j.jadohealth.2015.10.253

World Health Organization. (2018). *Guidance on ethical considerations in planning and reviewing research studies on sexual and reproductive health in adolescents*.

Zoon, M. (2012). *Wat werkt bij jeugdigen met een licht verstandelijke beperking?* https://www.nji.nl/nl/Download-NJi/LVB_Wat_werkt.pdf

Annex A – Bronfenbrenners ecological model

Sexual health is not limited to sexual behavior or to the individual, sexual health encompasses much more than that:

"Sexual health is a state of well-being in relation to sexuality across the life span that involves physical, emotional, mental, social, and spiritual dimensions. Sexual health is an intrinsic element of human health and is based on a positive, equitable, and respectful approach to sexuality, relationships, and reproduction, that is free of coercion, fear, discrimination, stigma, shame, and violence. It includes: the ability to understand the benefits, risks, and responsibilities of sexual behavior; the prevention and care of disease and other adverse outcomes; and the possibility of fulfilling sexual relationships. Sexual health is impacted by socioeconomic and cultural contexts—including policies, practices, and services—that support healthy outcomes for individuals, families, and their communities (United States Department of Health and Human Services & Centers for Disease Control and Prevention, 2012)*."*

In consequence, sexual health and safety are not solely influenced by sexual health prevention programs. Much more factors and systems influence an adolescent's sexual health and safety. Bronfenbrenner's ecological model is an example of a comprehensive model that visualizes all the systems influencing an individual (Bronfenbrenner, 1977). For each of these systems, an example is given of a factor that influences adolescents sexual health.

Individual – psychological

Kotchick et al (2001) conducted a literature review. They found that psychological distress, among other topics, relates to adolescent sexual activity. Psychological distress frequently co-occurs with low self-esteem. Higher levels of distress were being associated with greater sexual activity (Kotchick et al., 2001).

Microsystem – influence parents

Deptula et al (2020), found that overall quality of the parent-adolescent relationship is a key variable in adolescent risky sexual behavior. A good quality parent-adolescent relationship was associated with lower levels of unprotected intercourse, intercourse initiation and STD diagnosis. Also, early engagement in risky sexual behavior appeared to be reduced by parent-adolescent relationship quality that appeared to function as a promotive factor (Deptula et al., 2010).

Mesosystem- peer effects

Widman et al. researched adolescent susceptibility to peer influence in sexual situations. They found that adolescents are more likely to engage in risky sexual activity on an internet chatroom when they believed their peers could see their response. Further, they found that boys are more susceptible to peer influence than girls (Widman et al., 2016).

Exosystem –influence sexual mass media

Exposure to sexual media content increases adolescent sexual behavior by increasing their perception of social pressure to have sex (Bleakley et al., 2011).

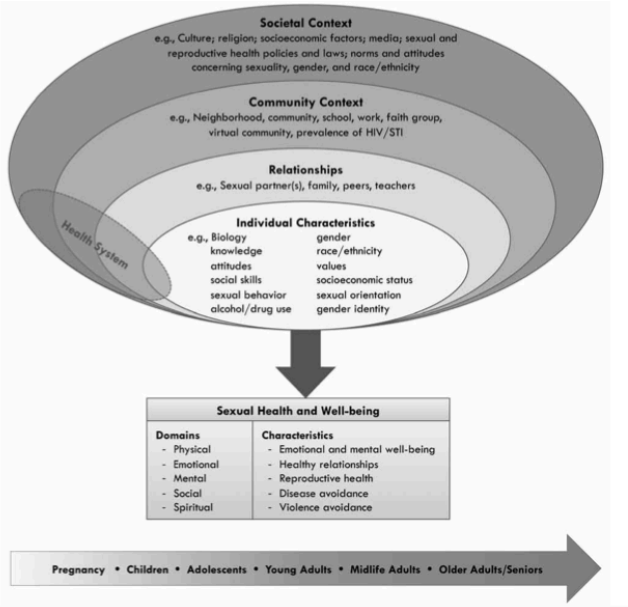
Macrosystem – culture

Hookup culture at college campuses influences sexual behavior. Sexual scripts among young adults are changing (Stinson, 2010).

