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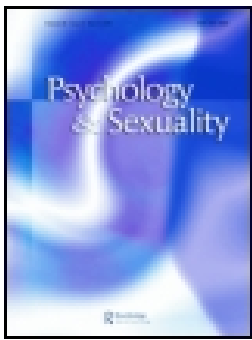
Using vignette methodology to study comfort with consensual and nonconsensual depictions of pornography content.

Kate Dawson, Chris Noone, Saoirse Nic Gabhainn & Padraig MacNeela

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Abstract

Spanking, whipping, and choking are examples of aggressive behaviours that can be performed in consensual sexual encounters. However, within the pornography research literature, such behaviours are often perceived as being nonconsensual, categorized as "violent," and argued to predict sexual aggression. Viewing nonconsensual pornography may be associated with negative attitudes toward consent; however, viewing consensual pornography that features typically violent behavior may not. In this study, we sought to more clearly distinguish between consensual and nonconsensual pornography depictions by using vignettes to examine individuals' consent attitudes in relation to these pornographic vignettes. We also sought to assess the hypothesis that more frequent pornography engagement will be associated with greater comfort with the nonconsensual vignettes. A series of pornography vignettes were developed by the researchers and categorized by a group of sexual consent experts as "consensual" or "nonconsensual" vignettes during a three-round Delphi study. The finalized vignettes were administered to a convenience sample of Irish university students ($n = 1,121$), who also answered questions regarding their attitudes toward consent and frequency of pornography engagement. More frequent pornography engagement was not associated with greater comfort with the nonconsensual vignettes. Greater comfort with the nonconsensual pornography vignettes was negatively associated with attitudes toward establishing consent and the endorsement of sexual consent norms.

Using Vignette Methodology to Study Comfort with Consensual and Nonconsensual
Depictions of Pornography Content.

In the pornography literature, frequency of pornography engagement is the most commonly used method of assessing the link between pornography and sexual violence (Short, Black, Smith, Wetterneck, & Wells, 2012). Much of literature in this area points toward a link between frequent pornography use and sexual coercion or aggression (Vega & Malamuth, 2007; Hald, Malamuth, & Yuen, 2010; D'alessio & Brezgel, 1995; Wright, Tokunaga, & Kraus, 2015). A growing body of research indicates that engagement with pornography depicting nonconsensual activities is strongly correlated with committing acts of sexual aggression (Hald, Malamuth, & Yuen, 2010). However, research also shows that engagement with pornography depicting consensual depictions predicts sexual aggression. For example, one recent longitudinal study by Tomaszewska and Krahé (2018) found that frequent pornography engagement featuring consensual sex was associated with attitudes toward sexual coercion and was linked to future sexual violence perpetration.

One issue that may explain such confusion among findings relates to the items used to measure pornography content choices. There is considerable overlap in the definitions used to define violent and non-violent, as well as consensual and nonconsensual depictions of pornography. There is a need for more reliable measures to more clearly distinguish between different types of pornography that an individual chooses to engage with to obtain a clearer picture of the relationship between pornography content choices and sexual aggression.

Defining Consent in Pornography

Meta-analyses have shown that engagement with violent pornography is a significant predictor of sexual aggression in cross-sectional and longitudinal studies (Hald, Malamuth & Yuen, 2010; Wright, Tokunaga, & Kraus, 2015). However, Wright and colleagues (2015) also found that, although pornography consumption was associated with actual acts of sexual aggression, the difference between viewing violent and non-violent pornography on acts of

sexual aggression were non-significant. Therefore, despite the growing body of research, there is little clarity regarding which type of pornography is associated with violence. There are two key issues that could explain such inconsistencies in research findings.

First, the differences between "violent" and "nonconsensual" pornography have seldom been defined (Brown & L'Engle, 2009; Ybarra & Thompson, 2018; Ybarra, Mitchell, Hamburger, Diener-West, & Leaf, 2011; Dawson, Tafro & Stulhofer, 2019). Research that has established links between aggressive behaviour and pornography has focused largely on broad categories such as "violent/non-violent" pornography (Bauserman, 1996; Ybarra & Thompson, 2018). This is frequently described in terms of any sexual interaction which involves the use of force or coercion. For example, whipping, choking, and slapping are typically classified as violent behaviours within pornography research (Bridges, Wosnitzer, Scharrer, Sun & Liberman, 2010). However, this means of categorisation may be problematic: "whipping," for example, is often part of consensual sexual intimacies within bondage, dominance, sadism, and masochism (BDSM) sexual scripts. The context within which these behaviours occur is rarely elaborated upon; in other words, studies rarely distinguish consensual from nonconsensual acts. This is crucial to the valid assessment of pornography content choices and its outcomes.

The second issue is that, although some studies have provided definitions that distinguish between consensual and nonconsensual portrayals in pornography, individuals may not be able to reliably identify nonconsensual pornography content. In recent years researchers have begun to measure exposure to content that features nonconsensual or coercive sex (Landripet, Busko, & Stuhlhofer, 2019; Davis et al., 2018). For example, Davis and colleagues (2018) asked participants whether they saw pornography content that featured "violence or aggression toward a woman or man that appears to be consensual (i.e., she/he appears to enjoy it or want it)" and "Violence or aggression toward a woman or man that appears to be nonconsensual (i.e., she/he does not appear to enjoy it or want it)" (p. 314). These definitions help to provide greater clarity regarding pornography content engagement; however, they also rely on participants' subjective interpretation of consensual and nonconsensual content.

Consent scenarios are often interpreted differently by women and men (MacNeela, Breen, Byrnes, O'Higgins, Seery, & Silke, 2017), with young men more likely to believe that consent was present than their female peers. Previous research has shown that women and men differ in their interpretation of, preference for, and communication of consent, and that women are more distressed by nonconsensual depictions than men (Malamuth & Check,

1980; Malamuth, Heim, & Feshbach, 1980; Norris, Davis, George, Martell, & Heiman, 2004). Women and men also report different consent strategies. Women use passive consent strategies, perceive a greater need for sexual consent, are more likely to view consent as ongoing process, and desire that consent be clarified early during intimacy (Humphreys & Herold, 2007). In comparison, men are more likely to initiate sex, to view consent as a single event, and to assume that their partner has consented (Humphreys & Herold, 2007; Jozkowski, Sanders, Peterson, Dennis, & Reece, 2014). Such differences may help to explain why young women report seeing nonconsensual pornography more often than young men (Davis et al., 2018)—and might result in people reporting that they have not watched nonconsensual content, even though they have but have interpreted it as consensual.

In addition, social desirability may influence participants in answering truthfully about engaging with nonconsensual pornography; for example, responding to a statement like "nonconsensual pornography use is unacceptable" may prompt a socially desirable response. But reading and responding to a scenario featuring nonconsensual content may be less likely to prompt such a response and thus provide a more authentic depiction of acceptability. Because of the potential ambiguity and possible misinterpretations that arise, there is a need for more objective assessment of nonconsensual pornography. The use of vignettes have been shown to have a number of specific advantages when conducting such sensitive research and may be particularly useful in the study of non-consensual pornography depictions. Such use may be indicative of individual consent-related attitudes.

