

# **Receive, Forward, Repeat: The Link between Sexting Intention, Sexting Attitudes, and Non-Consensual Sexting Behaviours**

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### **Highlights**

- This study set out to explain why people engage in non-consensual sexting
- 108 (63.9%) individuals had forwarded a *sext* without the original sender's consent
- Sexting risk attitudes are positively associated with non-consensual sext forwarding
- Receiving is the strongest predictor of forwarding, regardless of sexting attitudes
- Non-consensual sexting may be driven by social learning or impulsive decision-making

## **Receive, Forward, Repeat: The Link between Sexting Intention, Sexting Attitudes, and Non-Consensual Sexting Behaviours**

### **Abstract**

Sexting concerns the act of sending, receiving, or forwarding sexually explicit messages or photos (i.e., 'sexts') through electronic means. When sexts are received or forwarded without the consent of the original sender, this is called *non-consensual sexting*. Our study set out to increase our understanding as to why individuals engage in non-consensual sext forwarding, by examining the role of sexting intentions, attitudes, and experience with non-consensual sext receiving. Data were collected through a cross-sectional survey among a sample of 218 Belgian adults. Of this total sample, 169 ( $M_{\text{age}} = 25.85$  years, 73.4% women) respondents had at least once received a sext from someone, resulting in a subsample of 169 respondents for the present study. Correlation analyses showed that non-consensual forwarding of sexts was significantly positively linked to stronger attitudes towards the risks of sexting and to experiences of non-consensual sext receiving. Hierarchical regression analysis revealed that non-consensual sext forwarding was significantly linked to negative attitudes about sexting, but that this significant link disappeared when non-consensual sext receiving was included as a predictor in the model. Thus, our findings show that non-consensual sext forwarding is primarily linked to non-consensual sext receiving, suggesting that individuals who experience non-consensual sexting as a recipient are inclined to non-consensually forward a sext themselves regardless of their attitudes about (the risks of) sexting. This suggests that non-consensual sexting behaviours may be driven by social learning and/or impulsive decision-making processes, indicating an important avenue for future research.

*Keywords:* Non-consensual sexting; sexting intention; sexting attitudes; aggravated sexting; social learning; dual-process decision making

## Introduction

Sexting, i.e., the act of sending, receiving, or forwarding sexually explicit messages or photos through electronic means (Klettke et al., 2014), is known to be a relatively prevalent phenomenon. A recent meta-analysis of 50 studies found that 38.3% of emerging adults have sent a sext, and that 41.5% have received a sext (Mori et al., 2020). Over the past two decades, scholars have put significant effort into identifying associated predictors and consequences of sexting (for a recent review, see Van Ouytsel et al., 2020a). Although sexting can have a positive impact on individuals' intimate relationships, such as increased sexual satisfaction (e.g., Tin et al., 2021), several studies have found that sexting can be a negative experience as well. For example, people may engage in or encourage others to engage in sexting with harmful intentions and may misuse this sexual content. In the literature, this is commonly referred to as *aggravated sexting* (e.g., Bianchi et al., 2021; Ragona et al., 2023). Additionally, sexting has been associated with many risk behaviours and harmful outcomes (e.g., Van Ouytsel et al., 2020a). Indeed, Hudson and Marshall (2018) found that although negative consequences of sexting were far less frequent compared to positive sexting experiences, these negative consequences can be profoundly harmful. One such potential negative outcome of sexting is the non-consensual forwarding of sexts. Someone might send *sexts*, such as sexually explicit messages or sexual pictures of themselves, to someone they trust to keep them private, but the recipient may not always act in the sender's best interest. For example, the recipient might forward these sexts to others without consent of the original sender, which is commonly referred to as *non-consensual sexting* (Morelli et al., 2020).<sup>1</sup>

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<sup>1</sup> We wish to clarify how non-consensual sexting relates to so-called 'revenge pornography'. It is important to acknowledge that the term 'revenge pornography' has been heavily criticized for a number of reasons, such as the implication that the victim of the crime somehow provoked the actions taken against them or committed some kind of wrongdoing (Henry et al., 2019). That being said, non-consensual sexting and 'revenge pornography' share similarities in that both phenomena concern the distribution of a sexual photo or video without the original sender's consent. However, in 'revenge pornography', the motivation for this behaviour is always to cause harm, while the

Non-consensual sexting is believed to be a rather common occurrence. A recent meta-analysis by Mori and colleagues (2020) revealed that 15% of emerging adults had forwarded another person's sext without their consent. In line with this, Clancy and colleagues (2019) found that 1 out of 5 adults in their sample had engaged in non-consensual sexting. Prior research found that non-consensual sexting can be an intense traumatic experience for the victims, with long-term emotional consequences and the constant fear that images may resurface in the future (e.g., Bates, 2017; McGlynn et al., 2021). Given that non-consensual sexting is associated with poor mental and physical health outcomes for the victims (i.e., lack of sleep, feelings of sadness or hopelessness and even suicidality) (Huber, 2022; Pampati et al., 2020), as well as the perpetrators (i.e., depressive symptoms and non-suicidal self-harm) (Wachs et al., 2021), more research that aims to explain this phenomenon is warranted. By identifying factors related to non-consensual sexting, research can inform prevention and intervention strategies that aim to tackle these behaviours.

