

**Nonconsensual sexting: characteristics and motives of youths who share received-  
intimate content without consent**

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## **Abstract**

**Background:** One of the possible negative consequences of sexting is the nonconsensual sharing of received-intimate content. This study aimed to determine the characteristics and motives of youths who shared received-intimate images without consent. **Methods:** Data were obtained from a self-administrated Swiss survey on sexual behaviors among young adults (24-26 years). Out of the 7142 participants, 5175 responded to the question *Have you ever shared (forwarding or showing) a sexy photograph/video of someone else (known or unknown) without consent?:* 85% had never shared (Never), 6% had shared once (Once) and 9% had shared several times (Several). Data are presented as relative risk ratios with 95% confidence intervals. **Results:** Participants who had shared received-intimate content without consent had higher odds of being male (2.73 [2.14-3.47]), foreign-born (1.45 [1.04-2.03]), reporting a non-heterosexual orientation (1.46 [1.10-1.93]), having sent one's own intimate image (1.76 [1.32-2.34]) and receiving a shared-intimate image of someone unknown (4.56 [3.28-6.36]) or known (2.76 [1.52-5.01]) compared to participants who had never shared. The main reported motivations were for fun (62%), showing off (30%) and failure to realize what they were doing (9%). **Conclusions:** Given the reported motivations, it appears crucial to remind youths of the seriousness of a nonconsensual sharing. Although females may also be perpetrators, the behavior was more prevalent among males. Prevention and education need to consider a broad range of young people in their scenarios. Even if a particular focus on understanding and preventing males' perpetration must be considered, overall perpetration, including female's, must be discussed.

**Keywords:** Adolescents; Internet; Sexting; Violence

## **1. Introduction**

One of the possible negative consequences of sexting is the risk of a nonconsensual sharing of received-intimate content (1-3). Although sexting is generally a private exchange between two people (4-7), harm can occur when the received-intimate content is shared beyond the intended audience and in such a case authors refer to, for example, aggravated sexting (4), nonconsensual sexting (6) or revenge pornography (8). Despite the growing scientific interest in sexting among youths and the recent use of different terms to distinguish consensual and nonconsensual sexting, definitions are still unclear (9-11). This issue can also be seen through the difference between deviance and normalcy discourses (8, 10, 12-15). In the normalcy discourse, sexting is a sexual behavior and the potential negative consequences are not part of the definition.

The first study on sexting (16) included items on the exchange between two persons as first sender and recipient, and on nonconsensual sharing as secondary sender and recipient. In that study (16), 20% of teens and young adults shared received-intimate content without consent. However, while sexting has become especially known because of nonconsensual sharing, research that followed this first study has mainly focused on sending and receiving as first sender and recipient (6, 17, 18). This trend was also noticed in prevention, with abstinence messages that aim to avoid problems linked to sexting by demonizing and prohibiting consensual sexting per se (10, 19). In a recent meta-analysis (6) examining the prevalence of sexting behaviors among youths under 18 years old, only 9 out of 39 studies reported on nonconsensual sharing. Furthermore, a systematic review (8) on revenge pornography and nonconsensual sharing concluded that research on these problems was in its infancy, as no study assessed the motivations for it. Therefore, research on nonconsensual sharing of received-intimate content among youths remains scarce (17). Moreover, most of the literature on sexting focuses on the victim's perspective (20). The distinction between the different actions and the study of nonconsensual sexting using the perpetrator's perspective are yet important and

needed. Indeed, previous studies have found associations between online harassment, including nonconsensual sharing, and anxiety or depression (21), substance use (22) and offline dating violence (23). However, nonconsensual sharing was not assessed individually and more generic concepts such as digital dating abuse or cyber-victimization were used (18).

Sexual violence demonstrates a gendered inequality with females being overrepresented among victims and males among perpetrators (18). In the sexting context, results on gender differences are not consistent. Indeed, for primary sexting, there is no consensus (9). Some studies report more females being involved in sexting and others find males being more likely to sext. Regarding nonconsensual sexting, it seems that the higher odds for males of being perpetrators and females being victims are based on common beliefs (8, 18, 24). If results regarding gender differences are not consistent and calls are made to examine the gendered hierarchy of nonconsensual sexting, gender differences in terms of judgements and reactions have been well documented in qualitative studies (8). Based on the double sexual standards, females tend to receive more negative reactions than males regarding sexting activities, including victimization of nonconsensual sharing.