Sexual Consent Research

Individual consent attitudes, behavioural intentions, and beliefs are important regarding the commitment of acts of sexual aggression and may be a more reliable predictor of a person's likelihood to engage with nonconsensual pornography content (Tomaszewska & Krahé, 2018). Wright (2011) argued that pornography audience factors, like their existing sexual scripts, are important predictors regarding the replication of behaviours seen in pornography (Wright, 2013; Wright & Tokunaga, 2016). A person's attitudes toward establishing consent, their consent-related behavioural intentions, and beliefs about importance of consent are important variables that may be associated with whether an individual seeks consent in their relationships (Humphreys & Brousseau, 2010). These variables may also be important predictors of one's comfort with nonconsensual depictions in pornography (Foubert, 2000; Koopman, Hilscher, & Cupchik, 2012).

Sexual consent is a multi-faceted construct that can be conceptualized as either an internal feeling of willingness, an external verbal or behavioural act, or a behaviour that is

interpreted as willingness (Muehlenhard, Humphreys, Jozkowski & Peterson, 2016). Consent can be communicated by verbal or nonverbal means, using direct, indirect, or even passive signals (Hickman & Muehlenhard, 1999). Although verbal communication of consent may be the clearest form of communicating consent, research shows that individuals prefer to use indirect behavioural strategies during intimacy (Blunt-Vinti, Jozkowski & Hunt, 2019; Hickman & Muehlenhard, 1999; Humphreys, 2004; Jozkowski & Wiersma, 2015). Women and men use indirect cues to passively indicate their consent by not resisting their partner's advances (Humphreys & Brousseau, 2010). Indirect consent cues, such as token resistance and passive sexual behavior, are commonplace in mainstream pornography (Willis, Canan, Jozkowski & Bridges, 2019). A preference for such representations may be reflective of an individual's approach to intimacy or beliefs about the acceptability of such behaviour.

Perceived sexual consent norms may be important predictor of pornography content choices. Indeed, the acceptability of pornography depictions is an important factor for content selection and continued engagement (Malamuth & Check, 1980; Parvez, 2006). Several studies support a positive relationship between beliefs about one's peer's sexual behavior and ones' own sexual behaviour (Boone & Lefkowitz, 2004; Buunk, Van Deneijnden, & Siero, 2002; L'Engle & Jackson, 2008; Wallace, Miller, & Forehand, 2008). In this context, it has been argued that pornography use is associated with setting and reinforcing certain norms. For example, some studies show engagement with pornography was associated with holding certain perceptions regarding sexual behaviour and treatment of women (Koletic et al., 2019; Wright & Stulhofer, 2019). Although there is a dearth of research regarding pornography and sexual consent, we may hypothesise that individuals' engagement with nonconsensual depictions in pornography is reflective of having less positive attitudes toward consent. Alternatively, engaging with nonconsensual pornography may activate or reinforce positive attitudes towards nonconsensual behaviours (Wright, 2011).

Theoretical Foundation

A number of theories have been presented in the debate on the potential association between pornography and sexual violence. Some have argued that there is little to no effect on aggression because so few people engage with nonconsensual and violent pornography and that positive societal influences, which penalize acts of aggression, act to deter the application of sexually aggressive scripts (Diamond, Jozifova, & Weiss, 2011; Ferguson & Hartley, 2009; Fisher & Grenier, 1994). Others have suggested that pornography poses a risk to those who consume it (Dabreu & Krahé, 2014; Malamuth & Marshall, 2009) by contributing to a culture of sexual callousness, particularly regarding increased personal

tolerance of violence against women (Zillmann & Bryant, 1982). This link is hypothesized to exist through the normalization of sexual violence following frequent exposure to media that includes violence or degradation (Krafka, Linz, Donnerstein, & Pernod, 1997). Some have argued that this leads to users needing to consume greater amounts of pornography and more extreme content to become aroused, thus increasing demand for aggressive and nonconsensual content (Dines, 2010; Paul, 2010; Sun, 2011). These hypotheses are based on script theory, whereby sexual scripts are acquired through watching pornography, which provides a framework from which individuals learn how to behave (Bandura, 1986; Gagnon & Simon, 1973; Wright, 2011). If this is the case, in this study, we should expect to see a relationship between higher rates of pornography consumption and greater perceived comfort associated with nonconsensual sexual vignettes.

Gender is also an important variable to explore in this context. A person's gender is argued to be associated with the strength of pornography effects (Wright, 2011). On average, men engage with pornography more often than women and are more accepting of it (Willoughby, Carroll, Nelson & Padilla-Walker, 2014). Men have consistently been found to report significantly higher endorsements of rape myths compared with women (Suarez & Gadalla, 2010; Hayes, Abbott & Cook, 2016) and are also more likely to be perpetrators of sexual violence (Muehlenhard, Peterson, Humphreys, & Jozkowski, 2017). A combination of these factors could mean that men are generally more comfortable with a wider variety of pornography and less sensitive to portrayals of sexual violence. We may therefore predict that males will more likely report greater comfort with the nonconsensual vignettes than females. Although we cannot examine the direction of the relationships between comfort with nonconsensual pornography vignettes and a person's attitudes towards sexual consent in the present study, the use of consensual and nonconsensual pornography scenarios allowed us to explore which of these factors are important in determining whether or not an individual may be likely to engage with pornography depicting nonconsensual content. Using a method that distinguishes between depictions of consensual and nonconsensual content will help to further understand which factors are related to nonconsensual pornography engagement and person's content choices.

Present Study

The present study aimed to test a new approach using vignettes to measure a person's comfort with consensual and nonconsensual pornography to further understand what factors are associated with watching nonconsensual pornography. Below, we provide our rationale for using vignette methodology and for assessing comfort with pornography.

Gould (1996) found evidence for the reduced impact of social desirability on participants' responses to vignette questions. It has been argued that the non-personal and hypothetical nature of a vignette is less threatening to the reader (Wilks, 2004), an issue that is likely to affect responses. This may be particularly the case when asking pornography viewers about their engagement with nonconsensual pornography. Gould (1996) argues that providing hypothetical situations, rather than relying on individuals to provide information about their own experiences, may allow participants greater freedom in their responses. Although the use of hypothetical scenarios does not determine whether an individual has engaged in a behaviour, it provides information about their attitudes, which have been shown to predict nonconsensual sexual behaviour (Gidycz & Warkentin, 2007; Zinzow & Thompson, 2015; Tomaszewska & Krahé, 2018). Using vignettes, researchers have the potential to gather data on sensitive topics from larger samples, with minimal risk of distress to participants (Wilks, 2004).

The use of a vignette-based methodology is exploratory in the sense of investigating whether written vignettes describing pornography vignettes have the potential to be used as a proxy for how video-based pornography might be interpreted. The validity of vignettes, with respect to being consensual or nonconsensual, can be maximised if the appropriate stakeholders (who have in-depth knowledge of sexual consent) are involved in the construction of the vignettes (Aguinis & Bradley, 2014). Therefore, the current study aimed to develop an alternative method to explore consensual and nonconsensual pornography engagement. There is a dearth of evidence linking existing sexual consent attitude measures to applied implications, like specific types of pornographic content. We aimed to use vignettes to investigate the relationship between attitudes toward sexual consent and decisions that pertain to real world choices.