Thus, our study sets out to increase our understanding why people forward sexts without the original sender's consent. Specifically, we examine the role of sexting intentions, sexting attitudes, and experiences with non-consensual sexting as a *recipient* of a forwarded sext. It is particularly relevant to examine sexting intentions and attitudes because while previous research has found that people's sexting intentions (e.g., Walrave et al., 2015) and attitudes about sexting (e.g., Hudson et al., 2014) predict engagement in sexting behaviours, few studies have explored these associations for non-consensual sexting. Studies that have considered non-consensual sexting present inconclusive results. Previous work found that *positive* attitudes about non-consensual sexting, such as perceiving it as humorous or harmless, were associated with engagement in non-consensual sext forwarding (Clancy et al., 2019; Van Ouytsel et al.,

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term non-consensual sharing also applies to situations in which the sext is forwarded or shown to others without malicious intentions (for a recent systematic review on these conceptualizations, see Walker & Sleath, 2017).

2021). Conversely, a recent study by Naezer and Van Oosterhout (2021) revealed that the act of forwarding a sext without the consent of the original sender could in fact be driven by people's *negative* attitudes about sexting, expressing a strong understanding of the risks involved. For example, some people in the study indicated they would non-consensually forward a sext to teach their peers a lesson about these risks. This aligns with findings from a recent study on victim-blaming attitudes by McKinlay & Lavis (2020), which revealed that victim-blaming attitudes were particularly strong when the forwarded sexual images were originally made and distributed by the person depicted on the images (i.e., the victim of the non-consensual sexting), compared to cases in which the image was created and leaked by someone other than the victim. In their recent study, Maes and colleagues (2023) found that such victim-blaming attitudes can in turn be linked to individuals' willingness to non-consensually forward a sext. In the present study, in an attempt to bring more clarity to these inconclusive findings from previous research, we will examine individuals' attitudes toward potential risks of sexting and whether these attitudes may explain engagement in non-consensual sexting behaviours.

With regard to sexting intention, its link to non-consensual sexting remains rather unclear. While individuals with stronger sexting intentions may overall be more inclined to engage in consensual or non-consensual sexting behaviours, research suggests that sexting intentions are often contextual. For example, individuals might intend to send sexts but only to someone they trust (e.g., Walrave et al., 2014). These contextual constraints to sexting intentions could help explain why some individuals may forward a sext without the original sender's consent and why others might not.

Lastly, it could be argued that the experience of receiving a sext that was forwarded without the original sender's consent might increase the likelihood that someone would forward such a sext themselves. Indeed, several studies have linked sexting behaviours to social learning

processes (e.g., Brodie et al., 2019; Van Ouytsel et al., 2017). Social learning theory posits that individuals learn social behaviour by observing and imitating others (Bandura, 1977). This implies that sexting behaviours may be influenced by observing the actions of others, shaping our perceptions of what is normal or desirable behaviour. Related to this, Walrave and colleagues (2015) found that subjective norms may predict sexting behaviours, further highlighting the importance of what others do and think in explaining why people engage in (non-consensual) sexting behaviour. Furthermore, several studies show that such acts of sext sending and receiving can be considered popularity currency (e.g., Johnstonbaugh, 2021; Ringrose et al., 2022). Although this is particularly the case for younger people, such findings further explain why receiving a non-consensually forwarded sext would lead to non-consensual sext forwarding, and vice versa.

