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# **Sexting, pressured sexting and image-based sexual abuse among a weighted-sample of heterosexual and LGB-youth**

## **Abstract**

Research on the sexting experiences of Lesbian, Gay and Bisexual (LGB) youth is limited. Prior work often does not measure problematic forms of sexting, such as the unauthorized forwarding of sexting images. Furthermore, previous studies did typically not include contextual variables that could provide a better understanding of the behaviors. This study aims to address these critical gaps in the literature by including a wide variety of measures on sexting, including problematic forms of sexting. The study reports on the results of a weighted sample of 1306 LGB and heterosexual respondents ( $n = 647$  boys; 49.5% boys;  $n = 659$  girls; 50.5%) with an average age of 15 years old ( $M = 14.97$ ;  $SD = 1.97$ ) who completed a module on sexting as part of a larger survey on their media use. We compared the engagement in sexting between LGB and heterosexual respondents. The results show that LGB adolescents were more likely to have ever created, sent or received a sexting image than heterosexual adolescents. LGB participants were also more likely to have ever experienced pressure from someone else to send a sexting message. Girls had also more often experienced pressure to engage in sexting than boys. There were no significant differences for gender or sexual orientation for the forwarding or seeing forwarded sexting images. This study highlights that adolescent girls and LGB adolescents are at a higher risk to experience online sexual pressure. Sexting education should include components that discuss bystander behavior and how to cope with sexting pressure.

**Keywords:** Sexting, adolescents, sextortion, LGB youth, sexual minority youth

## **1. Introduction**

Digital media provide teenagers with unprecedented opportunities to experiment with their romantic relationships and their sexuality. Sexting is a novel way in which adolescents can use digital media for sexual communication and to express intimacy (Roberts & Ravn, 2020). Sexting has been defined in various ways, ranging from very broad conceptualizations that include all forms of written and visual content to more narrow definitions that only include a specific type of sexting content (Barrense-Dias, Berchtold, Surís, & Akre, 2017). In this study, we define sexting as the sending of self-made sexually explicit images through the Internet or the mobile phone. As will be shown in our literature review, sexting may fulfil a role within adolescents' sexual and relational development (Temple, Strasburger, Zimmerman, & Madigan, 2019). However, sexting can be problematic when teenagers are put under pressure to produce sexually explicit images of themselves, when the images are forwarded without consent of the creator, or when sexts are used to coerce the victims (Walrave, Van Ouytsel, Ponnet, & Temple, 2018).

As Englander (2019) noted, the first wave of sexting research has predominantly focused on investigating the reasons for why adolescents send and receive self-made sexually explicit images. A recent large scale meta-analysis by Madigan, Ly, Rash, Van Ouytsel, and Temple (2018) showed that 14.0% of youth between 12 and 18 years old worldwide sent a sext, with 27.4% of youth indicating that they have received a sext. Despite what is often portrayed in media reports about sexting (Korkmazer, De Ridder, & Van Bauwel, 2020), there are no significant gender differences for the sending and receiving of sexting messages (Madigan et al., 2018). Boys are more likely than girls to engage in sexting at an earlier age. By the end of adolescence these gender differences have disappeared (Choi, Mori, Van Ouytsel, Madigan, & Temple, 2019).

Adolescents become more likely to engage in sexting as they get older (Choi et al., 2019), and especially around the age of 15 years old (Van Ouytsel, Walrave, De Marez, et al., 2020). Furthermore, the prevalence of sexting has increased over the past decade. The previously mentioned meta-analysis found that sexting had increased with 2.6% between 2009 and 2016 (Madigan et al., 2018). One of the potential explanations for the rise in sexting prevalence over time is the growth in smartphone ownership and the increased popularity of smartphone applications such as Snapchat, that may make it easier for adolescents to create and exchange sexts (Van Ouytsel, Madigan, Ponnet, Walrave, & Temple, 2019). Adolescents also perceive smartphones as a more private medium, as they do not have to share the devices with others (Wolfe, Marcum, Higgins, & Ricketts, 2016). Interestingly, one cohort study found that sexting had increased between 2015 and 2017, even when controlling for smartphone ownership (Van Ouytsel, Walrave, De Marez, et al., 2020). The authors of the cohort study suggested that smartphone ownership may therefore not be the only explanation for an increase in sexting prevalence. Evolving social norms towards sexting may provide an additional explanation for the rise in sexting prevalence, as sexting may become increasingly acceptable among adolescents. These societal shifts may explain higher engagement, or at least higher self-reporting of sexting behaviors (Van Ouytsel, Walrave, De Marez, et al., 2020).

Multiple studies have focused on the psychosocial characteristics of youth who send sexting images. With regard to personality characteristics, impulsivity and sensation seeking have been associated with sexting (Temple et al., 2014; Van Ouytsel, Van Gool, Ponnet, & Walrave, 2014). In a clinical population that participated in a sexual risk prevention trial, at-risk youth who engage in sexting have been found to exhibit more emotional regulation problems than those who do not engage in sexting (Houck et al., 2014). **A recent cross-cultural study among adolescents and young adults in 10 different countries examined the relationships between sexting and the Hexaco-personality traits (Morelli et al., 2020). The study found that**

honesty-humility and conscientiousness were negatively related to engagement in a variety of sexting behaviors, whereas emotionality and extraversion were positively related with engagement in sexting (Morelli et al., 2020). Emotionality and extraversion were positively related to engagement in risky forms of sexting and the authors found a negative relationship between openness to experience and the nonconsensual sharing of sexting images and sexting under pressure (Morelli et al., 2020). Studies that have looked into the associations between sexting and depression have found mixed results, with some studies finding a relationship while others were unable to find an association (Kim, Martin-Storey, Drossos, Barbosa, & Georgiades, 2020; Temple et al., 2014; Temple & Lu, 2018).