Another group of researchers investigated the considerations for national public health leadership in advancing sexual health. They concluded with a sexual health framework that can be utilized by public health services (Ivankovich et al., 2013). For this part of the paper, the social-ecological model is included to complement the research above (figure 1). The framework provides an overview of clear examples for each level. It should be noted that this framework is not specific to adolescents.

Figure 1

Determinants of sexual health (Ivankovich et al., 2013)



As has been noted, adolescent's sexual health and behavior are influenced by many factors. Those factors also may have a different influence depending on gender, ethnicity, socio-economic status etc. For this research, the influence of public health services is investigated. Public health services as the GGD are part of both the micro-and exosystem (Bronfenbrenner, 1977). Part of these services is provided at schools. Schools are part of the microsystem. Thus, in total the micro-and exosystem is investigated.

Annex B – Interview guidelines

1. Introductie

- *Wie ben je (welke persoonlijke voornaamwoorden wil je gebruiken)*
- *In welke klas zit je?*
- *Waar ben je opgegroeid?*
- *Waar woon je nu?*
- *Etnische achtergrond?*

1. **Heb je wel eens seksuele voorlichting gehad?**

    - Wat is volgens jou seksuele voorlichting?
    - Wanneer en van wie heb je voorlichting gehad?
    - Wat vond je ervan?
    - Waarover ging dat? *(check: ook over wensen en grenzen, en diversiteit? Of meer het standaard verhaal over seks, soa en anticonceptie)*
    - Wat vond je ervan? Had je er voldoende informatie aan?
    - Zo niet, hoe heb je dat toen opgelost?

2. Zoeken naar informatie

- Zoek je wel eens informatie over seks?
- Kan je me vertellen over de laatste keer dat je op zoek ging naar informatie over seks?

- Als je opzoek bent naar informatie over X (bijvoorbeeld condooms, soa's, seksuele gezondheidzorg, informatie over seks), waar of bij wie zoek je dan deze informatie?
    - Waarom?
    - Waarom daar/bij die persoon?
    - Als het om internet gaat: heb je voorkeur voor informatie via een film of via tekst? Waarom?
    - Welke websites?
- Als je informatie zoekt hoeveel tijd besteed je daar dan ongeveer aan?
- Wat vind je van de informatie die je vindt?
- In hoeverre vind je ook altijd de informatie die je zoekt?
    - Waarom?
    - Wat vind je daarvan?
    - Waarom stop je met zoeken als het niet lukt?
- Vragen naar gebruik internet, docenten, gezondheidscentrum, huisarts, ouders, vrienden ect (antwoorden uit sectie 1)
- Zijn er plekken in je buurt of bij school waar je binnen kunt stappen om informatie te krijgen over seksuele gezondheid?
    - Waarom stap je er wel niet binnen?

3. GGD

- Ben je bekend met de GGD?
- Wat weet je van ze?
- Wist je dat de GGD een Centrum Seksuele Gezondheid heeft (wordt ook wel SOA-poli genoemd) en ook informatie op haar website heeft staan over seks, anticonceptie, soa, etc
- Ben je wel eens bij het CSG geweest? Wel eens info op de website gezocht?
    - Zo ja, Wat vond je van de informatie?
- Ken je de website Sense?
    - Wat weet je van ze?

  - Wat vind je van de informatie?

4. Toepassen van informatie

- Praat je met anderen of over de informatie die je hebt gevonden?
  - Zo ja, wie en waarom (niet)?
- Als je in situatie A zit gebruik je dan informatie uit (een van bovenstaande genoemde bronnen?
  - Waarom wel/waarom niet

5. **Vernieuwing**

- Op welke manier zou jij graag informatie over seksueel gedrag willen ontvangen?
  - Waarom?
  - Liever in een groep of persoonlijk?
- Stel je voor dat de GGD een live chat functie zou hebben, wat zou je daarvan vinden?
- En hoe zouden we deze functie beter onder de aandacht kunnen brengen?
- In hoeverre zou je willen videobellen met iemand aan wie je vragen kunt stellen?
- *Vragen over andere ideeën XYZ*

Heb jij nog vragen, opmerkingen of ideeën?