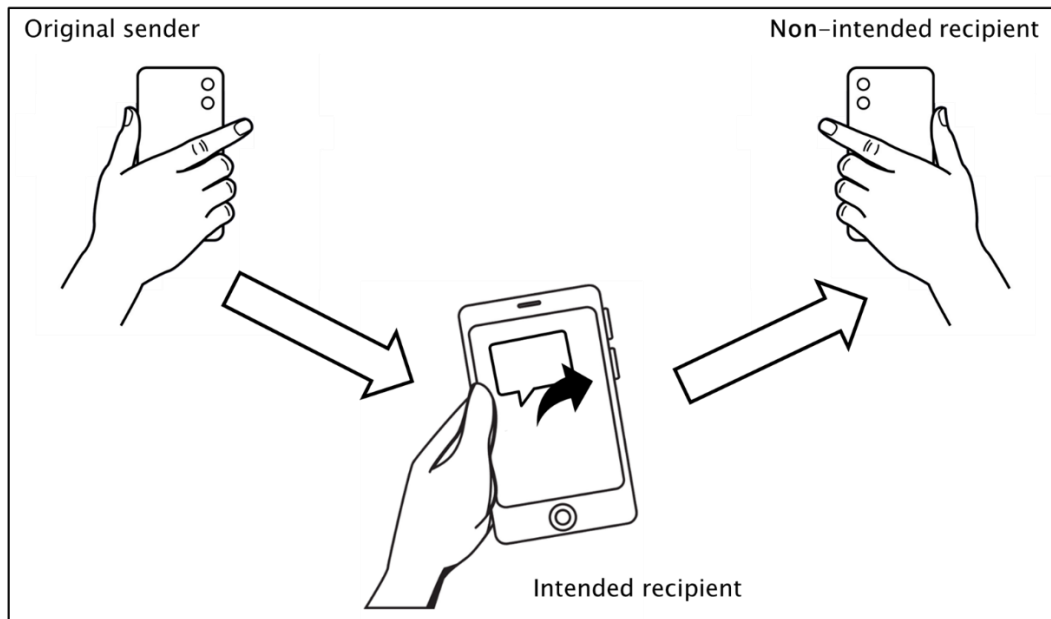
Given that non-consensual sexting can have profound psychological, physical, as well as legal consequences, research that aims to identify factors that could explain these behaviours is warranted. For this purpose, the present study addresses two gaps in the literature. First, we aim to study the occurrence of non-consensual sexting by examining sexting experiences in which people have (1) forwarded the sext themselves (non-consensual sext *forwarding*) and (2) received a forwarded sext from someone else (non-consensual sext *receiving*). These two non-consensual sexting experiences are illustrated in Figure 1. Second, we will explore if non-consensual sext *forwarding* may be explained by individuals' sexting intention, sexting attitudes, and their experiences with non-consensual sext *receiving*. As previous research regarding the link between sexting attitudes, sexting intention, and non-consensual sexting behaviours presents inconclusive findings, we did not formulate a priori hypotheses about these associations. Rather, we will examine these associations through an exploratory approach. Additionally, as previous research has shown that non-consensual sexting commonly occurs among young people (e.g., Mori et al., 2020) and recent contributions urge for examinations of

sex differences in non-consensual sexting (e.g., Madigan et al., 2018; Reed et al., 2018), we include age and sex as control variables in these examinations.

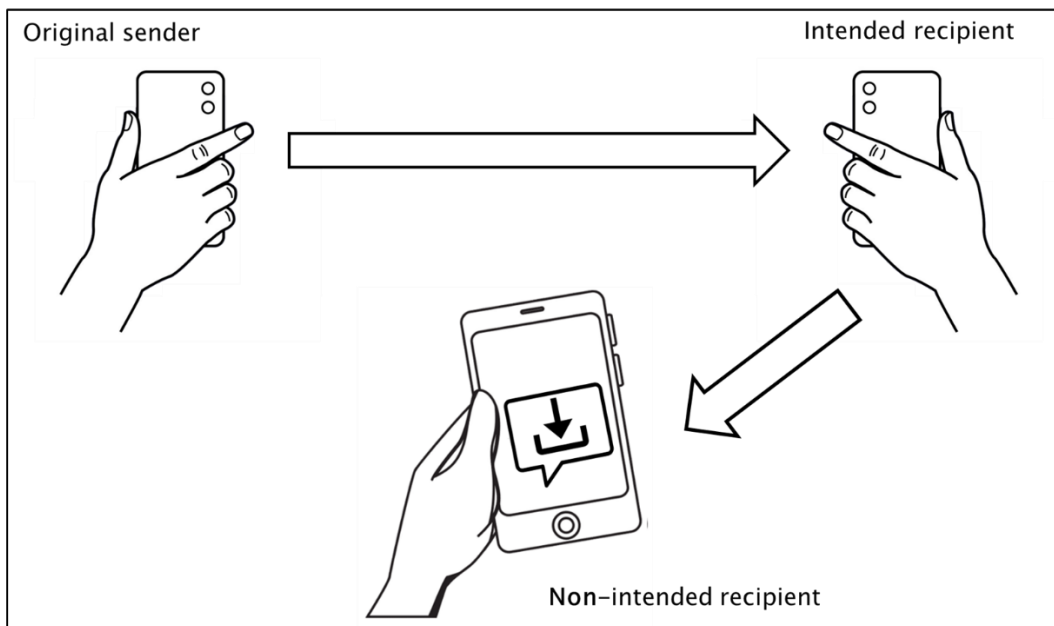
**Figure 1**

Non-consensual Sext Forwarding (a) and Receiving (b)

a) Non-consensual sext *forwarding*



b) Non-consensual sext *receiving*



**Methods**

**Procedure & Sample**

Data were collected through a cross-sectional survey conducted in the spring of 2022 amongst a convenience sample of adults living in Belgium. The survey was programmed in Qualtrics and was distributed online via social media such as Facebook, Twitter, and Instagram. In these social media posts, people were informed that the study aimed to investigate the role of digital technology within people's daily life and relationships. Inclusion criteria were Dutch language proficiency and age of majority (18+ years). At the start of the survey, participants read an information letter with more information about the study and their rights as participants. Prior to filling out the survey, participants gave informed consent, indicating that they were sufficiently informed about the purpose of the study, about their right to withdraw from the study, and about the procedure through which their data would be anonymized, stored, analysed, and shared. Ethical approval for the study was obtained from the institutional review board of the first author. For more detailed information on the study protocol, see Hardyns et al., 2019.