A sizeable body of literature has focused on the relationships between the sending of sexting images and offline forms of risk(y) behavior. Multiple studies have found that youth who engage in sexting, are more likely to have experimented with substances, such as alcohol, cigarettes and marijuana, most likely owing to common shared risk factors (Dake, Price, Maziarz, & Ward, 2012; Temple et al., 2014; Van Ouytsel, Walrave, Lu, Temple, & Ponnet, 2018). One study found that relationships with other risk factors may depend on the context in which the messages are shared. Youth who engage in sexting outside of the context of a romantic relationship, which is arguably as a more risky form of sexting, may also have a higher chance of being involved in other types of risky behaviors than youth who engage in sexting within the context of an established romantic relationship (Van Ouytsel, Walrave, Lu, et al., 2018).

## **2. Review of the previous literature**

A majority of teenagers engages in sexting within the context of a romantic relationship (Van Ouytsel, Ponnet, Walrave, & d'Haenens, 2017). A sexting image can be used to flirt, as a token of love and trust, or to sustain intimacy when romantic partners are separated from each

other during school vacations (Roberts & Ravn, 2020; Walker, Sancu, & Temple-Smith, 2013). Sexting between romantic partners may also occur under pressure. This pressure frequently remains unspoken. Girls may feel that they have to engage in sexting out of fear that they would otherwise lose their relationship, or that they would not be able to get into a romantic relationship with the person they are in love with (Lippman & Campbell, 2014; Van Ouytsel, Van Gool, et al., 2017).

For many adolescents, sexting can also function as a first step towards experimenting with real-life sexual contact. Youth who engage in sexting are more likely to be sexually active than their peers who do not send sexting images (Dake et al., 2012; Mori, Temple, Browne, & Madigan, 2019; Rice et al., 2018; Van Ouytsel, Walrave, Lu, et al., 2018). Cross-sectional studies further found associations between sexting and offline sexual risk behaviors, such as having unprotected sex (Mori et al., 2019). However, a longitudinal study on this topic was not able to observe long-term trends between engagement in sexting and sexual risk behavior (Temple & Choi, 2014). The authors did find a longitudinal association between engagement in sexting and later sexual contact (Temple & Choi, 2014). The latter finding may indicate that for some youth, sexting can function as a first step towards having offline sexual contact, or it may signal their willingness to their romantic partner to do so (Roberts & Ravn, 2020).

Perceived social norms about sex and sexting can also affect engagement in adolescent sexting. Studies have repeatedly found that when adolescents believe that their friends hold positive attitudes towards sexting, they are more likely to engage in sexting themselves (Baumgartner, Valkenburg, & Peter, 2011; Van Ouytsel, Ponnet, et al., 2017; Walrave, Heirman, & Hallam, 2014; Walrave et al., 2015). Adolescents who exhibit a higher need for popularity, have also a higher chance to engage in sexting than those who do not (Vanden Abeele, Campbell, Eggermont, & Roe, 2014). Youth who perceive that their friends are involved in sexting, are more likely to believe that they will later engage in sexting themselves

(Symons, Ponnet, Walrave, & Heirman, 2018). Likewise, youth who have friends that are sexually active are also more likely to engage in sexting (Lucić, Baćak, & Štulhofer, 2020).

A recent study indicated that in some extreme cases, adolescents may also engage in transactional sexting, defined as sexting ‘in exchange for something else’, such as drinks, money, or movie tickets (Van Ouytsel, Walrave, & Ponnet, 2020). The researchers found that 0.9% of youth between the ages of 14 to 21 years old in their sample had send a sexting image in “exchange for something else”, and 1.5% had engaged in sexual explicit acts in front of the webcam. Youth who were male, identified as a sexual minority, had retaken a year, or had been sexually active, were more likely to indicate that they had engaged in transactional sexting than their peers (Van Ouytsel, Walrave, & Ponnet, 2020).

### *2.1 Forwarding of sexting images and sextortion*

A problematic aspect of sexting is when sexts are forwarded or published without permission of the creator. The images can also be posted on online messaging boards, or they can be shown on the screen of the mobile phone. This phenomenon is also called nonconsensual sexting, revenge porn, or image-based sexual abuse (Van Ouytsel, Punyanunt-Carter, Walrave, & Ponnet, 2020). The nonconsensual forwarding of sexting images may lead to bullying and reputational loss for the victims (Ringrose, Harvey, Gill, & Livingstone, 2013). Empirical studies have repeatedly found associations between sexting, bullying and cyberbullying victimization (Ojeda, Del Rey, & Hunter, 2019; Van Ouytsel, Lu, Ponnet, Walrave, & Temple, 2019). Moreover, according to a recent qualitative study, bystanders rarely intervene or defend the victims against the image-based sexual abuse (Harder, 2020).

Prior work has found that nonconsensual sexting can also be related to offline and online forms of dating violence. For example, adolescents and young adults who engage in the

nonconsensual forwarding of sexting images are more likely to perpetrate dating violence (Morelli, Bianchi, Baiocco, Pezzuti, & Chirumbolo, 2016). Furthermore, a study by Bianchi, Morelli, Nappa, Baiocco, and Chirumbolo (2018) found that adolescents who engage in sexting out of negative reasons (e.g., to put others under pressure or damage someone's reputation) are more likely to be victims or perpetrators of dating violence. Engagement in sexting has also been significantly associated with a higher risk to become a victim of cyber dating abuse (Van Ouytsel, Ponnet, & Walrave, 2018).

Youth who are victimized by nonconsensual forwarding or exposure of their sexting images often experience shame, or no longer want to go to school (Bindesbøl Holm Johansen, Pedersen, & Tjørnhøj-Thomsen, 2019). According to the earlier mentioned meta-analysis, around 12% of youth have forwarded a sexting image without consent (Madigan et al., 2018). Both boys and girls can experience negative consequences when their sext gets distributed. Girls often fall victim to 'slut shaming' (Bindesbøl Holm Johansen et al., 2019). The exposure of sexually explicit images can have a long-term impact on the victims. They often have to live with the fear that their pictures will resurface at a later time, even months or years later (Bindesbøl Holm Johansen et al., 2019). Some youth take protective measures to minimize the risks associated with sexting. For example, one qualitative study, found that some youth crop their head out of their sexting pictures, so that they can less easily be identified (Harder, 2020).

