# Exchanging intimacy for favors and nude photos among ninth graders

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# **ABSTRACT**

Introduction: Sharing nude photos and exchanging intimacy favors transcends the threshold from hidden and private content into public consciousness. Ever-present is the differentiation between an image shared by consent and those not consented to and distributed as part of harassment, revenge, and abuse. Similarly, the continuum of exchanging intimacy moves across normative boundaries some see as unproblematic and occur in many sexual and romantic encounters, while others can be experienced as problematic. The purpose of this quantitative study is in a low-risk setting to investigate basic characteristics in the spread of the phenomenon of sugar-dating and nude photo sharing among adolescents.

Methods: An anonymous questionnaire was sent to all 9th grade classes at schools in a single Danish municipality for three consecutive years from 2020 to 2022 with pupils and teachers not notified in advance. The survey included questions on gender identity, sugar-dating, sharing nude photos, and, from 2022, consent and setting up boundaries to sex.

Results: Of 729 pupils 541 (74%) answered the questionnaire. More pupils with sexual debut sent nude photos of themselves via tablet/phones/computers, received nude photos and had passed them on than those without sexual debut, while no gender difference was found. More than four times as many pupils had received nude photos than pupils who had sent nudes of themselves. Ten percent stated they had exchanged intimacy for favors like presents or entry to parties; the intimacy act was spelled out as oral sex, hand job or sexual intercourse (vaginal penetration). Sugar-dating and knowledge hereof were associated with sexual debut but was not exclusively performed by debutants. Of those who gave sexual favors, 40% were non-debutant pupils.

**Conclusion:** The survey found a 10 % prevalence of sugar-dating and 53 % receiving nude photos amongst 9th graders. The implication of the phenomena on behavior has obvious perspectives on adolescents' mental and physical health.

Keywords: Adolescents; sugar-dating; nude photos; questionnaire; pupils

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# **INTRODUCTION**

he exchange of material goods, favors, intimacy and privacy is an all present and constant activity and may be considered an integral part of human interactions, some of which are hidden, and some happen in public. To understand the relative significance, one must take a closer look at how technology has developed and what impact this process might have. With the ubiquity of digital cameras, what was regarded as a great photo shot earlier of prepared meals, family life and the ubiquitous selfies now expands to document everyday life on social media platforms. The definition is, thus, blurred of what is personal and private; accordingly, apps are designed with the default intention to share these activities (1). Meanwhile, the "worthiness" of images itself remains subject to interpretation and occasional debate and ranges from the distribution of drunken party pictures by publicly wellknown people to naked selfies. To be part of the "partying gang" and to not to miss out could be the motto of that game (2).

Several nationwide projects have uncovered the broad continuum of how young people exchange intimacy for favors and material goods, investigated their motives, their social backgrounds as well as the problems they may experience (3). However, those who stated that they had experience of having kissed or had sex in return for material goods were very hesitant to identify their practice as sugar-dating. Therefore, controversy exist whether reports are about the broad continuum of exchanging intimacy for material goods rather than the specific phenomenon of sugar-dating (3-5). In 2003, some new forms of exchange relations drew attention, which were not necessarily understood as prostitution (6). Rather, it was labeled as 'sex for mobile phones' or 'sex for a burger', which coined new terms such as 'prostitution-like relationships', 'grey zone prostitution' and 'paid sexual exploitation of minors'.

While nude photo sharing by young girls was a common phenomenon in the '00s, not much discussion centered on nude images sent by boys as they featured less in the findings before 2011. A decade later, a central shift has occurred in the relational youth dynamic normalizing boys sharing intimate images ('dick pics') (7). The research has

focused on gendered discourses, logics, and rationales behind youngsters' practice of the exchange of sexual images. In particular, in secondary schools, heteronormative and gender binary ideals of femininity and masculinity led to pressure for girls to produce and share sexual images of themselves, much more than boys (8). Ever-present is the differentiation between images shared by consent and those not consented to and distributed as part of harassment, revenge, and abuse. One possible focus could be on identifying and eradicating these harmful behaviors rather than eliminating the practices, whereas as the alternative, centered on an abstinence-only approach, seems useless, unrealistic and naive to the youth's digital sexual culture. The aim should not be to criminalize young people, but rather pointing out the potential conception and action which could be anticipated as digital sexual violence and help avoid practices that form a kind of abuse, revenge or harassment (1,7-9). Hence, we believe we will understand and respond better to online sexual risks and harms if we know of the forms these constitute.