In this line, the one-way perspective in prevention and education with females being systematically portrayed as victims and males as perpetrators has been criticized as participating to the stigmatization of females, feeding stereotypes and leading to negative reactions towards them (15, 19, 25, 26). In Switzerland, even if the two genders were presented as possible victims, the main prevention campaign (27) only focused on primary sexting and addressed abstinence messages to potential victims. The poster used in this campaign presented a boy and a girl who were victims of nonconsensual sharing of their intimate image. The slogan was *Sexting can make you famous, even if you do not want to*. Since then, sexting has been discussed in broader interventions such as Internet use or sex education but always to prevent primary sexting per se. It is only very recently that a new approach was used to prevent nonconsensual

sharing and to address prevention messages to potential perpetrators. This reorganization in the French part of Switzerland was done, and is still going on, with the expertise of the first author of this paper. The exact content of these interventions, in particular with regard to stereotypes, is still under construction.

The present study aimed to determine the characteristics and motives of youths who shared received-intimate images (photograph and/or video) with other people without consent. We were also interested in the context of nonconsensual sharing in terms of the relationship between the sender and the person on the forwarded image, the content of such images, the recipients and the motivations to share.

## **2. Methods**

Data were obtained in 2017 from the Swiss national survey on sexual behaviors among young adults aged 24-26 years in 2016 (28). This age range was selected in order to ensure that most participants would be sexually active and at the same time sufficiently young to be able to recall accurately past events. The Federal Statistical Office provided the initial sample that was representative of this population living in Switzerland in terms of sex, language (French, Italian or German) and canton of residence. Selected individuals were invited to participate through an information letter sent by postal mail including the Internet link to connect to the anonymous questionnaire. The final sample included 7142 participants (response rate 15.1%). To correct a slight over-representation of females from the French-speaking part of Switzerland, analyses were weighted by gender and canton of residence. Some data were collected using a life history calendar (LHC) approach. The LHC is a method that facilitates recall of past events by using the individual's own past events as cues for remembering and incrementing the precision of reports (29, 30). A detailed description of the survey method can be found elsewhere (28).

### **2.1 Variables**

### 2.1.1 Dependent variable

Out of the 7142 participants, 5175 (49% females) responded to the question *Have you ever shared (forwarding or showing) a sexy photograph/video of someone else (known or unknown) without consent?* and were divided according to their answer: 4396 (85%) had never shared (Never group), 292 (6%) had shared once (Once group) and 487 (9%) had shared several times (Several group). Additional questions were then asked to differentiate between forwarding and showing, and between known and unknown. Demographic data of the final sample used in this study are presented in Table 1.

The term sexy was defined in the survey as sexually suggestive, sexually implicit, nude, semi-nude, dressed, flirtatious, etc. This broad definition was then clarified with additional questions. Similarly, the ways of transmitting such a content were also broadly defined in the survey: SMS, WhatsApp, Instagram, Snapchat, e-mail, Webcam, etc., ensuring the inclusion of different practices and avoiding missing out new applications or methods.

### 2.1.2 Independent variables

Socio-demographic and personal characteristics included gender, birthplace (Switzerland/other), place of residence (urban/rural), attained education level (tertiary/below), perceived family socioeconomic status (SES), perceived puberty onset and sexual orientation.

Family SES was measured with the question *Compared to other families in Switzerland, your family financial situation when you were 15 was...* and we dichotomized the 7 possible answers into below average and average or better (31).

Perceived puberty onset was assessed through the question *“If you think about the age at which you started your puberty, compared to other same-age youths, would you say that you were...”* with three possible answers: advanced, on time or delayed (32).

For sexual orientation, we used a multidimensional approach to ensure the effectiveness of such a complex issue for youths (33, 34). We combined three variables: sexual orientation identity, attraction and sex of sexual partner(s). Sexual orientation identity was measured through the question *How would you describe yourself?* with four answers: heterosexual, gay/lesbian, bisexual, I do not know/Not sure. Attraction was assessed with the question *What best describes how you feel?* with answers ranging from Only attracted to people of the opposite sex to Only attracted to people of the same sex as me. Sex of sexual partner(s) consisted of using sex of their lifetime sexual partner(s) in any sexual contact. The combination of these three perspectives allowed dichotomizing respondents between “exclusively heterosexual” (all three dimensions categorized as heterosexual) and “nonexclusively heterosexual” (at least one non-heterosexual).

We also compared the three groups (Never, Once, Several) on sending one’s own intimate image and having received a non-intended shared-intimate content. For the sending, we hypothesized that the fact of having already sent one’s intimate image could refrain people to share a received-intimate content of someone else without consent because of the fear that their own image would be shared by revenge. However, sending one's own image could also minimize the risk perception about sharing with people not originally intended (35) and lead to share intimate-received content without consent more easily. We also used a variable on receiving as sharing may also be secondary when subsequent recipients decide to continue the dissemination. For the group having already received a sharing, we also looked at whether they knew the person on the image or not.