One of the most frequently mentioned motives for a nonconsensual sexting image to be forwarded, is that the sexts are distributed out of revenge after a romantic relationship ends (i.e., revenge porn) (Franks, 2019). Among other motivations to engage in the unauthorized sharing of sexting images are mocking someone, trying to belong to a group, to gossip, or to be part of the conversation (Bindesbøl Holm Johansen et al., 2019). For boys specifically, sharing and collecting sexting images can function as virtual 'trophies' that can prove their masculinity or



sexual maturity, or that play a role in male bonding (Bindesbøl Holm Johansen et al., 2019; De Ridder, 2019; Harder, 2020; Ringrose & Harvey, 2015).

In extreme cases, some youth who send a sexting image, can become the victim of coercion, a phenomenon that is also known as 'sextortion'. Sextortion can have many forms. For example, some perpetrators may threaten to further distribute the images of the victims if they do not send new sexts. Other perpetrators ask for offline sexual contact, demand that the victims stays in a romantic relationship, or try to coerce the victim in other ways (e.g., by demanding money, or by encouraging to engage in self-harm) (Wolak, Finkelhor, Walsh, & Treitman, 2018). Retrospective studies found that sextortion victims mostly knew the perpetrators (Patchin & Hinduja, 2020; Wolak et al., 2018). In a majority of cases, perpetrators of sextortion were ex-romantic partners. Perpetrators can also be acquaintances of the victims, someone who the victims only know from the online world, or someone from work or school. In around a quarter to half of the cases, the victims did not report the incident to their parents, friends, acquaintances, or the police (Patchin & Hinduja, 2020; Wolak et al., 2018). These youth were too ashamed to report, or they were afraid that they would get in trouble if they would share their story with law enforcement (Wolak et al., 2018).

## *2.2.Sexting among sexual minority youth*

Youth who are Lesbian, Gay, and Bisexual (LGB) have been found to be more often use the Internet for sexual conversations than heterosexual youth (Ybarra & Mitchell, 2016). In line with this finding, there is also emerging evidence that youth who are non-heterosexual, are more likely to send or receive sexting images (Gámez-Guadix, de Santisteban, & Resett, 2017; Kim et al., 2020; Ojeda, Del-Rey, Walrave, & Vandebosch, 2020; Rice et al., 2012; Van Ouytsel, Walrave, & Ponnet, 2019).

Only few of studies examined sexting among sexual minority youth with more extensive measures than the sending and receiving of sexts (Patchin & Hinduja, 2020; Ojeda, Del-Rey, Walrave, & Vandebosch, 2020, Van Ouytsel, Walrave, & Ponnet, 2019). These studies have found that sexual minority adolescents who engage in sexting appear to be more likely to also become victim of problematic forms of sexting. Sexual minority early adolescents have been found to be more likely to experience pressure to engage in sexting (Van Ouytsel, Walrave, & Ponnet, 2019). Sexual minority adolescents were more likely to experience transactional sexting, such as sexting in exchange for something else, than heterosexual adolescents (Van Ouytsel et al., 2020). They were also more likely to have experienced sextortion than heterosexual youth (Patchin & Hinduja, 2020). Despite their higher vulnerability to sexting-related risks, sexual minority adolescents were not found to be more likely to be the perpetrator of problematic forms of sexting, such as receiving forwarded sexting images, forwarding sexts from others (Van Ouytsel et al., 2019; Ojeda, Del-Rey, Walrave, & Vandebosch, 2020), or sextortion (Patchin & Hinduja, 2020).

The scant research that is available on sexting among sexual minority youth highlights the vulnerable position that sexual minority youth find themselves in online spaces (Van Ouytsel et al., 2019). Oftentimes, sexual minority youth have to rely on the Internet to learn about their sexuality and to get into touch with their peers. This may place them at an increased risk for problematic forms of sexting and image-based sexual abuse (Ybarra & Mitchell, 2016). Despite the apparent disparities between heterosexual and sexual minority youth with regard to sexting and online risk behavior, more research is needed to investigate the prevalence and context of various sexting behaviors, including problematic forms of sexting, among sexual minority youth of all ages.

While only few studies have focused on the experiences of adolescents, there is more empirical evidence available on the experiences of sexual minority adults. It was found that

engagement in sexting is common among users of gay dating applications (Albury & Byron, 2014). Several quantitative studies have found that sexual minority adults are more likely to send sexting images than heterosexual adults (Bauermeister, Yeagley, Meanley, & Pingel, 2014; Gámez-Guadix, Almendros, Borrajo, & Calvete, 2015; Garcia et al., 2016; Morelli, Bianchi, Baiocco, Pezzuti, & Chirumbolo, 2016; Valiukas et al., 2019). Among sexual minority men who were users of dating applications, researchers found that those who engaged in sexting were more likely to sleep fewer hours on average than those who did not engage in sexting (Al-Ajlouni, Park, Schrimshaw, Goedel, & Duncan, 2019). Men who have sex with men and engage in sexting, are also more likely to be sexually active than those who do not exchange sexting messages (Bauermeister et al., 2014). Moreover, another study found a positive association between sexting and hook-up behaviors among men who have sex with men (Currin & Hubach, 2017). Alarming, sexual minority adults were more likely to experience forms of online sexual victimization than heterosexual adults (e.g., receiving pressure to send sexual messages or being coerced to engage in sexual webcam conversations) (Gámez-Guadix et al., 2015).

Sexual minority adults may have different motivations to engage in sexting compared to heterosexual adults. A study that included both adolescents and young adults (the average age of the sample was 21 years old), found that sexual minority participants were more likely to engage in sexting for sexual purposes and body image reinforcement than their heterosexual counterparts (Bianchi, Morelli, Baiocco, & Chirumbolo, 2019). Similar results were associations were observed by Currin and Hubach (2019) who also found in a sample of adult participants, that gay men were more likely to sext for the purpose of body reinforcement compared to heterosexual men. A potential explanation that the authors offered for this finding could be that adult gay men may experience pressure by the commercial beauty ideals than are portrayed in gay culture (Currin & Hubach, 2019).