It has been suggested that individuals will be repulsed by pornography that does not reflect their own desires (Parvez, 2006). In this context, studies show that individuals are more likely to experience discomfort when reading nonconsensual pornography vignettes, in which the victim is not aroused by the assault (Malamuth & Check, 1980). More recent studies indicate those with high victim empathy, a key component in reducing rape myth acceptance and rape likelihood, report greater discomfort in response to nonconsensual representations (Foubert, 2000; Koopman, Hilscher & Cupchik, 2012). Reader discomfort therefore may imply an unwillingness to choose to engage with the pornography content described. In this study, we used the term "comfort" to assess an individual's reported comfort with engaging with content similar to what has been described. Although this does

not provide information about the past behaviour, it is indicative of current attitudes and the type of pornographic content that they would be likely to engage with (Hald, Malamuth & Yuen, 2010).

We hypothesized that frequency of pornography engagement, gender, and attitudes toward sexual consent would be associated with comfort with watching nonconsensual pornography:

Hypotheses 1. Men will report greater comfort with the nonconsensual vignettes than women.

Hypotheses 2. Individuals who report higher rates of pornography consumption will also report greater perceived comfort associated with nonconsensual sexual vignettes

Hypothesis 3a. Having less positive attitudes towards consent will be associated with greater comfort with the nonconsensual vignettes.

Hypothesis 3b. Having an indirect behavioural approach to consent will be associated with greater comfort with the nonconsensual vignettes.

Hypothesis 3c. Believing in sexual consent norms that do not require verbal consent will be associated with greater comfort with the nonconsensual vignettes.

Method

To test these hypotheses, we conducted two studies. Study 1 involved the construction of 12 pornography vignettes to represent consensual and nonconsensual vignettes and their assessment by a panel of sexual consent experts during a three-round Delphi study. Study 2 was a cross-sectional survey that aimed to establish the most valid measurement model using a combination of exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). Finally, these data from Study 2 were used to test the overall model using structural equation modeling (SEM).

Study 1

Recruitment. In this study individuals who had over two years' experience working in the area of sexual consent were invited to participate as "experts" in a three-round Delphi study. Experts were recruited via email invitation. Twelve of the invited 16 experts completed the first two rounds and eleven completed all three rounds of data collection. Data were collected online via Survey Monkey software.

Demographics. In total two academics who research sexual consent, three sex educators who deliver sexual consent education programmes, three legal professionals, and

three psychotherapists or support workers who provide counseling to victims of sexual violence participated in the Delphi study. All experts were female and had a minimum of 5 years working in the area of sexual consent. Experts were not asked to provide additional demographic information.

Vignette development. The Delphi method is a research method used to establish consensus among experts in a certain field (Hsu & Sandford, 2010). In this study the method was used to establish consensus on the status of short written vignettes as representing consensual or nonconsensual sexual activity among adults. Hughes and Huby (2004) highlighted the potential of short written vignette scenarios as a potentially effective strategy for engaging participants. Short vignettes are valuable in reducing participant burden and maximizing response rates (Lawrie, Martin, McNeill, Drife, Chrystie, Reid et al., 1998). Although brief vignettes may not capture the complexity of video, they allow for the depiction of salient consensual and nonconsensual behaviours, while also protecting our participants from potential distress. We endeavored to develop a set of vignettes to maximise participant engagement, including behavioural routines and scripts that reflect mainstream internet pornography scenes. The construct validity of vignettes is categorised by the extent to which it captures the topic under investigation (Gould, 1996). In this case, the Delphi method was used to maximise construct validity.

During each round, expert participants were asked to rate each of 12 pornography vignettes on whether they believed sexual consent was portrayed in each vignette. A consensual scenario was defined as "a pornography vignette in which both actors appear to be consenting to every sexual behaviour described in the vignette." An unclear scenario was defined as a "pornography vignette in which it is not clearly evident that consent was expressed by both actors for every sexual behaviour." A nonconsensual scenario was defined as "a pornography vignette in which consent was not expressed, by at least one actor, for at least one of the sexual behaviours described in the vignette".

After every round, the responses were summarised for participants in the form of a report, then the amended questionnaire with additional clarifications was redistributed to participating experts for the next round. There were approximately five weeks between each round. An *a priori* decision was made to categorise a vignette once two thirds (66%) or more of the 12 panel members reached consensus on which category a vignette belonged to (consensual, unclear, and nonconsensual). Because only 11 participants completed all three rounds, we then decided to reduce the percentage needed to 64%, which was 7 out of the final 11 experts (Hsu & Sandford, 2007)

Round 1. After Round 1 there remained five vignettes that had not been categorised. A total of three participants commented that the rating task was complicated because some of the scenarios appeared relatable to real life relationships rather than stereotypical "pornography settings." Many pornography vignettes on mainstream pornography websites, are often realistic in nature, therefore the vignettes in question remained without changes. To address this issue the vignettes were amended to begin with "In this porn scene." This was intended to remind the reader that they are to consider each scenario as a pornography scene vignette. A number of participants reported that some of the language used may influence the reader and lead them to interpret the scenario in a negative way. Wording was changed to reflect language that is more neutral.

The first round of vignettes included response options on a five-point Likert-type scale, ranging from "extremely nonconsensual" to "extremely consensual." A number of participants reported that consent was either "unclear" or "somewhat consensual" because both actors in various vignettes appeared to be consenting at the beginning but not throughout the entire scenario; therefore, some participants were unsure how to categorise their responses for the level of consent "overall" for each vignette. A situation that is consensual is simply regarded as consensual and not extremely consensual; for example, if it were within the eyes of the law, a nonconsensual encounter would simply be considered "nonconsensual," rather than "extremely nonconsensual." Therefore, the wording was changed and response options were changed into three groups representing consensual and nonconsensual vignettes as well as vignettes that represented scenarios in which consent was unclear.

Round 2. In Round 2, experts were asked to either confirm or reject their previous responses that had reached agreement and to re-appraise the vignettes that did not reach consensus, using the newly established guidelines. Agreement was not established for four of the scenarios after Round 2. Two vignettes almost reached agreement (55%; i.e., 6 experts agreed rather than 7). These vignettes were altered for the final round. Participants were informed that if after this round, a consensus of 66.6% or more had not been achieved for a vignette, then it would be categorised as "unclear" because we could not generate a consensus on the particular vignette.

Round 3. After Round 3, the 12 vignettes were categorized as representing a (1) consensual, (2) unclear, or (3) nonconsensual scenario, with two vignettes failing to reach consensus or were categorized as "unclear." Because our research question involved the

comparison of the consensual and nonconsensual vignettes, the two vignettes that were categorised as "unclear" by the expert participants were not included in the current analysis. The final vignette scores and categorization are depicted in Table 1.

(Table 1 about here)

Study 2

  Recruitment. An email invitation was sent to all students via the internal student emailing system at a public Irish university; this notification contained information about the aim of the study, the nature of the questions, approximate completion time, and a link to the online survey. A detailed study information sheet was embedded in the first page of the survey. This included the aims of the study, an overview of the study questions, information regarding confidentiality and assured anonymity, and the risks and benefits regarding participation. Information on free counselling services was provided to all study participants. Participants gave their informed consent by clicking "Yes, I consent to participating in this study. I understand that I can participate to my own level of comfort, can stop at any time I want, and that all the information I provide will be anonymous."