### *2.1.3 Additional questions*

We compared the two groups (Once and Several) on additional questions used to explore the context of nonconsensual sharing. Some of these questions were adapted from the first study

on sexting among youths (16). Participants reported the way of sharing (sending the content or showing it directly on a device), how was the person on the image (in a suggestive, sexy or flirtatious position but dressed, partially nude (underwear, low-necked, etc.), completely nude (buttocks, breast, genitals, etc.), or during a sexual act), if the face of the person appeared on the image, recipients (close friends, other friends, family member, online friends or everyone on a social media) and motivations to share (love revenge, showing off, for fun, to be accepted in a group, jealousy or meanness, being under pressure to share, asking for opinion). When possible, other free-text answers were coded into the defined categories and a new category was created for the motives as several free-text answers referred to asking for opinion. For the remaining free-text answers, we excluded them from our analyses as they were very heterogeneous, sometimes unclear or with the free-text field empty, and it only involved a very small number of participants. We had to deal with exclusive multiple choices on how the person appeared on the image for the Several group. Therefore, we decided to keep the most extreme answer for this question because it is the one that can have more impact and includes all the less extreme as it is considered a continuum. For example, if a participant shared an image of someone partially nude and another one during a sexual act, we chose the latter.

## ***2.2 Data analyses***

Analyses were performed in two steps. First, the three groups (Never, Once and Several) were compared on the above-mentioned variables. For the bivariate analyses, we used chi-square tests for categorical and ANOVAs for continuous variables to identify characteristics associated with sharing nonconsensual received-intimate content. Statistically significant variables were then entered into a multinomial regression analysis using the No group as the reference category. These analyses were performed overall and by gender. Results are given as relative risk ratios (RRR). Second, the two groups reporting nonconsensual sharing (Once and Several) were compared on the motives and context of such a sharing. For the bivariate analyses, we



used chi-square tests and statistically significant variables were then entered into a logistic regression analysis using the Once group as the reference category. We ran additional analyses for motives and context comparing by gender, using females as the reference category. Results are given as odd ratios (OR). We used STATA 14.0 (StataCorp, College Station, TX, USA) for all the analyses, with a significance level of  $p < 5\%$ .

### **3. Results**

#### *Comparison of the three groups (No, Once, Several)*

Overall, 6% had shared once and 9% had shared several times a received-intimate image (Table 2). Males had higher odds of having shared a received-intimate content without consent (21% vs. 9%) and to have such a content been shared with them (16% vs. 6%) than females.

At the bivariate level, compared to the participants in the Never group, participants in the other groups had higher odds of being male and foreign-born, reporting a lower education level and a non-heterosexual orientation, having already sent one's own intimate image and received a shared-intimate content of someone else (Table 3).

In the multivariate analysis, compared to the participants in the Never group, participants in the Once group had higher odds of being male (RRR:1.66) and reporting a lower education level (RRR:1.24). Participants in the Several group had higher odds of being males (RRR:2.73) and foreign-born (RRR:1.45), reporting a non-heterosexual orientation (RRR:1.46), having sent one's own intimate image (RRR:1.76) and received a shared-intimate image of someone unknown (RRR:4.56) or known (RRR:2.76) (Table 3).

#### *Comparison of the three groups (Never, Once, Several), by gender*

In the gender-differentiated multivariate analysis (Table 4), compared to the females in the Never group, those in the Once group had higher odds of reporting a lower education level

(RRR:1.53) and having received a shared-intimate image of someone they did not know (RRR:2.30). Females in the Several group had higher odds of reporting a lower education level (RRR:1.69), a non-heterosexual orientation (RRR:2.00), and receiving a shared-intimate image portraying an unknown person (RRR:3.66). Compared to males in the Never group, males in the Once group had higher odds of having sent one's own intimate image (RRR:1.60) (Table 5). Those in the Several group had higher odds of being foreign-born (RRR:1.52), having sent one's own intimate image (RRR:2.00) and having received a shared-intimate image of someone else they knew (RRR:2.70) or not (RRR:4.98).

#### *Comparison of the two groups (Once, Several)*

Sharing an image of someone else without consent was mostly done by showing it directly on a device (78%). Sixty-nine percent admitted knowing the person on the image and almost 60% shared an image on which the person's face appeared. The first recipients for both groups were close friends (86%). Very few participants answered that they shared with a larger audience on social media (0.7%). The three main motives for sharing with others were for fun (62%) followed by showing off (30%) and not realizing what they were doing (9%).

The two groups were compared on motivations and context (Table 6). At the bivariate level, participants in the Several group had higher odds of having sent (versus showed) an image to others on which the person's face appeared and with more explicit content (total nudity or sexual intercourse) to friends other than close friends and friends that were known online only and for fun. Those in the Once group had higher odds of having shared suggestive images and having done it because they did not realize what they were doing. At the multivariate level, controlling for sociodemographic data, participants in the Several group had higher odds of having forwarded the image (versus showing it) (OR:2.59), on which the person's face appeared (OR:1.83) and for fun (OR:1.49).