Annex C – Essay on ethical issues in research

Research topic & questions

This research aims to match public health services with the sexual information of youth, in particular those who are enrolled in lower education. Sexual health is important for the (sexual) health, wellbeing, and development of young people. As plotted in the introduction of this paper, sexual health education and services positively impact the sexual health of young people. In the Netherlands, the GGD is the organization providing public sexual health services. But, given the opinion of youth on existing sexual education and the incidence STI's and use of condoms, it is clear that prevention strategies have to be modified in order to make them more effective. Especially, youth in lower levels of education are barely reached by public health services. To be able to improve those programs, it is necessary to know how youth in lower levels of education obtain sexual health information. This led to the formulation of the following research questions:

I. What are the needs of youth in lower levels of education on the sources and delivery systems of information about sexual health?
II. How do youth in lower levels of education obtain information about sexual health?
III. To what extent do these findings match the implementation of current sexual health promotion programs of the GGD?

Research methods

A qualitative design is chosen for this research. In total, a minimum of 20 individual, open-ended interviews of approximately 45 minutes will be conducted. Recruitment takes place in collaboration with schools and is supported by colleagues at the GGD. At the schools, the information letter will be distributed (online and offline), and the research will be promoted during classes. Students can participate when they are16-18 years old. Before the start of the interview, the procedure is orally explained, informed consent is obtained, and all questions of the participant are answered. Depending on the COVID-19 measures the interview will either take place at school or online. The interviews will be audio-recorded. Notes will be taken by the interviewer on setting and participant's use of non-verbal language. After transcription, the audio file will be deleted. All transcripts are anonymized and stored in an encrypted file. The data will be analyzed using an inductive approach (open coding).

Ethical considerations – study population

Young adults have distinctive (health) needs, experiences and challenges, which makes it pivotal include them in research (World Health Organization, 2018). But they could also be a vulnerable group. Factors that could lead to vulnerability are illiteracy, inability to make decisions, hierarchical relationships and a violent environment (R. Van der Graaf, 2018). Protection against these factors

includes minimizing the risks and taken extra measures to protect voluntary informed consent(Lind et al., 2003; R. Van der Graaf, 2018). At all times it is important to appropriately involve young people by adjusting the information to their comprehension (R. Van der Graaf, 2018). Engagement of young adults in research also has an empowering function. By this, they are included in the process of making further advances for young people themselves and even all of society (Lind et al., 2003).

Important to mention here too is the content of the interview questions. This research does not investigate young adults' own sexual (risk) behavior. Sexual health and sexual (risk) behavior are often seen as (highly) sensitive and/or intimate topics. For that reason, more rules apply to such research that ethical committees' asses before providing ethical clearance. Instead, this research investigates how young adults obtain information about sexual health behavior. Further, participants minimally 16 years of age, which means they can decide for themselves whether they want to participate or not (CCMO, n.d.).

Study participants are enrolled in lower education. As mentioned before information adjusted to their level of comprehension is important. Therefore, communication should be clear and adjusted to their level of understanding. This includes all written information (information letter and informed consent form) and verbal communication (interview questions). This can be resolved by obtaining knowledge of communication skills in relation to this group. Further, by asking the help of a communication specialist of the GGD, written information can be checked beforehand. Lastly, with written and oral communication is emphasized that: 1) participation is voluntarily, 2) it is allowed to skip questions, and 3) withdrawing from the research is possible before, during and after the interview.

In preparation of this research, ethical and legal considerations concerning research with young adults were well thought out. This preparation took place in collaboration with the GGD. Further, it was necessary in order to obtain ethical clearance from the ethical committee at Utrecht University. Risks of participation are minimized, and the quality of information provision is maximized. Both in-line with the needs and capabilities of the target population.

Ethical considerations – research

There are various ethical dimensions in designing a research project. In the previous section is discussed how to protect the study population of this research. Besides that, the researcher has to consider several other topics (Bos, 2020).

Before the start of the research, the topic itself has to be justified and risks and discomforts of the participant taken into account (Bos, 2020). This research does not involve any risks or discomforts for the participants. However, before the start of the interview and during the interview it is stressed that when a participant feels uncomfortable answering a question (or participating) they do not have to answer (or continue with the interview). With regards to the relevance of the topic, research, and practice both clearly state the importance of sexual health and improvement of prevention programs for youth in lower education.