In total, 218 people completed the survey. The average age was 28.34 years ( $SD = 12.64$ ), with an age range from 18 to 76 years. Of the total sample, 169 respondents indicated they had ever received a sext from someone<sup>2</sup>. In the present study, we only included data from individuals who have ever received a sext from someone. By default, individuals who indicated that they had never received a sext would not have been able to forward a sext themselves. Thus, the analyses in our study are conducted for this subsample of 169 respondents. The mean age of this subsample was 25.85 years ( $SD_{age} = 8.80$ ), and 73.4% of respondents were women. 75.7% of respondents described their sexual orientation as heterosexual, 10.7% identified as gay or lesbian, 13.0% as bisexual, 3.6% as queer, 3.6% as pansexual, and 0.6% as asexual. 3.6% of respondents did not know their sexual orientation or did not wish to report it. Most

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<sup>2</sup> This was measured with the following question: "How often has someone ever sent you a sexually explicit photo(s) or a sexually explicit message of themselves?"

respondents had a university degree (60.4%), 37.3% of respondents had a high school diploma, 1.8% had no degree higher than primary education and 0.6% (1 respondent) had no degree.

## Measures

In most cases, our measures were based on existing measures, that we abbreviated<sup>3</sup> for the purpose of the present study. The reason for this is that the data used for the present study was collected as part of a larger survey project, and we did not want to put too much strain on our respondents, particularly considering the sensitive nature of several of these constructs.

**Non-Consensual Sexting.** Non-consensual sext receiving and forwarding were both measured with a single item, as previously used in the Apestaartjaren<sup>4</sup> research project among Belgian youth (Vanhaelewyn et al., 2020). For the item measuring non-consensual sext *receiving*, we asked respondents how often they had ever seen or received sexual pictures or messages from someone else without the original sender's knowledge. For the item measuring non-consensual sext *forwarding*, we asked respondents how often they themselves had ever forwarded sexual pictures or messages without the original sender's knowledge. Both items were measured on a 4-point frequency scale ranging from 1 = 'never' to 4 = 'often'.

**Sexting Intention.** Sexting intention was measured using an abbreviated version of Hudson's sexting instrument (Hudson & Fetro, 2015). The scale comprised 3 items<sup>5</sup>, which were answered on a 5-point Likert scale ranging from 1 = 'disagree' to 5 = 'agree'. Specifically, we asked respondents how likely it is that they would engage in sexting if they were in a relationship, if they received a sext from someone they were interested in, and if they trusted the recipient. In the present study, the scale demonstrated good reliability ( $\alpha = .86$ ).

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<sup>3</sup> Whenever possible, the selection of items for the abbreviated scale was based on factor loadings reported in the principal study.

<sup>4</sup> Apestaartjaren is a biennial research project that aims to map the digital world and experiences of Belgian youth. For more general information on this project, see: <https://www.mediawijs.be/nl/onderzoek/apestaartjaren>

<sup>5</sup> Sexting intention was initially measured with four items. However, reliability and factor analyses revealed that the item performances would improve upon deletion of item 3 (i.e., "how likely is it you would sext if someone pressured you?"). As such, item 3 was omitted from further analyses.

**Sexting Attitudes.** Sexting attitudes were measured with an abbreviated version of the sexting attitudes subscale of the Sex and Tech survey instrument (National Campaign to Prevent Teen and Unplanned Pregnancy, 2008). The scale comprised 3 items<sup>6</sup>, which could be answered on a 5-point Likert scale ranging from 1 = ‘disagree’ to 5 = ‘agree’. We presented respondents with the following three items: “Personal sexy messages and pictures/videos usually end up being seen by more than just those to whom they were sent”, “One has to be aware that sexy messages and pictures/videos may end up being seen by more than just the intended recipient(s)”, and “Sending personal sexy messages and pictures/videos can have serious negative consequences.” In the present study, the subscale demonstrated acceptable reliability ( $\alpha = .70$ ).

**Control variables.** We included respondents’ age and sex as control variables. *Age* was measured as a continuous variable with a range from 18 to 76 years. *Sex* was measured as a binary variable and was coded zero for men and one for women.

### **Analytical plan**

The analyses are conducted in IBM SPSS Statistics (Version 28). Statistical significance was determined at  $p \leq .05$ . Following recommendations from many scholars (e.g., Cumming & Calin-Jageman, 2016; Halsey, 2019), we additionally examined confidence intervals (CIs) as indicators of estimated effect size accuracy.<sup>7</sup> First, prevalence rates of non-consensual sext receiving and forwarding were examined. Second, bivariate correlation analyses were performed to assess the direct relations between the study variables. Preliminary distribution

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<sup>6</sup> Initially, sexting attitudes were measured with five items of the Sex and Tech survey instrument. However, reliability and factor analyses revealed that the scale’s psychometric properties would substantially improve upon deletion of item 1 (i.e., “There is pressure among people my age to post sexy pictures/video in their networking site profiles”) and item 5 (i.e., “People who exchange sexy messages or pictures/video are expected to date or hook up with each other in real life”). As such, items 1 and 5 were omitted from further analyses.