  Participants. A young or "emerging adult" (Arnett, 2007) student population was selected because previous research had found that many individuals in this population experience nonconsensual sexual contact during their time at university (Muehlenhard et al., 2016). Additionally, gender was relevant to the research enquiry. There were several non-binary or transgender identifying participants; however, these participants were too small in number for inclusion in the analysis. In addition, the current analysis focused on pornography vignettes that depicted male-female sexual scenarios, and therefore heterosexual participants. Additionally, as we were interested in the experiences of young people who engage with pornography, this inclusion criteria meant that participants who responded that they "never" watch pornography were omitted from the current analysis. The final sample for this study consisted of 1,121 heterosexual students who were aged 18–24 at the time of participation in the study. Overall, 588 identified as women and 533 as men. Of the total sample, the majority were Irish (81%). A significant proportion were single (38%) and had 1–2 sexual partners in their lifetime (31%). The dataset ($n = 1,121$) were randomized and split into two datasets; the training dataset ($n = 533$) and the confirmatory dataset ($n = 588$). Data from 588 participants were analysed in the final confirmatory structural model. Information on the demographic characteristics of the sample ($n = 588$) are presented in Table 2.

Missing data. A number of cases had more than 5% missing values. Tabachnick and Fidell (2007) posited that the pattern of missing data significantly affects the imputation of missing values with values of below 5% inconsequential to data imputation. Through analyzing the pattern of missing data, we also found that the items were not missing at random, with the largest percentages of missing data from the last page of the online survey (i.e., missing values increased from 6% on the second last page of the survey to 15% of missing values on the last page). As such, the largest percentage of missing data were on the questions about attitudes towards sexual consent. The missing data were imputed using the Full Information Maximum Likelihood (FIML) method in AMOS.

(Table 2 about here)

Measures

Pornography engagement. Pornography engagement was assessed by asking participants how often they watch internet pornography, which was defined as "Websites that have descriptions, pictures, movies, or audio of people having sex or engaging in other sexual behaviours." Response options were on a six-point scale: (1) Never, (2) A few times per year, (3) A few times per month, (4) Once-twice per week, (5) Daily, and (6) A few times per day. Across the entire sample, response option "once-twice per week" was reported most often (29%) as presented in Table 5.

Participants were asked to read each vignette sequentially and report how comfortable they would feel in watching the porn vignette described. All pornography vignette questions had five response options (Very uncomfortable; uncomfortable; neither comfortable nor uncomfortable; comfortable; very comfortable).

Attitudes toward sexual consent. Attitudes toward sexual consent were measured using the three subscales of the revised version of the Sexual Consent Scale (Humphreys & Brousseau, 2010)that assessed (1) positive attitudes towards establishing sexual consent, which included items like "I feel that sexual consent should always be obtained before the start of any sexual activity," (2) indirect behavioural approaches to consent; for example, "typically I communicate sexual consent to my partner using nonverbal signals and body language," and (3) sexual consent norms; for example, "I believe it is enough to ask for sexual consent at the beginning of a sexual encounter." All items were measured using a seven-point Likert scale ranging from 1 ("strongly disagree") to 7 ("strongly agree"). The scale has previously been shown to be reliable and valid among a sample of 372 undergraduate students (Humphreys & Brousseau, 2010). Cronbach's α indicated high

internal consistency within subscale 1 (positive attitudes towards establishing consent; α = .887), subscale 2 (indirect behavioural approach to consent; α = .746), and subscale 3 (consent norms; α = .779).

Procedure. The questionnaire was piloted with ten university students to identify ambiguities or difficult questions and to ensure question and instruction clarity. Completion time of approximately 15 minutes was recorded and was used as an approximate time completion guideline for subsequent participants. The survey was then administered via the internal university student email system. Every participant read all of the scenarios. In an effort to reduce bias the order of presentation was randomised for each participant. The study received approval from the Research Ethics Committee of the university.

Analysis. We began by randomizing the dataset (n = 1,121) by using the random number generator function in SPSS and allocating a 1 or 2 to each participant. Analyses of the training dataset (n = 542) data began by conducting an exploratory factor analysis (EFA) of the self-reported comfort items in response to the consensual, unclear and nonconsensual pornography vignettes using IBM SPSS Statistics 23 (IBM Corp, 2013). Under the central limit theorem, normality was assumed, and results from a Kaiser-Meyer-Olkin test of sampling adequacy (KMO) indicated that the sample size was sufficiently large (KMO = .870) with a ratio of 54 participants to each item (Costello & Osborne, 2005), confirming that the data were appropriate for the application of EFA (Tabachnick & Fidell, 2007). EFA was used to examine whether the categories developed with the consent experts were validated by the student sample. Maximum likelihood (ML) was used for data extraction. Correlations between factors were assumed and therefore an oblique promax rotation with Kaiser normalisation was used, which is also appropriate for use on large datasets (Byrne, 2016).

Exploratory factor analyses of the training dataset (*n* = 533) were conducted using the 10 vignettes (3 consensual and 7 nonconsensual vignettes) developed in the Delphi phase to assess the reliability of the nonconsensual and consensual latent constructs. In addition, confirmatory factor analyses of the Sexual Consent Scale - Revised (Humphreys & Brousseau, 2010) were used to assess the reliability of responses for use in subsequent analyses.

Based on the measurement models constructed the next set of analyses involved using structural equation modelling to evaluate the relationships between the comfort with the pornography vignettes, attitudes toward sexual consent, and frequency of engagement. Bivariate correlations are presented in Table 3. Mean values, standard deviations, and tests of normality are presented in Table 4. This was an appropriate method for analysis because

we had multiple indicators for each of the latent constructs, which were based on theoretical considerations. Descriptive statistics, correlation analyses, reliability tests, and exploratory factor analysis were carried out using IBM SPSS Statistics 22 (2013). CFA and SEM (n = 588) were carried out in AMOS Version 24 (Arbuckle, 2016), using maximum likelihood estimation. The FIML function was used to impute missing data.

(Table 3 about here)

(Table 4 about here)

Results

(Table 5 about here)

Exploratory factor analysis

Anti-image covariance matrices showed that partial correlations between the variables were small, with diagonals ranging between .373 and .584. Theory, scree plot illustrations, and eigenvalues were used to determine the number of factors to be retained. Scree plot illustrations, with samples larger than 200, provide reliable criterion for factor selection (Stevens, 1992). Factors with eigenvalues larger than 1 were retained (Hair, Anderson & Tatham, 1987). This resulted in two factors, which explained 64.24% of the variance; Factor 1 explaining 45.43% and Factor 2 explaining 18.81%. An a *priori* decision was made to retain item loadings above .30 (Costello & Osborne, 2005). All of the vignettes categorised as nonconsensual during the Delphi process loaded on to Factor 1, while the consensual vignettes identified in the Delphi process loaded on to Factor 2—with high factor loadings across both factors (see Table 6). Given that, the vignettes varied not only by the degree of consent depicted, but also on actor gender, sexual orientation of each actor, and relationship status portrayed, i.e no relationship versus committed relationship, a decision was made to retain three consensual and three nonconsensual vignettes for analysis. These three pairs of vignettes each depicted similar sexual behaviors among heterosexual couples who all appeared to be in relationships with each other. This was to ensure that participants reported levels of comfort with each of the vignettes pertained to the degree of consent depicted. The final two factors, each containing three vignettes, represent the latent constructs used in the development of the model. Factor solutions for the two latent constructs are presented in

Table 6. Cronbach's Alpha test results indicated high internal consistency within the consensual (.797) and nonconsensual vignettes (.882). For full information on the contents of the vignettes see the appendix.