### *Comparison of the two groups (Once, Several), by gender*

At the bivariate level, males had higher odds of having sent an image instead of showing it, on which the person's face appeared, with more explicit content, to friends other than close friends and online friends, and reporting showing off as a motive. (Table 7) Females had higher odds of having forwarded it to obtain friends' opinions. At the multivariate level, compared to females, males had higher odds of having shared such a content with other friends (OR:1.84) and for showing off (OR:4.94).

## **4. Discussion**

The perpetration of nonconsensual sharing was reported by 15% of the participants. Our result is comprised between the rate of 12% found in a meta-analysis (6) and 19% in a recent Australian study (7).

Sharing a received-intimate content without consent was more prevalent among males. This could be explained by gender differences in the initial exchange. In the global study (28), significant differences were found for primary sexting: males were slightly less likely to report having sent their own sexy image (49% versus 52%) and more likely to have received such a content (68% versus 55%). Compared to previous studies finding significant gender differences for nonconsensual forwarding (22, 36, 37), our rates were higher, with the exception of a Bulgarian study reporting 18% of females and 30% of males (38). In this latter study, the measurement included images and text. However, 9% of females still reported nonconsensual forwarding, demonstrating the need for education to target a broad range of people who engage in perpetration and to use diverse scenarios avoiding the often used one-way scenario showing a girl as a victim of nonconsensual sharing committed by a boy (10, 19).

We had the hypothesis that having sent an intimate image of oneself could be somehow a protective factor for sharing the image of someone else without consent because of the fear that their image would be shared by revenge. However, this hypothesis was not confirmed by our results. On the contrary, such a sharing could be a revenge for a previous sharing of one's image without consent. Sending one's own image could also minimize the risk perception about sharing with people not originally intended (35).

Reporting a non-heterosexual orientation was associated with nonconsensual sharing at the bivariate level for males and at the multivariate one for females. In an Australian study (39), non-heterosexual participants were more likely to experience nonconsensual sharing of a sexual image as a victim than heterosexual ones. Thus, sharing an intimate-received content could also be explained as a way of revenge. Another explanation could be found in a difference in sexting rates, exposing this population to more risk. Indeed, previous studies(40, 41) found that non-heterosexual people were more likely to practice sexting.

Males who forwarded received-intimate content several times were more likely to be foreign-born. Nonconsensual sharing could be a way to be integrated, especially among males with the motive to show off (42-44). Additionally, these youths could have received a different education in terms of sexuality and use of new technologies.

Participants were more likely to report sharing-by-showing through their device directly. Social desirability bias could be an explanation to this finding as the sharing of someone else's image without consent is legally prohibited. However, choosing to show rather than send could also be a way to protect oneself and avoid the consequences of a "real" sharing, including legal evidence. Although some might consider this action as less serious, showing an intimate content could also contribute to the rumors, mockeries and isolation of the victim.

Close friends were the main recipients of a nonconsensual sharing and a larger audience was reported by very few participants. Youths could have a sense of security or control over the sharing because it "stays" between close friends only. This belief must be disputed by reminding youths that it only takes one sharing to create problems.

The first motivation was for fun, similar to another study (7). While the media and literature often talk about revenge porn in a breakup case (8), it seems that intending to hurt someone or seeking revenge was not the first motivation in our study. However, a social desirability bias is also possible. Indeed, participants might have given fun as an answer to lessen the gravity of their gesture or to report that they did not intend to harm someone. Despite this risk of bias, the motivation for nonconsensual sharing seemed to refer more to a lack of awareness of the consequences. The motivation for fun can also be considered in the same perspective as for bullying, namely that it is often performed to make peers laugh. The influence of the peer group seems to have an important place in this issue. The answer *I was not realizing what I was doing* was more reported by those in the Once group. Maybe these participants realized the consequences afterwards and did not reiterate. It is therefore important not to refer only to the term revenge porn to consider nonconsensual forwarding because other motivations can lead to similar consequences (7). A form of peer pressure could also explain the fact that males shared more received-intimate content without consent. Indeed, they were more likely than females to report showing off as a motive. This difference was already highlighted by qualitative studies (42-44), and could also be explained by the negative judgements that females could experiment (7, 35). Indeed, in addition to more violent reactions towards females who sext compared to males (45), females could also be more negatively judged as perpetrators of nonconsensual sharing. In our study, when females forwarded intimate-received content without consent, they seemed to perform less risky types of sharing: the face of the person on the image appeared less and they showed it more directly on their device. Females had higher odds of having shared

received-intimate content without consent to obtain the opinions of their friends. This finding could be another explanation to the gender differences in sharing received-intimate content without consent. Some female participants could have considered that their action was not a nonconsensual sharing in such a context.