During the data collection part, it is important that the participants are well aware of their rights and that animosity can be granted (Bos, 2020). Especially during this phase, the researcher must stay aware of possible issues. In the case that interviews have to be conducted online, the researcher cannot safeguard the privacy of the participant at their side of the connection. It is important to communicate this to participants and check whether they are in a safe environment. Lastly, scientists must avoid compromising their objectivity during data analysis. One can argue that there is no such thing as a complete value neutrality. Therefore, during data analysis, it is important to stay aware of one's own values and how they may impact one's reasoning.

Lastly, research findings have to be shared in an appropriate way and data storage has to be secure (Bos, 2020). This is an important responsibility of the researcher. Seeing that this research is conducted in collaboration with the GDD, extra attention should be given to data sharing. It should be clear to all people involved which information is limited to the process of analyzing and which information can be used for future use and the organization to improve their sexual health prevention programs. This also applies to the storage of the data. Safety precautions taken for this are separate storage places for consent and transcripts, encrypted files, and anonymized data. Audio recordings will be deleted straight after transcription. Other data is safely stored at the GGD servers. A copy is stored on university serves at least until 10 years after publication.

A researcher has social responsibilities and professional commitments. Recognizing those responsibilities is the beginning of actually exercising those responsibilities. This essay gives demonstrates the awareness of the researcher regarding ethical issues and considerations. These are now put in practice when conducting this research.

Annex D – Study participant information

Universiteit Utrecht

GGD zhz

Matchen van de GGD-services met de jeugd anno 2021

Februari 2021

Algemene informatie

Voor mijn afstudeeronderzoek bij de GGD doe ik onderzoek naar hoe jongeren kunnen worden bereikt met informatie over seksuele gezondheid. Ik wil weten hoe en waar jongeren informatie zoeken over seksuele gezondheid en wat zij vervolgens doen met die informatie. Daarnaast wil ik ook onderzoeken hoe jongeren zelf denken goed bereikt te kunnen worden met informatie over seksuele gezondheid. Het doel is om het aanbod van de GGD met betrekking tot informatie over seksuele gezondheid voor jongeren te verbeteren en beter te laten aansluiten bij de jeugd. De resultaten van het onderzoek verwerk ik in een verslag. Ook presenteer ik dit aan mijn collega's bij de GGD.

Meedoen?

Ben jij tussen de 16 en 18 jaar en volg jij VMBO, MBO of praktijkonderwijs (of heb je dit gedaan en heb je nu een tussenjaar)? Dan kun jij meedoen aan dit onderzoek. Deelname is compleet vrijwillig. Je mag op elk moment stoppen. Ook zonder reden. En er zijn geen gevolgen voor jou. Meer weten over wat er met jouw gegevens gebeurt? Lees dan de alinea over data & privacy onderaan deze brief.

Wat & wanneer?

Wat gaan we doen? Ik ga je verschillende vragen stellen tijdens het interview. Ik neem het geluid van de gesprekken graag op. Vragen gaan bijvoorbeeld over waar jij je informatie over seksuele gezondheid vandaan haalt, wat je vindt van deze informatie en of je deze informatie gebruikt. Als je een vraag niet wilt beantwoorden is dat geen probleem. Dan gaan we door naar de volgende vraag. Er zijn geen ongemakkelijkheden of risico's verbonden aan het interview. Als de corona-regels nog gelden zullen we het interview online afnemen of op 1,5 meter afstand op locatie. Te allen tijde zullen de richtlijnen van het RIVM met betrekking tot corona worden gevolgd, zodat we op een veilige manier met elkaar kunnen praten. Voor we met het interview beginnen is er tijd voor vragen of opmerkingen. De interviews vinden plaats in maart 2021.

Wie ben ik?

