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Research article

Experiences of sexual harassment are associated with the sexual behavior of 14- to 18-year-old adolescents

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ABSTRACT

Subjection to sexual harassment is associated with a number of negative outcomes, such as internalizing and externalizing symptoms and a disinclination to attend school. Among adolescents, sexual harassment may increase with both their emerging sexual desires and increased socializing in mixed-gender peer groups during early adolescence. We set out to study the possible associations between normative and risk-taking sexual behavior and subjection to sexual harassment among adolescents between the ages of 14 and 18 years. The informants included 90,953 boys and 91,746 girls, with a mean (SD) age of 16.3 (1.2) years, who responded to a classroom survey (School Health Promotion Study 2010–2011) in Finland. We found that even early steps in romantic and erotic experiences were associated with experiences of sexual harassment. The more advanced the adolescents' sexual experiences were, the more commonly they reported differing experiences of sexual harassment. These associations were particularly strong among the girls. Among the sexually active adolescents, the more partners the adolescents had for intercourse, the more commonly they reported experiences of sexual harassment. Adolescents actively interested in romantic and sexual relationships may socialize in contexts where sexual harassment is more likely to occur. They may be more sensitive to sexual cues than their non-interested peers, or sexual harassment may be a traumatic experience predisposing adolescents to risk-taking sexual behavior as a form of acting out. A double standard regarding the appropriate expression of sexuality received some support in our data.

1. Introduction

Sexual harassment is defined by law as gender-based discrimination that creates a hostile work/school environment and may seriously impair a victim's performance at work or his/her ability to participate in, and benefit from, education in workplaces or schools, respectively (Fineran, 2002; Gruber & Fineran, 2007). In public health research, sexual harassment may be studied as a form of sexually aggressive behavior and as a traumatizing experience for its victims. Among adolescents, the concept of sexual harassment partially overlaps with the concept of child sexual abuse, defined as any sexual encounters between a child/adolescent and an adult or a clearly older young person (Senn, Carey, & Venable, 2008; Stoltenborgh, van Ijzendoorn, Euser, & Bakermans-Kranenburg,

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2011). However, child sexual abuse research often focuses on the most severe experiences, such as on victims of acts involving physical contact/penetration (Stoltenborgh et al., 2011), whereas sexual harassment also comprises verbal and nonverbal communications with unwelcome sexual content. Sexual harassment can be divided into gender harassment, unwelcome sexual attention, and sexual coercion (Buchanan, Bluestein, Nappa, Woods, & Depatie, 2013; Fitzgerald, Gelfand, & Drasgow, 1995). Gender harassment entails verbal and non-verbal gender-based hostile/derogatory communication or gender-related name calling. Unwelcome sexual attention includes any sexual behaviors, propositions, invitations, etc., that are distasteful and unwelcome to the victim and are perceived as offensive. Sexual coercion includes not only actual sexual assault but also any behavior attempting to extort sexual compliance by means of promises/incentives or threats.

Subjection to sexual harassment is common among adolescents. In most studies, one to two thirds of adolescents reported to have been subjected to such experiences (Chiodo, Wolfe, Crooks, Hughes, & Jaffe, 2009; Gruber & Fineran, 2007; Kaltiala-Heino, Frojd, & Marttunen, 2016b; McMaster, Connolly, Pepler, & Craig, 2002; Petersen & Hyde, 2009). In a pioneering study in the field of sexual harassment among adolescents (American Association of University Women, 2001), as many as 81% of high school students had reportedly experienced sexual harassment at school. Such a widespread negative phenomenon deserves attention and intervention. Research needs to provide an understanding of the factors that are related to subjection to sexual harassment in order to find avenues of prevention.

Among adolescents, sexual harassment has also been studied as a transitional, developmental phenomenon, being considered an extension of aggressive behavior influenced and modified by the emerging sexual desires and increased socializing in mixed gender peer groups in early adolescence, when social skills and behavioral control are still under construction (Ashbaug & Cornell, 2008; McMaster et al., 2002; Pepler et al., 2006). This means that in adolescence, the adolescents who are prone to aggressive behavior broaden their repertoire of aggressive communications to the sexual domain; this notion also suggests that the adolescents who are sexually interested and seek to socialize in mixed-gender groups are most likely to become victims of peer sexual harassment. Therefore, the possible associations between sexual behavior and subjection to sexual harassment are worth exploring.

1.1. Pubertal maturation and sexual behavior during adolescence

Sexual development accelerates in adolescence, with rapid changes in adolescent bodies. The experiences of young people involving their changing bodies, sexuality, and the development of gender identity affect their intrapersonal, relational, and societal interactions (Romeo & Kelley, 2009). Romantic and erotic interests and behaviors gradually mature towards adulthood, and the adolescents who physically mature early also tend to progress earlier towards a more adult type of intimate (genital) sexual behavior (Downing & Bellis, 2009; Edgards, 2000, 2002). In Western countries, between one tenth and one third of adolescents experience their first instance of sexual intercourse by the age of 15, but the vast majority report having experienced sexual intercourse by age 20 (Eaton et al., 2010; Madkour, Farhat, Halpern, Godeau, & Gabhainn, 2010; Savioja, Helminen, Fröjd, Marttunen, & Kaltiala-Heino, 2015). The first instance of sexual intercourse is typically preceded for several years by various practices of kissing and petting.

Early sexual activity has been considered to be problem behavior, being associated with challenges in other domains of life, sexually risky behaviors, and emotional and behavioral symptoms and disorders (Madkour et al. 2010; Savioja et al. 2015; Savioja, Helminen, Fröjd, Marttunen, & Kaltiala-Heino, 2017). However, in the later stages of adolescent development, intimate sexual relationships have been deemed normative.