The first strength of our study was the sample size. Even if the response rate was lower than expected, it is still a very large nationally representative sample of young adults. The second strength is what this study adds to the current literature on the understanding of this understudied theme. Finally, rarely reported in the literature (8), we have included data on motives and contexts of this practice to understand the acting out and obtain a detailed overview. Therefore, this study could pave the way to continue research and implement efficient sexting prevention by focusing on nonconsensual sexting and starting discussions with youths on motivations, context and consequences.

Some limitations need to be considered. First, we asked participants to report a lifetime behavior with no indication of their age when done for the first time. In addition to a possible recall bias, it is quite different if the nonconsensual sharing was performed as a minor. However, asking the question at age 26 gives participants a temporal perspective, and the LHC approach should minimize this risk of bias. Second, participants were aged 24-26 years when recruited. Technology tools and prevention were not the same when they were adolescents. Third, we asked them if they were perpetrators of nonconsensual sharing but we did not collect data on the potential victimization. Fourth, we used questions on having already received a shared-intimate content as a third party and analyzed it to explore the continuation of dissemination. However, we extrapolated this continuation, as we had no indication whether the nonconsensual sharing was done as a primary or as a following sender. It would be necessary to assess nonconsensual sharing in terms of active witnesses who continue to disseminate as third party. Fifth, regarding sharing an image of an unknown person, we cannot assure that it was not an

anonymous image found on the Internet. However, we found that most participants knew the person on the image.

### *5. Conclusions*

Our results demonstrate a significant percentage of young people who reported having already shared received-intimate content without consent. Given the three main reported motivations - fun, showing off, and failure to realize what they were doing - it appears crucial to remind youths of the seriousness of a nonconsensual sharing whether as a primary or third party. Even if females could also be perpetrators, males had higher odds of reporting such a behaviour suggesting a context of gender inequality.

Prevention and research should focus more on nonconsensual sharing and abusive forms of sexting than on consensual sexting. Young people also need to be educated about sexist discourse and gender stereotypes, including online sexual behaviors. Furthermore, prevention and education need to consider a broad range of young people in their scenarios. Even if a particular focus on understanding and preventing male's perpetration must be done, overall perpetration, including female's, must be discussed.

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**Table 1 Demographics of the final sample**

	<b>N</b>	<b>%</b>
Gender (female)	2534	49.0
Mean age $\pm$ SE	5175	26.3 $\pm$ .01
Foreign-born	591	11.4
SES (below average)	786	15.5
Residence (urban)	2734	52.8
Education (lower than tertiary)	2405	46.7
Non-heterosexual orientation	792	16.8

SE: Standard error

The final sample included 5175 participants who answered the question on nonconsensual sharing

**Table 2. Descriptive statistics for sexting activities overall and by gender**

	<b>Total</b>	<b>Females</b>	<b>Males</b>
	% (n)	% (n)	% (n)
Have shared a received-intimate image of someone else*			
Never	84.9 (4396)	91.2 (2311)	78.9 (2085)
Once	5.7 (292)	4.1 (103)	7.2 (189)
Several times	9.4 (487)	4.8 (120)	13.9 (367)
Have sent one's own intimate image**	50.0 (2590)	50.8 (1315)	49.2 (1275)
Have received a shared-intimate content of someone known*	3.2 (102)	1.0 (14)	4.9 (88)
Have received a shared-intimate content of someone unknown*	9.7 (311)	5.1 (72)	13.2 (239)

*Significant difference between males and females \* ( $p < .01$ ) \*\* ( $p < .05$ )*

1 **Table 3** Bivariate and multivariate analyses to identify characteristics associated with nonconsensual sharing received-intimate content