### *2.3. The present study*

Our study aims to address the aforementioned gaps in the literature on sexting by providing exploratory findings on sexting among heterosexual and LGB youth, among a weighted sample of middle school and high school youth in Belgium. The current study contributes to our understanding of sexting in two important ways.

First, most research has focused on examining the prevalence and context of the sending and receiving of sexting images. Far fewer studies have focused on the prevalence and contextual factors of problematic forms of sexting, such as the nonconsensual forwarding of sexting images or pressured sexting. Several scholars have called for a better understanding of the broader context surrounding sexting (Englander, 2019; Mori et al., 2019). This study aims to address these critical gaps in our understanding by investigating sexting behaviors in more detail, and by including several contextual measures on these understudied topics.

Second, our study aims to provide much needed contextual information on sexting among sexual minority youth. As described in our literature review, studies on the sexting experiences of sexual minority youth were either limited in the sample that was studied or they were limited in the forms of sexting that were assessed (Van Ouytsel et al., 2019). Our study aims to investigate different sexting behaviors, including measures about problematic forms of sexting, among Lesbian, Gay and Bisexual (LGB) middle and high school youth, using a weighted-sample of adolescents. By doing so, our study is one of the first to extensively study sexting among a large group of LGB adolescents, using a variety of measures. Our exploratory study may provide valuable guidance for future theory-based work on these issues and for the development of inclusive educational efforts that promote safer sexting for all adolescents.

### 3. Methods

#### *3.1. Sample and procedures*

This study is part of a larger research project on adolescents' media use and media consumption. In the Fall of 2019, researchers conducted an electronic questionnaire in 20 different middle schools and high schools that are located over all Dutch-speaking provinces of Belgium. The survey was in Dutch and was filled out by 4382 respondents. After a quality check, 130 cases were removed because they had not filled out the questionnaire appropriately. The final dataset comprised of 4252 respondents. The questionnaire consisted of two parts. The first part was completed by all respondents and measured general information about their demographics and their general media use and consumption. After completing this initial section, the respondents were randomly assigned to one of several subthemes. These included, amongst others, digital activism, news consumption, and a section on cyberbullying and sexting. We opted for this strategy in order to avoid a too lengthy questionnaire and the associated survey taking fatigue. The subtheme on sexting was completed by 1306 respondents ( $n = 647$  boys; 49.5% boys;  $n = 659$  girls; 50.5%) with an average age of 15 years old ( $M = 14.97$ ;  $SD = 1.97$ ).

The data were weighted for gender, grade and track of the Flemish academic school system in line with statistics provided by the Department of Education of the Dutch-speaking community in Belgium. The surveys were collected in cooperation with two national organizations that focus on media literacy education. The respondents received the contact information of these organizations in case that they felt the need to talk about any of the topics that were presented in the survey, or in case that they had questions about the study.

#### *Measures*

The study inquired about a broad range of sexting behaviors. Given that none of the sexting items occurred on average often, the four response options were dichotomized into: 1 = *has never experienced this form of sexting* and 2 = *has experienced this form of sexting*. Using dichotomous sexting measures is common in sexting research among adolescent samples, given the on average low frequency of the behavior (e.g., Temple et al., 2014; Van Ouytsel, Walrave, & Ponnet, 2020; Ybarra & Mitchell, 2014).

When the participants indicated that they had engaged in a type of sexting, we asked additional questions about the context in which sexting occurred. Respondents were able to select one of several response options. They also had the option to provide a write-in response, if none of the closed categories applied. These write-in responses were analyzed and coded by the researchers. The open-ended responses were either assigned to existing response options or new response categories were formed. When a write-in response occurred only once, it was coded under the category “other”. In the following section, we will describe the various sexting measures in more detail.

### *Creating and sending sexting images*

We first asked questions about creating and sending sexting images. The participants were asked whether they had made a sexually explicit picture of themselves in the two months prior to the study. Subsequently, they were asked if they had sent a sexually explicit picture of themselves to someone else.

In order to assess how youth are depicted in the sexting images they create, the respondents who had send a sexting image were asked: “how are you usually depicted in sexually explicit images that you sent of yourself?” The response options were: ‘fully naked’, ‘in underwear of swimwear’, or ‘naked upper body’. Subsequently they were asked whether

they were 'recognizable' or 'not recognizable' (e.g., a blurry picture, a picture without their face) in their sexts.

We further asked to whom the respondents had sent a sexting image, the last time that they had engaged in sexting. The response options were: 'boyfriend/girlfriend', 'someone you are in love with', 'a friend', 'someone you do not know that well', 'someone you know from a dating app (e.g., Tinder)', 'someone you know from the Internet (e.g., social media, online game) but have not yet met in real life'.

### *Sexting under pressure*

Sexting under pressure was measured by asking respondents: 'how often did someone insist or pressure you to send a sexually explicit picture of yourself to that person'. The participants who indicated that this had ever happened to them, were asked who this person was. The response options were: 'boyfriend/girlfriend', 'someone you are in love with', 'a friend', 'someone you do not know that well', 'someone you know from a dating app (e.g., Tinder)', 'someone you know from the Internet (e.g., social media, online game) but have not yet met in real life', 'someone else, please specify...'. The latter option allowed our participants to write in their own responses.

### *Non-consensual sexting*

First, participants were asked whether they ever 'saw a sexually explicit image of someone else or had received a forwarded image without this person's knowledge'. We also asked from which context the respondents knew this person: 'school', 'youth group', 'hobby', or 'another context'. We also asked how participants had reacted when they had received a forwarded sexually explicit image. The response options were: 'I did nothing', 'I contacted the person in the picture', 'I showed the picture to others or I forwarded it', 'I have told the school

counselor/teachers in school’, ‘I told my parents’, ‘I told the person who forwarded it that he/she had to stop’, ‘I did something else, namely...’. The last response option provided students with the opportunity to provide their own response.