<sup>7</sup> Post hoc or retrospective power analyses are heavily disputed for their inability to inform readers about sample size adequacy (e.g., Lenth, 2007). Therefore, the effects in our study are evaluated using confidence intervals instead. Confidence intervals are affected by the sample size of the study and the variance of the data (Levine & Ensom, 2001), and as such provide an indication of sample size adequacy and the magnitude of the effects.

examinations revealed that non-consensual sext forwarding was not normally distributed among our sample. As such, bivariate associations were assessed using non-parametric Spearman rank correlations. 95% CIs were estimated through bootstrapping with 5,000 bootstrap samples.

Next, we examined the role of sex, age, sexting intention, sexting attitudes, and non-consensual sext receiving as predictors of non-consensual sext forwarding by conducting a hierarchical regression analysis. Assumptions were tested and none of the assumptions were violated. In testing the hierarchical model, respondents' sex and age were first entered as predictors of non-consensual sext forwarding. In a second step, sexting intention and attitudes were included in the model. Lastly, experiences of non-consensual sext receiving were entered into the equation.

## **Results**

### **Prevalence of Non-Consensual Sexting Experiences**

We found that 108 (63.9%) respondents had at least once in their life received a forwarded sext without the original sender's consent. Furthermore, 38 (22.5%) respondents had at least once non-consensually forwarded a sext themselves.

### **Associations between Sexting Intention, Sexting Attitudes, and Non-Consensual Sexting**

Findings from the Spearman rank correlation analyses are presented in Table 1. We found that sexting attitudes were positively associated with non-consensual sext receiving ( $\rho = .256$ ,  $p < .001$ ) and forwarding ( $\rho = .207$ ,  $p = .007$ ). As sexting attitudes were measured in relation to the risks (and not the pleasures) of sexting, these findings imply that people with stronger perceptions of sexting as being risky were more likely to engage in non-consensual sexting. Sexting intention, on the other hand, was not significantly associated with any of the non-consensual sexting experiences. It was significantly linked to sexting attitudes ( $\rho = -.259$ ,  $p <$

.001), however, such that individuals with stronger perceptions of sexting as being risky reported lower intention to engage in sexting. Furthermore, we found that the two non-consensual sexting experiences were significantly positively correlated ( $\rho = .487, p < .001$ ), meaning that individuals who had received sexts that were forwarded without the consent of the original sender were also more likely to non-consensually forward sexts themselves. With regard to respondents' age and sex, we found that age was significantly negatively related to non-consensual sext receiving ( $\rho = -.243, p = .001$ ), meaning that younger people reportedly had more often received forwarded sexts without the consent of the original sender. No significant associations were found between respondents' sex and any of the study variables.

### **INSERT TABLE 1 HERE**

#### **Sexting Intention, Attitudes, and Non-Consensual Received Sexts as Predictors of Non-Consensual Sext Forwarding**

A hierarchical regression analysis was conducted with sexting intention, sexting attitudes, and non-consensual sext receiving entered as predictors of non-consensual sext forwarding. In Model 1, which explained 1.4% of the variance in non-consensual sext forwarding, we found that neither age ( $\beta = -.117, p = .133$ ) nor sex ( $\beta = -.016, p = .835$ ) were significantly linked to non-consensual sext forwarding. Upon inclusion of sexting intention and attitudes in Model 2, the amount of explained variance increased to 5.2%. We found that age ( $\beta = -.138, p = .085$ ), sex ( $\beta = -.032, p = .680$ ), and sexting intention ( $\beta = -.013, p = .868$ ) were not significantly linked to non-consensual sext forwarding. Sexting attitudes, however, were significantly linked to this behaviour ( $\beta = .193, p = .015$ ). Lastly, we included non-consensual sext receiving in the third model. Model 3 explained 23.6% of the variance of non-consensual sext forwarding, which is 18.4% more than Model 2. In Model 3, sexting attitudes were no longer significantly linked to non-consensual sext forwarding ( $\beta = .052, p = .483$ ), nor were age ( $\beta = .005, p = .943$ ), sex ( $\beta = -.032, p = .641$ ), and sexting intention ( $\beta = -.037, p = .614$ ). Out of all predictor variables,

only non-consensual sext receiving significantly (and substantially;  $\beta = .471$ ,  $p = .000$ ) explained why people forward sexts without the original sender's consent.