	<i>Bivariate analysis</i>				<i>Multivariate analysis</i>	
	Never % (n)	Once % (n)	Several % (n)	p- value	Once RRR [95%CI]	Several RRR [95%CI]
Gender (male)	<b>47.4 (2085)</b>	<b>64.7 (189)</b>	<b>75.3 (367)</b>	<b>&lt;.01</b>	<b>1.66 [1.26-2.21]*</b>	<b>2.73 [2.14-3.47]*</b>
Age (mean±SE)	26.3±.01 (4396)	26.3±.05 (292)	26.4±.04 (487)	ns		
Foreign-born (yes)	<b>10.8 (477)</b>	<b>12.9 (38)</b>	<b>15.6 (76)</b>	<b>&lt;.01</b>	1.24 [0.83-1.84]	<b>1.45 [1.04-2.03]**</b>
Residence (urban)	53.0 (2328)	50.6 (148)	52.9 (258)	ns		
SES (below average)	15.1 (652)	18.8 (52)	17.1 (82)	ns		
Education (lower than tertiary)	<b>45.0 (1968)</b>	<b>58.8 (170)</b>	<b>55.5 (267)</b>	<b>&lt;.01</b>	<b>1.24 [1.10-1.93]*</b>	<i>1.26 [1.00-1.59] †</i>
Puberty onset				ns		
<i>Advanced</i>	26.1 (1148)	31.5 (92)	30.3 (147)			
<i>On time</i>	45.3 (1993)	41.9 (122)	42.5 (207)			
<i>Delayed</i>	28.5 (1255)	26.6 (78)	27.2 (133)			
Sexual orientation (non-heterosexual)	<b>15.2 (605)</b>	<b>23.5 (65)</b>	<b>25.9 (122)</b>	<b>&lt;.01</b>	1.37 [0.98-1.91]	<b>1.46 [1.10-1.93]*</b>
Have sent one's own intimate image	<b>45.4 (1995)</b>	<b>73.8 (216)</b>	<b>77.8 (379)</b>	<b>&lt;.01</b>	1.26 [0.88-1.80]	<b>1.76 [1.32-2.34]*</b>
Have received a shared intimate content of someone known	<b>1.7 (41)</b>	<b>4.7 (13)</b>	<b>10.1 (48)</b>	<b>&lt;.01</b>	1.80 [0.81-4.00]	<b>2.76 [1.52-5.01]*</b>

Have received a shared intimate content of someone unknown	<b>6.5 (160)</b>	<b>9.8 (27)</b>	<b>25.8 (124)</b>	<b>&lt;.01</b>	1.51 [0.91-2.49]	<b>4.56 3.28-6.36]*</b>
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Three groups were compared according to their answer to the question on nonconsensual sharing of received-intimate content without consent. The Never group includes participants who had never shared intimate content of another person without consent. The Once group includes participants who had shared once. The Several group includes participants who had shared several times.

The Never group was the reference category for the multivariate analysis.

*Significant relative risk ratios (RRR) are in bold type \* (p<.01) \*\* (p<.05) † trend (p=0.054)*



8 **Table 4** *Bivariate and multivariate analyses to identify characteristics associated with nonconsensual sharing received-intimate content among*  
 9 *females*

FEMALES	<i>Bivariate analysis</i>				<i>Multivariate analysis</i>	
	Never % (n)	Once % (n)	Several % (n)	p- value	Once RRR [95%CI]	Several RRR [95%CI]
Age (mean±SE)	26.3±.02 (2311)	26.3±.08 (103)	26.4±.08 (121)	ns		
Foreign-born (yes)	11.5 (266)	18.7 (19)	12.6 (15)	ns		
Residence (urban)	54.0 (1248)	51.7 (53)	56.0 (67)	ns		
SES (below average)	16.2 (368)	18.2 (18)	17.0 (20)	ns		
Education (lower than tertiary)	<b>40.3 (928)</b>	<b>54.9 (56)</b>	<b>57.7 (68)</b>	<b>&lt;.01</b>	<b>1.53 [1.02-2.27]**</b>	<b>1.69 [1.15-2.48]*</b>
Puberty onset				ns		
<i>Advanced</i>	30.2 (698)	38.0 (39)	35.6 (43)			
<i>On time</i>	42.3 (978)	35.3 (36)	38.6 (46)			
<i>Delayed</i>	27.4 (634)	26.7 (28)	25.8 (31)			
Sexual orientation (non-heterosexual)	<b>17.8 (375)</b>	<b>30.1 (30)</b>	<b>36.2 (42)</b>	<b>&lt;.01</b>	1.48 [0.94-2.31]	<b>2.00 [1.35-2.99]*</b>
Have sent one's own intimate image	49.3 (1139)	75.2 (77)	81.7 (98)	<b>&lt;.01</b>	0.78 [0.46-1.32]	1.27 [0.76-2.14]
Have received a shared intimate content of someone known	0.8 (9)	1.0 (1)	2.9 (3)	ns		

10	Have received a shared						
11	intimate content of someone	<b>4.0 (48)</b>	<b>8.8 (9)</b>	<b>13.8 (16)</b>	<b>&lt;.01</b>	<b>2.30 [1.06-4.98]**</b>	<b>3.66 [1.94-6.90]*</b>
	unknown						

12

13

14

15 Three groups were compared according to their answer to the question on nonconsensual sharing of received-intimate content without consent. The Never group includes  
 16 participants who had never shared intimate content of another person without consent. The Once group includes participants who had shared once. The Several group  
 17 includes participants who had shared several times.