We also asked youth about the perceived motive of the perpetrator to send an image: ‘as a joke’, ‘to boast’, ‘out of revenge’, ‘to gossip’, and ‘other, namely...’. In addition to the receiving of non-consensual sexting images, respondents were also asked if they had ever forwarded an image to others without this person knowing about it.

### *Demographic variables*

The following demographic variables were measured: gender (male/female), age, living situation (recoded into *living with both parents* = 0 and *living in a different situation* = 1), and sexual orientation. *Sexual orientation* was measured through a single-item that measured sexual attraction and was based on prior research. Respondents were asked to select a statement that applied most to them, 1) I am exclusively attracted to people of the opposite gender ( $n = 1012$ ; 77.6%), 2) I am mostly attracted to people of the opposite gender ( $n = 136$ ; 10.5%), 3) I am equally attracted to both boys and girls ( $n = 34$ ; 2.6%), 4) I am mostly attracted to people of the **same biological sex** ( $n = 15$ ; 1.1%), 5) I am exclusively attracted to people of the **opposite biological sex** ( $n = 16$ ; 1.2%), 6) I am unsure ( $n = 30$ ; 2.3%), 7) I prefer not to say ( $n = 61$ ; 4.7%). The researchers decided to measure sexual attraction in this way in order to make the measure easily understandable for both younger and older adolescents, especially for those who may experience attraction but do not have experience with sexual behaviors or romantic relationships (McClintock & Herdt, 1996). Youth who indicated that they were ‘exclusively’ or ‘mostly’ attracted to people of the opposite gender, were coded as ‘exclusive and predominantly heterosexual youth’, which we will refer to them as ‘heterosexual youth’ ( $n = 1149$ ; 88.1%). Youth who indicated that they were attracted to people of the same sex, or



equally attracted to both sexes were coded as ‘LGB youth’ ( $n = 65$ ; 5.0%). Youth who were ‘unsure’ or ‘preferred not to disclose’ their sexual orientation ( $n = 90$ ; 6.9%) were excluded from our analyses and their data are not reported in this study. This is in line with prior research on LGB youth, as it is difficult to accurately evaluate and code the responses of this subgroup (Reuter, Sharp, & Temple, 2015).

### *Data analysis*

The weighted data were analyzed using SPSS v. 26.0 (IBM Corp, Armonk, NY). We performed a multiple logistic regression analysis for each of the main sexting behaviors that were included in our study. These are reported in Table 2. We ran separate logistic regression analyses for each of the sexting behaviors. The contextual variables were asked to those respondents who indicated that they were involved in a specific behavior. Given the limited sample size of these specific subgroups, we were not able to perform additional logistic regression analyses with the subgroups. Therefore, we used chi-square tests to examine significant differences between heterosexual youth and LGB youth, where appropriate. For follow-up questions that include multiple descriptive categories, we report the descriptive statistics and frequencies of each of the categories.

## **Results**

[PLEASE INSERT TABLES 1 AND 2 ABOUT HERE]

### *Creating and sending sexually explicit images*

As is shown in Table 1, 11.8% of heterosexual youth had made a sexually explicit image of themselves, and 26.6% of LGB youth in the two months prior to our study. As reported in Table 2, LGB adolescents were more likely to take sexual images of themselves than their

heterosexual peers (Odds Ratio [OR]: 2.39; 95% confidence interval [CI]: 1.30–4.37). Girls (OR: 1.52; 95% CI: 1.07–2.17) and older adolescents (OR: 1.32; 95% CI: 1.20–1.45) were also more significantly likely to have taken a sexual picture (without necessarily sending it to someone else).

We found that 8.7% of heterosexual respondents and 25% of the respondents who are LGB have both taken and send a sexting image in the two months prior to our survey. LGB youth were significantly more likely to send sexting images than their heterosexual peers (OR: 3.30; 95% CI: 1.75–6.21). Youth who were older were significantly more likely to send sexts than younger adolescents (OR: 1.43; 95% CI: 1.28–1.60). There were no significant differences for living situation and gender.

Youth who indicated that they had sent a sexting image, were asked how they were depicted in the images that they had sent to others. As indicated in Table 3, around one in five heterosexual (22.4%) and LGB youth (23.5%) were fully naked, around half of heterosexual (50.0%) and LGB youth (41.2%) were depicted in underwear or swimwear, and the remaining heterosexual (27.6%) and LGB (35.3%) youth were depicted with a naked upper body. Additionally, we asked whether youth who had sent a sexting image in the two months prior to our study were recognizable or unrecognizable in their sexting images. A Fisher's Exact Test showed that LGB youth (93.8%) were more likely than heterosexual youth (66.7%) to be unrecognizable in their sexting images (Fisher's Exact Test (FET)  $p = .04$ ).

As shown in Table 4, we asked adolescents who had engaged in sexting in the two months prior to our survey about the identity of the person that they had send their last sexting message to: 69.3% ( $n = 79$ ) of the LGB and heterosexual youth combined had send a sexting image to their romantic partner or someone that they were in love with (73.2% of heterosexual youth ( $n = 71$ ) and 47.1% of LGB youth ( $n = 8$ )). Sexting seems to occur most often within the context of a romantic relationship. Furthermore, 19.3% ( $n = 22$ ) of the respondents had sent a

sex to a friend, 3.5% ( $n = 4$ ) to someone they did not know well, 0.9% ( $n = 1$ ) with someone they met on a dating application and 6.1% ( $n = 7$ ) with someone they knew from the Internet (e.g., social media, online gaming) but never met in real life.

[PLEASE INSERT TABLES 3 & 4 ABOUT HERE]

### *Receiving sexting images*

Across both LGB and heterosexual respondents, 46.8% of youth had ever received a sexting image, with 45.8% of heterosexual youth reporting that they had received sexting images compared to 65.6% of LGB youth. Older respondents (OR: 1.41; 95% CI: 1.31–1.50), girls (OR: 1.32; 95% CI: 1.03–1.68), youth who did not live with both parents (OR: 1.53; 95% CI: 1.17–2.00), and LGB youth were more likely to receive sexts than their peers (OR: 2.01; 95% CI: 1.19–3.68).