(Table 6 about here)

Confirmatory factor analysis

In the construction of our models we first conducted confirmatory factor analysis (CFA) of the two factors generated during EFA on our confirmatory dataset (n = 588) using AMOS 24 (Arbuckle, 2016). An *a priori* decision was made to retain any items with loadings greater than 0.30. Regarding the model fit, we chose *a priori* to interpret the comparative fit index (CFI), the Tucker-Lewis index (TLI), and incremental fit index (IFI), which should each be greater than .90 and the root mean square error of approximation (RMSEA), which should be less than .06. The model indicated good fit with an CFI of .98 TLI of .966, IFI value of .98, and RMSEA of .06, with a significant χ^2 test (3.33, $p < .001$).

We then conducted CFA of the three subscales from the Sexual Consent Scale - Revised (Humphreys & Brousseau, 2010). We hypothesised a three-factor model to be confirmed in the measurement proportion of the model, reflecting the three subscales. CFA on the scale items resulted in a poor model fit with a CFI of .76, TLI of .73, IFI of .76 and RMSEA of .10. However, this may be due to the fact that the SCS-Revised was originally a five-factor scale, three of which were used in the current analysis because this study was concerned with consent-related attitudes, behavioural intentions and norms.

Measurement Invariance

To ensure that these items functioned similarly across gender measurement invariance was investigated for the female and male genders. There was excellent model fit for the configural invariant model, suggesting that the factorial structure was equivalent across these groups. The evidence for invariance of factor loadings, item intercepts and residuals across these groups was weaker. Chi-square difference tests suggested that there was no difference in fit between the unconstrained model and the configural invariance model but that there were differences between these models and the subsequent measurement invariance models. These results are presented in Table 7.

(Table 7 about here)

Structural models

The data for our hypothesised model came from assessments of self-reported comfort with the six vignettes discussed above. These data loaded on two latent variables respectively corresponding to the nature of the vignette. A total of 24 questions from three subscales of

the revised version of the Sexual Consent Scale - Revised (Humphreys & Brousseau, 2010) made up three latent variables: "Positive attitudes towards establishing consent", "indirect behavioural approach to consent" and "sexual consent norms". Gender and a single item indicator representing frequency of pornography engagement were also included in the model. Our hypothesised models are illustrated below. In each model circles represent latent variables and rectangles represent measurement variables. We used maximum likelihood parameter estimation because of our large sample size and reliable indicators for each latent construct (Wen, Marsh & Hau, 2010). For the predicted paths, we reported unstandardized coefficients (β), standard errors (SE), and significance of the unstandardised coefficients.

Self-reported comfort with vignettes

Although gender differences were evident in reported comfort with each of the vignettes, larger gender differences were observed on three nonconsensual vignettes. Depictions of nonconsensual manual or digital sex vignettes had higher scores on self-reported comfort than vaginal and anal sex vignettes. See Table 8 for gender differences reported on each vignette.

(Table 8 about here)

Hypothesis 1 (Model 1)

Model 1 explored differences between men and women on their reported comfort with the consensual and nonconsensual vignettes. Model 1 resulted in poor model fit with a CFI of .932, TLI of .854, of IFI .933, RMSEA of .11 and significant chi-square statistic (9.20, $p < .001$). Results of model 1 show men are more comfortable with both consensual vignettes ($\beta = .345$, $p < .001$) and nonconsensual vignettes ($\beta = .636$, $p < .001$) than women. The gender effect was slightly stronger for nonconsensual vignettes.

Hypothesis 2 (Model 2)

Model 2 tested the hypothesis that more frequent pornography users reported being more comfortable with the nonconsensual vignettes in comparison with less frequent pornography users. Model 2 resulted in a poor model fit with a CFI of .945, TLI of .882, IFI of .946, RMSEA of .10, and significant chi square statistic (7.35, $p < .001$). More frequent pornography users are more comfortable with both consensual vignettes ($\beta = .323$, $p < .001$) and nonconsensual vignettes ($\beta = .486$, $p < .001$). Standardised regression weights show there is essentially no difference in the strength of the relationships between the consensual ($\beta = .228$, $p < .001$) and nonconsensual ($\beta = .279$, $p < .001$) vignettes.

Hypothesis 3 (Model 3)

Model 3 explored the relationships between reported comfort with the vignettes and a person's attitudes towards establishing consent, their indirect behavioural approach to consent, and one's sexual consent-related norms. Standardised direct effects for the models are presented in Table 9. Model 3 resulted in poor model fit with a CFI of .840, TLI of .811, IFI of .842, RMSEA of .07, and significant chi square statistic (3.74, $p < .001$). Results of model 3 are as follows:

Hypothesis 3a. Positive attitude towards establishing consent. Comfort with the nonconsensual vignettes was negatively associated with having positive attitudes toward sexual consent ($\beta = -.923$, $p = .012$), but not associated with the consensual vignettes ($\beta = -.084$, $p = .602$).

Hypothesis 3b. Indirect behavioural approach to consent. Scores on the indirect behavioural approach to sexual consent subscale were not significantly associated with being

comfortable with the nonconsensual vignettes (β = .064, *p* = .073), or with the consensual vignettes (β = .011, *p* = .713).

   Hypothesis 3c. Sexual consent norms. Level of endorsement of sexual consent norms was associated with comfort with nonconsensual vignettes (β = .138, *p* = .003) but not with the consensual vignettes (β = .057, *p* = .128).

(Table 9 about here)

Discussion

Based on previous research we hypothesized that gender, frequency of pornography engagement, and attitudes toward sexual consent would predict participants' comfort with the pornography vignettes. Our findings indicate that underlying these associations are schemas and scripts into which the interpretation of nonconsensual and consensual vignettes fall. How likely a person is to engage with nonconsensual pornography may depend on how closely the observed scenarios match their existing understanding of normal behaviour. Less positive attitudes toward establishing verbal consent were associated with greater comfort with the nonconsensual vignettes. Our findings support others who have found that nonconsensual pornography engagement is associated with negative consent attitudes (e.g., Romito & Beltramini, 2015); however, because of the cross-sectional nature of the data, the causal direction of such associations is beyond the scope of this study.

Hypothesis 1 was supported; men reported greater comfort with the consensual or nonconsensual vignettes than women. We observed differences between women and men on their comfort with the consensual and nonconsensual vignettes. Engagement rates also differed greatly between women and men in that men were more likely to report regular engagement with pornography. These findings are consistent with others (Lim et al,. 2017). This indicated that women and men experience different drives to engage with pornography, and they may also differ in their interpretation or acceptance with pornographic content. Vignette. A minority of participants overall reported that they would be comfortable watching the nonconsensual vignettes. Such findings support those of Shor & Seida (2018) who found that engaging with nonconsensual pornography, which involved "explicit verbal requests to stop or avoid a certain act, nonverbal signs of resistance (e.g., pushing away), attempts to avoid the act, and/or evident unhappiness at being in the situation or performing a certain act, which were nevertheless ignored by the sexual partner" (p. 6), has not increased over time and in fact was found to be unpopular; only 1.4% of the most viewed videos on PornHub featured nonconsensual content.

