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## **Pornography, sexual coercion and abuse and sexting in young people's intimate relationships: A European study**

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Review

# Pornography, sexual coercion and abuse and sexting in young people's intimate relationships: A European study

## Introduction

The Internet has provided opportunities for young people to access and generate information without the mediation of adults and has exposed them to material that was previously subject to greater control and regulation when confined to printed and other formats. Sexual images including pornography are one such type of information and new technologies both allow anonymous and private access to this material and have the potential for it to be widely distributed, so rupturing privacy and intimacy. Hand held devices, particularly smart phones, are a key medium through which private information and images can be transformed into public knowledge. As the widespread nature of young people's exposure to pornography has become apparent, research that examines the impact of pornography on young people's behaviour and attitudes has developed. A number of studies have interrogated the relationship between viewing pornography and sexually aggressive attitudes or behaviour in young people and whilst some of these studies have been carried out on offender populations, others have involved young people in the general population. This research builds on this body of evidence. Undertaken with young people in schools in five European countries, it examines the relationship between regular use of online pornography and sexually abusive behaviour in intimate relationships and the analysis takes account of both gender and gender attitudes. The study also considers how these behaviours link to the sending and receiving of sexual images by young people and draws on findings from qualitative interviews to enrich understanding of quantitative data.

## Current Debates and Evidence

Debates about pornography are rarely value free and Smith (2013) notes how contrasting attitudes have informed research and policy on pornography and sex education in the USA where sexual

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7 conservatism has dominated the public arena and in Scandinavia where sexual liberalism is  
8 predominant. Researchers such as Brown and L'Engle (2009) and Ybarra et al. (2014) argue that in  
9 the USA conservative values have resulted in a decade of federally funded abstinence-only sex  
10 education which has led to the Internet becoming a major source of information about sexual  
11 behaviour for young people. However, a drive towards gender equality has focused attention on  
12 violence towards women and girls and these two themes cut across such debates and emphasise the  
13 need to prioritise the prevention of coercion and violence in intimate relationships.  
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20 Adolescence has been the target for much of the prevention work addressing violence and abuse in  
21 intimate relationships and schools are the main setting for delivering such initiatives with  
22 interpersonal violence addressed within sex education, in the form of dating violence programmes (in  
23 the USA and Canada) or in the context of personal, social and health education (PSHE) in the UK  
24 (Stanley et al, 2015). These classes can also be harnessed for research purposes. Yet research that has  
25 aimed to elucidate the relationship between young people's exposure to pornography and violence and  
26 abuse in their own interpersonal relationships is fraught with challenges. Studies have struggled to  
27 keep pace with technological developments and while there is now a developing body of research that  
28 addresses the role of mobile phones and social media in interpersonal abuse (Dake et al, 2012; Rice et  
29 al, 2012; Ringrose et al, 2012; Zweig et al, 2013) there is little that examines how and whether this  
30 form of abuse might be associated with use of pornography. The media through which pornography  
31 are delivered and consumed have also changed rapidly with mobile phones now playing a significant  
32 role so that young people can watch pornography in school and other public places as well as in the  
33 more private setting of the home or bedroom (Rothman et al, 2014). Again, research has only  
34 recently begun to address this increasing normalisation of pornography and its impact on young  
35 people's relationships. Much of the research on the effects of pornography has been undertaken with  
36 college students (Carroll et al, 2008; Morgan, 2011; Simons et al, 2012) with studies that focus on the  
37 associations between exposure to pornography and sexually aggressive behaviour being more likely to  
38 utilise offender populations (Alexy et al, 2009; Burton et al, 2010; Hunter et al, 2010). However, a  
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handful of studies, including some European studies, have utilised samples of adolescents drawn from the general population and these are discussed below.

A few non-systematic reviews exploring the impact of pornography on children and adolescents are available. Flood's review (2009) argued that pornography is particularly damaging for young people's attitudes and behaviour since its content is 'sexist and hostile towards women' (p387). He identified associations between frequent use or use of violent pornography and sexually aggressive attitudes among adolescent boys and argued for more research on young people's use of pornography including their production and exchange of sexualised images by mobile phone. Owens et al's (2012) review noted the mainstreaming of pornography and emphasised the increasing range and mobility of the means used to access it. They suggested that aspects of brain development in adolescence together with limited experience of intimate relationships may render young people particularly susceptible to adverse effects. A recent UK review (Horvath et al, 2014) discovered more evidence linking pornography use to perpetration of sexual aggression than was identified for a relationship between pornography and experience of victimisation. The reviewers found an association between exposure and access to pornography and aggressive behaviour in children and young people but concluded that the evidence was insufficiently strong to infer the direction of causality in this relationship.

Some large-scale studies of young people in the general population have examined the impact of pornography on coercive or abusive behaviour and these provide a useful context for this study. Bonino et al's (2006) survey of 14-19 year olds in Italian schools found that young people who used pornography were likely to establish relationships with their peers characterized by greater tolerance towards unwanted sexual behaviour. They reported a significant association between viewing pornographic films and videos and active harassment and perpetration of forced sex. Correlations were also found between viewing pornographic films and videos and having been sexually harassed or forced to have sex, especially for young women and younger adolescents. However, the survey completion rate seems to have been particularly low for boys and this study was undertaken before proliferation of smart phones made for widespread access to pornography via the Internet.