### *Sexting under pressure*

With regard to sexting-related pressure, 19.6% of respondents who identified as heterosexual and 37.5% who are LGB had ever received pressure to engage in sexting. Girls (OR: 4.92; 95% CI: 3.53–6.87), older adolescents (OR: 1.17; 95% CI: 1.09–1.27), youth who were not living with both of their parents (OR: 1.59; 95% CI: 1.16–2.19), and LGB youth (OR: 1.83; 95% CI: 1.04–3.24) were more likely to experience sexting-related pressure.

Youth who ever received pressure, were asked to identify the source of pressure the last time they were harassed. An analysis of the closed and open responses showed that 25.82% ( $n = 65$ ) of the respondents were pressured by someone they did not know well, 23.34% ( $n = 57$ ) of the respondents experienced pressure within the concept of a romantic relationship (ex-partner, current partner, or someone the respondent was in love with), 15.98% ( $n = 39$ ) received

pressure from an online source, and 22.54% ( $n = 55$ ) of respondents were pressured by someone they identify as a “friend”.

[PLEASE INSERT TABLE 5 ABOUT HERE]

#### *Receiving forwarded sexting images and engaging in the forwarding of sexts*

Among both LGB and heterosexual youth combined, 39.5% of the respondents **had ever received a forwarded sext** or had seen a sexting image without that the depicted person knew about it. Stratified by sexual orientation, 39.4% of the heterosexual youth and 40.6% of LGB youth had seen a forwarded sexting image. There was no significant difference between sexual orientations for the forwarding of sexts. Older adolescents were more likely than younger adolescents to have seen a forwarded sext (OR: 1.39; 95% CI: 1.30–1.49). There were also no significant differences with regard to gender or living situation.

Youth who indicated that they received a forwarded sexting image of someone else, were asked if they knew the identity of the person that was depicted on the image. Around 35.3% ( $n = 164$ ) of respondents said that they did not know or recognize the person that was in the picture. Around 64.7% ( $n = 299$ ) of youth knew the person that was depicted on the forwarded image. A majority of the LGB and heterosexual respondents ( $n = 183$ ; 39.5%) knew this person from school, 2.4% ( $n = 11$ ) from a youth organization and 2.4% ( $n = 11$ ) from another hobby, and 20.3% ( $n = 99$ ) knew this victim because of another reason, for example because they were a friend, an acquaintance, or someone that they had met during a party.

The respondents were asked how they reacted when they received or saw a forwarded sexting image. The respondents provided the following reactions: “I did nothing” ( $n = 337$ ; 72.0%), “I contacted the person that was depicted on the picture” ( $n = 23$ ; 4.9%), “I told the person who forwarded the image that they had to stop” ( $n = 35$ ; 6.8%), “I contacted the person

in the image” ( $n = 23$ ; 4.9%), “I told my parents” ( $n = 12$ ; 2.6%), and 5.3% ( $n = 25$ ) other reasons, such as blocking the sender, or deleting the picture.

In Table 6, the respondents provided the perceived motives for why someone had sent them a nonconsensual sexting image. The most frequently perceived reasons was ‘to gossip’ ( $n = 152$ ; 32.7%), ‘as a joke’ ( $n = 164$ ; 25.3%), to ‘boast’ ( $n = 70$ ; 15.0%) and ‘out of revenge’ ( $n = 17$ ; 3.6%). Some respondents ( $n = 67$ ; 14.4%) also provided a variety of other reasons that were less frequent (see Table 6).

Finally, we asked whether adolescents had forwarded a sexting image themselves. Across all respondents, 9.8% of youth had ever forwarded a sext without permission themselves. Stratified by sexual orientation, 9.5% of heterosexual adolescents and 15.6% of LGB adolescents had forwarded a sexting image without permission of the creator. Heterosexual and LGB youth did not significantly differ in their engagement in forwarding sexting images. There was also no significant gender difference. Youth who were older (OR: 1.32; 95% CI: 1.19–1.47) and who did not live with both parents (OR: 1.63; 95% CI: 1.09–2.45) were more significantly more likely to forwarded a sexting image without permission of the person that was depicted.

[PLEASE INSERT TABLE 6 ABOUT HERE]

## Discussion

Although initially some scholars treated sexting as a deviant behavior, most now accept that sexting can be a normal, but risky, part of adolescents’ developmental process (Van Ouytsel, Walrave, & Ponnet, 2018). Despite the growth in sexting research over the past years, many crucial questions about sexting remain unanswered (Englander, 2019; Van Ouytsel, 2020). A lot of research attention has been devoted to studying why youth are *sending* sexting images. Far fewer studies have examined the context of problematic forms of sexting, such as

the forwarding of sexting images or pressuring others to engage in sexting. The lack of scientific evidence on these topics is remarkable as it is crucial for the development of effective educational initiatives and in order to provide guidance for future theory-based work (Van Ouytsel, 2020). Our study contributes to the literature by being among the first to examine the prevalence and context of problematic forms of sexting among a weighted-sample of adolescents. Additionally, our exploratory study also addresses a critical gap in the lack of research on the experiences of sexual minority youth. Our study is among the first to examine several types of sexting, including problematic forms of sexting, among LGB youth. Through this exploratory study, we aim to address multiple gaps in the sexting research and generate deeper insights in youth sexting, including problematic forms of sexting, among both heterosexual and LGB youth, using a weighted-sample of adolescents.

Among the total sample of youth, 9.6% of respondents had created and send a self-made sexually explicit image in the two months prior to our study. When stratified by sexual orientation, we found that 8.7% of heterosexual respondents and 25% of LGB youth had indicated that they had send a sexting image. LGB youth were also more likely than their heterosexual peers to have received a sexting image. This is in line with prior research that found that sexual minority youth are more likely to have conversations about sexual topics and that they are more likely to send and receive sexting images than their heterosexual peers (Rice et al., 2012; Ybarra & Mitchell, 2016). In line with the results from a recent meta-analysis by Madigan et al. (2018), we also found that the prevalence of sending and receiving of sexting images increased with age, and that there were no gender differences for the sending of sexts.