Earlier studies have examined how the phenomenon of sugar-dating (and its euphemistic monikers) play a role in specific marginalized groups and how people identify and even embrace the terms and its implications in some cases (5,10,11). From of a survey, we have selected two aspects that transcend the threshold from hidden and private content into public consciousness. Therefore, the purpose of this quantitative study is in a low-risk setting to investigate the basic characteristics in the spread of the phenomenon of sugar-dating and nude photo sharing among adolescents.

# **MATERIALS AND METHODS**

9th grade classes at the primary and lower secondary schools in Tønder Municipality for three consecutive years with pupils and teachers not notified in advance. Teachers were acquainted with a survey on sexual education themes which was to be conducted on the school iPads on that day and time, but neither teachers

## Background

- Age and parent's country of origin

#### Sexual experience

- have you had sexual debut
- why have you not had sex yet
- age at sex debut
- number of intercourses
- number of partners
- were you drunk or intoxicated at first intercourse
- how long time since your latest intercourse

#### Contraceptives

- use of contraception at first intercourse
- which contraceptive have you used
- did you use contraceptive at latest intercourse
- how often do you use contraception now
- since sex debut when did you use contraception regularly
- since sex debut when did you stop using contraceptives regularly
- why do you use contraception
- must your parents know if you visit the physician to get or discuss contraception

## Sexually transmitted disease and pregnancy

- which sexually transmitted disease(s) do you know
- which sexually transmitted disease is the most common one
- chlamydia may have which symptoms/consequences
- when in the menstruation cycle is the highest risk of pregnancy

- what is the first symptom of pregnancy
- what is the latest gestational age for legal abortion
- can a 16-year-old girl have a legal abortion without her parent's accept and knowledge

#### Gender

- which gender at birth
- what gender do you identify yourself with
- do you know other gender identities
- what sexuality do you see yourself as

#### Sexual knowledge

- where do you obtain most knowledge on sex issues
- what is the legal sexual age
- have you experienced that your boundaries were exceeded in connection with sexual activities
- do you know what the law on consent is about
- who would you prefer to talk about issues on sexual life
- do you know other do you need more or better sex education in school
- what is good or bad with your sex education at school

#### Sugar dating and photo sharing

- have you lied about or embellished sexual experiences
- have you ever performed something sexually expecting to get something back
- do you know what sugar-dating is
- have you ever posted nude photos of yourself
- have ever received nude photos
- have you ever passed them on

Figure 1: Fact box - The contents of the distributed questionnaire, with the multiple-choice answers excluded.

nor pupils knew its content. All students filled the forms electronically on the same day across the schools via iPads provided by the school. The questionnaires were prepared in collaboration with directory for the school management, school board and health promotion section.

Approval was granted from the Department of Youth and Schools of Tønder Municipality. Questionnaire based studies do not need approval by the Danish Ethical Committee system according to its regulatory law. All public and two private schools participated. Students who only answered parts of the questionnaire were included if possible.

The municipality has approximately 37,000 inhabitants with an average income 13% below the national level (Denmark: 370,851 Danish kroner) and a median age of 49 vs. 42 years, Tønder vs. Denmark, respectively. The municipality of Tønder witnessed a 25% drop in the number of children (age <18yr) from 2008 to 2018 compared to an increase of 5% on a national level.

The initial questionnaire was developed in 1986 with the main purpose of evaluating sex education and, subsequently, distributed to 9th graders in Viborg municipality every seven years until 2014. We described the validation process previously and several papers were published in that process (12). The purpose was to evaluate the pupils' knowledge and use of contraceptives and gather information about their sexual activity at the end of compulsory schooling. From 2020, the Department of Youth and Schools of Tønder introduced the survey adding questions on gender identity, sugar-dating, sharing nude photos, and, from 2022, consent and setting up boundaries to sex. The intimacy sugar-dating was spelled out as oral sex, hand job or sexual intercourse (vaginal penetration) in exchange for something, like gifts and access to events. The content of the questionnaire is shown in the fact box (Fig.1). Questionnaires with partial answers were included in the calculations, if possible. Therefore, the tables do not always sum up to the anticipated figure, if the particular question was not answered by an otherwise included pupil.