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8 Brown and L'Engle's (2009) longitudinal survey of nearly 1000 young people in the Southeast of the  
9 USA who had an average age of 13.6 years at the first survey point and 15.6 years at follow-up  
10 achieved a better gender balance in terms of response rates. When this study was undertaken, boys  
11 were likely to view sexually explicit material on the Internet while girls were more likely to access it  
12 through X-rated films. They found that use of sexually explicit material did not predict gender  
13 attitudes among young men at follow-up although it was related to less progressive attitudes among  
14 young women. Importantly, sexually explicit media use was found to be significantly related to  
15 perpetration of sexual harassment by young men at follow-up.  
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24 Data from a national US survey of media use which included 1058 young people aged 14-21 showed  
25 that rates of experiencing sexual harassment, coercion and rape were very much higher among young  
26 people reporting greater exposure to sexual material (Ybarra et al, 2014). The analysis distinguished  
27 between the different types of media used to access sexual material and the researchers reported a lack  
28 of association between exposure to sexual material via the Internet and experience of sexual coercion.  
29 However, this may be explained by their focus on victims' experiences rather than perpetration of  
30 coercion or abuse and the absence of a gendered analysis in their account of interpersonal violence.  
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38 Large-scale surveys undertaken with an older group of young people (average age 18) in Norway and  
39 Sweden confirm this picture of an association between frequent use of pornography and sexually  
40 coercive behaviour. Kjellgren et al. (2010) found that young Swedish men who used sexually coercive  
41 behaviour and those who had conduct problems were more likely to have watched pornography  
42 frequently or to prefer violent pornography than the control group. Young women from Sweden and  
43 Norway who used sexually coercive behaviour had also watched violent pornography significantly  
44 more than the control group. They were more likely to have sold sex and to have peers who watched  
45 violent pornography (Kjellgren et al., 2011).  
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7 Another European study aimed to identify the mechanisms underpinning the relationship between  
8 intentionally viewing pornography and negative attitudes toward sex. Peter and Valkenberg (2010)  
9 drew on data from their three-stage study of 2,341 Dutch young people aged 13-20 to develop a  
10 model that sought to understand whether young people's perceptions of pornography as realistic and  
11 useful contributed to them developing instrumental attitudes to sex (that is, an understanding of sex as  
12 primarily physical and casual rather than affectionate and relational) . They found that frequent use of  
13 pornography led to perceptions of pornography as more realistic and socially useful and that these  
14 perceptions contributed to more instrumental attitudes towards sex. Instrumental attitudes to sex are  
15 not synonymous with abusive behaviour but this research is helpful in highlighting how young  
16 people's perceptions of the realism and value of pornography may contribute to its effects.  
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26 The study reported here was funded by the European Commission's Directorate General Justice  
27 Daphne III Programme. Building on earlier UK research that found that new technologies could act  
28 to extend and intensify interpersonal violence and abuse (IPVA) in young people's relationships  
29 (Authors, 2009a, Authors, 2010), the STIR (Safeguarding Teenage Intimate Relationships) study  
30 aimed to explore young people's online and face-to-face experiences of IPVA in five European  
31 countries: Bulgaria, Cyprus, England, Italy and Norway. These countries were selected to provide a  
32 wide geographical and policy spread and to offer diversity in their levels of gender equality (see  
33 European Institute for Gender Equality, 2013) as well as variations in young people's use of new  
34 technologies (Livingstone et al, 2011). Study objectives included exploring the incidence and impact  
35 of online and offline physical, emotional and sexual forms of violence and abuse in young  
36 relationships and these findings are reported in depth elsewhere (Authors, 2015). Here, we aim to  
37 explore whether regular viewing of online pornography represents a risk factor for perpetration of  
38 sexual coercion and abuse in young people's intimate relationships. We also examine whether use  
39 of pornography is associated with the sending and receiving of sexual images and messages between  
40 intimate partners (known as 'sexting'). Qualitative findings are used to illuminate the relationship  
41 between sexting and pornography.  
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### Methods

The study took a mixed-methods approach and included a school-based survey and individual interviews with young people in all five countries. We aimed to achieve a mixed sample of schools serving more and less affluent populations and to exclude single sex schools. Recruitment was not straightforward and although in most countries recruitment was consistent with the framework established, a single sex boys' school was included in one country. We were however unable to achieve a random sample due to the difficulties in obtaining agreement from schools to participate. For example in Norway over 100 schools were approached but only 10 agreed. In Italy and Bulgaria similar issues were faced. A young people's advisory group was convened in each country to comment on all aspects of the study and these groups assisted with the design and wording of the survey and interview schedule and helped devise the vignettes which were used to stimulate discussion in the interviews (all material was translated into the appropriate language for each country). The schools included in the study wrote to parents requesting consent for young people to participate in the study and this was provided on an opt-out or opt-in basis according to the country where the survey was being completed. Young people gave their written and informed consent before completing the survey and an appropriately formatted leaflet made it clear that participation was voluntary, anonymous and confidential. The measures were included in a single paper survey that was professionally translated into the required languages. Care was taken to ensure that the language was consistent between the countries and the young people's group in each country assisted in ensuring that the lay-out, length and wording of the survey was young people friendly. Researchers administered the paper survey in 45 schools in the five countries and care was taken to ensure that students worked on the questionnaires individually and without being overseen. Those young people who chose not to complete the survey were given an alternative activity which was undertaken in the same place at the same time. Efforts were made to protect the confidentiality of these students and ensure that other students were not aware that they were completing an alternative activity. Ethical scrutiny and approval was provided by University of Bristol, school for Policy Studies Ethics Committee.

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7 The survey incorporated questions about experiences of both perpetration and victimisation in relation  
8 to different forms of IPVA and their impacts. The measures employed were based on previous studies  
9 of young people's experiences of IPVA (Authors, 2009a; Radford et al, 2011) and were developed in  
10 collaboration with the young people's advisory groups. The same measures, professionally translated  
11 and checked for idioms with the relevant young people's advisory group, were used in all five  
12 countries. Both face-to-face and online forms of coercion and abuse were addressed with a range of  
13 questions employed to measure each form of abuse and responses were combined to produce an  
14 overall measure for each form of abuse, below we detail the measures relevant to the analysis  
15 presented here.