## **INSERT TABLE 2 HERE**

### **Discussion**

The aim of our study was to increase our understanding of non-consensual sexting. Particularly, we aimed to explain why people forward sexts without the consent of the original sender by examining the role of sexting intention, attitudes, and non-consensual sext receiving. First, we found that almost two third of respondents had received a forwarded sext without the original sender's consent, and that almost one quarter of respondents had non-consensually forwarded sexts at least once. These findings corroborate findings from previous research and suggest that non-consensual sexting is a rather common phenomenon (e.g., Clancy et al., 2019; Mori et al., 2020).

Second, findings from the correlation analyses revealed that non-consensual sext receiving and forwarding were significantly associated, meaning that individuals who had received a non-consensually forwarded sext were also more likely to non-consensually forward a sext themselves. This finding aligns with previous research identifying social learning processes in people's sexting behaviours (e.g., Van Ouytsel et al., 2017). A potential explanation as to why individuals would imitate other's non-consensual sexting behaviour could be that they experience pressure from their peers to engage in non-consensual forwarding of sexts. This is also suggested in a recent study by Barrense-Dias and colleagues (2020), who found that the young adults in their sample forwarded sexts mostly to their friends, and that one of the main reasons why they did it was to show off to their peers. Another social dynamic that could explain why individuals who have received forwarded sexts decide to forward the sexts as well could be to join in gossip. Prior work among adolescents found that the non-consensual forwarding of sexts has been associated with (cyber)gossip in a way to participate in the broader

social conversations that are going on (Bindesbøl Holm Johansen et al., 2019; Casas et al., 2019). Lastly, it is possible that non-consensual forwarding and receiving experiences were strongly associated because the act of receiving and forwarding were sequential, such that individuals forwarded sexts that were forwarded to them, rather than receiving and forwarding sexts send by the original sender. While it is likely that this explanation of non-consensual sexting occurring in a sequence may partially account for the link between non-consensual forwarding and receiving, more research is needed to explore the potentially sequential nature of these non-consensual sexting behaviours. As an example, a recent study conducted among adolescents found that only a small percentage, 7.7% of the participants, reported forwarding such images themselves. On the other hand, a majority, 72% of the participants, indicated that they took no action in response to receiving these non-consensual images (Van Ouytsel et al., 2021). Future longitudinal work could further examine the motivations of individuals to forward non-consensual sexts that were received.

Third, the correlation analyses revealed that neither non-consensual sext receiving nor non-consensual sext forwarding were significantly associated with sexting intention. While we initially argued that individuals with stronger sexting intentions may overall be more inclined to engage in consensual or non-consensual sexting behaviours, we still approached this link in a rather exploratory way. An important consideration to make is that sexting intentions rarely reflect a general tendency, as they may strongly depend on the context and the person with whom someone is sexting. For example, an individual's intention to engage in sexting may be strongly intertwined with the extent to which they trust the recipient of their sext (Walrave et al., 2014). For non-consensual sext receiving and forwarding, this level of trust may not be as important, as the particular sext was not originally created by the individual themselves. Following this line of reasoning, sexting intention and the inherent contextual constraints (e.g., trust) that are linked to it may indeed not be as important in explaining non-consensual sexting

behaviours as we initially expected. In future work, it would be fruitful to include measures of intentions to engage in non-consensual sexting specifically. Additionally, given the limitations in our operationalization of, for example, sexting intention, and given the fact that consensual and non-consensual sexting concern different phenomena, it is not that surprising that findings from our study differ from those that have examined consensual sexting behaviours. Studies that have compared consensual versus non-consensual sexting experiences are scarce (for a recent systematic review, see Barroso et al., 2023), and we strongly encourage scholars to conduct more in-depth examinations of the (differences in) mechanisms underlying consensual versus non-consensual sexting.

Fourth, we found that both non-consensual sext receiving and non-consensual sext forwarding were significantly correlated to sexting attitudes, meaning that people with stronger negative perceptions regarding the risks related to sexting were more inclined to receive and forward sexts non-consensually. While one may intuitively assume that stronger risk perceptions about sexting would be linked to less engagement in risky (non-consensual) sexting behaviours, it is on the other hand not that surprising that people who engage in risky sexting behaviours would agree that sexting can be a risky endeavour. These differences in attitudes and sexual behaviours have also been found for offline sexual risk behaviour. For example, Sychareun and colleagues (2013) found in their study on risk perceptions of contracting a sexually transmitted disease (STI), that individuals were more likely to have a strong risk perception of getting an STI when they had personally experienced STI symptoms in the last six months. Similarly, another way to interpret our findings is as an indication of an attitude-behaviour gap, as respondents in our sample seemingly acted against their own beliefs. Previous research concerning offline sexual behaviours also suggests the existence of such gaps. For instance, several studies have revealed that individuals continue to engage in sexual risk behaviours, such as not using condoms, despite being aware of the associated risks (Mannberg,

2012; Osorio et al., 2015). Furthermore, another explanation as to why negative evaluations of sexting may motivate people to forward a sext without the original sender's consent is provided by findings from Naezer and Van Oosterhout (2021), who found that some people who had engaged in non-consensual sext forwarding mentioned they "felt like they had to teach peers a lesson not to participate in sexting" (p.87). The idea that victim-blaming attitudes play a role in the willingness to engage in non-consensual sexting is also supported in recent research by Maes and colleagues (2023). The link between sexting and victim-blaming attitudes and non-consensual sext *receiving* remains unexplored, however. In the present study we did find a significant association between sexting attitudes and non-consensual sext receiving, which suggests that the experience of receiving forwarded sexts without the consent of the original sender could increase one's perceptions of sexting as a risky endeavour. However, future research should further investigate the (causal) mechanisms related to individuals' positive and negative sexting attitudes and their non-consensual sexting behaviours.