1.2. Sexuality and subjection to harassment and bullying

Like early advancing sexual behavior, experiences of sexual harassment have also been associated with early puberty and advanced pubertal maturation (Goldstein, Malanchuk, Davis-Kean, & Eccles, 2007; Petersen & Hyde, 2009). This seems to highlight the role of emerging sexual desires and increased socializing in mixed-gender peer groups, particularly in early adolescence when sexuality is thought to be confusing and social skills immature, in sexual harassment (McMaster et al., 2002). Physical maturation signals sexuality and may attract unwanted attention in the form of sexual harassment. Early maturing adolescents are also prone to associate with older, delinquent peers, and such associations of themselves create a predisposition to sexual harassment (Goldstein et al., 2007). However, experiences of sexual harassment have also been associated with greater attractiveness and greater perceived personal power (Petersen & Hyde, 2009). This suggests that behavior deemed as sexual harassment may sometimes be intended to express and attract romantic and erotic interest rather than to actually cause distress. Similarly, it has been found that cross-gender bullying, which may to a great extent overlap with behaviors qualifying as sexual harassment (Charmaraman, Jones, Stein, & Espelage, 2013; Shute, Owens, & Slee, 2008), often targets popular children (Sainio, Veenstra, Huitsing, & Samivalli, 2012).

Some research has further associated subjection to sexual harassment with early and frequent dating, romantic and erotic relationships, and a greater number of partners for sex (Chiodo et al., 2009; Fineran & Bolen, 2006; Gruber & Fineran, 2007; Maxwell, Robinson, & Post, 2003; Mitchell, Ybarra, & Korchmaros, 2014). More specifically, (Chiodo et al., 2009) found that adolescents reporting two or more (on a scale of six) elicited sexual harassment experiences during the three months prior to the questionnaire also reported early dating (at age 12 or younger) three times more frequently. Mitchell et al. (2014) observed that, compared to adolescents reporting no romantic relationships during the year prior to the questionnaire, those reporting only one romantic relationship and those reporting two or more relationships were twice and three times more likely to report experiences of sexual harassment in the 12 months prior to the questionnaire, respectively; similarly, compared to those who did not report any sexual relationships in the year prior, those reporting any sexual relationships reported experiences of sexual harassment twice as often.

As the distinction between (sexual) bullying and sexual harassment may be unclear, and because these phenomena may overlap (Charmaraman et al., 2013; Felix, Furlong, & Austin, 2009; Shute et al., 2008), it is also relevant to scrutinize the associations

between sexual behavior and bullying. Dunn, Gjelsvik, Pearlman, and Clark (2014) reported that sexually active girls were bullied almost twice as much as those who were not sexually active. No such association was found for boys. Furthermore, risk-taking sexual behavior was more commonly associated with being bullied among girls than it was among boys. The sexual double standard refers to attaching a different value to sexual activity according to gender, allowing boys social gains by being sexually experienced while among girls, being sexually active may be met with disapproval (Bordini & Sperb, 2013). Dunn et al., (2014) considered that their results lent support to the notion of a sexual double standard. Holt, Matjasko, Espelage, Reid, and Koenig (2013), however, found that both bullies and bully victims reported sexual risk-taking 2–3 times more commonly than those not involved in bullying, but those who were solely victims of bullying did not engage in risky sex.

1.3. Subjection to sexual harassment and psychological distress in adolescents

Subjection to sexual harassment is a severe problem among adolescents, associated with (Bucchianeri, Eisenberg, Wall, Piran, & Neumark-Sztainer, 2014; Buchanan et al., 2013; Felix & McMahon, 2006; Kaltiala-Heino, Fröjd, & Marttunen, 2016a; Petersen & Hyde, 2013) and longitudinally causing predispositions to (Chiodo et al., 2009; Goldstein et al., 2007; Marshall, Faaborg-Andersen, Tilton-Weaver, & Stattin, 2013; Petersen & Hyde, 2013) a variety of emotional and behavioral symptoms and disorders. Sexual harassment may be more detrimental to adolescent mental health than other types of harassment (Bucchianeri, Eisenberg, Wall, Piran, & Neumark-Sztainer, 2014). Negative experiences in the field of sexuality may be particularly traumatizing during adolescence, a period of rapid physical and particularly sexual development, when emotional development and the ability to cope with stressors and identity, are still in the making. Thus, subjection to sexual abuse in adolescence, whether by peers or by older perpetrators, is an important child protection issue.

1.4. The present study

As noted above, research has observed associations between an adolescent's own sexual behavior and his/her subjection to sexual harassment, even if this association has so far been suggested by only a few studies. In the developmental phases of early and middle adolescence, intimate sexual activity, which is problematic per se (Savioja et al., 2015), not to mention risk-taking sexual behavior, could be the consequences of traumatizing experiences, such as sexual harassment. Moreover, suffering from sexual harassment could be a consequence of an adolescent's interest in romantic and erotic involvements that bring about socializing in circumstances that also increase the risk of sexual harassment. The associations between sexual behavior and subjection to sexual harassment could further be due to a third factor that predisposes to both, such as mental health disorders. For example, depression and conduct disorder are associated with both early and/or risk-taking sexual behavior in adolescence, and also with subjection to sexual harassment (Goldstein et al., 2007; Kaltiala-Heino et al., 2016a; Kaltiala-Heino, Marttunen, & Fröjd, 2015; Madkour et al., 2010; Mitchell et al., 2014; Savioja et al., 2015). Both depression and conduct problems may emerge in response to trauma, but they may also exacerbate vulnerability to traumatic events. Such factors need to be taken into account when exploring possible associations between adolescents' sexual behavior and their subjection to sexual harassment.

The aim of this study was to explore the associations between various types of sexual behavior and exposure to sexual harassment among boys and girls aged 14–18 years old, taking into account factors that were previously found to be associated with sexual harassment and sexual behavior in adolescence, namely, emotional (depression) and behavioral (delinquency) disorders, and sociodemographic background. More specifically, answers were sought to the following questions:

Are advancing sexual experiences, namely, more intense or risk-taking sexual behavior, associated with an increasing amount of experiences of sexual harassment among adolescent boys and girls?

Are these associations similar in different types of sexual harassment?

Do the possible associations persist after controlling for sociodemographic and mental health variables, which correlate with both sexual behavior and sexual harassment experiences?

We hypothesized that an association exists between sexual behavior and experiences of sexual harassment, such that adolescents with more advanced sexual experiences and more intense and risk-taking sexual behavior would also report a greater number of experiences of sexual harassment. Because different types of sexual harassment experiences have similar sociodemographic and mental health correlates (Kaltiala-Heino et al., 2016a, 2016b), we expected that the associations would be similar in all types of sexual harassment. We further hypothesized that these associations would diminish after controlling for confounding due to unfavorable sociodemographic characteristics (not living with both parents, low parental education, parental unemployment) and emotional (depression) and behavioral (delinquency) disorders. Because the sexual double standard suggests that the social implications of being sexually active may be different for girls and boys (Bordini & Sperb, 2013; Dunn et al., 2014), the analyses were carried out separately for boys and girls.