Qualitative studies had already found that youth who engage in sexting often engage in protective measure by cropping their face out of the images (Harder, 2020). However, the extent to which adolescents were engaging in self-protective behaviors was not well documented. In our sample, we found that a majority of teenagers are engaging in a safe(r) form of sexting and

are unrecognizable in their sexting images. Around 70% of our respondents who had sent a sexting image in the two months prior to our study, indicated that they were not recognizable in the images. Around one out of three respondents indicated that they were recognizable in their images. Interestingly, almost all of the LGB youth, indicated that they were generally unrecognizable in their sexting images. This difference could be explained by the fact that the potential social risks and consequences for LGB youth are much higher when a sexting image gets released. Future work could investigate whether or not LGB students are also “out” to their peers. Youth who have not outed themselves may experience increased vulnerability for sextortion and other forms of image-based sexual abuse, as their sexual orientation could be used as a threat or means of coercion against them.

When asked about the identity of the last person that our respondents had sent a sexting image to, seven out of ten of all our respondents indicated that they had sent a sext within the context of a romantic relationship (i.e., to a romantic partner or someone they were in love with). When stratifying by sexual orientation, we found that 73.2% of heterosexual adolescents and about half (47.1%) of adolescents who are LGB had sent sexting images with a (potential) romantic partner. This confirms qualitative research that found that most of the sexting images were shared within romantic relationships, in order to flirt or as a sign of trust or intimacy (Van Ouytsel, Van Gool, Walrave, Ponnet, & Peeters, 2017). These results suggest that merely focusing on “abstinence” within sexting education (e.g., telling them to never engage in sexting under any condition) or focusing on the sexting-related risks (e.g., warning youth that images may leak and that they cannot trust their sexting partners) may be an ineffective strategy for the majority of youth. Most sexting images are shared within a context of trust, and adolescents may not perceive these situations as risky, as they are sending their sexting images to a trusted romantic partner. Rather than focusing on risk, educational efforts may be more effective by

stressing mutual trust and responsibility when engaging in sexting within romantic relationships.

A sizeable minority of our participants (6.1%) had sent a sext to someone that they had never met in real life. When stratified by sexual orientation, we found that four of the heterosexual (4.1%) and three of the LGB adolescents (17.6%) had engaged in sexting with someone they have never met in real life. One LGB respondent had also sent a sexting image to someone they met through an online dating application. Despite the relative small sample size in our study, these results echo prior work that sexual minority youth are using the Internet more for sexual conversations and the sending of sexting images than non-LGB youth (Ybarra & Mitchell, 2016).

The fact that several adolescents send sexts to individuals they only met online may be worrisome when taking into account the sources of sexting pressure that adolescents experience. Around one in five of the adolescents had ever received pressure to send naked image of themselves. When stratified among sexual orientation, we found that around 19.6% of heterosexual youth had experienced pressure, compared to 37.5% of LGB youth. Among youth who reported having received pressure to engage in sexting, around 15% of our respondents indicated that the pressure came from someone they had met in a digital space but never met in the offline world. Among the LGB youth in our sample, around a quarter of LGB youth experienced pressure from someone they only met online and 32% from a ‘complete stranger’ or ‘someone they did not know well’. LGB youth are significantly more likely to experience sexting-related pressure and in around half to the cases these appear to come from people they do not know well or only met online. More research is warranted to examine how and why LGB adolescents are more likely to be affected by sexting-related pressure. Attention should also be paid to the platforms that are used to contact adolescents. More work is needed to further investigate how adolescents establish these online relationships, and to evaluate how



risky these online contacts are. The risks of sexting with online partners may be minimal if adolescents only exchange anonymous images with other youth. However, sending images to someone they have never met in the offline world, may increase the likelihood for sexting-related coercion and sextortion (Wolak et al., 2018). Educational efforts about sexting should be situated within a broader discussion about safer Internet use, online privacy and e-safety (Temple et al., 2019).

In our logistic regression analysis, we found that girls were more likely to have ever experienced pressure to engage in sexting. Around one in five (22%) of our overall participants report that they have been put under pressure by a romantic partner or someone that they were in love with, and another 22% have reported pressure from a ‘friend’. These results extend prior qualitative research that found that adolescents often feel pressured to send sexts out of fear that they would otherwise lose their romantic relationship or that they would not be able to get a relationship with the person they are in love with (Van Ouytsel, Van Gool, et al., 2017). Perceived peer pressure and the need for peer approval have also been found to be strongly associated with adolescents engagement in sexting (Vanden Abeele, et al., 2014). An important area for future research on sexting is to investigate the different sources and techniques that are used to pressure others to send sexting images. There is also a need for evidence-based education that can help adolescents to respond to sexting-related pressure.

The results of our study provide additional contextual information about the nonconsensual forwarding of sexting images. In our sample, around four in ten youth have ever seen a forwarded sexting image or received a forwarded sext without the knowledge of the person that was depicted. Around one in ten had forwarded a sexting image themselves. Surprisingly, there were no gender differences in the forwarding of sexts, meaning that boy and girls in our sample were as likely to forward sexually explicit images. The latter finding nuances the often by the media portrayed assumption that boys are more likely to be involved in the

nonconsensual forwarding of sexting images than girls (Korkmazer et al., 2020). Educational efforts on sexting should not only emphasize the role of boys in the nonconsensual distribution of sexting images, but also need to emphasize the responsibility of girls in keeping sexting images confidential and in stopping the forwarding of sexting images. Our study also did not find any differences in the forwarding of sexting images between youth with different sexual orientations, which contributes to the cumulative evidence that sexual minority youth may be more likely to be at the receiving end of sexting-related abuse without being more involved in problematic forms of sexting (Van Ouytsel et al., 2019; Van Ouytsel, Walrave, & Ponnet, 2020; Ojeda et al., 2020).

Around a quarter of our respondents justified the nonconsensual forwarding of sexting images as a “joke”. This may be similar to how inappropriate remarks and sexual inappropriate behavior are justified as being innocent ‘locker-room talk’ (Leone & Parrott, 2019). Framing the nonconsensual forwarding of sexting images as a “joke” may lead some youth to perceive image-based sexual abuse as less harmful and may reduce the likelihood that bystanders would intervene if they witness sexting abuse (Leone & Parrott, 2019). Sexting education can be framed within a broader conversation about sexual abuse, sexual aggression and gender stereotypical language. The finding that around a third of the respondents perceived “gossiping” as a potential motive to forward a sexting image, is in line with qualitative research that found that adolescents engage in sexting as a way to participate in virtual gossip within school (Bindesbøl Holm Johansen et al., 2019). This is also echoes the findings of Casas, Ojeda, Elipe, & Del Rey (2019) who found that engagement in cybergossip are important factors for the forwarding of sexting images among girls. Future work may explore the social role that sexting can fulfil within gossiping and (cyber)bullying. Surprisingly, the two in prior qualitative research most frequently mentioned motives for sharing sexting images (Lippman & Campbell, 2014; Ringrose, Gill, Livingstone, & Harvey, 2012), “boasting” and “out of revenge” were

perceived by our respondents as less frequent motives to forward sexting images without consent of the creator.

When asked how they had reacted the last time when they had received a sexting image, around seven out of ten participants indicated that they did not intervene when they received or otherwise witnessed a forwarded sexting image. Our statistics confirm the finding of a recent qualitative study from Denmark, that found that bystanders of sexting abuse rarely intervene (Harder, 2020). Seven percent of our respondents even made it worse by further distributing the sexting image. Only 14.5% of the bystanders intervened by reaching out to the victim, telling the perpetrator to stop or by seeking help from an adult. These results underscore the need for the development of strategies to activate bystanders of image-based sexual abuse. Research on cyberbullying has found that activating bystanders is a crucial step in reducing cyberbullying perpetration and can help to reduce harm to victims (DeSmet, Bourdeaudhuij, Walrave, & Vandebosch, 2019). Future work could examine whether this is also the case for image-based sexual abuse. Our study also found that around 2.6% of our respondents report their experience to an adult when they receive a forwarded sexting image. This finding extends research on cyberbullying that found that adolescents are often hesitant to report cyberbullying experiences, out of fear how their parents or other adults would react, especially if adults would threaten to take away their access to digital media (Juvonen & Gross, 2008; Snakenborg, Van Acker, & Gable, 2011). They may perceive similar risks when reporting problematic sexting incidents. The results of our study underscore the importance for schools to encourage to students to report abusive behaviors, and to reduce barriers to report abusive sexting experiences to trusted adults.

*Limitations and suggestions for future research.*

Despite our study's strengths, such as a weighted-sample and a variety of sexting measures, certain limitations should be kept in mind when interpreting the results. First, this study is part of a larger project that investigates teenagers' media use. We could only include a limited set of demographic and contextual variables in the survey. We were also only able to measure sexual orientation with a single measurement. Future research should include more expansive and nuanced measures of sexual orientation. Given the limited space in the survey, we only assessed a limited set of contextual variables. Future work could also include additional contextual measures, such as the age of sexting partners, the mediums through which adolescents send and solicit sexts, and whether or not LGB youth in our study may be 'out' to their friends and family. Whether or not LGB youth are 'out' to their friends and family may affect whether LGB youth are vulnerable for sexting-related coercion. **Future work could also use a theory-driven approach when examining the contextual factors surrounding sexting. For example, applying a social ecological framework could help to understand the complexity of the different types of sexting behaviors, and their correlates on individual, institutional or societal levels (Langille & Rodgers, 2010).** Future studies could also include emotional outcome measures and coping behaviors, so that the psychosocial correlates of various types of sexting can be assessed (e.g., anxiety, stress, worry...). Follow-up studies may want to focus on the potential differences in the emotional outcomes of sexting between heterosexual and LGB adolescents. This was not feasible for this study, given the limited space in the questionnaire.

Second, like many studies on sexting our study used a cross-sectional design (Van Ouytsel, Walrave, & Ponnet, 2018), which does not allow us to make causal predictions. Longitudinal research and cohort research are warranted so that we can establish trends over a longer period of time.

Third, our sexting measures refer to unequal time frames prior to the study. For example, items about the sending of sexting images refer to engagement in sexting in the two months prior to the survey. Measures about all other forms of sexting refer to whether individuals have ‘ever’ engaged in sexting. For these latter measures, there may be recall bias, where individuals may experience difficulties in remembering their involvement in sexting accurately. Additionally, the lifetime prevalence of behaviors is typically higher than the prevalence of a behavior that occurred in the past two months. Future research could use an identical timespan for all sexting variables.

A final limitation of the study is the use of self-reports. Some participants may have provided social desirable responses. Future studies may use more innovative research designs, such as experiments or vignette studies. Qualitative research could provide additional insights into the lived experiences of youth (Van Ouytsel, Walrave, & Ponnet, 2018).

### **Conclusion**

Our survey study is among the first to provides contextual and descriptive information on different forms of sexting among heterosexual and LGB youth. We found that LGB youth are more likely than their heterosexual peers to send and receive sexting images. LGB youth are at a significant higher risk to receive pressure to engage in sexting. Despite their overall higher engagement in sexting, they are not more likely than their peers to engage in the forwarding of sexting images. This study highlights that adolescent girls and LGB adolescents are at a disproportionate risk to experience online sexual pressure. More research into these disparities is urgently needed. Our study is among the first to highlight that LGB youth experience disparities in sexting-related risks and contributes to growing evidence that LGB youth also experience unequal opportunities to explore their sexuality in digital environments. Educational efforts on sexting need to focus on a broader discussion that centers around digital

citizenship, e-safety, bystander behavior, and resilience in dealing with sexting-related pressure.

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