## **Statistics**

For calculations, we used  $\chi 2$  test with Yates' correction for discontinuity. At an expected number of less than five, Fisher's exact test was used. For continuous variables, ANOVA was performed between group variables. For evaluation of the contingency tables, at first the Pearson  $\chi 2$ -test for independence was performed assuming no direction of a trend. Then, the table was tested with the  $\chi 2$ -test for trend. For continuous variables, like age and age at debut, ANOVA was performed between group variables. The level of significance was 0.05. SPSS 24 was used as the statistical software.

## **RESULTS**

ccording to the municipal registry in 2020-22, the total number of 9th grade pupils was up to 729 of which 541 (74%) answered the questionnaire. In 2021, four classes (n=120) were on excursions on that particular day

and, therefore, missed the questionnaire; otherwise, more than 90 % completed the survey. Eight and four percent did not answer the question on sex debut and born gender, respectively (n=42 and 20).

The 541 pupils had a mean age of 15.9 years, 54% were girls, and 101 (19%) had had sexual debut defined as intercourse (vaginal penetration) (Table 1). More boys had had sexual debut than girls had and drunkenness at first intercourse was more prevalent among boys. Most debutants (meaning those who indicated they have had sexual intercourse) had commenced having sex very recently (within one year) and had an active sex life, while the majority of non-debutants (41%) indicated they just lacked a partner. Sexual activity was similar with regard to gender. Those without sexual debut feared in descending order: Unwanted pregnancy, pain, what others might think, and

Table 1: Basic characteristics, intercourses and reason for no debut by gender and debut

	Born as girl	Born as boy	Pupils with sex debut	Pupils without sex debut	Total <sup>f</sup>
n (% of row)	284 (55) <sup>a</sup>	236 (45) <sup>a</sup>	101 (20) <sup>b</sup>	398 (80) <sup>b</sup>	541 (100) <sup>c</sup>
Age (yrs) <sup>b</sup> median (range)	15 (14-18)	15 (14-16)	15 (14-18)	15 (14-16)	15 (14-18)
Age at debut (yrs) median (range)	14 (13-15)	14 (12-18)	14 (12-18)		14 (12-18)
Both parents born in DK, n (% of column)	227 (81)	184 (78)	90 (89)#	307 (78)	411 (80)
Debut, n (% of column)	42 (15)**	57 (24)	101 (100)	398 (100)	499 (92)
Pressed to sex at debut, n	¤	¤	¤		
How many intercourses n (% of column) <sup>d</sup>					
Once	7 (2)	8 (3)	15 (15)		15 (3)
2-4 times	3 (1)	9 (4)	12 (12)		22 (4)
>4 times	28 (10)	31	59 (59)		59 (11)
How many partners? n (% of column) <sup>e</sup>					
1	27 (10)	24 (10)	51 (50)		51 (9)
2-5	12 (4)	18 (8)	30 (30)		30 (6)
>6 partners	0 (0)	10 (4)	10 (10)		10 (2)
Drunk at debut? (%)	8 (19)*	23 (40)	31 (30)		31 (6)
Not okay afterwards	0 (0)	¤	¤		¤
Why not sex? n (% of column) (more than one	answer per pupil	)a,b			
Lack of partner	92 (32)	71 (30)		165 (41)	165 (30)
Fear of pregnancy	23 (8)*	8 (3)		33 (8)	33 (6)
Fear of STI	14 (5)	8 (3)		24 (6)	24 (49)
Fear of pain	22 (8)**	¤ (¤)		26 (7)	26 (5)
Not allowed (parents, religion)	9 (3)	7 (3)		18 (59)	18 (3)
Fear of rejection	15 (5)	9 (4)		26 (7)	26 85)
Fear of what others may think	24 (8)**	5 (2)		30 (8)	30 (6)