Last, we explored why people forward sexts without the consent of the original sender by considering their sexting intention, attitudes, and experiences with non-consensual sext receiving, while controlling for their sex and age. Findings from the hierarchical regression analysis initially revealed that, similar to findings from the correlation analysis, non-consensual sext forwarding is linked to people's attitudes about sexting being a risky endeavour. However, when we additionally considered the influence of non-consensual sext *receiving* experiences, this significant link with sexting attitudes disappeared and non-consensual sext receiving became the sole significant predictor in the tested model. This suggests that people who have experienced non-consensual sexting as a recipient are inclined to non-consensually forward a sext themselves *regardless of their attitudes* about (the risks of) sexting. This finding has several implications. For example, it could mean that individuals' non-consensual sexting behaviours are particularly driven by social learning processes, and that the mere observation

of someone forwarding a sext to them is already enough ground to engage in non-consensual sext forwarding themselves. Another implication could be that within the dual-process framework of reflective versus impulsive decision making (Strack & Deutsch, 2004), the act of forwarding a sext without the consent of the original sender occurs without much deliberation, in a fast or even automatic fashion. A possible explanation for this is given by Rhyner and colleagues (2018), who argue that sexting can be considered an emotionally driven behaviour. Emotional arousal affects our ability to understand the possible negative consequences of our behaviour (in this case, sexting). While Rhyner and colleagues apply their framework to understand risky sexting behaviours of adolescents in particular, an age group characterized by underdeveloped impulse control, it provides an important foundation to further understand why people engage in non-consensual sexting. Thus, future research should empirically test these hypotheses as to further unravel the decision-making processes of non-consensual sexting. In line with this, future work should extend our exploratory study by examining the appropriateness and applicability of existing theoretical frameworks in explaining non-consensual sexting. As stated, more extensive examinations of social learning theory and the aforementioned dual-process decision making framework are needed. In addition to this, it would be insightful to investigate non-consensual sexting, which is generally considered norm-defying – and in some cases even criminal – behaviour, through criminological theoretical frameworks, such as situational action theory (Wikström, 2004) or social control theory (Hirschi, 1969; 2002).

### **Study Limitations**

The present study has several limitations that should be taken into consideration when interpreting the results. First, as the present study applied self-report measures, our study may be affected by social desirability bias and heavily relies on individuals' willingness to report on the sensitive topic of non-consensual sexting. Additionally, in our measurement of non-

consensual sext receiving, we assumed that the respondents were aware if the sext they had received was forwarded with or without the consent of the original sender. However, this might not always be so clear, or it could be that the person who forwards the sext lies about this. As such, we encourage scholars to examine non-consensual sexting through alternative methodological designs that do not (solely) rely on self-report. Second, the cross-sectional study design does not allow us to make causal inferences regarding the examined relationships between sexting intention, attitudes, and non-consensual sexting behaviours. Future research should examine these associations using a longitudinal design.

Third, we used rather brief measures to examine sexting intention, attitudes, and non-consensual sexting experiences. We made this decision because we did not want to put too much strain on our respondents, particularly given the sensitive nature of some of the questions. Numerous studies have shown that shorter or even single-item scales perform very well relative to full scales (e.g., Gardner et al., 1998; Hays et al., 2012). Decisions on the number of items in a scale always come with important trade-offs (Böckenholt & Lehmann, 2015), however, and a lower number of items might imply that not the entire width of the construct in question is covered. Related to this, we operationalized sexting as the sending or receiving of sexually explicit pictures or messages, without making a distinction between the two. As recent studies have found that the non-consensual distribution of sexual images is particularly damaging to victims (e.g., Sparks, 2022), measures in which the non-consensual receiving and forwarding of sext messages versus images are captured as two distinct phenomena would yield more detailed information on the predictors and consequences of non-consensual sexting. Thus, more elaborate, detailed examinations of these concepts could have provided more thorough insights into how and why these concepts are (not) linked to each other. Also, as we did not include measures of sexting intentions that specifically consider individuals' intention to engage in non-consensual sexting, this limited our ability to identify a potential link between sexting intention

and non-consensual sexting behaviours. Future research should use measures that provide more detailed insights into sexting intention, attitudes, and non-consensual sexting experiences.