#### 22 23 *Sexual Coercion and Abuse*

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25 To explore experience of sexual coercion and abuse, young people were asked the following  
26 questions: whether any of their partners had ever pressured them into kissing, touching or something  
27 else; whether they had been physically forced into kissing, touching or something else; whether they  
28 had been pressured into having sexual intercourse or physically forced into having sexual intercourse.  
29 Perpetration was measured using the same set of behaviours but by asking whether the young person  
30 had ever done these things to a partner. Questions were answered on a four-point scale: never, once, a  
31 few times and often. Pressure was defined to include their partner saying things such as 'if you loved  
32 me, you would do it' or threatening to end the relationship if they refused. Responses were combined  
33 to give an incidence rate for each country so a range of coercive and abusive behaviours are included  
34 in the overall rates reported.

#### 43 44 *Experiences of sending and receiving sexual images/messages or 'sexting'*

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46 The survey asked respondents whether they'd ever sent a sexual message or picture to a partner/ ex-  
47 partner by text, phone or via social networking sites; answers were provided on the four-point scale  
48 described above. Closed questions were asked to discover why they did this, how it  
49 ~~They were asked~~ made them feel and whether the picture had been shared and, if so, how that had made them feel.

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51 Questions were asked in respect of whether they had received a sexual message or picture from an ex-  
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7 partner and in addition to measuring frequency on the four-point scale, respondents were asked if they  
8 had requested the message/picture, if it had been shared with others and why.  
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### 10 *Gender Equality*

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12 Three questions were designed to measure attitudes to gender equality:

- 13 • For the most important job it is better to choose a man instead of women.
- 14 • Women lead men on sexually and then complain about the attention they get.
- 15 • It is sometimes acceptable for a man to hit women if she has been unfaithful.

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22 Respondents indicated their level of agreement on a five-point Likert scale and were allocated a score  
23 reflecting their levels of agreement with these statements; the higher the score the more negative the  
24 gender attitude. Total scores were categorised into three groups to obtain groups that were sufficiently  
25 large to enable further analysis while providing a good representation of the data: Group 1 (scored 3-  
26 6); Group 2 (scored 6-9); Group 3 (scored 10-15). Group 1 held the least negative attitudes (ie.  
27 strongly disagreed with all three statements) and Group 3 the most negative gendered attitudes (ie.  
28 agreed with at least one statement).  
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### 35 *Use of Pornography*

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37 Two questions using simple yes/no answers addressed use of pornography. The first asked whether  
38 the young person regularly watched online pornography and the second whether they had ever been  
39 pressurised into watching online pornography by a partner. This was a lengthy survey and the time  
40 available in class for completion was limited so it was not possible to provide respondents with a  
41 detailed definition of the term 'pornography'; consequently, their responses utilise a self-defined  
42 concept of pornography. However, consultations with the young people's groups in all countries on  
43 the survey design and wording revealed that young people had common understandings of what  
44 constituted online pornography.  
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7 Data entry was undertaken by the research team in each country using SPSS and the data sets were  
8 brought together for analysis. Descriptive statistics including cross-tabulations were run for each  
9 country. It was not possible to construct a random sample which therefore limits our ability to  
10 extrapolate our findings to the general population of young people in each country. However, this is  
11 the first large scale comparative survey that has collected information on IPA in young people's  
12 relationships and therefore constitutes a unique and important source of information despite its  
13 limitations. Chi-square tests were used to identify gender effects in each country and standardized  
14 residuals were checked and are reported where relevant (see Table 6). We used multivariate analyses  
15 to explore further the relationship between boys' use of sexual coercion and its relationship to regular  
16 viewing of pornography and the findings are reported below in Table 7. This analysis was confined to  
17 boys' use of sexual coercion since less than 8% of girls in all countries reported using sexually  
18 coercive behaviour. Logistic regression includes known predictors of sexual coercion (Authors 2009a;  
19 Maxwell, Robinson & Post 2003), along with watching pornography and sending and receiving text  
20 messages.  
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### 31 *Qualitative Interviews*

32 We aimed to recruit interview participants who had experience of IPVA in their own relationships.  
33 Young people were identified for interview from counselling services in schools, from youth camps  
34 and workshops for young people or from specialist services including those working with IPVA.  
35 Some of those interviewed may also have completed the survey. A semi-structured interview schedule  
36 that included the opportunity to discuss and comment on short vignettes was utilised and the  
37 interviews were recorded and transcribed with participants' consent. While a total of 100 interviews  
38 were completed across all five countries, 91 of these interviews were included in the analysis as not  
39 all those recruited proved to have had direct experience of IPVA. A Framework approach (Spencer,  
40 Ritchie & O'Connor, 2003) was used for data analysis to ensure that comparable issues were  
41 identified and understood in context. This involved constructing a framework of main themes and  
42 sub-themes derived from previous research in this field (Authors 2009b), coding interviews against  
43 these themes and entering relevant passages of text from each interview into the framework.  
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### The Survey Sample

In total, 4,564 young people aged 14-17 completed the survey across the five countries. Mean ages of the respondent groups did not differ greatly by country and ranged from 14.73 years in England to 15.29 years in Italy.

The majority (72%) reported having had a boyfriend or girlfriend and the likelihood of this increased with age. Most young people (96%) had had a partner of the opposite sex and 4% (n= 124) had had a same-sex partner. The findings reported here are based on the 3,299 young people who said they had been in a relationship. Table 1 shows these respondents by country, gender and age. Fewer participants were recruited in Cyprus reflecting the country's smaller population.

**Table 1: Sample of Young People in 5 Countries who had had a Relationship by Gender and Age.**

Insert Table 1

### Findings

#### Viewing and Being Pressured into Watching Online Pornography

As shown in Table 2, regular viewing of online pornography was reported by between 19 and 30 per cent of young people across all five countries. However, in line with other research findings in this field (Horvath et al 2014), boys reported very much higher rates of exposure. There was some variation in rates between countries with the lowest rate for boys found in England (39%) and the highest in Cyprus (59%). The questionnaire asked about *regular* viewing of online pornography and this may be a partial explanation for the very low rates among girls which ranged from 3% in Cyprus and England to 8% in Bulgaria. However, given the ubiquity and accessibility of online pornography, viewing that is frequent and therefore presumably intentional and sustained seems more likely to interact with attitudes and behaviour than that which is occasional and perhaps unintentional and brief.

**Table 2: Young People Regularly Watching Online Pornography by Country and Gender**

**Insert Table 2**

Livingstone et al's (2011) European survey of 9-16 year olds found that older children were very much more likely to have viewed pornography than the youngest children however, some young people we interviewed reported that their interest in watching ~~viewing~~ pornography reduced once they were themselves engaged in sexual relationships and that this was something younger adolescents did. The survey data only showed significant differences by age for boys in Italy and Norway (no young people over 16 completed the survey in England). In Italy, there was a discernible pattern of the proportions of boys in each age group who regularly viewed online pornography reducing from 35% of 14 year olds to 20% of 17 year olds. In contrast in Norway, the proportion of boys watching pornography online increased from 21.5% at age 14 to 31% at age 16 and then fell sharply away to 9% at age 17 although the small sample size for this sub-group (31) demands caution in interpreting this result.

Survey participants were also asked if they had ever been pressured to watch online pornography by their partner. Table 3 shows that the numbers reporting this form of pressure were low in most countries but were somewhat higher in Bulgaria. In Bulgaria, Cyprus and Italy, boys consistently reported higher rates than girls. This unexpected finding may be a consequence of the way in which gender relations are conceptualised in these countries which are rated low on European gender equality scales (European Institute for Gender Equality 2013). It is possible that in these countries, boys may be more likely to resort to traditional gender scripts and to claim that they were 'forced' to watch pornography by a partner's refusal to engage in sexual activity. Boys and girls in Bulgaria and boys in Italy who watched pornography regularly were more likely to say they had been pressured to do so by partners ( $p < .001$ ), but no significant association was found for other countries.

**Table 3: Young People Reporting being Pressured to watch Online Pornography by a Partner****Insert Table 3**

### Experiences of Sexual Coercion and Abuse and Association with Pornography

Table 4 shows particularly high rates of experience of sexual coercion and abuse for girls in England, Italy and Norway with most of this taking the form of being pressured into intimate touching or sexual intercourse rather than being physically forced. Rates for experiencing sexual coercion and abuse were higher for boys than for girls in Italy, Bulgaria and Cyprus but this needs to be understood in the context of a discernible overlap between victimisation and perpetration for these groups of boys: half of male sexual victims in Bulgaria (54%) and Cyprus (51%) and nearly three-quarters in Italy (70%) also reported using sexual violence against a partner (for further discussion see Authors under review). Perpetration of sexual coercion and abuse was considerably higher among boys with rates being particularly high in England and Italy, a picture that was consistent with that reported by victims. Again, boys were more likely to report using pressure rather than force, but it was noticeable that rates for both types of sexual coercion and abuse were particularly high in Italy where 34% of boys acknowledged that they had pressured a partner into kissing, intimate touching or intercourse and 17% of boys admitted to forcing a partner into kissing, intimate touching or intercourse.

#### Table 4: Gender and Incidence Rates for Experiencing and Perpetrating Sexual Coercion and Abuse

Insert Table 4

### Sending and Receiving Sexual Images and Association with Pornography

Sexting is a relatively recent and therefore under-researched phenomenon among young people and we were interested to explore its overlap with IPVA and pornography. Although there was little difference in young people's access to mobile phones, substantial variations existed between countries in relation to sending and receiving sexual images and messages. Between 6% and 44% of young women and 15% to 32% of young men said they had sent a sexual image/message (defined as naked or nearly naked pictures or messages which talked about having sex) to a partner. Similar proportions of young women (between 9% and 49%) and a slightly higher proportion of young men (20% to 47%)

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7 reported receiving a sexual image/message from a partner. In all countries, this was often a reciprocal  
8 activity, as approximately two-thirds of young people who had sent an image/message had also  
9 received one. The highest rates for both sending and receiving were in England and the lowest in  
10 Cyprus. This is interesting in light of the finding reported above that England had the lowest rates of  
11 boys reporting that they regularly watched online pornography while Cyprus had the highest. Those  
12 young people who had experienced IPVA were twice as likely to have sent or received a sexual  
13 image/message as those who had not experienced IPVA ( $p < .001$  in all countries).  
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22 All young people were asked to identify how they felt about sending or receiving a sexual  
23 image/message and were offered a series of options where they could select more than one of:  
24 upset/unhappy; scared/frightened; bad about yourself; angry; loved/wanted/fancied; humiliated; no  
25 effect. Many participants (41% to 87% of young women and 75% to 91% of young men) reported  
26 only an affirmative impact. Girls in England and Norway were more likely to report a negative  
27 impact and this was likely to be associated with the message or image having been shared with other  
28 people. Sixty-one per cent of girls in England and 47% in Norway who reported a negative impact of  
29 sending a sexual image/message said that the message was shared. This compared to 21% of girls in  
30 England and 15% in Norway of those who reported an affirmative only impact who said that the  
31 sexual image/message was shared ( $p < .001$ ) (for a fuller discussion see Authors 2015).  
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42 Table 5 reports on the percentage of young people who had sent or received a sexual image according  
43 to whether they had regularly consumed pornography. This confirms that regular viewing of online  
44 pornography was associated with a significantly increased probability of having sent sexual  
45 images/messages for boys in all countries except Cyprus where sexting was generally limited and for  
46 girls in Bulgaria and Norway (numbers were too low in other countries to report significance). Since  
47 most of those young people who reported sending sexual images/messages also received them, it is  
48 not surprising that viewing online pornography was also significantly associated with receiving sexual  
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7 images/messages for boys in all countries but Cyprus. For girls, viewing online pornography was  
8 significantly associated with receiving sexual images/messages in Bulgaria, England and Italy.  
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11 **Table 5: Regular Use of Online Pornography and Sending and Receiving Sexual Images or**  
12 **Messages**

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17 There was also a significant relationship between being pressured by a partner to watch online  
18 pornography and sending and receiving online images or messages for boys ( $p < .001$ ) and girls ( $p < .05$ )  
19 in Bulgaria and for boys (sending  $p < .05$ ; receiving  $p < .001$ ) and girls (sending  $p < .001$ ; receiving  
20  $p < .001$ ) in England, for boys in Italy ( $p < .001$ ), for boys and girls sending images or messages in  
21 Norway ( $p < .05$ ) and for Norwegian boys only in respect of receiving messages or images ( $p < .001$ ).  
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24 In other countries, numbers were too small to achieve significance.  
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29 **Young People's Views and Experiences**

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31 The qualitative interviews completed with 67 young women and 24 young men aged between 13 and  
32 19 years, selected on the grounds that they had experienced abuse in their interpersonal relationships,  
33 were useful in understanding the association between regular use of pornography and sending sexual  
34 images. These interviews often involved allowing the young person to tell their own story of  
35 experiences of abuse and this meant that questions were not always asked consistently across the five  
36 countries. In reporting findings, we have therefore identified key themes relevant to the issue of  
37 sexting and pornography rather than providing exact counts of respondents.  
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45 Several young people identified similarities between pornography and sexting and described them as  
46 interchangeable experiences. Sexting was described as 'normal' by many of those interviewed and  
47 was, like pornography, argued to be a 'safe' means of relieving sexual tension. When asked why  
48 people like to look at naked pictures on their phones, this young women replied:  
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7 *'Sexual frustration...or they can't get a girlfriend and they're bored of watching porn'*

8 (Bethany, 15, UK)

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11 Another young woman drew parallels between sending a sexual image and participating in a  
12 pornographic photo shoot:  
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17 *'...unless I want to go on the cover of Playboy next year, I would never send a picture like*  
18 *that to my boyfriend'. (Sophia, 18, Bulgaria)*

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21 A number of participants emphasised that sending sexual pictures was 'common' and 'normal', even  
22 when such transactions had gone wrong for them:  
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27 *It's just a game...many people do it...I liked it but thought it was going to stay secret! I would*  
28 *never have thought he would use it against my will. (Serena, 17, Italy)*

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31 As with pornography, exchanging sexual images was seen as a form of flirting or sexual stimulation:  
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33 'to feel sexy' (Female, 16). It was also, like pornography described as a safe substitute for sex:  
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38 *'it shouldn't be a problem if you do it [sex] via Skype for example, but if you do it for real...*  
39 *well, that's another story... you could get pregnant... and you have to find the place (laughs).*  
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41 (Laura, 17, Italy)

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45 However, it was also evident that the exchange of sexual images was understood as reproducing  
46 negative features of pornography including control and, when images were shared, humiliation:  
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51 *'A boy would want a naked photo of a girl to prove something to himself (or others), for*  
52 *example that she was in a way under his control and there was nothing she would not do for*  
53 *him'. (Asya, 18, Bulgaria)*  
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*'To punish someone or get even in some inappropriate way - for example a guy can try to punish a girl for breaking up with him by sharing her naked photos' . (Nadia, 18, Bulgaria)*

The gendered nature of the harm inflicted on reputation by sharing photos was clearly articulated and was described as particularly damaging in more traditional or religious communities:

*If a naked picture of mine goes around the web, no problem... for a girl it is different... her reputation would be in trouble... (Carlo, 17, Italy)*

### **Pornography and Gender Attitudes**

Young people's gender attitudes were measured using three questions with respondents' level of agreement recorded on a five point scale. The three questions addressed equality in the workplace, sexual behaviour and IPVA. Respondents were allocated a score that reflected their levels of agreement with these statements and their scores were categorised into three groups: positive, neutral and negative attitudes. In all countries, boys were significantly more likely than girls to hold more negative gender attitudes. Since gender appears to play a key role in mediating use of pornography and pornography tends to depict sexist attitudes, we were interested to explore the relationship between its use and gender attitudes. The number of girls regularly watching online pornography was too small in most countries for a meaningful exploration of the relationship between exposure to pornography and gender attitudes in girls but Table 6 shows that, in all five countries, boys who regularly watched online pornography were significantly more likely to hold negative gender attitudes, as evidenced by standardized residuals. It was particularly notable that boys who watched pornography regularly were very much more likely than those who did not to agree with the attitudes statement on sexual violence which was worded: 'Women lead men on sexually and then complain about the attention they get'.

### **Table 6: Boys' Regular Use of Online Pornography and Gender Attitudes**

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### 9 **Pornography, Sexual Coercion and Sexual Images**

10 The relationship between boys' consumption of pornography and sexual coercion and abuse was  
11 examined using logistic regression. The results are reported in Table 7. Logistic regression included  
12 known predictors of sexual coercion, along with watching pornography and sending and receiving  
13 sexual images. In the regressions, age, doing well at school (protective factor) and having a younger  
14 partner (risk factor) were included, reflecting previous findings on mediating factors for IPVA  
15 (Authors 2009b). They were not statistically significant in the model but were retained as controls. .  
16 In order to maximize sample size, the regression was run on a pooled sample and country dummies  
17 introduced as controls. Previous analyses indicated that the predictors of sexual violence did not  
18 substantially vary across countries. Results are presented as odds ratios, values above 1 indicate the  
19 variable is associated with increased risk of being a perpetrator of sexual coercion, while values below  
20 1 indicate the opposite. Both regularly watching pornography (OR=2.2) and sending (OR=2.8) or  
21 receiving (OR=1.9) sexual images or messages were associated with increased probability of being a  
22 perpetrator of sexual coercion. Negative gender attitudes were also positively associated with sexual  
23 coercion amongst boys.  
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36 **Table 7: Logistic Regression. Dependent variable: Being a Perpetrator of Sexual Coercion and**  
37 **Violence (males)**

38 **Insert Table 7**  
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### 41 **Discussion**

42 This research has some limitations. It was not possible to construct a random sample in each country  
43 and the cross-sectional design of the study restricts our ability to identify causal relationships.  
44 Designing a survey which met cultural expectations of research in schools across five different  
45 European states meant that we were not able to collect comparable data on race, religion and ethnicity  
46 in all countries. Moreover, the limited space and time available for survey completion in schools  
47 meant that we were unable to explore the frequency or nature of regular viewing of online  
48 pornography in the survey and there may have been considerable variation in the type and amount of  
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7 viewing subsumed in the category 'regularly viewed online pornography'. However, to our  
8 knowledge, this is the first large European survey to explore the relationship between pornography,  
9 sexual coercion and abuse and sexting in young people.  
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13 The picture that emerges from the data is complex but it is reinforced by the emerging body of  
14 research evidence in this field. First, this study was in line with other research in finding that among  
15 this pan-European group of adolescents aged 14 to 17, it was predominantly boys who were viewing  
16 online pornography on a regular basis. Horvath et al (2013) have suggested that girls' viewing of  
17 pornography may increase as they get older but the number of girls who reported regularly using  
18 pornography was too small for us to compare rates between age groups for girls.  
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26 Most young people were not coerced into viewing pornography by their partners and it therefore  
27 seems that these regular viewers of pornography were in the main choosing to do so. Other research  
28 has found that, when asked directly, adolescents, particularly boys, normalise their viewing of  
29 pornography and report positive benefits including access to information about sexual performance  
30 and sexual stimulation (Rothman et al, 2014; Lofgren-Mårtensson and Månsson, 2010). However,  
31 while boys might focus on the benefits, this research identified a clear association between regular  
32 viewing of online pornography and perpetration of sexual coercion and abuse by boys. Although we  
33 lack evidence concerning the direction of causality in this relationship, this is consistent with the  
34 picture that is developing from research with young people in the general population (Flood, 2009;  
35 Kjellgren et al., 2010; 2011).  
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46 Viewing pornography was also associated with sending and receiving sexual images and messages  
47 and, since both girls and boys engage in 'sexting', in some countries in our study this was true of girls  
48 as well as boys. Few other studies have explored this association but Romito and Beltramini's (2015)  
49 survey of over 700 older Italian teenagers found that both young men and young women who took or  
50 took part in sexual photos were significantly more likely to be exposed to violent or degrading  
51 pornography. 'Sexting' can be conceptualised as a process whereby young people produce their own  
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7 pornography and some of the young people interviewed perceived a commonality between sending  
8 sexual images and online pornography. Although sexting was associated with regular viewing of  
9 pornography in some countries, it was also notable that rates of sexting were very low in Cyprus,  
10 which had the highest rates for boys' regular use of pornography, while high rates of sexting were  
11 found in England which had the lowest rates for boys regularly using pornography. This suggests that  
12 sexting may have the potential to replace pornography viewing among boys and it may be that sexual  
13 images which are personalised and where young men feel that they have played a part in generating  
14 them and can claim some ownership have greater value.  
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22 While sexting, like pornography, was normalised, young people interviewed were also able to identify  
23 ways in which the exchange of sexual messages and images could be informed by some of the abusive  
24 values and attitudes that underpin pornography. Sexting also appeared to be associated with  
25 perpetration of sexual coercion and violence and, where it is used to exert control or abuse (Authors  
26 2015), it may constitute a means whereby those young people who use sexual violence in face-to-face  
27 relationships extend this behaviour into the online realm. Sexual relations have always been a site  
28 where abuse and harm can be experienced but new technologies have provided platforms where  
29 sexual activity takes place in real time and is then recorded. The risks for young women's reputations  
30 are heightened when sexual activity is performed online because the Internet constitutes a permeable  
31 barrier between public and private space and because perceptions of public displays of sexual  
32 behaviour are heavily gendered. However, in a context where pornographic images have entered the  
33 mainstream through advertising, pop music and entertainment, sexting is normalised and not  
34 associated with adverse effects for many young people in the general population. Approaches and  
35 interventions which seek to prevent the harms associated with the exchange of sexual images and  
36 messages need to take account of this.  
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50 Negative gender attitudes among boys overlapped with regular use of online pornography and we  
51 would argue that pornography is both underpinned by and perpetuates gender inequality. Preventive  
52 interventions in IPVA need to address this potent relationship between pornography, gender attitudes  
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7 and abusive behaviour in boys. Increasingly, boys are being identified as a key target for IPVA  
8 prevention (see Katz et al, 2011 and Miller et al, 2012). [Author's 2015] review of preventive  
9 interventions in IPVA which focused on school-based dating violence programmes reported strong  
10 arguments from experts involved in developing and evaluating these programmes for targeting work  
11 on boys as the main perpetrators of IPVA.  
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### 15 16 17 **Conclusion**

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19 The relationships identified by this large-scale European survey between regular exposure to online  
20 pornography and abusive behaviour in intimate relationships support Livingstone et al's (2011)  
21 conclusion that encountering pornography online constitutes a common but serious risk for young  
22 people. While some researchers and young people themselves have argued that viewing pornography  
23 offers an approach to learning about sex that assists their own sexual performance and that this is not  
24 addressed by formal sex education (Rothman et al, 2014; Smith, 2013), pornography's value as a tool  
25 for sex education is undermined by its sexism and misogyny which have the potential to inform  
26 sexually coercive and abusive behaviour in young men. Whilst most young people described their  
27 experience of sexting as affirmative, there was also some evidence from interviews with young people  
28 who had experienced IPVA that sexual images and messages could be used to inflict humiliation and  
29 control in ways that reproduced the values of pornography.  
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40 Attempts to regulate and restrict children's and young people's exposure to pornography are likely to  
41 have limited effectiveness in view of the widespread normalisation of pornography and the ease of  
42 access which new technologies provide (Bryant, 2009). Rather, sex and relationships education  
43 should be attempting to foster critical approaches, aiming at promoting an understanding of  
44 pornography which acknowledges its lack of congruence with lived experience and the gendered  
45 attitudes which inform its scripts. This is particularly important in the light of Peter and Valkenberg's  
46 (2010) finding that the perceived realism of pornography mediates its impact on sexual behaviour.  
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52 Young people are informed and active consumers of a wide range of media and both IPVA prevention  
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and sex education should draw on that expertise to encourage analytic and gendered understandings of pornography and its uses.

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For Peer Review

**Pornography, sexual coercion and abuse and sexting in young people's intimate relationships: A European study - Tables**

**Table 1: Sample of Young People in 5 Countries who had had a Relationship by Gender and Age.**

	Bulgaria	Cyprus	England	Italy	Norway
<b>Gender</b>					
Female	69% (313)	79% (272)	74% (401)	82% (293)	53% (272)
Male	69% (335)	79% (233)	70% (323)	89% (565)	58% (270)
Total	69% (648)	79% (505)	72% (724)	87% (858)	55% (542)
Missing	9	0	4	2	7
<b>Age</b>					
14	58% (186)	70% (92)	64% (228)	81% (168)	53% (145)
15	69% (124)	69% (109)	76% (433)	86% (312)	49% (189)
16	78% (240)	86% (147)	83% (67)	88% (293)	63% (183)
17	75% (101)	88% (157)	0	96% (80)	72% (31)
Total	69% (651)	79% (505)	100% (728)	100% (853)	55% (548)
Missing	6	0	0	7	1

**Table 2: Young People Regularly Watching Online Pornography by Country and Gender**

Country	Regularly watch online pornography %(n)		
	Female	Male	Total
Bulgaria <sup>a</sup>	8 (37)	44 (207)	27 (244)
Cyprus <sup>b</sup>	3 (9)	59 (168)	28 (177)
England <sup>c</sup>	3 (15)	39 (172)	19 (187)
Italy <sup>d</sup>	5 (17)	44 (273)	30 (290)
Norway <sup>e</sup>	6 (31)	48 (218)	26 (249)

<sup>a</sup>  $X^2(1)=150.888, p < .001$ , <sup>b</sup>  $X^2(1)242.714, p < .001$ , <sup>c</sup>  $X^2(1)167.086, p < .001$

<sup>d</sup>  $X^2(1)=202.576, p < .001$ , <sup>e</sup>  $X^2(1)=220.974, p < .001$

**Table 3: Young People Reporting Ever being Pressured to watch Online Pornography by a Partner**

Country	Pressured by a partner to watch pornography %(n)		
	Female	Male	Total
Bulgaria <sup>a</sup>	10% (28)	18% (55)	14% (83)
Cyprus <sup>b</sup>	2% (5)	9% (18)	5% (23)
England <sup>c</sup>	8% (28)	5% (14)	7% (42)
Italy <sup>d</sup>	n<5	8% (41)	5% (44)
Norway <sup>e</sup>	4% (11)	4% (9)	4% (20)

<sup>a</sup>  $X^2(1)=9.282, p < .05$ , <sup>b</sup>  $X^2(1)=10.818, p < .001$ , <sup>c</sup> not significant, <sup>d</sup>  $X^2(1)=15.906, p < .001$ , <sup>e</sup> not significant

**Table 4: Gender and Incidence Rates for Experiencing and Perpetrating Sexual Coercion and Abuse**

Country	Gender	Experience of Sexual Coercion	Perpetration of Sexual Coercion
		and Abuse	and Abuse
		% (n)	% (n)
Bulgaria	Female	21 (66)	7 (21)
	Male	25 (82)	17 (55)
	Chi-square	Not significant	$X^2(1)=15.171, p < .001$
Cyprus	Female	17 (46)	3 (9)
	Male	19 (43)	15 (34)
	Chi-square	Not significant	$X^2(1)=21.254, p < .001$
England	Female	41 (161)	n<5
	Male	14 (45)	22 (7)

	Chi-square	$X^2(1)=60.728, p < .001$	$X^2(1)=13.506, p < .001$
Italy	Female	<b>35 (102)</b>	<b>7 (20)</b>
	Male	<b>39 (219)</b>	<b>37 (205)</b>
	Chi-square	Not significant	$X^2(1)=85.970, p < .001$
Norway	Female	<b>28 (76)</b>	<b>4 (10)</b>
	Male	<b>9 (23)</b>	<b>14 (6)</b>
	Chi-square	$X^2(1)=32.526, p < .001$	Not significant

**Table 5: Regular Use of Online Pornography and Sending and Receiving Sexual Images or Messages**

Country	Regularly viewed online pornography	Girls who had sent a sexual image/message	Boys who had sent a sexual image/message	Girls who had received a sexual image/message	Boys who had received a sexual image/message
<b>Bulgaria</b>	<b>Yes</b>	68% (23)	46% (70)	77% (27)	51% (77)
	<b>No</b>	21% (56)	14% (23)	29% (75)	23% (35)
	<b>Chi-square</b>	$X^2(1)=34.343, p < .001$	$X^2(1)=36.990, p < .001$	$X^2(1)=32.020, p < .001$	$X^2(1)=26.723, p < .001$
<b>Cyprus</b>	<b>Yes</b>	n<5	17% (24)	n<5	22% (30)
	<b>No</b>	5% (12)	10% (8)	8% (21)	16% (12)
	<b>Chi-square</b>	Not significant	Not significant	Not significant	Not significant
<b>England</b>	<b>Yes</b>	69% (9)	40% (69)	77% (10)	58% (84)
	<b>No</b>	43% (165)	24% (39)	48% (182)	37% (60)

	<b>Chi-square</b>	Not significant	X <sup>2</sup> (1)=10.309,p <.001	X <sup>2</sup> (1)=4.239,p <.05	X <sup>2</sup> (1)=14.222,p <.001
<b>Italy</b>	<b>Yes</b>	67% (10)	35% (91)	67% (10)	48% (122)
	<b>No</b>	13% (36)	16% (47)	16% (43)	25% (74)
	<b>Chi-square</b>	X <sup>2</sup> (1)=30.446,p <.001	X <sup>2</sup> (1)=28.018,p <.001	X <sup>2</sup> (1)=24.421,p <.001	X <sup>2</sup> (1)=30.217,p <.001
<b>Norway</b>	<b>Yes</b>	59% (13)	33% (44)	52% (11)	45% (59)
	<b>No</b>	31% (77)	16% (20)	36% (87)	24% (29)
	<b>Chi-square</b>	X <sup>2</sup> (1)=7.071, p <.05	X <sup>2</sup> (1)=8.992, p <.05	Not significant	X <sup>2</sup> (1)=11.678,p <.001

**Table 6: Boys' Regular Use of Online Pornography and Gender Attitudes**

	<b>Gender Attitudes</b>	<b>Regularly view online pornography</b>	<b>Don't regularly view online pornography</b>	<b>Total</b>
<b>Bulgaria<sup>a</sup></b>	<b>Positive attitude</b>	43% (29)	57% (39)	100% (68)
<b>Std Residuals</b>		-2	.2	
	<b>Neutral attitude</b>	35% (70)	65% (130)	100% (200)
<b>Std Residuals</b>		-2.0*	1.8	
	<b>Negative attitude</b>	55% (108)	45% (90)	100% (198)
<b>Std Residuals</b>		2.1*	-1.9	
	<b>Total</b>	44% (207)	56% (259)	100% (466)
<b>Cyprus<sup>b</sup></b>	<b>Positive attitude</b>	35% (8)	65% (15)	100% (23)
<b>Std Residuals</b>		-1.5	1.8	
	<b>Neutral attitude</b>	51% (73)	49% (71)	100% (144)

1				
2				
3	<b>Std Residuals</b>	-1.3	1.5	
4				
5	<b>Negative attitude</b>	74% (87)	26% (31)	100% (118)
6				
7	<b>Std Residuals</b>	2.1*	-2.5*	
8				
9	<b>Total</b>	59% (168)	41% (117)	100% (285)
10	<hr/>			
11	<b>England<sup>c</sup></b>			
12	<b>Positive attitude</b>	25% (31)	75% (95)	100% (126)
13				
14	<b>Std Residuals</b>	-2.5*	2.0*	
15				
16	<b>Neutral attitude</b>	39% (93)	61% (146)	100% (239)
17				
18	<b>Std Residuals</b>	.1	-.1	
19				
20	<b>Negative attitude</b>	60% (48)	40% (32)	100% (80)
21				
22	<b>Std Residuals</b>	3.1*	-2.4*	
23				
24	<b>Total</b>	39% (172)	61% (273)	100% (445)
25	<hr/>			
26	<b>Italy<sup>d</sup></b>			
27	<b>Positive attitude</b>	31% (48)	69% (108)	100% (156)
28				
29	<b>Std Residuals</b>	-2.5*	2.2*	
30				
31	<b>Neutral attitude</b>	40% (134)	60% (202)	100% (336)
32				
33	<b>Std Residuals</b>	-1.1	1.0	
34				
35	<b>Negative attitude</b>	70% (91)	30% (39)	100% (130)
36				
37	<b>Std Residuals</b>	4.5*	-4.0*	
38				
39	<b>Total</b>	44% (273)	56% (349)	100% (622)
40	<hr/>			
41	<b>Norway<sup>e</sup></b>			
42	<b>Positive attitude</b>	33% (40)	67% (81)	100% (121)
43				
44	<b>Std Residuals</b>	-2.4*	2.3*	
45				
46	<b>Neutral attitude</b>	50% (128)	50% (127)	100% (255)
47				
48	<b>Std Residuals</b>	.5	-.4	
49				
50	<b>Negative attitude</b>	66% (50)	34% (26)	100% (76)
51				
52	<b>Std Residuals</b>	2.2*	-2.1*	
53				
54	<b>Total</b>	48% (218)	52% (234)	100% (452)

<sup>a</sup>  $X^2(2)=15.497, p<.001$ ; <sup>b</sup>  $X^2(2)=20.257, p<.001$ ; <sup>c</sup>  $X^2(2)=25.870, p<.001$ ; <sup>d</sup>  $X^2(2)=49.085, p<.001$ ;

<sup>e</sup>  $X^2(2)=20.935, p<.001$ ,

\*  $<.05$

**Table 7: Logistic Regression. Dependent variable: Being a Perpetrator of Sexual Coercion and Violence (males)**

	B	S.E.	Wald	df	Sig.	Exp(B)
Age (ref: 14 years)			.485	3	.922	
15	.055	.205	.071	1	.790	1.056
16	-.038	.212	.032	1	.859	.963
17	-.121	.287	.179	1	.672	.886
Does well at school	-.138	.163	.718	1	.397	.871
Younger partner	-.016	.178	.008	1	.929	.984
Gender attitudes (ref: Positive)			21.420	2	.000	
Neutral	.285	.220	1.679	1	.195	1.330
Negative	.973	.241	16.222	1	<.001	2.645
Views Porn	.793	.163	23.535	1	<.001	2.210
Sent sex messages	1.045	.205	26.123	1	<.001	2.844
Received sex messages	.623	.197	10.003	1	.002	1.865
Country (ref: Bulgaria)			165.883	4	<.001	
Cyprus	.064	.285	.050	1	.824	1.066
England	-1.166	.316	13.600	1	<.001	.312
Italy	1.563	.217	52.028	1	<.001	4.772
Norway	-1.214	.359	11.433	1	.001	.297
	-3.276	.323	102.551	1	<.001	.038
Nagelkerke R2	0.351					
Sample size	1546					