Hypothesis 2 was not supported; more frequent engagement with pornography was associated with greater comfort with the consensual vignettes; however, it was not associated with the nonconsensual vignettes. More frequent pornography viewers were no more comfortable with nonconsensual content in comparison with less frequent viewers. This

indicates that there is a no difference in terms of comfort associated with increased frequency for consensual and nonconsensual vignettes. These findings contradict those who have argued that pornography is contributing to a culture of callousness (Zillmann & Bryant, 1982) whereby individuals are increasingly demanding nonconsensual or aggressive content. What is often at the centre of this argument is that more frequent engagement results in individuals becoming desensitized to aggressive content and in turn prefer it (Dines, 2010). Following this logic, we would expect to find aggressive or nonconsensual content to be more popular (Shor & Seida, 2018) or for frequent pornography engagement to be associated with greater comfort with the nonconsensual vignettes in comparison to the consensual vignettes.

Hypothesis 3 was supported; Those who report less positive attitudes toward establishing sexual consent were more likely to report being comfortable with the nonconsensual vignettes. In other words, those with higher positive attitude scores were less tolerant of the nonconsensual vignettes. It could be that those with particularly positive attitudes see explicit or verbal communication as part of their existing script and may therefore be more likely to want to see explicit consent in the pornography that they would engage with. On the other hand, those who engage with nonconsensual content may develop or reinforce previously held beliefs around the acceptability of nonconsensual sex. Because explicit verbal consent is uncommon in mainstream pornography (Willis, Canan, Jozkowski, Bridges, 2019), it may also be that those who are comfortable with nonconsensual pornography may not realize the importance of consent in sexual activity. Similarly, those who have more positive attitudes toward consent may have received more information about sexual consent or attended sexual consent workshops and have a more critical understanding regarding the interpretation of consent in different scenarios.

Hypothesis 4 was not supported; having an indirect behavioural approach to sexual consent was not significantly associated with reporting comfort with the nonconsensual vignettes. Hypothesis 5 was partially supported; level of endorsement of sexual consent norms was associated with comfort with the nonconsensual vignettes but not with the consensual vignettes. Those who endorsed sexual consent norms were more likely to report comfort with the nonconsensual vignettes. Those who believe sexual consent to be an unnecessary component of sexual interaction may be more comfortable with or tolerant of the nonconsensual vignettes as it may more closely coincide with their existing attitudes, in comparison to those whose existing sexual scripts include explicit verbal communication of consent. Additionally, pornography typically may not feature ongoing consent, as this is something that is established by actors beforehand or may be dictated by directors and is

omitted from view. Some participants may have acquired beliefs about sexual consent from watching pornography, which in turn could have influenced their sexual scripts and beliefs around acceptable sexual behaviour; however, the causal direction cannot be inferred by our data. In contrast, some people enjoy rape fantasies (Bivona, Critelli & Clark, 2012), but this may not reflect their desires for real life experiences or influence their behaviour; what an individual feels comfortable in watching may also not reflect their desired behaviours in their own relationships. For instance, one study showed 62% of young women have had sexual fantasies about rape (Bivona & Critelli, 2009). However, studies also show that most women do not want to act out a realistic rape fantasy (Bond & Mosher, 1986; Gold et al., 1991).

Limitations and Recommendations

Although critical improvements have been made within the literature, simply providing participants with definitions regarding nonconsensual pornography (e.g., Davis et al., 2018) may not be sufficient and indeed may not reflect the true nature of the content that people engage with. The vignettes developed in this study demonstrated construct validity as well as reliability and provided greater clarity regarding the exploration of the types of pornography that people are comfortable with. Although this study has several strengths, there are also a number of limitations that warrant discussion. First, all expert participants in the Delphi component were female. Although the expert group was recruited based on their professional experience in the area of consent, we cannot guarantee that their experiences as women did not influence their interpretation of the vignettes. Second, it was based on cross-sectional data from a convenience sample of young adult university students; the demographic characteristics, including low numbers of sexual partners mean that our findings may apply specifically to the models that young adults apply in their first sexual encounters. People with more sexual partners and greater sexual experience may have different beliefs about consent-related norms and approaches to sex. Therefore, the findings cannot be considered as representative of the general population. However, the findings may be applied to the specific types of scripts that young adults have during their early sexual experiences. In addition, university students may have more experience with pornography than other adults and have grown up in an age where pornography engagement is becoming increasingly normalized (Carroll, Padilla-Walker, Nelson, Olson & Madsen, 2008). The sexual socialisation of this cohort may therefore differ compared with adults in older generations, which again limits its potential for generalizability. Nevertheless, this study provided interesting insight into the experiences of one of the first cohorts of young people to have

gone through adolescence living in an environment where pornography is accessible and frequently used by young people.

Third, the external validity of the written vignettes as an alternative to viewing a pornography video is unknown. Although participants reported that they would feel comfortable watching the vignettes described, we do not know if those who were comfortable with the nonconsensual vignettes have watched nonconsensual pornography in the past or indeed if it was their preferred type of pornography to watch. We also do not know how the participants interpreted the vignettes with regard to sexual consent. Some participants may see the nonconsensual nature of the vignettes and still report being comfortable watching them. Others may interpret the vignettes as depictions of encounters which are entirely consensual. If this is the case, there may be important differences between these two groups with regard to the attitudinal variables measured in this study.

Further validation comparing responses to vignettes and video content would be valuable. Subtle cues that are exchanged between two people when being sexually intimate are not described with the written narratives. More detailed descriptions may have provided clearer indications of the context of each of the vignettes. In addition, depictions of nonconsensual manual or digital sex vignettes had higher scores on self-reported comfort than vaginal and anal sex vignettes. It may be that apparently nonconsensual behaviours that are considered less severe may be more acceptable to some participants than more intimate behaviours like vaginal or anal sex. Additionally, it may be that some participants are more comfortable with these particular vignettes because of the behaviours portrayed. In other words, some people might only feel comfortable watching manual sex vignettes. We also used a within-subject design. In an effort to reduce bias, where participants recognize the differences between each vignette, the order in which participants read vignettes were randomized. However, some bias may remain.

Fourth, cognitive scripting theorists have argued that the nonconsensual scripts that are more likely to be learned and applied by individuals are those that feature nonconsensual behaviour being rewarded. We urge future researchers to use vignettes that describe nonconsensual behaviours being rewarded or punished to get a clearer understanding of the acceptability of nonconsensual content and how they might be related to sexual consent attitudes. The use of the term "comfort" to establish a participant's likelihood to engage with the content provided speaks to attitudinal, and less so behavioural intentions. Some people may be aroused by, and therefore engage with, content that may make them uncomfortable, such as erotic humiliation or masochism. Future research should replicate this study by

asking participants whether the vignette described resembles the type of content that a person normally engages with—or that they hypothetically would engage with. Such studies should be conducted using longitudinal methodologies to obtain a more robust understanding of the direction of the relationships between pornography content choices and individual consent attitudes. Finally, porn literacy interventions for youth that aim to challenge representations of violent sex in pornography (e.g., Dawson, Nic Gabhainn & MacNeela, 2019) should promote critical awareness of the differences between aggressive and nonconsensual and aggressive and consensual pornography.