Ik ben Joyce Grul. Dit is mijn afstudeeropdracht voor mijn master jeugdwetenschappen aan de Universiteit van Utrecht. Tijdens deze opleiding leer ik over onderwerpen die belangrijk

zijn voor jongeren. Eén van die onderwerpen is seksuele gezondheid. Voor vragen en/of opmerkingen kun jij mij bereiken op:
T: 06-11120334 E: j.grul@ggdzhz.nl

Data & privacy
Je persoonlijke informatie wordt gebruikt en opgeslagen op een beveiligde server. Dit gaat over de volgende data: de toestemmingsverklaring en de geanonimiseerde geschreven tekst van het interview. De toestemmingsverklaring is een formulier waarmee jij toestemming geeft om mee te doen aan het onderzoek. Deze zal ik je van tevoren opsturen of laten zien voor het interview. Als je het met alles eens bent zet je je handtekening eronder. Daarna krijg jij ook een kopie het formulier. Als dat allemaal geregeld kunnen we beginnen aan het interview. Tijdens het interview neem ik het geluid op. Op een later moment schrijf ik op wat er is gezegd. In deze tekst verwijder ik alle namen. De tekst wordt beveiligd opgeslagen. Daarna wordt de geluidsopname van het interview verwijderd. De geschreven tekst is anoniem. Dit betekent dat de data niet kan worden teruggeleid naar jou als persoon. Verder wordt de data van het interview apart opgeslagen van de data van de toestemmingsverklaring. De geschreven tekst van het interview kan worden gebruikt voor vervolgonderzoek van de GGD. De data wordt bewaard voor een periode van minimaal 10 jaar voor vervolgonderzoek. Voor verdere vragen over de dataopslag kan je contact opnemen met Joyce Grul (zie bovenstaand telefoonnummer).

Dit onderzoek wordt begeleid door Erika Kuilder programma manager jeugdzorg GGD Zuid-Holland Zuid.
T: 06-1041 7485 E: e.kuilder@ggdzhz.nl

Heb je meer vragen over het onderwerp? Kijk dan op:
https://www.dienstgezondheidjeugd.nl/publiek-thema/seksualiteit of https://sense.info/nl/.
Of bel het centrum seksuele gezondheid via 078-7708506. Zij zijn dagelijks bereikbaar tussen 10 en 12 uur.

Indien je een klacht hebt kan je mailen naar: klachtenfunctionaris-fetcsocwet@uu.nl. En voor verdere informatie over gegevensbescherming kan je terecht op de volgende website: https://www.uu.nl/en/organisation/data-protection-officer.

Aanmelden?
Wil je meedoen aan het onderzoek? Meld je aan bij je docent of jongerenwerker of stuur een mail naar j.grul@ggdzhz.nl of een appje naar 06-11120334. Heb je nog vragen, neem dan ook contact op.
Hopelijk tot snel!

Annex E – Informed consent form

Toestemmingsverklaring
voor deelname aan wetenschappelijk onderzoek:
Matchen van de GGD-services met de jeugd anno 2021

S Ik ben geïnformeerd over het onderzoek. Ik heb de schriftelijke informatie gelezen. Ik heb de mogelijkheid gekregen om vragen te stellen over het onderzoek. Ik heb gelegenheid gekregen om over mijn deelname aan het onderzoek na te denken en die is geheel vrijwillig. Ik heb het recht om te allen tijde de toestemming die ik verleen weer in te trekken en mijn deelname aan het onderzoek stop te zetten zonder opgaaf van redenen.

S Ik ben ervan op de hoogte en stem ermee in dat de persoonsgegevens met betrekking tot leeftijd en geslacht die in de schriftelijke informatie staan vermeld, voor het onderzoek mogen worden gebruikt.

S Ik ben ervan op de hoogte en stem ermee in dat de volledig anoniem gemaakte onderzoeksgegevens die op mij betrekking hebben voor verder wetenschappelijk onderzoek gebruikt kunnen worden zowel in Nederland als daarbuiten.

S Ik geef toestemming om de audio van het interview op te nemen.

S Ik stem ermee in om aan het onderzoek deel te nemen:

Voornaam:

Achternaam:

Geboortedatum:

Geslacht:

Plaats:

Handtekening: Datum:

De ondergetekende, verantwoordelijk onderzoeker, verklaart bij dezen dat de hierboven genoemde persoon mondeling en schriftelijk is geïnformeerd over het hierboven genoemde onderzoek.

Naam:
Functie:
Handtekening: