An Intercultural Study on Adolescents' Consensual and Non-Consensual Visual Sexting Practices and Their Body Image and Sexuality

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Abstract

Introduction: Sexting practices are no longer limited to adults, with adolescents increasingly engaging in these behaviors. Since the current literature lacks insights into the socio-demographic determinants as well as the body image and sexuality outcomes of (non-consensual) visual sexting practices, this study aimed to disentangle these links among European adolescents.

Methods: Cross-sectional survey data from 2022 among 1184 Belgian (28.3%), French (33.3%), and Slovenian (38.4%) adolescents (M_{age}= 15.08, SD_{age} = 1.75; 61.4% girls) were used.

Results: The results showed that 35% of adolescents already had some experience with visual sexting and 5.7% had forwarded others' visual sexts (visual NCFS). Visual sexting was more common among adolescents who were older, non-heterosexual, and had relationship history, whereas visual NCFS was more likely among boys and adolescents who had relationship history. In contrast to visual NCFS, visual sexting was related to higher self-sexualization among girls. Lastly, both visual sexting and visual NCFS were associated with a less positive approach to sexual relationships.

Conclusions: The study's findings emphasize the importance of clearly distinguishing visual NCFS from visual sexting and question whether adolescents can engage in visual sexting while fostering a healthy body image and positive sexuality development.

Policy implications: These insights are crucial for developing effective educational programs and policies aimed at fostering healthy sexual development among adolescents.

Keywords*:* Sexting, Adolescents, Body Image, Sexuality

Introduction

Sexting has been called a “hot” topic when discussing the opportunities and challenges that come with growing up in a digital world (Childfocus, 2022). Approximately 40.9% to 47.6% of adolescents have reported to engage in visual sexting behaviors (e.g., sending sexually explicit pictures or videos) in recent research (Maes et al., 2022; Molla-Esparza et al., 2021). Such sexting behaviors include a variety of behaviors, yet they all share a focus on visual sexual messages sent by computer-mediated communication (Klettke et al., 2014). Sexting, and especially visual sexting practices, have led to heated debates about their desirability in a healthy sexual development (Englander, 2019). Some scholars have cautioned that teens may not be developmentally ready to participate in (visual) sexting behaviors in a respectful way and warn for a variety of potential antisocial consequences (Walker & Sleath, 2017). Other scholars have criticized the moral panic associated with (visual) sexting behaviors in teens and point to the positive consequences sexting may have (Graham Holmes et al., 2021).

These debates seem to ultimately stem from an important distinction between different sexting practices in adolescence which has not always been made in prior literature. Accordingly, the research field is characterized by two main research gaps which will be addressed in the current cross-sectional study across three European countries (i.e., Belgium, France, and Slovenia). First, the current study distinguishes visual sexting and the non-consensual forwarding of visual sexts (visual NCFS), as the latter behavior is per definition an antisocial sexual behavior (Barroso et al., 2023) and can be categorized as sexual abuse (Henry & Beard, 2024). Sexting is inherently a sexual practice that, just like other sexual practices, can be considered positive or negative depending on the context in which it occurs (Maes & Vandenbosch, 2022). Moreover, little is known about whether adolescents who engage in visual sexting and visual NCFS differ from each other in terms of key socio-demographic traits. Such information helps to understand whether these sexual behaviors appeal differently depending on certain identity traits. In addition to examining visual sexting and visual NCFS in relation to socio-demographics, this study is particularly innovative in its inclusion of three different European countries (i.e., France, Belgium, and Slovenia), which allows to test whether these sexting practices differ across cultures with varying degrees of conservative sexual attitudes and individualistic orientations.

Second, visual NCFS is a form of image-based sexual abuse as the message is forwarded without the subject's permission, causing them harm (Henry & Beard, 2024). Yet, such forwarding behavior (even when not being discovered by the subject of the message) may also relate to antisocial factors within the forwarders themselves. In particular, body image and sexuality literature suggests components of a dysfunctional body image may positively associate with this behavior, while positive sexuality may negatively relate to the forwarding of sexts (e.g., Graham Holmes et al., 2021; Liong & Cheng, 2019). The probability of such pathways is less clear when focusing on visual sexting, though. To further understand such links, the current study examines the relationships between visual sexting/visual NCFS and adolescents' body image (i.e., appearance satisfaction, self-sexualization, and internalization of appearance ideals) as well as their (positive) sexuality approach.

Visual Sexting Practices among Adolescents

Sexting can be defined in various ways in the academic literature (Barrense-Dias et al., 2017). Some define sexting as the exchange of self-made sexually explicit text messages, images, and videos through electronic means (Klettke et al., 2014). Others, including the current study, then use a more narrow definition, only focusing on the sending of sexually explicit images or videos (Van Ouytsel, 2020). Sexting involving text messages can be classified as the least explicit form, whereas those involving a picture or video in which a sexual action is shown (i.e., visual sexting), can be considered the most explicit type of sexting (Maes & Vandenbosch, 2022). Engagement in these different types can have vastly different consequences, with the worst outcomes (i.e., enduring psychological and social consequences) associated with visual sexts, especially for the forwarding of visual sexts (Pampati et al., 2020). The current study therefore focuses on the senders of two types of sexts: adolescents who engage in visual sexting and adolescents who forward visual sexts of others.

Within current sexting research, two discourses can be noticed: the normalcy and the deviance discourse (Döring, 2014). The normalcy discourse acknowledges smartphones as an integral part of adolescents' daily routines (Vogels et al., 2022), offering adolescents an accessible venue (next to the offline world) to explore their sexuality and initiate/maintain romantic and/or sexual relationships (Walrave et al., 2014). Here, visual sexting is part of adolescents' sexual repertoire and a normal way to sexually express oneself and show intimacy within a relationship (Barroso et al., 2021; Döring, 2014).

Given the importance of sexual exploration and sexual identity development during adolescence (Clark et al., 2019), visual sexting could play an important role in adolescents' lives (Walrave et al., 2014).

The deviance discourse then pays attention to certain risks tied to sexting, such as sexual objectification and sexual violence (Döring, 2014). This discourse also typically links visual sexting to the possibility of the sext being forwarded, or the non-consensual forwarding of visual sexting messages (visual NCFS; Döring, 2014). The latter refers to the act of sharing sexually explicit visual material without consent of the initial sender, and is considered a form of sexual harassment, cyberbullying, and even sexual abuse (Henry & Beard, 2024; Walker & Sleath, 2017). Victimization of such image-based sexual abuse has been tied to many psychosocial harms, including reputational damage (Döring, 2014), anxiety, depression, and in some cases even suicidal thoughts (Pampati et al., 2020; Priebe & Svedin, 2012). Visual NCFS has therefore raised many concerns among policymakers and sexual health scholars (e.g., Madigan et al., 2018).

Both discourses are not mutually exclusive, as visual sexting can simultaneously function as a healthy form of sexual exploration and as a gateway to harmful practices such as visual NCFS (Döring, 2014). To foster a more unified discourse in the field of sexting research, both perspectives are needed.

Socio-Demographic Differences in Visual Sexting and Visual NCFS

The sexual media practice model (MPM) is a framework that acknowledges the importance of identity characteristics in shaping adolescents' lived experiences, as well as their uses of sexual media (Shafer et al., 2013; Steele & Brown, 1995). When applying this framework to the current context of online visual sexting practices, the MPM thus places adolescents not only in the role of mere 'receivers' of sexual content (e.g., through television), but also recognizes how adolescents are active participants that can produce and share visual sexual content themselves.

Literature applying the MPM has hinted at socio-demographic factors being relevant for different sexual media uses (e.g., Sumter & Vandenbosch, 2019). Within sexting literature, some socio-demographic factors received attention (e.g., age), yet typically only in relation to (visual) sexting (e.g., Vanden Abeele et al., 2014) and not simultaneously to (visual) NCFS. Socio-demographic factors such as country have been rather understudied. Accordingly, the current study focuses on age, gender, sexual orientation, relationship history, and country.

Age

Throughout their sexual development, adolescents explore various sexual behaviors (e.g., petting behaviors, kissing, intercourse; Clark et al., 2019). The degree of normativity of these behaviors (i.e., the prevalence and its level of social approval) typically increases throughout adolescence, particularly in late adolescence (Clark et al., 2019; Tolman & McClelland, 2011). With the increasing presence of digital media in adolescents' lives, these normative trends may also manifest online, indicating that visual sexting rates are likely to rise with age (Mori et al., 2022). This increase may be related to the growing influence of peers, as adolescents have a strong need for peer acceptance and typically strive to conform to peer norms (Cacciatore et al., 2019; Erikson, 1968). Since adolescents typically overestimate how frequently their peers engage in sexting (Lippman & Campbell, 2014), they might feel pressure to engage in visual sexting as well (Lee et al., 2016). Prior research indeed showed that visual sexting can be initiated to achieve or maintain popularity (Vanden Abeele et al., 2014). As peer influence intensifies when adolescents mature, we expect older adolescents to participate in visual sexting more to align with perceived norms (Maheux et al., 2019; Walrave et al., 2014).

As adolescents mature and presumably increasingly engage in visual sexting, they also have more opportunities to receive and subsequently forward visual sexting messages. More so, sharing others' sexts without consent is considered a form of sexual abuse (Henry & Beard, 2024), with such deviant behaviors typically relating positively to age (e.g., Wood et al., 2015). Moreover, visual NCFS appears to be generally accepted among peers, especially among boys (Maes et al., 2023a). As such, adolescents may want to show off their possession of sexting messages and share these sexts to gain popularity (Ricciardelli & Adorjan, 2019). As peer importance increases with age, as well as adolescents' opportunities to receive visual sexting messages from others, we assume adolescents may be more likely to engage in visual NCFS as they grow older (Barroso et al., 2021; Lee et al., 2016).

Gender

From an early age, individuals are socialized into traditional gender roles that likely shape their behaviors, especially in sexual contexts (Bem, 1981; Leaper & Friedman, 2007). More specifically, self-identifying boys are encouraged to be assertive and dominant (Harrington & Maxwell, 2023), while self-identifying girls are expected to be attractive, passive, and compliant (Levant et al., 2017; van

Oosten et al., 2017). A sexual double standard exists for self-identifying girls as they are expected to be sexually attractive, though still need to safeguard their sexual reputation. This sexual double standard can influence the degree of visual sexting in self-identifying girls and boys. Research points to judgement tied to girls' engagement in visual sexting. Even if girls refuse to sext, girls face more criticism than boys (Lippman & Campbell, 2014). Boys are rather positively valued for sexting and gain peer status through this behavior (Walker et al., 2013). Although there is variability in how individuals internalize these gender roles (Woerner & Abbey, 2017) and sexting research has sometimes been inconsistent on gender differences (Madigan et al., 2018), studies generally suggest that male adolescents have more (visual) sexting experiences than females (e.g., Dodaj et al., 2020).

The presence of sexual double standards further likely affects adolescents' engagement in visual NCFS. Since girls are not expected to cause any harm towards others (Mahalik et al., 2005), the sharing of others' sexts might be considered undesirable behavior for girls. Boys, on the other hand, can demonstrate their access to girls' bodies by possessing and forwarding girls' sexts, thereby gaining popularity and respect from peers (Ringrose et al., 2013). Visual NCFS can thus be considered a means for boys to demonstrate their masculinity (Ringrose et al., 2013). Moreover, as boys are more likely to endorse traditional gender roles than girls (Woerner & Abbey, 2017), it can be overall assumed that self-identifying boys engage more in visual NCFS.

Sexual Orientation

Sexual minority (i.e., gay, lesbian, or bisexual) adolescents face several challenges, such as limited accessibility to romantic partners and (parental) support (Mustanski et al., 2014). Since digital media can facilitate sexual exploration and expression (Ybarra & Mitchell, 2016), sexual minority adolescents often turn to an online context to compensate for these challenges faced in the offline world (e.g., DeHaan et al., 2013). For example, they may avoid public displays of affection due to stigma or parental disapproval (Ybarra & Mitchell, 2014), making visual sexting a safer alternative for initiating and maintaining intimacy (Ybarra & Mitchell, 2014). Supporting this, prior studies showed that non-heterosexual adolescents view sexting as a means for sexual exploration and intimacy seeking (e.g., Van Ouytsel et al., 2018) and engage in visual sexting more often than their heterosexual peers (e.g., Ybarra & Mitchell, 2016).

Literature on the role of sexual orientation in (visual) NCFS is limited, though. Studies indicate that sexual minority adolescents are more likely to have their sexts forwarded without consent (Sciacca et al., 2023) and may face higher risk for visual NCFS given their higher sexting rates (e.g., Ybarra & Mitchell, 2016). Specifically, sexual minority adolescents receive more sexts (e.g., Garcia et al., 2016), potentially increasing their capacity to engage in visual NCFS when they have an intention to do so. This reasoning aligns with findings from Barrense-Dias et al. (2019), which showed that non-heterosexual young adults are more likely to forward intimate photos or videos.

Relationship History

Previous literature indicated that (visual) sexting typically occurs within relationships, whether sexual or romantic (e.g., Dully, 2023). Individuals in relationships are more likely to engage in visual sexting, as they often use it to flirt, gain romantic attention (Cooper et al., 2016), or foster intimacy in long-distance situations (Walker et al., 2013). Although adolescents in a relationship may feel pressured to sext or comply with requests to satisfy their partner (Lippman & Campbell, 2014), most studies suggest that adolescents primarily engage in sexting for positive reasons such as demonstrating trust (e.g., Cooper et al., 2016; Van Ouytsel et al., 2017). Thus, in line with prior studies (e.g., Dully, 2023), we expect adolescents to be more likely to participate in visual sexting when they have relationship history (i.e., are/have already been in a relationship) than when they do not have relationship history.

Research further suggests adolescents in relationships are not only more likely to send sexts more frequently, but also to receive sexts more often (Ojeda et al., 2020). As such, adolescents who already have relationship experience, are more likely to possess sexts of others and to consequently forward them when they have an intention to do so. Hence, we assume that adolescents with relationship history are more likely to engage in visual NCFS than adolescents without such experience.

Country

The majority of sexting research on adolescents has been conducted in the United States (e.g., Wolfe et al., 2016) and Europe (e.g., Walrave et al., 2015). Moreover, most studies were national rather than multinational studies (Ngo et al., 2017). However, the latter can provide useful insights, as they allow cross-cultural comparisons. The few studies which adopted a multinational perspective suggest that sexting behaviors vary across cultural contexts. The results of Dodaj and Sesar's (2023) study, for

example, showed that individuals from more individualistic cultures (i.e., Croatia) were more likely to engage in visual sexting compared to those from collectivistic cultures (i.e., Bosnia and Herzegovina).

In the current study, particular attention is given to three European countries with different approaches to sexuality (i.e., Belgium, France, and Slovenia). Belgium adopts a mandatory holistic sexual education framework, not only covering biological elements, but also topics such as mutual consent and sexual diversity (Ketting & Ivanova, 2018; Michielsen & Ivanova, 2023). France similarly implements comprehensive sexual education, including mandatory teacher training (Michielsen & Ivanova, 2023). Even though sexual education is also mandatory in Slovenia (Michielsen & Ivanova, 2023), it remains largely limited to biological aspects (Picken, 2020). As such, Belgium and France are known to have a rather liberal and progressive stance on sexuality, whereas Slovenian individuals tend to be more sexually conservative (ILGA-Europe, 2023). Since conservative countries typically hold more negative attitudes towards sexual practices, especially sexting (Dodaj & Sesar, 2023), we assume that Belgian and French adolescents engage more often in visual sexting than Slovenian adolescents.

Moreover, Slovenia is known to be a collectivistic country, whereas France and Belgium are characterized by a more individualistic culture (Schwartz, 2014). Individualistic individuals are assumed to prioritize personal goals and interests, while collectivistic individuals value relationships and interdependence (Santos et al., 2017). Consequently, individuals living in collectivistic cultures tend to consider more often how their actions affect others. Therefore, we expect Slovenian adolescents to be less likely to non-consensually forward visual sexts than French and Belgian adolescents.

Visual Sexting and Visual NCFS and Adolescents' Body Image and Positive Sexuality

To further understand the opportunities and risks of visual sexting in adolescence, this study examines its links with adolescents' body image and sexuality. While the consequences of visual NCFS for victims are well-documented, potential links may also exist between the forwarding of visual sexts and the perpetrator's body image and sexuality.

Visual Sexting, Visual NCFS and Body Image

Body image literature suggests two potential paths between visual sexting and a user's body image: one in which visual sexting is beneficial for adolescents' body image (following uses and

gratifications theory) and one in which such behavior can harm their body image (following objectification theory).

First, the uses and gratifications (U&G) theory poses that individuals' media use is motivated by certain needs (Katz et al., 1973). Within this U&G research, sexting has been identified as a media use that can gratify adolescents' need for body image reinforcement (e.g., Bianchi et al., 2017). More precisely, prior research demonstrated that they send visual sexts to self-express, explore one's own body, and receive feedback about one's body adequacy (Bianchi et al., 2017). Studies further showed that adolescents who receive more positive feedback about their body, have higher appearance satisfaction (Howard et al., 2022). Following this reasoning, visual sexting might lead to positive body image related outcomes through the positive feedback adolescents can receive on the depictions of their body (Bianchi et al., 2017).

At the same time, body image scholars warn for the presence of sexual objectification sometimes being present in sexting practices (e.g., Speno & Aubrey, 2019). Sexual objectification refers to the process when one's body (parts) or sexual functions are substituted for the whole person, without consideration of one's personality (Fredrickson & Roberts, 1997). Body image scholars argue that (visual) sexting likely contributes to such sexual objectification since individuals are primarily portrayed as sexual objects, reducing them to their physical or sexual characteristics (García-Gómez, 2017). Indeed, when adolescents engage in visual sexting, they create images or videos, capturing their bodies in a highly sexually objectifying manner (García-Gómez, 2017; Speno & Aubrey, 2019). When individuals engage in sexual objectification, a myriad of negative body image components are triggered via a process of self-objectification (i.e., seeing oneself from an observer's perspective) including appearance dissatisfaction (Saunders et al., 2024), self-sexualization (i.e., the deliberate engagement in behaviors to appear more sexually attractive; Starr et al., 2019), and internalization of beauty ideals (i.e., the extent to which an individual has accepted societal appearance ideals and the willingness to achieve these ideals; Dakanalis et al., 2015). This aligns with the dominant research line on selfies, indicating that creating such content invites individuals to self-objectify which furthers the internalization of appearance ideals (Vandenbosch et al., 2022). As such, similar links may be expected between visual sexting and these negative body image components.

The literature thus suggests two contradictory directions for the relationship between visual sexting and body image. Following uses and gratifications theory, visual sexting may be beneficial for adolescents' body image. Following objectification theory, we can expect a harmful relationship to exist.

When adolescents engage in visual NCFS, the links with users' body image may be more straightforward. Exposure to and sharing of images or videos of others' bodies in vulnerable and sexual positions likely triggers cognitive processes related to objectification (Liong & Cheng, 2019). These processes can lead individuals to view both others and themselves as sexual objects rather than as whole people (Liong & Cheng, 2019). Visual NCFS itself can thus be considered an act of sexual objectification as it reduces the individual to a sexual object, ignoring their personality and well-being as well as their agency in deciding their own portrayal as sexual beings. Hence, visual NCFS likely activates the objectification of others and oneself. Such (self-)objectification processes have been linked to appearance dissatisfaction (e.g., Saunders et al., 2024), self-sexualization (e.g., Starr et al., 2019) and the internalization of appearance ideals (e.g., Dakanalis et al., 2015). Accordingly, visual NCFS is expected to positively correlate with the latter dysfunctional body image variables.

Visual Sexting, Visual NCFS and Positive Sexuality

Next to body image correlates, visual sexting can further be related to sexuality components. When exploring adolescents' sexuality development, research has mainly been dominated by a risk perspective, overlooking positive factors in sexual development (Maes et al., 2023b). Sexual health scholars have therefore called for the introduction of a positive approach, focusing on healthy sexuality development (Harden, 2014). One of the components of a positive sexuality development identified in research among adolescents is a positive approach to sexual relationships (Maes et al., 2023b). This construct refers to adolescents' ability to "respectfully respond to a partner's sexual feelings, needs, and desires, to communicate about intimacy, and respect their boundaries." (p. 8, Maes et al., 2023b). In the context of visual sexting, where respect for boundaries and trust are essential, this positive approach factor becomes particularly relevant.

While visual sexting can sometimes be driven by negative motives, such as peer pressure (Lippman & Campbell, 2014), they are more frequently motivated by positive intentions. Research

indicates that adolescents primarily engage in (visual) sexting to flirt, foster intimacy, and demonstrate trust within their relationships (e.g., Cooper et al., 2016; Van Ouytsel et al., 2017). Hence, visual sexting might especially foster the development of a respectful approach to sexual relationships. Though, so far, research supporting this assumption is missing.

As for visual NCFS, individuals typically engage in this behavior for two primary reasons: for fun and to gossip (e.g., Barrense-Dias et al., 2020) or to seek revenge (e.g., Englander & McCoy, 2017). In both cases, the senders' trust and their sexual and emotional boundaries are violated by the person forwarding the sexting message. These individuals thus not fully recognize the potential harm to the victim, disregard their feelings and boundaries (Barrense-Dias et al., 2020), and therefore likely lack a positive approach to sexual relationships. Hence, we expect visual NCFS to be negatively associated with a positive approach to sexual relationships.

The Current Study

In this cross-cultural study we examine sexting practices (i.e., visual sexting and visual NCFS) among Belgian, French, and Slovenian adolescents. Following the MPM, we first aim to explore how various socio-demographic characteristics are related to adolescents' engagement in visual sexting and visual NCFS. In line with prior literature, we expect:

H1: Adolescents who a) are older, b) boys, c) have a sexual minority status, d) have relationship history, and e) are Belgian and French are more likely to engage in visual sexting.

H2: Adolescents who are a) older, b) boys, c) have a sexual minority status, d) have relationship history, and e) are Belgian and French are more likely to engage in visual NCFS.

Secondly, this study aims to explore how adolescents' visual sexting is related to various body image components and to test whether visual NCFS indeed harms their body image.

RQ1: How does visual sexting relate to adolescents' a) appearance satisfaction, b) self-sexualization, and c) internalization of appearance ideals?

H3: Visual NCFS is negatively associated with a) appearance satisfaction, and positively associated with b) self-sexualization and c) internalization of appearance ideals.

Next to body image, attention is given to the development of a positive approach to sexual relationships, which is part of adolescents' positive sexuality construction. Here, we reason that:

H4: Visual sexting is positively associated with a positive approach to sexual relationships.

H5: Visual NCFS is negatively associated with a positive approach to sexual relationships.

Following the differential susceptibility model of media effects (Valkenburg & Peter, 2013), not all individuals may be equally susceptible to the previously discussed relationships. Particularly gender, as a key dispositional factor, is likely to interact both with individuals' socio-demographic characteristics in predicting their engagement in visual sexting and visual NCFS as well as with these media practices in predicting their body image and sexuality approach.

First, while many studies have identified gender as an important predictor of sexting, the literature remains inconsistent regarding when this link is present. Potentially, these inconsistencies may stem from the intertwinement of gender and individuals' other socio-demographic characteristics such as age, sexual orientation, relationship history, and country. For instance, boys and girls often differ in their maturity levels as girls tend to mature earlier than boys (Malina & Bouchard, 1992). Additionally, non-heterosexual boys and girls have different experiences with expressing their sexual orientation, as these girls, for example, delay their coming out longer than boys (Grov et al., 2006). Given these gendered socio-demographic differences, adolescents' susceptibility to engage in visual sexting and visual NCFS may vary depending on the moderating role of gender in these hypothesized relationships.

Second, gender may also exacerbate or mitigate the hypothesized role of visual sexting and visual NCFS in adolescents' body image and sexuality approach outcomes. While boys might be more frequently involved in these media practices, girls tend to report lower body image satisfaction (He et al., 2020), a higher likelihood of engaging in self-sexualization (Smolak et al., 2014), and a stronger focus on aesthetics over functionality in body image (Abbott & Barber, 2010). Moreover, girls generally adopt a more positive approach toward sexual relationships compared to boys (Maes et al., 2023b). Consequently, girls may be more susceptible to experiencing negative body image outcomes and positive sexuality outcomes from visual sexting and visual NCFS. This study will therefore exploratively test whether differences between self-identifying boys and girls are present in these main relationships of interest.

RQ2: Are these aforementioned associations (i.e., visual sexting and visual NCFS with socio-demographic variables, body image components, and a positive approach to sexual relationships) moderated by gender?

Methods

Participants and Procedure

The current cross-sectional study was conducted within the context of a larger European project[1]. Ethical approval was received from the Ethics Committee of [university blinded] ([approval number blinded]). Active and passive parental consent were obtained for participants who were younger and older than 16 years old, respectively. To motivate adolescents to complete the survey fully and attentively, participants received a gift voucher of €15 as an additional incentive.

Because the larger project covered different research aims, potentially inducing survey fatigue among participants, data collection for this study was split into two parts with the same adolescents completing both surveys. Note that at each data collection, the survey included an attention check. Participants who failed the attention check question received a missing value for the variables addressed at that part of the data collection. The analytical sample included 1184 participants (61.4% girls, 38.6% boys) aged between 11 and 19 years old (M_{age}=15.08, SD_{age}=1.75). Only 7 participants were younger than 12 years old and 5 were older than 18 years old. However, as they were already or still in secondary school, they were still included into the final sample. Of all participants, 38.4% were Slovenian, 33.3% French and 28.3% Belgian. The majority of the participants had a European ethnical background (90.2%), received first level education (65.9%), and had parents who received higher education (62.8% of the fathers, 77.8% of the mothers).

Measurement Instruments

Demographic Variables. Age was asked based on birth year and was transformed to age (2022 – birth year). Gender was measured with the statement "I am a:", followed by the categories "boy" (=

[1] The larger project focuses on the relationships between adolescents' media use and well-being. Although other studies draw on the same analytical sample, the project addresses completely different research objectives in every study (see OSF: https://osf.io/r8c9t/?view_only=d05cfb07d55244dd86314ce23eb0bf05). As such, the current study is the only study within the larger project focusing on visual CSP and visual NCFS. More information on the times when each variable was measured can be found on https://osf.io/nztuj/?view_only=7d76fdb5248340d79f4e957524effbce

1), “girl” (= 2), “other” (= 3), and “prefer not to say” (= 4). Country was registered by the researchers based on the country where the survey was conducted (1 = Belgium, 2 = France, and 3 = Slovenia). The answer categories were recoded into two dummy variables with Slovenia as the reference category (Slovenia-Belgium: 0 = Slovenia, 1 = Belgium; Slovenia-France: 0 = Slovenia, 1 = France).

Relationship History. Participants were asked: “Do you have a boyfriend or girlfriend? By this we mean someone with whom you have a strong romantic, emotional, and/or sexual connection.” The following answer categories were presented: “Yes, I am currently in a relationship”, “No, but I have been in a relationship during the past year”, and “No, and I have not had a relationship during the past year”. The response options were recoded into “No, I have not been in a relationship” (= 1) and “Yes, I have been/am in a relationship” (= 2) to create a dichotomous variable[2].

Sexual Orientation. Adolescents had to indicate to whom they were sexually attracted, followed by the response options “only to boys” (= 1), “mainly to boys, but also to girls” (= 2), “equally to boys and girls” (= 3), “mainly to girls, but also to boys” (= 4), “only to girls” (= 5), and “I prefer not to answer this question” (= 6; Kinsey et al., 1948; Peter & Valkenburg, 2011). The answer categories were separately recoded for boys and girls into “heterosexual” (= 1) and “non-heterosexual” (= 2) to create the dichotomous variable.

Appearance Satisfaction. A shortened version of the Body Dissatisfaction Scale for adolescents (Stice & Whitenton, 2002) was adopted. Respondents indicated on a 5-point Likert scale from “very unsatisfied” (= 1) to “very satisfied” (= 5) the degree to which they are satisfied or unsatisfied with their face and body. As both items showed a strong association ($r = .53$, $p < .001$), they were averaged into a new variable ($M = 3.18$, $SD = .90$).

Internalization of Body Appearance Ideals for Adolescents. Internalization of Body Appearance Ideals for Adolescents developed by Schaefer et al. (2015) was used. Respondents indicated on a 5-point Likert scale (from 1 = “strongly disagree” to 5 = “strongly agree”), to what extent they agree or disagree with two gender-specific statements (e.g., “I think a lot about being thin” for self-identified female respondents, and “It is important to me that I have an athletic body” for self-identified

[2] The analyses were performed using both the original three-category variable and the dichotomous variable. As the results remained consistent across both approaches, the dichotomous variable was used for the final analyses.

male respondents; see Appendix A for all items). Both items presented to self-identified female respondents ($r = .68$, $p < .001$) and male respondents ($r = .55$, $p < .001$) were strongly associated. After merging these items into a new 5-point Likert scale for female ($M = 3.48$, $SD = 1.11$) and male respondents ($M = 3.36$, $SD = .95$), both scales were merged into one scale for both female and male respondents ($M = 3.43$, $SD = 1.05$).

Self-Sexualization. The three-item Self Sexualization Scale from Liss et al. (2011) was adopted. Respondents indicated on a 5-point Likert scale from "strongly disagree" (= 1) to "strongly agree" (= 5) the extent to which they agree or disagree with statements such as: "It is important to me that others find me attractive" and "I love to feel sexy" (see Appendix A for all items). A principal component analysis (PCA) with direct oblimin rotation ($KMO = .71$, $p < .001$) confirmed a one-factor structure (*initial eigenvalue (IE)* = 2.21, *explained variance (EV)* = 73.68%, $\alpha = .82$). The items were averaged into a new variable ($M = 3.11$, $SD = .94$).

Positive Approach to Sexual Relationships. Respondents were presented seven statements developed by Maes et al. (2023b) such as: "I think it is important that a partner feels safe when we're being intimate" and "I think it is important that, during an intimate activity, my partner can say "no" when they do not want to do something" (see Appendix A for all items). Response options ranged on a 5-point Likert scale from "strongly disagree" (= 1) to "strongly agree (= 5), with an additional answer option "I do not want to answer". A PCA with direct oblimin rotation ($KMO = .91$, $p < .001$) confirmed a one-factor solution ($IV = 4.27$, $EV = 60.97\%$, $\alpha = .89$). The items were averaged into a new variable ($M = 4.62$, $SD = .52$).

Visual Sexting. One item of Van Ouytsel et al. (2019) was used. Prior to the item, a short explanation of the term visual sexting was presented: "Some boys and girls engage in sexting. By sexting, we mean sending self-made photos or videos through digital media (for example, via your cell phone or the internet). When doing so, you may be in your nude or in your underwear/swim suit while having a sexy pose. Indicate the extent to which you have done the following sexting activity in the past year. This can be with anyone, such as a friend, an acquaintance, someone you know from the Internet, or your lover.". Next, respondents had to assess the following item on a 7-point Likert scale from "Never" (= 1) to "Several times per day" (= 7), with an additional answer option "I do not want to

answer": "I have sent a sexually explicit photo and/or video (nude or semi-nude) of myself to someone" (*M* = 1.26, *SD* = .87). To contextualize the prevalence of engagement in visual NCFS, the item of Van Ouytsel et al.'s (2019) scale measuring the receiving of sexts (i.e., "Someone has sent a sexually explicit photo and/or video of him/herself to me") was also included (*M* = 1.60, *SD* = 1.18).

Non-Consensual Forwarding of Visual Sexting Messages. Respondents had to answer the following question adopted from Maes et al. (2023a): "In the past year, have you received a sexting message from someone and forwarded it to others without their permission? The response options were "Yes, I have forwarded a sexting message in the past year" and "No, I have not forwarded a sexting message in the past year", and "I do not want to answer". The answer categories were recoded into "No, I have not forwarded a sexting message in the past year" (= 1) and "Yes, I have forwarded a sexting message in the past year" (= 2).

Analytical Strategy

All analyses were performed with IBM SPSS Statistics (version 30.0). First, descriptive statistics and zero-order correlations were calculated. Next, a regression analysis was performed to examine the relationship between the socio-demographic markers and visual sexting (H1). To analyze the relationship between the socio-demographic characteristics and visual NCFS (H2), a logistic regression analysis was conducted. Subsequently, hierarchal regression analyses were performed to examine RQ1 and H3-5 (i.e., the relationship of visual sexting and visual NCFS with appearance satisfaction, self-sexualization, the internalization of appearance ideals, and a positive approach to sexual relationships, respectively). To test the moderating role of gender (RQ2), PROCESS Hayes (model 1) was used. For the hierarchical regression and moderation analyses, the remaining predictors of H1 and H2 (i.e., age, sexual orientation, relationship history, and country) were entered as control variables. The data and output can be found on OSF.

Results

Descriptives

Descriptive analyses showed that 11% of the adolescents had already sent a visual sext and that 5.7% had already engaged in visual NCFS. Means and standard deviations for all variables and zero-

order correlations are shown in Table 1. Engagement in visual NCFS was further contextualized by prior receipt of a visual sext. A chi-square test of independence indicated a significant association between engagement in NCFS and having previously received a sext ($\chi^2(1, N = 1001) = 78.72$, $p < .001$). Among adolescents who engaged in NCFS, 82.1% had already received a sext, whereas 17.9% had not. Conversely, among adolescents who had previously received a sext, 15.5% had already forwarded others' sexts, whereas 84.5% had not. [Table 1 here]

Sexting Practices across Socio-Demographic Characteristics

Regarding the first hypothesis, results of the regression analysis (Table 2) show that age ($\beta = .09$, $SE = .02$, $t = 3.02$, $p < .01$), relationship history ($\beta = .26$, $SE = .06$, $t = 8.21$, $p < .001$), and sexual orientation ($\beta = .08$, $SE = .07$, $t = 2.64$, $p < .05$) are positively related to visual sexting. In other words, adolescents who are older, who have relationship history, and those who are non-heterosexual engage in visual sexting more often. Gender, in contrast, could not significantly predict visual sexting ($\beta = -.04$, $SE = .06$, $t = -1.12$, $p > .05$), meaning that boys and girls do not differ in terms of their visual sexting. Moreover, no significant difference in visual sexting rates between Slovenian and Belgian ($\beta = .04$, $SE = .07$, $t = 1.03$, $p > .05$) or French ($\beta = .06$, $SE = .06$, $t = 1.73$, $p > .05$) adolescents was found. The results thus confirm H1, except for H1.b and H1.e. [Table 2 here]

Next, moderation analyses were conducted to investigate whether gender moderates these relationships (RQ2). Gender was a significant moderator in the relationship between age and visual sexting ($b = -.07$, $SE = .03$, $t = -2.12$, $p < .05$). More specifically, as boys grow older, they engage more often in visual CSP ($b = .08$, $SE = .02$, $t = 3.46$, $p < .001$), whilst this relationship does not occur among girls ($b = .01$, $SE = .02$, $t = .76$, $p > .05$). Gender did not moderate the relationships of sexual orientation ($b = .00$, $SE = .00$, $t = -.41$, $p < .05$) or relationship history ($b = -.06$, $SE = .12$, $t = -.52$, $p < .05$) with visual sexting. Lastly, gender did not moderate the relationship between country and visual sexting either. Thus, no gender differences between Slovenia and Belgium ($b = .20$, $SE = .12$, $t = 1.63$, $p > .05$) nor between Slovenia and France ($b = -.08$, $SE = .12$, $t = -.72$, $p > .05$) were found.

Table 2 also shows the results of the logistic regression analysis of the relationship between the socio-demographic characteristics and visual NCFS (H2). The analysis indicated that gender (*Odds Ratio [OR]* = .42, $SE = .30$, $p < .01$, 95% CI = [.23; .74]) and relationship history ($OR = 4.41$, $SE = .31$,

$p < .001$, 95% CI = [2.41; 8.09]) were significant predictors of visual NCFS, meaning that boys and adolescents who have relationship history have a higher chance of already having forwarded someone's sext. Age (*OR* = 1.10, *SE* = .09, $p > .05$, 95% CI = [.93; 1.31]) and sexual orientation (*OR* = .70, *SE* = .43, $p > .05$, 95% CI = [.30; 1.63]) did not predict visual NCFS. Finally, no significant relationship was found between country and visual NCFS, indicating no difference in visual NCFS rates between Slovenia and Belgium (*OR* = 1.00, *SE* = .37, $p > .05$, 95% CI = [.49; 2.07]) nor between Slovenia and France (*OR* = .89, *SE* = .34, $p > .05$, 95% CI = [.46; 1.73]), respectively. As such, H2 was rejected, except for H2.b and H2.d which were confirmed.

Moderation analyses (RQ2) showed that gender did not moderate any of the relationships between these socio-demographics and visual NCFS (age: *b* = -.03, *SE* = .18, *Z* = -.16, $p > .05$; sexual orientation: *b* = .05, *SE* = .35, *Z* = .13, $p > .05$; relationship history: *b* = .10, *SE* = .61, *Z* = .16, $p > .05$). Similarly, no gender differences between Slovenia and Belgium (*b* = -.87, *SE* = .68, *Z* = -1.29, $p > .05$) nor between Slovenia and France (*b* = .34, *SE* = .61, *Z* = .55, $p > .05$) were found.

Sexting Practices and Body Image

The results of the hierarchal regression analyses examining RQ1 can be found in Table 3. The results indicate that visual sexting has a significant positive association with self-sexualization ($\beta = .07$, *SE* = .03, *t* = 2.15, $p < .05$). Visual sexting, however, did not predict appearance satisfaction ($\beta = -.01$, *SE* = .03, *t* = -.44, $p > .05$) or the internalization of body appearance ideals ($\beta = -.08$, *SE* = .08, *t* = -1.11, $p > .05$). Moderation analyses further showed that none of the relationships between visual sexting and appearance satisfaction (*b* = -.12, *SE* = .06, *t* = -1.93, $p > 0.05$), self-sexualization (*b* = .10, *SE* = .07, *t* = 1.55, $p > .05$), and internalization of body appearance ideals (*b* = -.08, *SE* = .08, *t* = -1.11, $p > .05$) were moderated by gender. [Table 3 here]

The analyses examining H3 (Table 4) showed that visual NCFS did not predict appearance satisfaction ($\beta = .03$, *SE* = .12, *t* = 1.00, $p > .05$), self-sexualization ($\beta = .01$, *SE* = .13, *t* = .31, $p > .05$) or the internalization of body appearance ideals ($\beta = -.04$, *SE* = .15, *t* = -1.33, $p > .05$), thereby rejecting H3. Moreover, gender did not moderate any of these relationships (appearance satisfaction: *b* = .01, *SE* = .24, *t* = .02, $p > .05$; self-sexualization: *b* = .46, *SE* = .25, *t* = 1.84, $p > .05$; internalization of appearance ideals: *b* = -.27, *SE* = .29, *t* = -.93, $p > .05$). [Table 4]

Sexting Practices and Positive Sexuality

Results of the analyses of H4 and H5 can be found in Table 5. Both visual sexting (β = -.14, *SE* = .02, *t* = -4.30, *p* < .001) and visual NCFS (β = -.21, *SE* = .07, *t* = -6.47, *p* < .001) were negative predictors of a positive approach to sexual relationships. Therefore, H4 was rejected and H5 was confirmed. Both relationships were not moderated by gender (visual CSP: *b* = .00, *SE* = .04, *t* = -.01, *p* > .05; visual NCFS: *b* = -.25, *SE* = .13, *t* = -1.89, *p* > .05). [Table 5]

Discussion

The current study focused on the senders of two types of sexts, namely adolescents who engage in visual sexting and those who engage in visual NCFS. Results showed that 11% of adolescents had already engaged in visual sexting and that 5.7% engaged in visual NCFS. The majority of adolescents engaging in NCFS, had already received sexts themselves, suggesting the forwarded sexts may have initially been shared with them by the depicted individual within a context of trust. As such, NCFS often stems from consensual sexting interactions in which trust between sender (i.e., the depicted individual) and receiver (i.e., the individual forwarding the sext) is later violated. Even though the majority of adolescents forwarding sexts of others had already received sexts directly from the depicted individual, almost one fifth of adolescents engaging in NCFS had not. This implies the latter adolescents forward sexts that were not originally intended for them by the depicted individual, but were instead forwarded to them by third parties (e.g., friends). These findings emphasize the importance of addressing bystander responsibility to refrain adolescents from engaging in negative bystander behavior (e.g., forwarding sexts themselves; Maes et al., 2024). Particularly, scholars call for sexting education highlighting the key role of active bystander behavior (i.e., supporting the victim and disapproving the perpetrator's actions) in the context of NCFS (Maes et al., 2024).

Socio-Demographic Characteristics of Adolescents Engaging in Visual Sexting and Visual NCFS

As for visual sexting, the results largely confirmed prior research and showed that visual sexting was more common among adolescents who are older (e.g., Madigan et al., 2018), belong to a sexual minority group (e.g., Ybarra & Mitchell, 2016) and are or recently were in a relationship (Ybarra & Mitchell, 2014). Contrary to the results of Dodaj and Sesar (2023), however, similar engagement in

visual sexting across the examined European countries was observed. Recent observations hint at the globalization of sexual attitudes (Roberts, 2018), potentially explaining the absence of cross-cultural differences. Particularly, literature points to the role of mass media in shaping such attitudes (Ayoub & Garretson, 2017). As such, the widespread use of sexual media (e.g., Donevan et al., 2022) could foster the globalization of liberal sexual attitudes, making cross-cultural differences less pronounced.

However, most of the socio-demographic factors linking to visual sexting did not relate to visual NCFS. These null findings emphasize the importance of distinguishing visual NCFS from visual sexting, and recognizing that these are in fact two completely different practices. Socio-demographic characteristics, such as age and sexual orientation, were no relevant proxies for the mechanisms that explain visual NCFS perpetration. Future research may want to consider factors more closely related to antisocial behavior, such as a problematic living or family situation (e.g., Shaw et al., 2012).

Two socio-demographic characteristics did relate to visual NCFS. First, self-identifying boys participated in visual NCFS more frequently than self-identifying girls. The higher prevalence of visual NCFS among boys aligns with their overall higher engagement in antisocial behavior compared to girls (e.g., Mears et al., 1998). Second, adolescents who are or recently were in a relationship engaged in this antisocial behavior more frequently. A relationship likely provides adolescents with an increased chance of having access to sexting images, making it a stepping stone for visual NCFS. Access to sexting images together with adolescents' underdeveloped sense of morality may explain this concerning finding. In this view, the literature states that moral development is a lifelong process that is especially intense in growth in adolescence (Anasuri, 2021). Adolescents' morality and cognitive capabilities to place oneself in others' positions are not yet fully developed (Elkind, 1967), making it sometimes challenging for them to assess the impact of their actions. The emotional connection adolescents have or had with their sexting partner might thus be insufficient to keep them from sharing these sexts, as they perhaps have not yet fully developed the skills to respect others' sexual boundaries and understand what effects their actions have (Javidi et al., 2020). Following this line of reasoning, our results question adolescents' ability to participate in visual sexting in a healthy and responsible way. Hence, we call for developmental psychology scholars to further investigate these dynamics and further look into the role of morality development in visual sexting.

Visual Sexting and Visual NCFS and Their Links with Body Image and Positive Sexuality

Adolescence is a developmentally challenging period for body image concerns (e.g., Lacroix et al., 2023). Our results suggest that visual sexting may be associated with heightened body image concerns during adolescence, as visual sexting was related to higher self-sexualization. The relationship between visual sexting and body image thus seems to follow the predictions based on objectification theory. Yet, it should also be recognized that adolescents who experience more severe body image threats may be more likely to engage in visual sexting as a way to seek bodily comfort or reassurance.

Next, visual NCFS was not related to body image correlates. The results thus suggest that sharing of sexual images or videos of others' bodies (Liong & Cheng, 2019; Ward, 2016), do not relate to negative body image components within the person who shares the content themselves. The current study investigated body image components of the senders themselves. Yet, visual NCFS likely still correlates with the objectification of others, which may be further investigated in future research.

Lastly, both visual sexting and visual NCFS were negatively associated with a positive approach to sexual relationships. While the negative relationship with visual NCFS was anticipated, the similar connection with visual sexting was somewhat surprising and concerning. Visual sexting necessitates a positive approach to sexuality, which includes respecting boundaries and engaging with partners in a respectful manner (Maes et al., 2023b). These factors should be viewed as essential for visual sexting to occur. However, our findings suggest that visual sexting is notably more prevalent among adolescents who struggle to embrace a positive view of sexual relationships. These findings raise significant concerns about how we can foster a constructive discourse around visual sexting among young people. Since a positive sexuality perspective is crucial to create a chain of healthy sexual practices for all involved parties (Maes et al., 2023b), more longitudinal research is needed to explore these dynamics more deeply and establish causality. Understanding how a positive approach to sexuality influences behaviors like visual sexting will be crucial for developing effective educational programs and policies aimed at fostering healthy sexual development among adolescents.

Limitations

Some limitations should be taken into account when interpreting the results. First, the results are based on self-reported measures. Visual sexting, but especially visual NCFS can be viewed as

socially undesirable behavior because of its antisocial nature. Participants could therefore have reported to not engage in this behavior, while they actually do. Note that such underreporting may be gendered given the sexual double standard (Lippman & Campbell, 2014). Although the self-reports may thus not fully correspond with adolescents' real sexting practices, the sensitive nature of the examined practices make the use of self-reports the most suitable method available, as more objective measures require adolescents to share self-created or non-consensually forwarded intimate sexual content. Second, as we only focused on visual sexting practices in the current study, it remains unclear whether the investigated relationships also persist across textual sexting practices. Future research might thus explore whether similar or rather different links occur for visual and textual sexting practices. Third, the cross-sectional design of this study does not allow to infer causality. Thus, we recommend future studies to adopt longitudinal research designs. Lastly, no cross-cultural differences were found. Since this study only included European countries, more research is needed to compare sexting practices across European and non-European countries (e.g., China or the U.S.), as cultural differences between these countries might be more pronounced.

Conclusion

This study highlights distinct patterns in adolescents' engagement in visual sexting and visual NCFS. Adolescents who are older, non-heterosexual and have relationship history participate in visual sexting more frequently. Visual NCFS, on the other hand, was more often perpetrated by boys and adolescents with relationship history. This study further delved into the relationship between such sexting practices and body image and a positive sexuality respectively. In particular, girls who engage in visual sexting more often, experience more self-sexualization. However, this link was not found for visual NCFS. Moreover, higher engagement in both visual sexting and visual NCFS are linked to a less positive view on sexual relationships. Thus, these findings question adolescents' ability to participate in visual sexting while maintaining a healthy body image and a positive sexuality development, and emphasize the importance to foster a constructive discourse around visual sexting among adolescents.

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Table 1

Descriptives and Zero-Order Correlations

	M	*SD*	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1. Age	15.08	1.75	-											
2. Gender	-	-	.02	-										
3. Sexual orientation	-	-	-.06	.18***	-									
4. Relationship history	-	-	.17***	.06	-.05	-								
5. Slovenia-Belgium	-	-	.04	.06*	-.02	-.16***	-							
6. Slovenia-France	-	-	.04	.03	.01	.18***	-.44***	-						
7. Visual sexting	1.26	.87	.13***	.00	.05	.30***	-.03	.08**	-					
8. Visual NCFS	-	-	.07*	-.09**	-.06	.19***	-.03	.01	.36***	-				
9. Appearance satisfaction	3.18	.90	-.01	-.23***	-.14***	-.06*	.01	-.09**	-.04	.05	-			
10. Internalization appearance ideals	3.43	1.05	.02	.06	-.03	.08*	.07*	.00	.00	-.03	-.27***	-		
11. Self-sexualization	3.11	.94	.19***	.08**	-.02	.17***	-.03	-.05	.12***	.04	-.07*	.35***	-	
12. Positive approach sexual relationships	4.62	.52	.16***	.18***	.07*	.02	.12***	.03	-.11***	-.20***	-.03	.08*	.09**	-

Note * $p < .05$, ** $p < .01$, *** $p < .001$. Gender : 1 = boy, 2 = girl. Sexual orientation: 1 = heterosexual, 2 = non-heterosexual. Relationship history: 1 = no relationship, 2 = (had a) relationship. Slovenia-Belgium: 0 = Slovenia, 1 = Belgium. Slovenia-France: 0 = Slovenia, 1 = France. Visual NCFS: 1 = did not engage in visual NCFS, 2 = did engage in visual NCFS. Phi coefficients were calculated between two categorical variables. For all other correlations, Pearson correlation coefficients were calculated.

Table 2

Regression Analyses of the Relationship Between Socio-Demographic Characteristics and Visual Sexting Practices

	b	*SE*	β	Wald χ^2	Exp(β)	95% CI		Adj. R^2	F	χ^2	Nagelkerke's R^2
						LL	UL				
Model Visual Sexting (linear regression)								.09	16.71***		
Age	.05	.02	.09**			.02	.08				
Gender	-.06	.06	-.04			-.17	.05				
Sexual orientation Relationship	.17	.07	.08**			.04	.30				
history	.49	.06	.26***			.37	.60				
Slovenia-Belgium	.10	.07	.04			-.06	.20				
Slovenia-France	.11	.06	.06			-.02	.24				
Model Visual NCFS (logistic regression)										38.72***	.11
Age	.10	.09		1.29	1.10	.93	1.31				
Gender	-.88	.30		8.75	.42**	.23	.74				
Sexual orientation Relationship	-.35	.43		.67	.70	.30	1.63				
history	1.49	.31		23.08	4.41***	2.41	8.09				
Slovenia-Belgium	.00	.37		.00	1.00	.49	2.07				
Slovenia-France	-.12	.34		.12	.89	.46	1.73				

Note. * $p < .05$, ** $p < .01$, *** $p < .001$. Two separate regression analyses were conducted: a linear regression analysis with visual sexting as dependent variable and a binary logistic regression analysis with visual NCFS as dependent variable. Gender : 1 = boy, 2 = girl. Sexual orientation: 1 = heterosexual, 2 = non-heterosexual. Relationship history: 1 = no relationship, 2 = (had a) relationship. Slovenia-Belgium: 0 = Slovenia, 1 = Belgium. Slovenia-France: 0 = Slovenia, 1 = France.

Table 3

Hierarchal Regression Analyses of the Relationship Between Visual Sexting and Body Image

	Block 1								Block 2							
	b	*SE*	β	95% CI		Adj. R^2	ΔR^2	F	*b*	SE	*β*	95% CI		Adj. R^2	ΔR^2	F	ΔF
				LL	UL							LL	UL				
Model AS						.07	.08	13.90***						.07	.00	11.93***	4.38
Age	.00	.02	.00	-.03	.03				.00	.02	.00	-.03	.03				
Gender	-.40	.06	-.22***	-.51	-.28				-.40	.06	-.21***	-.51	-.29				
Sexual orientation	-.21	.07	-.10**	-.34	-.08				-.21	.07	-.10**	-.34	-.08				
Relationship history	-.09	.06	-.05	-.21	.03				-.08	.06	-.04	-.21	.04				
Slovenia-Belgium	-.10	.07	-.05	-.23	.04				-.10	.07	-.05**	-.23	.04				
Slovenia-France	-.19	.07	-.10**	-.32	-.06				-.18	.07	-.10**	-.31	-.06				
Visual sexting									-.01	.03	-.01	-.08	.05				
Model SS						.07	.07	13.43***						.07	.00	12.21***	4.40*
Age	.10	.02	.18***	.07	.13				.10	.02	.18***	.06	.13				
Gender	.14	.06	.07*	.02	.25				.14	.06	.07*	.02	.26				
Sexual orientation	-.02	.07	-.01	-.16	.11				-.04	.07	-.02	-.18	.10				
Relationship history	.29	.06	.14***	.16	.41				.25	.07	.13***	.12	.38				
Slovenia-Belgium	-.16	.07	-.08*	-.30	-.02				-.17	.07	-.08*	-.30	-.03				
Slovenia-France	-.21	.07	-.11**	-.35	-.08				-.22	.07	-.11***	-.35	-.09				
Visual sexting									.07	.03	.07*	-.01	.14				
Model IBAI						.02	.01	3.36**						.02	.01	3.02**	1.00
Age	.00	.02	.00	-.04	.04				.00	.02	.01	-.03	.04				
Gender	.10	.07	.05	-.03	.23				.10	.07	.05	-.04	.23				
Sexual orientation	-.10	.08	-.04	-.25	.06				-.09	.08	-.04	-.25	.07				
Relationship history	.22	.07	.10**	.08	.37				.24	.08	.11***	.09	.40				
Slovenia-Belgium	.21	.08	.09**	.05	.37				.21	.08	.09**	.06	.37				
Slovenia-France	.09	.08	.04	-.07	.24				.09	.08	.04	-.07	.24				
Visual sexting									-.04	.04	-.03	-.12	.04				

Note. * $p < .05$, ** $p < .01$, *** $p < .001$. Three separate hierarchal regression analyses were conducted, with AS (= appearance satisfaction), SS (= self-sexualization), and IBAI (= internalization body appearance ideals) entered as dependent variables in separate models. Gender : 1 = boy, 2 = girl. Sexual orientation: 1 = heterosexual, 2 = non-heterosexual. Relationship history: 1 = no relationship, 2 = (had a) relationship. Slovenia-Belgium: 0 = Slovenia, 1 = Belgium. Slovenia-France: 0 = Slovenia, 1 = France.

Table 4

Hierarchal Regression Analyses of the Relationship Between Visual NCFS and Body Image

	Block 1								Block 2							
	b	*SE*	β	95% CI		Adj. R^2	ΔR^2	F	*b*	SE	*β*	95% CI		Adj. R^2	ΔR^2	F	ΔF
				LL	UL							LL	UL				
Model AS						.08	.09	15.26***						.08	.00	13.23***	1.01
Age	-.01	.02	-.02	-.05	.02				-.01	.02	-.02	-.05	.02				
Gender	-.43	.06	-.23***	-.55	-.31				-.42	.06	-.23***	-.54	-.31				
Sexual orientation	-.23	.07	-.11***	-.36	-.09				-.23	.07	-.11***	-.36	-.09				
Relationship history	-.06	.06	-.03	-.18	.06				-.07	.06	-.04	-.20	.05				
Slovenia-Belgium	-.09	.07	-.05	-.22	.05				-.09	.07	-.05	-.22	.05				
Slovenia-France	-.20	.07	-.10**	-.33	-.06				-.20	.07	-.10**	-.33	-.06				
Visual NCFS									.12	.12	.03	-.12	.37				
Model SS						.07	.08	13.23***						.07	.00	11.35***	.10
Age	-.01	.02	-.02	.07	.13				-.01	.02	-.02	.07	.13				
Gender	-.43	.06	-.23***	.00	.24				-.42	.06	-.23***	.00	.25				
Sexual orientation	-.23	.07	-.11***	-.20	.08				-.23	.07	-.11***	-.20	.08				
Relationship history	-.06	.06	-.03	.17	.42				-.07	.06	-.04	.16	.42				
Slovenia-Belgium	-.09	.07	-.05	-.31	-.02				-.09	.07	-.05	-.31	-.02				
Slovenia-France	-.20	.07	-.10**	-.32	-.04				-.20	.07	-.10**	-.32	-.04				
Visual NCFS									.12	.12	.03	-.21	.29				
						.01	.02	2.77**						.01	.00	2.63**	1.78
Model IBAI																	
Age	.01	.02	.01	-.04	.04				.01	.02	.01	-.03	.05				
Gender	.10	.07	.04	-.04	.24				.09	.07	.04	-.05	.23				
Sexual orientation	-.06	.08	-.03	-.23	.10				-.07	.08	-.03	-.23	.10				
Relationship history	.20	.08	.09**	.05	.35				.22	.08	.10**	.07	.37				
Slovenia-Belgium	.21	.08	.09*	.05	.38				.21	.08	.10*	.05	.38				
Slovenia-France	.08	.08	.04	-.08	.24				.08	.08	.04	-.08	.24				
Visual NCFS									-.20	.15	-.04	-.49	.09				

Note. * $p < .05$, ** $p < .01$, *** $p < .001$. Three separate hierarchal regression analyses were conducted, with AS (= appearance satisfaction), SS (= self-sexualization), and IBAI (= internalization body appearance ideals) entered as dependent variables in separate models. Gender : 1 = boy, 2 = girl. Sexual orientation: 1 = heterosexual, 2 = non-heterosexual. Relationship history: 1 = no relationship, 2 = (had a) relationship. Slovenia-Belgium: 0 = Slovenia, 1 = Belgium. Slovenia-France: 0 = Slovenia, 1 = France. Visual NCFS: 1 = did not engage in visual NCFS, 2 = did engage in visual NCFS.

Table 5

Hierarchal Regression Analyses of the Relationship Between Visual Sexting Practices and Positive Approach to Sexual Relationships

	Block 1								Block 2							
	b	*SE*	β	95% CI		Adj. R^2	ΔR^2	F	*b*	SE	*β*	95% CI		Adj. R^2	ΔR^2	F	ΔF
				LL	UL							LL	UL				
Model Visual Sexting						.08	.09	14.98***						.10	.02	15.71***	18.46***
Age	.05	.01	.17***	.03	.07				.06	.01	.18***	.04	.07				
Gender	.17	.03	.16***	.10	.23				.16	.03	.15***	.10	.23				
Sexual orientation	.08	.04	.07*	.01	.16				.10	.04	.08*	.02	.18				
Relationship history	.00	.04	.00	-.07	.07				.04	.04	.03	-.04	.11				
Slovenia-Belgium	.18	.04	.16***	.10	.26				.18	.04	.16***	.11	.26				
Slovenia-France	.09	.04	.08*	.02	.17				.10	.04	.09**	.03	.18				
Visual sexting									-.08	.02	-.14***	-.12	-.05				
Model Visual NCFS						.07	.07	12.01***						.11	.04	16.72***	41.80***
Age	.05	.01	.18***	.03	.07				.05	.01	.19***	.04	.07				
Gender	.12	.03	.12***	.05	.19				.10	.03	.10**	.03	.16				
Sexual orientation	.08	.04	.06	.00	.15				.07	.04	.06	-.01	.14				
Relationship history	-.01	.04	-.01	-.07	.06				.03	.04	.03	-.04	.10				
Slovenia-Belgium	.16	.04	.15***	.08	.23				.16	.04	.15***	.08	.23				
Slovenia-France	.08	.04	.08*	.01	.16				.08	.04	.08*	.01	.15				
Visual NCFS									-.44	.07	-.21***	-.57	-.30				

Note. * $p < .05$, ** $p < .01$, *** $p < .001$. Two separate hierarchal regression analyses were conducted, with visual sexting and visual NCFS entered as dependent variables in separate models. Gender : 1 = boy, 2 = girl. Sexual orientation: 1 = heterosexual, 2 = non-heterosexual. Relationship history: 1 = no relationship, 2 = (had a) relationship. Slovenia-Belgium: 0 = Slovenia, 1 = Belgium. Slovenia-France: 0 = Slovenia, 1 = France. Visual NCFS: 1 = did not engage in visual NCFS, 2 = did engage in visual NCFS.