Conclusion

Previous research has relied on broad categories or individual beliefs about whether they had watched nonconsensual pornography, which may have provided unreliable information about the type of content that people engage with. This study provides a more objective measure for assessing people's comfort with nonconsensual pornography. Findings suggest that a person's existing attitudes to sexual consent may be a more reliable indicator for the type of content that people engage with than frequency of pornography engagement alone.

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Appendix

Porn scene vignette survey

Please read each of the scenes below and report how comfortable you would feel in watching the porn scene described.

Chris and Sarah (Nonconsensual manual sex scene)
Chris is a friend of Sarah's brother, Rob. One evening the three are watching TV. Rob gets up and leaves the room to take a phone call. Chris looks at Sarah, moves closer to her and leans in to kiss her. Sarah laughs and pushes him away playfully. Chris starts to rub Sarah's thigh, takes her hand and moves it towards his crotch. Sarah blushes.

- Very uncomfortable
- Uncomfortable
- Neither comfortable nor uncomfortable
- Comfortable
- Very comfortable

Nick and Alex (Nonconsensual vaginal sex scene)
In this scene Nick has invited Alex back to his apartment. Nick goes to the kitchen to make two cups of coffee. When he returns to the living room, Alex is lying naked on the sofa. 'What are you doing', Nick asks, seeming slightly shocked. She begins to unbuckle Nick's belt and stroke his penis until he gets an erection. She guides him by the arm, down onto the sofa and straddles his lap, slipping his penis inside her vagina. 'I don't know if we should do this', says Nick.

- Very uncomfortable

- •   Uncomfortable
- •   Neither comfortable nor uncomfortable
- •   Comfortable
- •   Very comfortable

Samanta and Dan (Consensual digital sex scene)
In this porn scene, Samantha and Dan are alone in a bedroom. They start kissing and Dan begins to run his hand up Samantha's thigh; she smiles at him and giggles. Dan whispers in her ear that he wants to touch her body. Samantha nods her head. Dan continues to open her trousers and inserts his finger into her vagina. "That feels really good", murmurs Samantha.

- •   Very uncomfortable
- •   Uncomfortable
- •   Neither comfortable nor uncomfortable
- •   Comfortable
- •   Very comfortable

Dan and Abby (Consensual oral sex scene)
In this porn scene, Daniel and Abby are passionately kissing in a bedroom. Abby pulls Daniel's belt, undoing the buckle and buttons, pulling his erection out of his trousers. 'Do you like that', Abby asks. 'I do', he replies. 'Do you want me to keep going, then', ask Abby. Daniel nods. She puts his penis inside her mouth and gives him oral sex.

- •   Very uncomfortable
- •   Uncomfortable
- •   Neither comfortable nor uncomfortable
- •   Comfortable
- •   Very comfortable

Rebecca and Jack (Consensual vaginal sex scene)
In this porn scene Rebecca and Jack are watching a movie, on the sofa. Jack begins to caress Rebecca's thigh. She smiles, leans in, and pulls him closely to her, while opening her legs. Jack raises her skirt and notices that she is not wearing any underwear. Jack removes his trousers. He has an erection. Rebecca guides Jack's penis slowly inside her vagina.

- •   Very uncomfortable
- •   Uncomfortable
- •   Neither comfortable nor uncomfortable
- •   Comfortable
- •   Very comfortable

Jessica and Tom (Nonconsensual digital sex scene)

In this porn scene Jessica and Tom are sitting on a sofa, flirting. Jessica begins to run her hand over Tom's chest, kisses him deeply and moves her hand down further and strokes his penis, through his trousers. Tom seems hesitant, "I'm not in the mood", but Jessica continues to kiss him and slides her hand inside his boxer shorts and pulls his penis out. Despite his protestations, Tom continues to get an erection.

- Very uncomfortable
- Uncomfortable
- Neither comfortable nor uncomfortable
- Comfortable
- Very comfortable

Dee and Jack (Nonconsensual oral sex scene)

In this porn scene, Dee and Jack are naked in a bedroom. Dee is kneeling on the ground, sucking Jack's penis. Jack then reaches down and winding her hair around his fingers, pulls Dee off her knees, pushing her backward on to the bed. Jack kneels down in front of her. Dee is hesitant, 'Actually...' Dee says, but before she could object, Jack puts his face in between her thighs and kisses her vagina. Jack pulls back, looks at Dee and smiles, saying, 'That was so nice, I've wanted to do that for such a long time'.

- Very uncomfortable
- Uncomfortable
- Neither comfortable nor uncomfortable
- Comfortable
- Very comfortable

Beth and Sandra (Nonconsensual oral sex scene)

In this porn scene, Beth and Sandra are standing at the front door of an apartment block. Both are acting flirtatious. Beth pulls Sandra in through the door and upstairs to her bedroom. 'I've never gone this far with a girl before', says Sandra. 'Don't worry, I'll show you what to do', Beth replies. Beth kisses Sandra, widening her mouth and pushing her tongue into Sandra's mouth. 'Can we slow down for a second', says Sandra. Beth smiles, 'Trust me, I know what I'm doing'. She summons Sandra to the bed, climbs on top of her and sits on Sandra's face.

- Very uncomfortable
- Uncomfortable
- Neither comfortable nor uncomfortable
- Comfortable
- Very comfortable

Kelly & Matt (Nonconsensual anal sex scene)

In this scene, Kelly and Matt are naked in a hotel room. Kelly is sitting on top of Matt, straddling his penis. 'What would you like to do to me', Kelly asks. Without answering, he

pulls out, flips her onto her stomach, and pushes his penis inside her anus. Kelly lets out an aching moan, catching her breath in her throat. Matt, putting his hands on Kelly's hips, thrusts harder, saying, 'you feel so good'.

- Very uncomfortable
- Uncomfortable
- Neither comfortable nor uncomfortable
- Comfortable
- Very comfortable

Matt and Sarah (Nonconsensual vaginal sex scene)
Matt and Sarah are in bed. They begin to kiss, nuzzling into each other's necks. Without saying anything, Matt quickly pulls her on top of him and pushes his penis inside her vagina. Sarah gasps, digging her nails into his skin, 'Ouch!', Sarah shouts. Matt laughs and pulls her closer to him.