<sup>&</sup>lt;sup>a</sup>20 pupils did not indicate their born gender

b42 pupils did not answer on sex debut

 $<sup>^{\</sup>mathrm{c}}$ 11 pupils did not indicate their age

d13 pupils did not indicate how many intercourses

e8 pupils did not indicate numbers of partners

frows does not add up to total if gender or debut was not answered

x: indicates less than 5 respondents

Table 2: Gender feeling, sugar-dating and sending nude photos by gender and debut

	Born as girl	Born as boy	Pupils with sex debut	Pupils without sex debut	Total <sup>d</sup>
n (% of row)	284 (55) <sup>a</sup>	236 (44) <sup>a</sup>	101 (20) <sup>b</sup>	398 (80) <sup>b</sup>	541 (100) <sup>c</sup>
Your gender feeling, n (% of column)					_
Opposite, both or no specific gender	15 (5)	5 (2)	5 (5)	15 (4)	20 (4)
Sugar dating, n (% of column)					
Gave sexual favors	21 (8)	27 (12)	26 (28)##	17 (4)	48 (10)
Knows sugar-dating	252 (91)*	191 (83)	90 (95)#	329 (85)	447 (87)
Nude photos, n (% of column)					
Sent of oneself	36 (13)	22 (10)	36 (40)##	21 (6)	59 (12)
Received	142 (52)	123 (55)	82 (90)##	166 (44)	268 (53)
Passed on	6 (2)	12 (5)	11 (12)##	7 (2)	20 (4)

<sup>&</sup>lt;sup>a</sup>20 pupils did not indicate their born gender

lastly sexually transmitted infections. These fears were 3-5 times more prevalent in girls.

Fifty-three percent of 9th graders had received nude photos and 12% sent nude photos of themselves (Table 2). Pupils with sexual debut were more likely to send nude photos of themselves via tablet/phones/computers (OR = 12, 95% CI: 6-21), receive nude photos (OR = 12, 95% CI: 6-24), and pass them on (OR = 7, 95% CI: 3-19) than those

Table 3: Basic characteristics, sexual knowledge and activity by sugar dating and handling of nude photos

	Gave sexual favors		Sent nude photos		Passed on nude photos	
	Yes	No	Yes	No	Yes	No
n (% of row)	48 (10)	448 (90)	59 (12)	440 (88)	20 (4)	490 (96)
Age, (years±SD)	15±0.7	15±0.5	14.9±0.5	15±0.6	15.1±0.7	14.9±0.5
Both parents born in Denmark, n (% of column)	10 (21)**	358 (80)	9 (15)	49 (11)	4 (20)§	14 (3)
Sex debut, n (% of column)	26 (54)**	66 (15)	36 (61)##	53 (12)	11 (55) <sup>§§</sup>	82 (17)
Age at debut, (years±SD)	14.3±1	14.2±1	14±1	14.4±0.9	14.1±0.8	14.2±1
HPV vaccinated, n (% of column)	26 (54)	288 (64)	39 (66)	273 (62)	9 (45)	313 (64)
Knows chlamydia most common STI, n (% of column)	38 (80)	291 (65)	47 (80)#	274 (62)	14 (70)	318 (65)
Knows 1st sign of pregnancy, n (% of column)	39 (81)*	296 (66)	43 (73)	288 (65)	10 (50)	329 (67)
Knows limit of legal abortion, n (% of column)	28 (58)	234 (52)	34 (58)	227 (42)	8 (40)	258 (53)
Knows age limit for abortion without parental con-						
sent, n (% of column)	20 (42)	159 (35)	24 (41)	156 (35)	8 (40)	172 (35)
Pressed to sex debut, y/n n	0/48	¤/449	0	¤	0	¤
Number of partners						
Missing	33	405	37	409	14	440
Declined answer	0	5	0	5	0	6
1	8	23	11	17	¤	27
2-5	¤	13	9	6	¤	13
>5	¤	¤	¤	¤	¤	Ħ
Number of intercourses						
Missing	33	405	37	414	14	440
Declined answer	1	5	0	6	0	7
1	0	9	0	7	¤	7
2-4	¤	4	¤	¤	0	5
>4	13	25	21	15	6	31

<sup>\*:</sup> p<0.05, \*\*: p<0.01, Performed sexual favors vs. no favors performed

<sup>&</sup>lt;sup>b</sup>42 pupils did not answer on sex debut

c11 pupils did not indicate their age

<sup>&</sup>lt;sup>d</sup>Rows do not add up to total if gender or debut was not answered

<sup>#:</sup> p<0.05 ##: p<0.01, both debut vs. no debut, \*: p<0.05, girl vs. boys

<sup>#:</sup> p<0.05, ##: p<0.01, Sent nude photos

 $<sup>\</sup>S\S$ : p<0.01, Passed on nude photos

<sup>¤:</sup> indicates less than 5 respondents

Table 4: Gender feeling, sugar-dating, sending nude photos and sexual activity by sugar dating and handling of nude photos

	Gave sexual favors		Sent nude photos		Passed on nude photos	
	Yes (n = 48)	No (n = 448)	Yes (n = 59)	No (n = 440)	Yes (n = 20)	No (n = 490)
Born as ♀/♂	21/27	250/198	36/22	233/205	6/12	274/214
Feels as ♀/♂	17/27*	243/195	33/22	233/202	6/12	262/211
Feels as both/no specific	¤/¤	5/7	¤/¤	6/8	¤/¤	7/9
Knows sugar-dating, n (%)	45 (96)	389 (87)	56 (94)#	373 (85)	20 (100) <sup>§§</sup>	421 (86)
Gave favors, n (%)	48 (100)	0	15 (25)##	31 (8)	6 (30) <sup>§§</sup>	41 (8)
Sent nude photos of yourself, n (%)	15 (33)**	41 (9)	59	0	11 (55) <sup>§§</sup>	48 (10)
Received nude photos, n (%)	40 (83)**	216 (49)	59 (100)##	194 (44)	20 (100)§§	240 (49)
Passed on nude photos, n (%)	6 (13)**	13 (3)	11 (19)##	7 (2)	18 (90)	0
Drunk at first sex, n (%)	10 (21)**	17 (5)	6 (10)	18 (5)	¤ §§	23 (5)

<sup>\*:</sup> p<0.05, \*\*: p<0.01, Performed sexual favors vs. no favors performed

without sexual debut; no gender difference was found in these activities (Table 2). All pupils who had sent nudes of themselves had received nude photos.

Ten percent stated they had exchanged intimacy for favors like presents or entry to parties; the intimacy was spelled out as oral sex, hand job or sexual intercourse (vaginal penetration). Thirteen percent did not know the term 'sugar-dating'. Sugar-dating and knowledge hereof were associated with sexual debut but was not exclusively performed by debutants (Table 2). In fact, 40% of those who gave sexual favors were non-debutant pupils. This opens up the interpretation of sex as the adolescents' initial answer was that they had had no sexual intercourse. More girls than boys knew the concept of sugar-dating, while we found a slight tendency of boys being more active on sugar-dating (Table 2, p<0.08). Those who gave sexual favors were more likely than those who had not given sexual favors to have sent and received nude photos and passed them on and their parental background was more often Danish (Table 3 and 4). One in five of those who had given sexual favors were more likely to be drunk at their first intercourse compared to those who had not given sexual favors, 21% vs. 5%, respectively (Table 4). The general knowledge on sexual matters, STI and abortion seems similar with respect to have given sexual favors except that the first sign of pregnancy was known by 81 % of those who had given sexual favors compared to 66 % of those who had not given sexual favors (Table 3, p<0.05).

# **DISCUSSION**

his study shows that 1 in 10 pupils had participated in exchanging intimacy for favors. However, the questionnaire was not designed to identify risk behavior and explore its potential background. It is a trade-off on the collection of pupils' general knowledge to prepare for sexual education in 9th graders with theme specific and time relevant issues. The prevalence is, however, unexpectedly high but the associations we are able to evaluate could be re-traced in publications on the subject (3-11,13-14). There might be a considerable difference between our findings and socioeconomic dissimilar areas in Denmark, such as the capital area of Copenhagen. To what extent cultural variations and their impact on the acceptance (and consideration) of non-heterosexual preference or non-binary gender concepts can influence a Danish cohort would be interesting to address in further studies.

Contrary to common belief, more boys are involved in this activity when adolescents sell sex in the Nordic countries; the mean age is between 14.2 and 15.9 for selling sex the first time (13,14). The exchange of sexual favors is in many ways problematic as it is associated with former sexual abuse and other forms of physical and emotional abuse during childhood (13). Selling sexual favors may be a way to decrease anxiety but a concomitant high degree of deliberate self-harming behavior is still reported in these adolescent due to their poorer mental health (13,14). More often high

<sup>#:</sup> p<0.05, ##: p<0.01, Sent nude photos

<sup>§§:</sup> p<0.01, Passed on nude photos

x: indicates less than 5 respondents

school pupils and university students were targeted in surveys in representative national samples (14). However, these surveys planned for future early intervention and, thus, scrutinized background, whether help was sought and what was provided for the individual previously. That the exchange of sexual favors had commenced at an earlier age was highly probable; an aspect, which we confirm. Similarly, we expect the prevalence of exchanging favors to be a continuum of acceptable behavior and downward, perceived by the adolescents. A hint that this may be the case is that nondebutant pupils performed the activity, too. Similarly, knowledge of sugar-dating and activity involved is well-defined in our questionnaire. We still lack a universal and fail proof approach how to reach and help people to avoid forms of risky sexual behavior. Information might play a part in it, though those who exchanged sexual behavior appeared to be more knowledgeable in sexual matters when compared to those who do not (Table 3). In addition, concepts of shame, guilt and directly and indirectly gratifying but in the end potentially harmful behavior need to be addressed in further studies.

The strength of our survey is that prevalence of sexual activity and knowledge on the subjects were investigated repeatedly in 9th graders, thus, confirming the trend over three consecutive years. Our pupils are, if anything, close to their debut limiting recall bias with less years of exposure to confounding by multiple information sources or corrective guidance. We do not claim that the association is applicable in all strata of youth; however, our findings may be reproduced elsewhere in Denmark despite the demographic and socioeconomic characteristics in this municipality. The simple prevalence measured may lead to findings of random associations, but at least unlikely in the local setting.

Neither the gender-specific skewness in sugar-dating nor sharing of nude photos was surprising, but the preferences contain details not reported earlier. Similar prevalence of sharing nude photos was found by others except that more girls sent photos of themselves (15,16). In this context of sexual social media content, swapping of nude photos and dick pics fit in commonly and apparently smoothly, though controversial, on plat-

forms that both implicitly and explicitly are designed for the exchange of graphic material (1-3,7-9). Furthermore, one must consider the possibility that asking intimate questions to adolescent may be uncomfortable for them. We tried to account for this by anonymous questionnaires on the school IPads routinely used by the pupils. The questionnaire was validated previously and, therefore, answers may even be a conservative representation on queries perceived too intimate to be answered (12). Ninth grade represents the last year of common compulsory school so all school-able adolescents, in principle, are included. We feel comfortable with the validity of our findings due to the resulting high response rate even on the most sensitive questions, thus, we only had single-digit percentages for those who did not answer the individual questions. Similar consecutive collected data are sparse and focus rather on risk groups and not adolescents alone when potential confounders may influence behavior and associations (13,14).

Our approach with repetitive questioning limited the non-sensuous answers and reserved space for open answers if our conception of what we would expect could be challenged i.e. on gender or debutant associated issues. For example, girls know issues like pregnancy and abortion better than boys. The limits of the descriptive study are showing in its lack of description of in-depth sexual performance variables. However, we had to make this trade-off in order to pass school board's approval and achieving high response rates.

Our groups of adolescents were younger than in most other studies on these specific sexual matters, with a narrower age range; thus, enabling more precise age-related knowledge with limited sexual debutants. The link between the descriptive data and sexual performance variables are more likely to be causal as the time span since debut of any sexual activity is narrower than in most other studies. Further, recall bias and multitude of inputs are less likely in our pupils in comparison to other reports on older age groups (2,8,14). Similarly, reports of sexual activity and knowledge in risk groups or high-school adolescents will have inherent sampling bias, which we avoided in our study as 9th grade is the last year of compulsory school in Denmark potentially including all adolescents of that year (5,9,10,15,16).

# **CONCLUSION**

he survey shows a 10 % prevalence of sugar-dating and that 53 % received nude photos amongst 9th graders. The implication of the phenomena on behavior in adolescents should be replicated and intensively scrutinized for motivation and background to supplement parents', school and health professionals' information on corrective guidance, if necessary.

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