2. Method

2.1. Sample and procedure

The present study was based on the data from the School Health Promotion Study (SHPS) 2010–2011. The SHPS of the National Institute for Health and Welfare is a school-based survey designed to examine the health, health behavior, and school experiences of teenagers (see for example, Savioja et al., 2015; Torikka et al., 2014). The survey is sent to every municipality in Finland, and the municipalities decide if the schools in their area will participate in the survey. The survey is administered primarily for health policy and administrative purposes, and

the data are available for purposes of scientific research upon request. The main aim of the survey is to produce national adolescent health indicators that municipalities can utilize in planning services and that can be used at the national level to assess the effectiveness of health policies. The survey is conducted biennially, in the spring term, among eighth and ninth graders of the nine-year, compulsory comprehensive school starting at age seven, and second-year students in secondary education (junior high school and vocational school) in the same regions of Finland so that the pooled two-year data (here 2010–2011) covers municipalities throughout the country. The SHPS has been dually approved by the ethics committee of the Pirkanmaa Hospital District and the National Institute of Health and Welfare. Of the authors of the present study, R.K.-H. and M.M. have repeatedly provided consultation on the SHPS regarding the mental health indicators used in the surveys, but they were not involved in formulating the sexual harassment questions.

The participants completed the questionnaire anonymously during a school lesson under the supervision of a teacher, who did not interfere with the responses. The participants were informed about the nature of the study, as well as about the voluntary nature of participation in both oral and written form, and returning the survey was considered consent to participate. The questionnaires took 30–45 min to complete and were then placed in envelopes, sealed, and returned directly to the research institution. The respondents were advised to talk with their parents or to contact their school's health and welfare services (school nurse, doctor, psychologist or social worker), which were available in all the schools in Finland, if they desired to discuss anything elicited in the survey further.

Between 2010–2011, the participants included 90,953 boys and 91,746 girls aged 14–18 years old. The mean (SD) age of both the boys and the girls was 16.3 (1.2) years. Of the eighth graders, 81.9% were reached, and of the ninth graders, 80.6%. The secondary education students are not recorded in statistics according to grade levels. Our data accounted for 57.1% of all the 14–18-year-olds in Finland, as recorded in the population census of 2011; among the different age groups, we reached 50.3% of all the 14-year-olds, 79.0% of all the 15-year-olds, 70.1% of all the 16-year-olds, 62.0% of all the 17-year-olds and 25.4% of all the 18-year-olds in Finland.

2.2. Measures

2.2.1. Sexual harassment

Experiences of sexual harassment were studied here as the dependent variables. The adolescents were asked if they had ever experienced any of the following: (1) Disturbing sexual propositions or harassment by telephone or through the Internet; (2) Sexually insulting name-calling such as “poof” or “whore”; (3) Being touched in intimate body parts against one's will; (4) Being pressured or coerced into sex; or (5) Being offered money, goods or drugs/alcohol in payment for sex. The response alternatives to all five questions were yes/no. For the purposes of the present study, we classified the items as gender harassment (sexual name-calling), unwelcome sexual attention (disturbing propositions/harassment or unwelcome touching) and sexual coercion (pressured/coerced into sex or being offered money for sex) according to Fitzgerald et al. (1995).

2.2.2. Sex

Sex was used as a stratifying variable. The first item in the survey was “I am a boy/girl” for both the comprehensive schools and junior high schools, and “I am male/female” for the vocational schools. Boys were considered as those who reported being a boy/male, and girls were considered as those who reported being a girl/female.

2.2.3. Sexual behavior

Sexual behaviors were used as the independent variable. Advanced sexual behavior was measured by asking if the respondent had experienced kissing on the mouth (yes/no), light petting (fondling on top of clothes, yes/no) heavy petting (fondling under clothes or naked, yes/no) or sexual intercourse (yes/no). On the basis of this information, the young people's experiences of advanced sexual behavior were classified as follows: (0) no experience; (1) having kissed but no experience of petting; (2) light petting but no heavy petting or intercourse; (3) heavy petting but no intercourse; and (4) having experienced intercourse. The question of whether the respondent had experienced intercourse was followed by a series of questions concerning the frequency of intercourse and the number of partners. In the present study, we used the questions “With how many partners have you had intercourse?” (one/two/three or four/five or more), and “How many times did you have intercourse during the past month?” (not at all/once/2–3 times/four or more times).

2.2.4. Covariates

Age, depression, delinquency, family structure, mother's and father's education, and parental unemployment during the 12 months prior to the questionnaire were used as covariates. These covariates were used because each has previously been shown to be associated with experiences of sexual harassment in this sample (Kaltiala-Heino et al., 2016a).

Age was calculated from the date of birth to the date of the survey and was used in the multivariate analyses as a continuous variable.

Depression was measured with the Finnish modification of the 13-item short form of the Beck Depression Inventory (BDI) (Beck & Beck, 1972; Beck, Rial, & Rickels, 1974; Raitasalo, 2007). The 13-item BDI has been shown to be a valid method for identifying depressive symptoms among adolescents (Beck, Rial, & Rickels, 1974; Bennett et al., 1997; Kaltiala-Heino, Rimpelä, Rantanen, & Laippala, 1999). The Finnish modification (R-BDI) is equivalent to the original 13-item BDI, but an opening question and one positive response alternative were added to every item. The scoring is the same as that of the original 13-item version. Each item is scored between 0–3 and the maximum score is 39. The depression scale displayed very good internal consistency in this sample (Cronbach's alpha = 0.88). Scores from 0–4 indicated no depression, 5–7 indicated mild depression, 8–15 indicated moderate depression and 16 + indicated severe depression. In this study, scores indicating moderate or severe depression were referred to as depression.

Delinquent behavior was assessed with the following six questions: During the past 12 months have you (1) drawn tags or graffiti on walls or elsewhere (2) deliberately damaged or destroyed school property or the school building, (3) deliberately damaged or destroyed other

property, (4) stolen from a shop or a stall, (5) been involved in a fight, (6) beaten someone up? All these had the response alternatives of no (0 points)/once (1 point)/2–4 times (2 points)/more than 4 times (3 points) and a summed score was formed that represented the types of delinquent behavior, theoretically ranging from 0 to 18. In the present data, the delinquency scale had good internal consistency (Cronbach's alpha 0.81), and a score of 4 or more represented the 90th percentile that was used to indicate delinquency. The self-report questions on delinquent behavior were derived from the Finnish self-report delinquency study questionnaire, which, in turn, is a modified version of the international self-report delinquency study (ISRD) instrument (Junger-Tas, Terlouw, & Klein, et al., 1994). The reliability of the ISRD instrument has been shown to be adequate in test-retest studies (Zhang, Benson, & Deng, 2000).

The adolescents were asked if their family included a mother and father/mother and stepfather/father and stepmother/mother alone/father alone/some other guardian/a spouse. For the analyses, family structure was dichotomized to mother and father/any other family constellation. Of the adolescents, 77.7% were living with both parents.

Parental education was determined separately for father and mother using the following question: "What is the highest education your father/mother has completed?" The response alternatives were minimal compulsory education/junior high school or vocational school/junior high school or vocational school and further vocational studies/university or university of applied sciences. Of the respondents, 11.3% had mothers and 16.6% had fathers with only minimal compulsory education. Parental unemployment was determined by asking the following question: "During the past year, have your parents been unemployed or laid off work?" The response alternatives were no/one parent/both parents. Of the respondents, 69.2% reported no parental unemployment during the past year, 27.2% reported that one parent had been unemployed or laid off, and 3.6% reported that both parents had been unemployed or laid off during the past year.

2.2.5. Height and weight

Height and weight were recorded and used to calculate BMI. The reason for this is explained below under the section titled Facetious responses.

2.3. Statistical analyses

The bivariate associations between advanced sexual behavior (no experiences/kissing only/light petting/heavy petting/intercourse) and each of the three types of sexual harassment named above were first analyzed among the whole sample using cross-tabulations with chi-square statistics. Similarly, the associations between the number of partners for intercourse and the three types of sexual harassment experiences, and between the frequency of intercourse during the month prior to the questionnaire and the three types of sexual harassment experiences were analyzed among those reporting sexual intercourse ($n = 59,657$).

Next, the multivariate associations were studied using logistic regression. The associations between the advanced sexual behavior and the experiences of sexual harassment were studied among all the respondents, as well as the associations between the number of partners for intercourse/frequency of intercourse during the month prior to the questionnaire and the experiences of sexual harassment among the reportedly sexually active (i.e., those who reported having experienced intercourse). Each of the three types of sexual harassment was entered, in turn, as the dependent variables. The sexual behavior variables were each entered as an independent variable, controlling for age, depression, delinquency, family structure, father's and mother's education, and unemployment in the family. Finally, the number of partners for intercourse and the frequency of intercourse during the month prior to the questionnaire were entered in the logistic regression models simultaneously, controlling for the abovementioned covariates. Because of the large size of the data and in order to avoid bias due to multiple testing, we set the limit for statistical significance at $p < .001$.

All the analyses were carried out separately for the boys and girls. Please see Endnote¹ for management of facetious responding, and Endnote² for management of missing data.

¹ Facetious Responses.

An important concern for survey studies among adolescents is the safeguarding against exaggerated responses. It has been demonstrated that adolescents exaggerate rather than attempt to hide their belonging to a minority or having negative experiences and that bias due to such facetious responding can be reduced by excluding respondents reporting unlikely combinations of exaggerated responses beyond the focus of interest for the present analyses (Robinson-Cimpian, 2014). We, therefore, excluded, as was done in a previous Finnish study (Kaltiala-Heino, Lankinen, Marttunen, Lindberg, & Fröjd, 2016), respondents reporting weight and height data that yielded a body mass index less than 10 or more than 40. Such students would likely be unable to attend school normally, particularly those with a BMI < 10. There were 689 boys and 234 girls who reported such unlikely weight and height data. Thus, claiming was associated with reports of having experienced intercourse more often (54.5% vs. 34.9%, $p < .001$), and, among those reportedly sexually experienced, having more commonly had five or more partners for intercourse (58.2% vs. 34.7%, $p < .001$), and having had intercourse four or more times during the prior month (58.2% vs. 34.7%, $p < .001$). Those suggesting an unlikely weight and height combination also more commonly reported all elicited forms of sexual harassment (gender harassment: 49.9% vs. 39.1%; unwelcome sexual attention 40.1% vs. 23.9%; sexual coercion 31.3% vs. 7.5%, $p < .001$ for all), as well as less favorable sociodemographic backgrounds (not living with both parents 33.2% vs. 22.1%; mother with minimal education 21.7% vs. 11.1%; father with minimal education 24.4% vs. 16.4%; both parents unemployed 13.3% vs. 3.5%, $p < .001$ for all). Further, they reported more mental health problems (depression 35.8% vs. 8.5%, delinquency 38.3% vs. 8.9%, in both $p < .001$). Analyses including and excluding respondents based on the extreme BMIs resulted in slight changes in the strengths of the associations detected, but the conclusions of the study were similar both when including and excluding those reporting extreme BMIs.

² Missing Data.

Approximately 10–15% of students are absent from school on any given day, and no information is available about these students. Of the participants, 3.6% provided insufficient information for us such that we could not form the combined variable for advanced sexual behavior. The missing information on sexual experiences was related to gender (boys vs. girls 4.3% vs. 3.0%), being younger [mean 16.0 (SD 1.1) vs. 16.3 (1.2) years], living with both parents (3.7% vs. 3.2%) and no unemployment in the family (3.8% vs. 3.1%; all $p < .001$), but not to parental education, depression or delinquency. Of the respondents, 1.6% omitted the items concerning sexual harassment. Not responding on the sexual harassment items was associated with gender (boys vs. girls 2.2% vs. 0.9%) and living with both parents (1.6% vs. 1.3%; all $p < .001$), but not with age, parental education, parental unemployment, depression or delinquency. For the analyses, we always used all the data available for the analysis in question.

Table 1

Distribution of sexual experiences among 14–18 year old Finnish adolescents. Differences between boys and girls are studied using cross-tabulations with chi-square statistics.

In the whole sample, advancing sexual experiences													
	No experiences		Kissing		Light petting		Heavy petting		Intercourse		Missing		Boys vs. girls <i>p</i> ^a
	%	(n)	%	(n)	%	(n)	%	(n)	%	(n)	%	(n)	
Boys	25.4	(23 092)	10.7	(9 770)	10.5	(13 641)	12.3	(11 176)	32.1	(29 210)	4.5	(4 064)	< .001
Girls	24.3	(22 275)	13.0	(11 884)	11.5	(10 594)	12.2	(11 181)	35.8	(88 814)	3.2	(2 932)	

Among those sexually active, number of partners for intercourse											
	One		Two		Three or four		Five or more		Missing		Boys vs. girls <i>p</i> ^a
	%	(n)	%	(n)	%	(n)	%	(n)	%	(n)	
Boys	45.2	(13 190)	20.4	(5 955)	17.3	(5 058)	16.1	(4 708)	1.0	(299)	< .001
Girls	46.2	(15 180)	20.2	(6 650)	19.2	(6 301)	14.0	(4 611)	0.4	(138)	

Among those sexually active, frequency of intercourse during past month											
	Not at all		Once		2-3 times		4 times or more		Missing		Boys vs. girls <i>p</i> ^a
	%	(n)	%	(n)	%	(n)	%	(n)	%	(n)	
Boys	38.4	(11 224)	16.6	(4 846)	14.7	(4 298)	29.4	(8 587)	0.9	(255)	< .001
Girls	28.1	(9 225)	14.2	(4 681)	17.9	(5 901)	39.4	(12 953)	0.4	(120)	

Note. ^aChi-square.

3. Results

3.1. sexual behavior and experiences of sexual harassment among boys and girls

About a quarter of both the boys and girls reported none of the sexual experiences stated, and about a third had experienced intercourse (Table 1). Of both the boys and girls who were sexually active (= had experienced intercourse), almost half had only had one partner for intercourse. Boys more commonly had not had intercourse and girls more frequently reported regular intercourse during the month prior to the questionnaire (Table 1).

Of the boys, 36.9% reported having experienced gender harassment, 9.6% unwelcome sexual attention, and 3.0% sexual coercion. Of the girls, 41.3% had experienced gender harassment, 37.8% unwelcome sexual attention, and 11.8% sexual coercion. All three forms of sexual harassment were reported significantly more by girls ($p < .001$).

3.2. Associations between sexual behavior and experiences of sexual harassment

Among the girls, all three types of sexual harassment were more common with the more advanced sexual experiences they reported. Among the boys, gender harassment had no such linear association with advanced sexual behavior, but the relationship between an adolescent's own sexual behavior and unwelcome sexual attention, as well as sexual coercion, showed a pattern similar to that among the girls (Table 2).

Among the sexually active girls, the more partners for intercourse they had, the more commonly all the forms of sexual harassment were reported. Unwelcome sexual attention and sexual coercion, however, were less commonly reported among the sexually active girls who had intercourse during the month prior to the questionnaire, regardless of their intercourse frequency (Table 3). Among the boys, unwelcome sexual attention and sexual coercion were more commonly reported according to the more partners they had for intercourse, and more commonly the more frequently the boys had intercourse during the month prior to the questionnaire. The OR for gender harassment was increased among the boys reporting five or more partners for intercourse (Table 3).

3.3. The role of sociodemographic and mental health variables

The associations between the adolescents' advanced sexual behaviors and their experiences of sexual harassment persisted in the multivariate analyses after controlling for age, depression, delinquency, and sociodemographic factors (Table 4). The boys who had experienced sexual intercourse reported unwelcome sexual attention almost three times as more than those reporting no sexual experiences and sexual coercion almost 12 times more. Among the girls, advanced sexual experiences were associated with increasing odds ratios for having experienced all three types of sexual harassment, with odds ratios of 5.6 for gender harassment, 4.8 for unwelcome sexual attention and 17.4 for sexual coercion among those who had experienced intercourse (Table 4).

Table 2

The proportion of 14–18 year olds boys and girls reporting experiences of gender harassment, unwelcome sexual attention and sexual coercion, according to sexual experiences. Differences according to advancing sexual experiences are compared using cross-tabulations with chi-square statistics.

	No experiences		Kissing		Light petting		Heavy petting		Intercourse	<i>p</i> ^a	
	%	(n/N)	%	(n/N)	%	(n/N)	%	(n/N)	(n/N)		
Gender harassment											
Boys	34.1	(7320/21477)	37.5	(3 452/9 208)	41.6	(5359/12882)	41.3	(4318/10465)	35.5	(9848/27729)	< .001
Girls	20.3	(4313/21227)	33.5	(3 764/11 235)	43.4	(4380/10101)	48.1	(5121/10651)	55.5	(17557/31655)	< .001
Unwelcome sexual attention											
Boys	4.5	(960/21442)	6.3	(575/9 191)	8.8	(1125/12856)	11.0	(1148/10435)	14.6	(27686/15315)	< .001
Girls	16.7	(3539/21233)	28.8	(3 234/11 229)	40.1	(4052/10099)	46.8	(4985/10646)	51.6	(16338/31653)	< .001
Sexual coercion											
Boys	0.5	(97/21411)	0.8	(76/9 172)	1.1	(145/12836)	2.9	(305/10404)	6.7	(1861/27609)	< .001
Girls	1.4	(291/21215)	3.5	(391/11210)	7.8	(787/10086)	14.9	(1579/10621)	22.4	(7071/31581)	< .001

Note. ^aChi-square.

When the reported number of partners for intercourse and the frequency of intercourse during the month prior to the questionnaire were each separately entered into the logistic regression models (controlling for confounders), the odds ratios for unwelcome sexual attention and sexual coercion increased with an increasing number of partners for intercourse among the sexually active boys (Table 5 Model 1). The same was seen when the number of partners and the frequency of intercourse variables were entered simultaneously (Table 5 Model 2). The linear association between the increasing frequency of intercourse and the experiences of sexual coercion was leveled out when the number of partners and the frequency of intercourse variables were entered simultaneously (Table 5 Model 2).

Among the sexually active girls, the more partners for intercourse the girls reported, the more commonly all the experiences of sexual harassment were reported, both when the number of partners was entered into the logistic regression as the only independent

Table 3

The proportion of sexually active 14–18 year old boys and girls reporting experiences of gender harassment, unwelcome sexual attention and sexual coercion, according to number of partners for intercourse and frequency of intercourse during past month. Differences between groups are studied using cross-tabulations with chi-square statistics.

	With how many partners have you had intercourse?								<i>p</i> ^a
	One		Two		Three or four		Five or more		
	%	(n/N)	%	(n/N)	%	(n/N)	%	(n/N)	
Gender harassment									
Boys	34.6	(4413/12761)	34.1	(1952/5728)	34.3	(1670/4864)	41.5	(1722/4152)	< .001
Girls	47.4	(6987/14752)	55.1	(3527/6397)	62.5	(3789/6063)	73.8	(3202/4337)	< .001
Unwelcome sexual attention									
Boys	10.4	(1331/12740)	12.6	(719/5723)	15.0	(726/4852)	29.3	(1217/4151)	< .001
Girls	44.2	(6519/14749)	53.6	(3433/6400)	57.0	(3457/6064)	66.6	(2889/4337)	< .001
Sexual coercion									
Boys	3.2	(405/12701)	5.0	(286/5704)	6.3	(307/4850)	20.4	(844/4136)	< .001
Girls	14.6	(2143/14709)	23.1	(1474/6388)	28.2	(1704/6051)	40.0	(1731/4330)	< .001

	How many times during past month did you have intercourse?								<i>p</i> ^a
	not at all		once		2-3 times		4 times or more frequently		
	%	(n/N)	%	(n/N)	%	(n/N)	%	(n/N)	
Gender harassment									
Boys	35.2	(3798/10778)	34.9	(1616/4633)	34.0	(1408/4146)	37.0	(2951/7976)	.004
Girls	55.4	(4891/8822)	56.9	(2558/4494)	54.3	(3108/5727)	55.5	(6945/12510)	.07
Unwelcome sexual attention									
Boys	12.5	(1345/10759)	14.1	(651/4626)	13.7	(568/4139)	18.0	(1431/7969)	< .001
Girls	54.4	(4796/8823)	52.5	(2360/4496)	47.7	(2729/5721)	51.2	(6412/12514)	< .001
Sexual coercion									
Boys	4.2	(447/10734)	6.0	(279/4613)	6.4	(264/4130)	10.8	(858/7940)	< .001
Girls	24.5	(2154/8804)	23.7	(1064/4487)	20.4	(1168/5713)	21.4	(2670/12480)	< .001

Note. ^aChi-square.

Table 4

Odds Ratios [95% confidence intervals] from logistic regression models for reporting experiences of gender harassment, unwelcome sexual attention and sexual coercion among 14, 18 year old boys and girls according to advancing sexual experiences. Age, depression, delinquency, family structure, father's and mother's education and unemployment in the family are controlled for.

	Gender harassment				Unwelcome sexual attention				Sexual coercion			
	Boys		Girls		Boys		Girls		Boys		Girls	
	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
Sexual experiences												
No	reference		reference		reference		reference		reference		reference	
Kissing	1.2	[1.1, 1.2]	1.9	[1.8, 2.0]	1.4	[1.3, 1.6]	2.0	[1.8, 2.1]	1.9	[1.4, 2.7]	2.5	[2.2, 3.0]
Light petting	1.4	[1.3, 1.4]	2.9	[2.8, 3.1]	2.0	[1.8, 2.2]	3.2	[3.0, 3.4]	2.6	[1.9, 3.4]	5.5	[4.8, 6.4]
Heavy petting	1.4	[1.3, 1.4]	3.7	[3.5, 3.9]	2.4	[2.2, 2.6]	4.1	[3.8, 4.3]	5.7	[4.4, 7.4]	11.0	[9.6, 12.6]
Intercourse	1.1	[1.1, 1.1]	5.6	[5.3, 5.8]	2.9	[2.7, 3.2]	4.8	[4.6, 5.0]	11.8	[9.3, 3.2]	17.4	[15.3, 19.8]

Note. Odds ratios highlighted in bold are statistically significant at level $p < .001$; OR = odds ratio; CI = confidence interval.

variable (controlling for confounders) (Table 5 Model 1) and when this variable was entered simultaneously with the frequency of during the month prior to the questionnaire (Table 5 Model 2). The sexually active girls reporting intercourse during the month prior to the questionnaire were less likely to report experiences of sexual harassment than those sexually active girls reporting no intercourse during the month prior (Table 5 Model 2).

4. Discussion

We hypothesized that adolescents with more advanced sexual experiences and more intense and risk-taking sexual behavior would also report more experiences of sexual harassment. We expected that these associations would be similar for all kinds of sexual harassment. We further hypothesized that these associations would diminish after controlling for the confounding effects of unfavorable sociodemographic characteristics (not living with both parents, low parental education, parental unemployment) and emotional (depression) and behavioral (delinquency) disorders.

As hypothesized, advancing sexual behavior was associated with increased subjection to sexual harassment among 14- to 18-year-old Finnish adolescent boys and girls. Among the sexually active adolescents, risk-taking sexual behavior was associated with subjection to sexual harassment. Earlier research on this topic is scarce, but the findings have been in line with ours (Chiodo et al., 2009; Fineran & Bolen, 2006; Maxwell et al., 2003; Mitchell et al., 2014). Our study contributes to the existing body of research by demonstrating that the associations between adolescents' sexual behavior and experiences of sexual harassment display a similar pattern across types of sexual harassment in girls and regarding unwelcome sexual attention and sexual coercion in boys. Our study further adds to the existing body of research by showing, contrary to our third hypothesis, that the associations between sexual activity and experiences of sexual harassment persist even when sociodemographic variables and disorder dimensions associated with both sexual behavior and sexual harassment during adolescence are controlled for.

As it was cross-sectional, this study can shed no light on causality. Excessive exposure to sexual harassment could be a factor that predisposes adolescents to sexual advances, particularly in early and middle-aged adolescents, among whom genital sexual behavior is, per se, rather to be seen as problem behavior than as a sign of favorably progressing adolescent development (Kaltiala-Heino et al., 2015; Madkour et al., 2010; Savioja et al., 2015). An increasing number of partners for intercourse may indicate more risk-taking sexual behavior, and five or more partners for intercourse has been shown to be associated with a number of negative mental health issues in adolescence (Kaltiala-Heino et al., 2015). Sexual behavior that is risk-taking or too advanced for a certain age or developmental level may suggest inappropriate coping after distressing experiences of sexual harassment. Sexually harassed adolescents may also appear more sexually active because they report harassment experiences as sexual experiences. However, kissing and light petting are, at least, normative experiences in the age groups studied, and perhaps not are seen as consequences of traumatizing events in the first place. It is, therefore, also possible that being sexually interested and active predisposes adolescents to circumstances and situations where there is a greater risk of being subjected to sexual harassment (Maxwell et al., 2003). Finally, sexually interested adolescents may be more alert to sexual cues than their non-interested peers, and therefore, may report more experiences of sexual harassment.

Advancing sexual behaviors were associated with sexual harassment in both boys and girls, but the odds ratios rose more sharply with advancing experiences in girls. This could mean that, at least to some extent, experiencing sexual harassment is a consequence of sexual interest and activity, and, according to the sexual double standard (Bordini & Sperb, 2013), being sexually active results in being the target of sexually derogatory interactions among girls more than among boys, as Dunn et al. (2014) suggested regarding bullying. The sexual double standard could also explain why girls more commonly reported experiencing all types of sexual harassment among those without any sexual experiences so far, and why the sex difference in experiences of harassment among girls escalated quite significantly, increasing from no activity to kissing and petting and remained quite marked beyond that.

The frequency of sexual activity during the month prior to the questionnaire had different associations with sexual harassment between boys and girls. Among the boys, the group reporting the most frequent intercourse also displayed increased odds for sexual

Table 5 Odds Ratios [95% confidence intervals] from logistic regression models for reporting experiences of gender harassment, unwelcome sexual attention and sexual coercion among 14–18 year old boys and girls who have experienced intercourse, according to number of partners for intercourse and frequency in the preceding month. In Model 1, number of partners for intercourse and frequency of intercourse in the preceding month are entered each alone, in Model 2 simultaneously. All the Odds Ratios are controlled for age, depression, delinquency, family structure, father's and mother's education and unemployment in the family.

	Gender harassment			Unwelcome attention			Sexual coercion			
	Model 1		Model 2	Model 1		Model 2	Model 1		Model 2	
	OR	[95% CI]	OR	[95% CI]	OR	[95% CI]	OR	[95% CI]	OR	[95% CI]
Boys										
Number of partners for intercourse										
One	reference		reference		reference		reference		reference	
Two	0.9	[0.9, 1.0]	1.0	[0.9, 1.0]	1.2	[1.1, 1.3]	1.5	[1.3, 1.8]	1.7	[1.4, 1.9]
Three or four	1.0	[0.9, 1.0]	2.0	[0.9, 1.1]	1.4	[1.3, 1.6]	1.9	[1.6, 2.3]	2.0	[1.8, 2.4]
Five or more	1.1	[1.1, 1.2]	1.2	[1.1, 1.2]	2.9	[2.6, 3.2]	2.9	[5.1, 6.8]	6.8	[6.0, 7.8]
Times had intercourse during past month										
None	reference		reference		reference		reference		reference	
Once	0.9	[0.9, 1.0]	0.9	[0.9, 1.0]	1.1	[0.9, 1.2]	1.4	[1.2, 1.7]	1.1	[0.9, 1.3]
2, 3 times	0.9	[0.8, 1.0]	0.9	[0.8, 1.0]	1.0	[0.9, 1.1]	1.4	[1.2, 1.7]	1.1	[0.9, 1.3]
4 times or more	1.1	[1.0, 1.1]	1.0	[1.0, 1.1]	1.4	[1.3, 1.5]	2.5	[2.2, 2.9]	1.7	[1.5, 2.0]
Girls										
Number of partners for intercourse										
One	reference		reference		reference		reference		reference	
Two	1.3	[1.3, 1.4]	1.4	[1.3, 1.4]	1.4	[1.4, 1.5]	1.7	[1.6, 1.8]	1.8	[1.6, 1.9]
Three or four	1.9	[1.8, 2.0]	1.9	[1.8, 2.1]	1.7	[1.6, 1.8]	2.2	[2.1, 2.4]	2.4	[2.2, 2.5]
Five or more	3.3	[3.0, 3.5]	3.3	[3.0, 3.6]	2.4	[2.2, 2.6]	3.5	[3.2, 3.8]	4.2	[3.9, 4.5]
Times had intercourse during past month										
None	reference		reference		reference		reference		reference	
Once	1.0	[0.9, 1.1]	0.9	[0.8, 1.0]	0.9	[0.0, 1.0]	0.9	[0.0, 1.0]	0.8	[0.8, 0.9]
2, 3 times	1.0	[0.9, 1.1]	0.9	[0.8, 1.0]	0.8	[0.7, 0.8]	0.8	[0.7, 0.8]	0.7	[0.6, 0.7]
4 times or more	1.2	[1.1, 1.2]	1.1	[1.0, 1.1]	0.9	[0.9, 1.0]	0.8	[0.8, 0.8]	0.9	[0.7, 0.7]

Note. OR = odds ratio; CI = confidence interval; Odds ratios highlighted in bold are statistically significant at level $p < .001$.

coercion; among the sexually active girls, intercourse during the month prior to the questionnaire was associated with reporting fewer experiences of sexual harassment. We do not know whether the prior month's sexual activity reported in these data occurred in steady relationships or through casual encounters. However, in an earlier SHPS sample, it was found that regular sexual activity among adolescent girls more often occurred in a relationship, whereas boys had sex without being in a steady relationship (Kosunen, Kaltiala-Heino, Rimpela, & Laippala, 2003). This could explain why the prior month's sexual activity was associated with less sexual harassment in the sexually active girls, even if some indications of the opposite were found among the boys.

Even if experiences of sexual harassment may, at least in part, be associated with encounters brought about by the adolescents' own interests and behavior, sexual harassment is a negative, potentially traumatizing experience associated with a number of adverse outcomes (American Association of University Women, 2001) and is likely even more harmful than other forms of bullying and harassment (Bucchianeri et al., 2014; Gruber & Fineran, 2008). Our findings suggest that the possible subjection to sexual harassment needs attention when working with sexually active adolescents, or even with adolescents only starting to show interest in romantic and erotic relationships. Adolescents need to know about their rights and need to have the skills to protect themselves against unwelcome advances, such as sexual harassment, and preventive efforts should also focus on increasing the understanding and motivation of adolescents to withdraw from perpetrating sexually harassing behaviors, preferably before they face the challenges brought about by their increasing romantic and sexual interests.

4.1. Methodological considerations

One strength of the present study was the uniquely large population-based sample that covered five age cohorts of early and middle-aged adolescents. As a classroom survey, the SHPS reaches the majority of adolescents in the age groups studied. The coverage of comprehensive schools was approximately 99% in Finland, and the coverage of secondary education was approximately 90%. The decision of a given municipality not to participate in the SHPS is unlikely to influence the associations studied. Regarding the 15 to 16-year-olds, more than two thirds of this age group in the whole country was reached, and regarding 17-year-olds, almost two thirds. Of the 14-year-olds, many had not yet reached eighth grade, and of 18-year-olds, many had already graduated from secondary school. Therefore, 15-year-olds attending either the eighth or ninth grade of a compulsory nine-year comprehensive education were most comprehensively represented. The absolute numbers, however, were high in all the age groups.

Of the students, 10–15% are invariably absent on any given day. It is possible that these adolescents had more experiences of sexual harassment than those present (American Association of University Women, 2001; Barter, 2009; Wood, Barter, & Berridge, 2011). Even if the topics analyzed in the present study were sensitive, attrition due to skipping questions was also low. This adds to the reliability of the results. A greater proportion of boys than of girls left sexual behavior and sexual harassment questions unanswered. Attrition in different phases of the studies has previously been shown to be associated with the male sex among Finnish adolescents (Fröjd, Kaltiala-Heino, & Marttunen, 2011; Kekkonen et al., 2015). During adolescence, girls outperform boys in reading skills across the nations (Stoet & Geary, 2013). This could result in responding to surveys being more difficult for boys and could, in classroom surveys, result in boys running out of time to respond to all questions. Otherwise, the attrition analyses did not suggest significant systematic bias due to the omission of sexuality and harassment-related questions, and nevertheless, even high levels of non-responses may not necessarily have an effect on the associations studied between the psychosocial phenomena (Van Loon, Tijhuis, Picavet, Surtees, & Ormel, 2003).

The experiences of sexual harassment were determined in the series of questions outlined under the section titled Sexual Health, grouped together with questions concerning the respondent's sexual knowledge, sexual behavior, and his/her use of contraceptives. The questions were not specifically entitled "sexual harassment". It has been shown that the context in which experiences of sexual harassment occur influences how they reported (Galesic & Tourangeau, 2007). In the present data, we believe that the questions on sexual harassment were posed as neutrally as possible. Both sexual behavior and experiences of sexual harassment were assessed under the heading of sexual health.

Sexual experiences were assessed with a series of questions that have been used in adolescent sexual health studies for decades (Falah Hassani, 2010; Kontula, Rimpela, & Ojanlatva, 1992; Kosunen, 1996, 2004). The same questions have been used over time in order to monitor changes in adolescent sexual behavior due to the implications of these changes for health policies. Whether the report of having experienced intercourse refers to consensual sex or, perhaps, sometimes to abuse was not determined. It is possible that some of the sexual experiences that the adolescents reported could have *de facto* been sexual harassment (unwelcome touching, pressuring or coercing to engage in sex). This is a limitation of the study, particularly regarding the present topic. Future research should investigate whether the sexual activity was consensual or not, and the age of the partner(s). This would help to disentangle how self-initiated, consensual, and age-appropriate sexual behaviors are associated with experiences of sexual harassment and to what extent adolescents' sexual experiences actually are experiences of sexual harassment or abuse. It is also a limitation of the present study that it was not known by whom or where the adolescents had been subjected to sexual harassment.

A further limitation is that sexual orientation and gender identity were not assessed in the School Health Promotion Survey. Sexual and gender minority adolescents have been reported to experience sexual harassment much more commonly than heterosexual and cis-gender adolescents (Mitchell et al., 2014). It is likely that sexual and gender minority adolescents were among the respondents, but we were not able to account for sexual orientation and gender identity in the analyses. Our findings likely best represent the experiences of cis-gender, heterosexual adolescents, as they most likely formed the vast majority in the sample.

The survey started by assessing whether the respondent was a boy/a girl (comprehensive schools and junior high schools) or male/female (in vocational schools where there are also adult students much older than 20, even if they were not included in the present study). In 2010–2011, there was no general awareness that offering more alternatives could be appropriate. It is not known

how adolescents with transgender identity answered this item. As transgender identifying adolescents likely formed only about one percent of the age group studied (Connolly, Zervos, Barone, Johnson, & Joseph, 2016; Sumia, Lindberg, Tyolajarvi, & Kaltiala-Heino, 2017), this limitation is unlikely to have biased the conclusions regarding mainstream adolescents, but it does leave questions related to transgender adolescents' experiences unanswered.

5. Conclusion

Experiences of sexual harassment were associated with 14- to 18-year-old adolescents' advanced and risk-taking sexual behavior. Having experienced even the first steps of sexual activity, such as kissing and petting, was associated with experiences of sexual harassment. Adolescents who are sexually interested may be more sensitive and may pay more attention to sexually harassing behaviors they encounter than do those not yet so involved. They may also face social encounters that predispose them to sexual harassment. Experiences of sexual harassment can also be traumatizing events that predispose adolescents to early advancing or risky sexual behavior. Adolescents need skills to protect themselves in sexually harassing encounters. Professionals responsible for sex education should pay attention to teaching skills that focus on recognizing the risk of, and on withdrawing from, situations that predispose to sexual harassment and to seek support if subjected to harassment. Schools should implement policies that reduce sexual harassment of any kind. Future longitudinal research should study causal relationships between adolescents' sexual behavior and subjection to sexual harassment and gather information that makes it possible to distinguish between consensual and non-consensual sexual activity.

Conflict of Interest

The authors declare no conflict of interest.

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