18 The Never group was the reference category for the multivariate analysis.

19 **Significant relative risk ratios (RRR) are in bold type \* (p<.01) \*\* (p<.05)**

20

21 **Table 5** *Bivariate and multivariate analyses to identify characteristics associated with nonconsensual sharing received-intimate content among males*

MALES	<i>Bivariate analysis</i>				<i>Multivariate analysis</i>	
	Never % (n)	Once % (n)	Several % (n)	p- value	Once RRR [95%CI]	Several RRR [95%CI]
Age (mean±SE)	26.4±.02 (2084)	26.3±.07 (189)	26.4±.05 (367)	ns		
Foreign-born (yes)	<b>10.1 (211)</b>	<b>9.7 (18)</b>	<b>16.7 (61)</b>	<b>&lt;.01</b>	0.90 [0.49-1.66]	<b>1.52 [1.00-2.30]*</b>
Residence (urban)	51.8 (1080)	50.1 (95)	51.8 (190)	ns		
SES (below average)	13.9 (284)	19.2 (34)	17.1 (62)	ns		
Education (lower than tertiary)	<b>50.2 (1040)</b>	<b>60.8 (114)</b>	<b>54.7 (198)</b>	<b>&lt;.05</b>	1.37 [0.94-2.00]	1.10 [0.82-1.47]
Puberty onset				ns		
	<i>Advanced</i>	21.6 (450)	28.0 (53)	28.3 (104)		
	<i>On time</i>	48.7 (1014)	45.4 (85)	43.9 (161)		
	<i>Delayed</i>	29.8 (621)	26.6 (50)	27.8 (102)		
Sexual orientation (non-heterosexual)	<b>12.3 (230)</b>	<b>19.7 (35)</b>	<b>22.5 (79)</b>	<b>&lt;.01</b>	1.24 [0.77-2.00]	1.17 [0.80-1.71]
Have sent one's own intimate image	<b>41.1 (856)</b>	<b>73.1 (138)</b>	<b>76.5 (281)</b>	<b>&lt;.01</b>	<b>1.60 [1.01-2.53]**</b>	<b>2.00 [1.43-2.81]*</b>
Have received a shared intimate content of someone known	<b>2.5 (32)</b>	<b>6.7 (12)</b>	<b>12.4 (45)</b>	<b>&lt;.01</b>	1.99 [0.83-4.76]	<b>2.70 [1.41-5.20]*</b>
Have received a shared intimate content of someone unknown	<b>8.9 (113)</b>	<b>10.3 (18)</b>	<b>29.7 (108)</b>	<b>&lt;.01</b>	1.28 [0.68-2.41]	<b>4.98 [3.37-7.35]*</b>

Three groups were compared according to their answer to the question on nonconsensual sharing of received-intimate content without consent. The Never group includes participants who had never shared intimate content of another person without consent. The Once group includes participants who had shared once. The Several group includes participants who had shared several times.

The Never group was the reference category for the multivariate analysis.

*Significant relative risk ratios (RRR) are in bold type \* ( $p < .01$ ) \*\* ( $p < .05$ )*

28 **Table 6** Bivariate and multivariate analyses to explore context of nonconsensual sharing and identify differences between participants who shared only once  
 29 and those who shared several times

	<i>Bivariate analysis</i>			<i>Multivariate analysis</i>
	<b>ONCE % (n)</b>	<b>SEVERAL % (n)</b>	<b>p- value</b>	<b>SEVERAL OR [95%CI]</b>
Way of sharing (sending)	<b>11.4 (33)</b>	<b>28.7 (140)</b>	<b>&lt;.01</b>	<b>2.59 [1.53-4.38]*</b>
Person on the image was known (yes)	71.0 (208)	68.0 (331)	ns	
Face of the person appears on the image (yes)	<b>47.5 (139)</b>	<b>66.8 (325)</b>	<b>&lt;.01</b>	<b>1.83 [1.29-2.60]*</b>
Content			<b>&lt;.01</b>	
<i>Dressed but suggestive position</i>	<b>14.8 (42)</b>	<b>11.0 (52)</b>		Ref
<i>Partially naked</i>	<b>39.8 (114)</b>	<b>24.8 (118)</b>		0.87 [0.51-1.50]
<i>Totally naked</i>	<b>31.5 (90)</b>	<b>36.0 (171)</b>		1.39 [0.82-2.37]
<i>During sexual act / intercourse</i>	<b>13.9 (40)</b>	<b>28.2 (133)</b>		1.64 [0.86-3.14]
Recipients				
<i>Close friends</i>	85.2 (249)	86.9 (423)	ns	
<i>Other friends</i>	<b>10.7 (31)</b>	<b>19.5 (95)</b>	<b>&lt;.01</b>	1.21 [0.68-2.13]
<i>Family</i>	8.8 (26)	9.7 (47)	ns	
<i>Online friends</i>	<b>2.4 (7)</b>	<b>7.7 (37)</b>	<b>&lt;.01</b>	2.85 [0.71-11.47]
<i>Everybody</i>	0.6 (2)	0.6 (3)	ns	
Reasons				