Fourth, as there was little variation in the sexual orientation and gender identity of respondents, we were not able to account for these factors in our analyses. This is an important shortcoming, as recent research has shown that lesbian, gay, and bisexual youth were more likely to have ever taken, send, or received a sexual image, and were more at risk to become victimized by pressured sexting compared to (particularly male) heterosexual respondents (Van Ouytsel et al., 2019; Van Ouytsel et al., 2021). Other studies have found that youth who identify as a gender minority are also at a higher risk for sexting-related abuse compared to cisgender youth (Van Ouytsel et al., 2020b). Future work should make sure to examine (non-consensual) sexting experiences among a sample with more diversity in respondents' sexual orientation and gender identity.

Lastly, our study used a relatively small convenience sample of Dutch-speaking individuals living in Belgium. Several studies have already demonstrated that sexting attitudes and experiences may differ across cultures (e.g., Dodaj et al., 2022; Gil-Llario et al., 2020; Morelli et al., 2020), although cross-cultural examinations of non-consensual sexting remain scarce. As such, future research should examine sexting intention, attitudes, and non-consensual sexting experiences among a representative sample and across geographical and cultural boundaries.

### **Implications for Research and Practice**

Despite these limitations, our findings provide some important insights for sexting research and practice. As we found strong links between non-consensual sext forwarding and non-consensual sext receiving, scholars in the field of sexting research should be aware of and account for differential individual role-taking within non-consensual sexting occurrences. Also,

it is important to note that the amount of people who engaged in non-consensual sexting was rather high. This is particularly striking when we consider the fact that the dissemination of sexual images without the original sender's consent is in many countries considered a criminal act (Beyens & Lievens, 2016). In addition to more comprehensive legislation, concrete tools should be developed that may increase awareness about the harm non-consensual sexting may cause, and that could heighten the threshold for people to engage in it. One example could be to encourage people to include watermarks to the sexual images they send, for example by including a watermark with the name of the intended recipient. This way, the intended recipient, who is likely to be the distributor of the sext, will be easier to identify and hold accountable when the sexual image or video is non-consensually distributed. Not all responsibility should be placed at the original sender, however, and prevention and intervention efforts concerning non-consensual sexting should focus on how to make sure people do not forward the sexts they receive. As our findings suggest that non-consensual sexting could be explained through social learning processes, one promising avenue to prevent people from (further) engaging in non-consensual sexting is by examining decision making processes and by targeting and addressing dominant social norms, for example through education and other awareness-raising efforts. Schools and other educational institutions are a particularly appropriate place to initiate such efforts, for example by teaching and engaging in discussions with students about sexual consent and how this applies to sexting behaviours.

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**Tables**

**Table 1**

*Spearman Rank Correlation Coefficients between Study Variables*

	<i>M</i>	<i>SD</i>	1.	2.	3.	4.
1. Non-Consensual Forwarding	1.31	0.62	-			
2. Non-Consensual Receiving	2.15	0.99	.487*** [.355, .600]	-		
3. Sexting Intention	3.32	1.16	.031 [-.121, .181]	.071 [-.081, .220]	-	
4. Sexting Attitudes	3.98	0.86	.207** [.056, .349]	.256** [.107, .394]	-.259** [-.397, -.110]	-
5. Age	25.85	8.80	-.138 [-.284, .014]	-.243** [-.382, -.093]	-.022 [-.172, .129]	.047 [-.105, .197]
6. Sex	-	-	.002 [-.149, .153]	.057 [-.095, .206]	-.115 [-.262, .037]	.066 [-.086, .215]

*Note.* \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ . 95% Confidence intervals are presented in brackets [LL, UL].

**Table 2**

*Hierarchical Regression Analysis with Non-Consensual Sext Forwarding as Outcome Variable*

	<i>B</i>	<i>SE B</i>	$\beta$	<i>p</i>	95% CI		<i>R</i> <sup>2</sup>	Adj. <i>R</i> <sup>2</sup>	$\Delta R^2$	<i>p</i> <sup>a</sup>
					LL	UL				
<b>Model 1</b>							.014	.002	-	
Age	-.008	.005	-.117	.133	-.019	.003				
Sex	-.023	.108	-.016	.835	-.236	.191				
<b>Model 2</b>							.052	.029	.038	.040
Age	-.010	.006	-.138	.085	-.021	.001				
Sex	-.044	.107	-.032	.680	-.256	.168				
Sexting intention	-.007	.043	-.013	.868	-.092	.078				
Sexting attitudes	.138	.056	.193	.015	.028	.249				
<b>Model 3</b>							.236	.212	.184	.000
Age	.000	.005	.005	.943	-.010	.011				
Sex	-.045	.097	-.032	.641	-.236	.146				
Sexting intention	-.020	.039	-.037	.614	-.096	.057				
Sexting attitudes	.037	.053	.052	.483	-.067	.142				
Non-Consensual Receiving	.293	.047	.471	.000	.201	.385				

*Note.* CI = Confidence interval; LL = lower level; UL = upper level; <sup>a</sup>*p*-value for  $\Delta R^2$