30	<i>Love revenge</i>	4.5 (13)	2.9 (14)	ns	
31	<i>Showing off</i>	27.5 (80)	31.9 (155)	ns	
32	<i>For fun or as a joke</i>	<b>54.5 (159)</b>	<b>66.3 (323)</b>	<b>&lt;.01</b>	<b>1.49 [1.02-2.16]**</b>
33	<i>Being accepted in a group</i>	2.1 (6)	0.5 (2)	ns	
34	<i>Not realizing what they were doing</i>	<b>12.0 (35)</b>	<b>6.9 (33)</b>	<b>&lt;.05</b>	0.68 [0.38-1.21]
35	<i>Jealousy / meanness</i>	0.8 (2)	0.8 (4)	ns	
36	<i>Pressure to share</i>	1.8 (5)	1.1 (5)	ns	
37	<i>Asking for friends opinion</i>	4.9 (14)	3.7 (18)	ns	

Two groups (Once and Several) were compared on the context of a non-consensual sharing measured by additional questions that were asked to participants who reported having already shared a received-intimate content without consent. The Once group includes participants who had shared once. The Several group includes participants who had shared several times.

41 The Once group was the reference category for the multivariate analysis.

42 The multivariate analysis was controlled for gender, education, place of birth and sexual orientation.

43 **Significant odds ratios (OR) are in bold type \* (<.01) \*\* (<.05)**

44

45 **Table 7** Bivariate and multivariate analyses to explore context of nonconsensual sharing and identify differences between males and females who shared a  
 46 received-intimate content without consent at least once

	<i>Bivariate analysis</i>		<i>Multivariate analysis</i>	
	<b>FEMALES (N=223) %</b>	<b>MALES (N=367) %</b>	<b>p-value</b>	<b>MALES OR [95%CI]</b>
Way of sharing (sending)	<b>14.6 (33)</b>	<b>25.3 (140)</b>	<b>&lt;.01</b>	1.49 [0.90-2.45]
Person on the image was known	73.9 (165)	67.1 (373)	ns	
Face of the person appears on the image	<b>50.7 (113)</b>	<b>63.1 (351)</b>	<b>&lt;.01</b>	1.41 [0.97-2.05]
Content			<b>&lt;.01</b>	
<i>Dressed but suggestive position</i>	<b>12.0 (26)</b>	<b>12.6 (68)</b>		Ref
<i>Partially naked</i>	<b>34.7 (76)</b>	<b>28.7 (155)</b>		0.77 [0.43-1.38]
<i>Totally naked</i>	<b>39.6 (87)</b>	<b>32.2 (174)</b>		0.69 [0.39-1.23]
<i>During sexual act / intercourse</i>	<b>13.7 (30)</b>	<b>26.5 (143)</b>		1.58 [0.78-3.21]
Recipients				
<i>Close friends</i>	88.6 (198)	85.3 (474)	ns	
<i>Other friends</i>	<b>8.4 (19)</b>	<b>19.4 (108)</b>	<b>&lt;.01</b>	<i>1.84 [0.99-3.41] †</i>
<i>Family</i>	9.5 (21)	9.3 (52)	ns	
<i>Online friends</i>	<b>1.6 (4)</b>	<b>7.3 (41)</b>	<b>&lt;.01</b>	2.32 [0.66-8.14]
<i>Everybody</i>	0.0 (0)	0.8 (4)	ns	

47	Reasons					
48		<i>Love revenge</i>	2.4 (5)	3.9 (22)	ns	
49		<i>Showing off</i>	<b>12.2 (27)</b>	<b>37.5 (208)</b>	<b>&lt;.01</b>	<b>4.94 [3.12-7.85]*</b>
50		<i>For fun</i>	66.4 (148)	60.1 (334)	ns	
51		<i>Being accepted in a group</i>	0.3 (1)	1.4 (8)	ns	
52		<i>Not realizing what they were doing</i>	7.0 (16)	9.5 (53)	ns	
53		<i>Jealousy / meanness</i>	0.6 (1)	0.9 (5)	ns	
54		<i>Pressure to share</i>	0.9 (2)	1.6 (9)	ns	
55		<i>Asking for friends opinion</i>	<b>7.5 (17)</b>	<b>2.8 (15)</b>	<b>&lt;.01</b>	0.69 [0.31-1.54]

56 Females and males were compared on the context of a non-consensual sharing measured by additional questions that were asked to participants who reported having already  
57 shared a received-intimate content without consent.

58 The multivariate analysis was controlled for education, place of birth and sexual orientation.

59 Females were the reference category for the multivariate analysis

60 *Significant odds ratios (OR) are in bold type \* (<.01) † trend (0.051)*

61