- Very uncomfortable
- Uncomfortable
- Neither comfortable nor uncomfortable
- Comfortable
- Very comfortable

The following vignettes were categorised as representing scenes in which the depiction of sexual consent was unclear and were not included in the analysis.
Maria and Tom (Unclear vaginal sex scene)
Maria has hired Tom to fix a fault in her kitchen. As Tom is working, Maria tiptoes up behind him, slipping her arms around his body and runs her hand down his chest. Tom quickly turns around, 'What do you think you are doing', he asks. Maria turns around, pushing her backside into his crotch. Tom pushes Maria's jeans down around her hips and slips his penis inside her anus. "Keep going?" he asked. She murmured her approval.
- Very uncomfortable
- Uncomfortable
- Neither comfortable nor uncomfortable
- Comfortable
- Very comfortable

Max and Meghan (Unclear anal sex scene)
In this scene Max and Meghan are in the shower together, washing each other's bodies. Max reaches down, grabbing Meghan's thigh, pulling her toward him. Meghan moans, pressing her lips to his. Max, kissing her fiercely, holds both Meghan's arms behind her back. Meghan, without any determination, moans and tries to tug free. Max, then bending her forward, pushes his penis inside of her vagina, with forceful thrusts.
- Very uncomfortable

- Uncomfortable
- Neither comfortable nor uncomfortable
- Comfortable
- Very comfortable

Table 1

Final Categorisations of Vignettes and Percentage Agreements

	Nonconsensual (%)	Unclear (%)	Consensual (%)
Sam and Dan			**100**
Daniel and Abby			**100**
Rebecca and Jack			**100**
Jessica and Tom	**100**		
Dee and Jack	**73**	27	
Beth and Sandra	**91**	9	
Kelly and Matt	**100**		
Matt and Sarah	**100**		
Chris and Sarah	**73**	27	
Maria and Tom	18	36	46
Nick and Alex	**64**	36	
Max and Meghan	36	**64**	

Note - Numbers in bold were assigned to corresponding category.

Table 2.

Sociodemographic Characteristics of Sample by Gender and Overall Sample (%)

	Women	Men	Total
	n (%)	*n* (%)	*n* (%)
Nationality			
Irish	252 (82)	245 (87.5)	497 (84.5)
Non-Irish	56 (18)	35 (12.5)	91 (15.5)
Education			
Undergraduate education	264 (86)	243 (79)	507 (86)
Postgraduate education	44 (14)	37 (21)	81 (14)
Relationship status			
Not in a relationship	113 (36.6)	39.9 (39.9)	225 (38)
Casual dating	46 (15)	48 (17)	94 (16)
Single and not looking for a partner	3 (1)	8 (3)	11 (2)
In an open relationship	4 (1)	5 (2)	9 (1.5)
In a relationship < 6 months	34 (11)	17 (6)	51 (9)
In a relationship > 6 months	109 (35)	19 (32)	200 (34)
Lifetime number of sexual partners			
0	26 (8)	43 (15)	69 (12)
1–2	100 (33)	80 (29)	181 (31)
3–5	77 (25)	64 (23)	141 (24)
6–10	58 (19)	43 (15)	101 (17)
11–15	23 (7)	15 (5)	38 (6.5)
16–20	7 (2)	11 (4)	41 (7)
21+	17 (5)	24 (9)	41 (7)
Total	308 (100)	280 (100)	588 (100)

Table 3.

Bivariate correlations

	Consensual Vignettes	Positive Attitude	Indirect Behavioural	Consent Norms	Pornography Frequency
Comfort with nonconsensual vignettes	*.308***	*-.244***	*.150***	*.260***	*.171***
Comfort with consensual vignettes		*-.059*	*.145***	*.070*	*.090**
Positive attitude to establishing consent			*-.272***	*-.267***	*-.007*
Indirect behavioural approach to consent				*.388***	*-.103**
Consent norms					*-.050*

** p < .01 * p < .05

Table 4.

Mean, Standard Deviation, Skewness, and Kurtosis

	Mean	*SD*	Skewness	Kurtosis
Nonconsensual vignettes	2.48	.99	.52	-.05
Consensual vignettes	3.97	.90	-1.03	1.35
Positive attitudes towards consent	5.50	1.04	-.74	.73
Indirect behavioural approach	5.02	1.14	-.60	.59
Consent norms	4.59	1.09	-.49	.12

Table 5.

Pornography engagement by gender and overall n (%)

	Women	Men	Total	X_2 (Cramers V)
	n (%)	n (%)	n (%)	
Frequency of pornography use				311.80 (.72) **
A few times per year	104 (34)	15 (5)	119 (20)	
A few times per month	74 (24)	48 (17)	122 (21)	
Once-twice per week	22 (7)	150 (54)	172 (29)	
Daily	4 (1)	57 (20)	61 (10)	
Few times per day	1 (.3)	7 (2.5)	8 (1)	
Total	205	277	482	

**p <.01

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Table 6.

Promax rotated factor loadings for 2 factor solution ML of porn vignettes

Vignettes (category)	Mean	SD	F1	F2
Jessica and Tom (NC)	2.56	1.11	**.010**	.842
Dee and Jack (NC)	2.68	1.10	**.025**	.841
Matt and Sarah (NC)	2.23	1.15	**-.030**	.858
Sam and Dan (C)	4.04	.93	.937	**-.059**
Rebecca and Jack (C)	4.03	.94	.895	**.024**
Dan and Abby (C)	3.85	.97	.829	**.043**

Table 7. *Model Fit for Unconstrained and Measurement Invariant Models*

Model	CFI	TLI	IFI	RMSEA	χ^2 difference test
Unconstrained Model	.99	.99	.99	.03 [.00, .05]	n/a
Configural Invariance	.99	.98	.99	.03 [.00, .05]	$\chi^2(4)= 8.32, p = .08$
Metric Invariance	.89	.82	.89	.10 [.08, .11]	$\chi^2(6)= 138.00, p <.001$
Scalar Invariance	.88	.82	.88	.10 [.09, .11]	$\chi^2(3)= 24.55, p <.001$
Residual Invariance	.86	.83	.86	.10 [08, .11]	$\chi^2(6)= 25.41, p <.001$

Note: The χ2 difference test examines the difference in fit between each model and the previous model.

Table 8.

Mean, Standard Deviations (SD) and chi-square results by Gender

	Female		Male		X^2 (Cramer's V)
	Mean	SD	Mean	SD	
Consensual (Total)	11.33	2.68	12.57	2.11	44.59** (.28)
Dan & Abby	3.56	1.03	4.18	.79	30.06** (.16)
Samantha & Dan	3.89	1.01	4.18	.821	2.05 (.04)
Rebecca & Jack	3.85	1.02	4.23	.802	6.73* (.07)
Nonconsensual (Total)	6.61	2.49	8.42	2.91	72.64** (.35)
Jessica & Tom	2.18	.96	3.00	1.12	160.31** (.38)
Dee & Jack	2.48	1.07	2.90	1.11	27.73** (.15)
Matt & Sarah	1.95	1.01	2.53	1.22	40.55** (.19)

**p <.01 *p <.05 (C) represents a consensual vignette (NC) represents a nonconsensual vignette

Table 9.

Standardised Direct Effects for Full Path Model, with Standard Errors (SE),
Beta Coefficients (β), and Significance Values (p)

Direct effect	SE	β	*p*
Frequency –> Comfort with consensual vignettes**	.06	.32	<.001
Frequency -> Comfort with nonconsensual vignettes**	.08	.49	<.001
Gender -> Consensual vignettes**	.06	.34	<.001
Gender -> Nonconsensual vignettes**	.08	.64	<.001
Sexual consent norms -> Comfort with consensual vignettes	.04	.06	.128
Indirect behavioural approach to consent -> Comfort with consensual vignettes	.03	.01	.713
Positive attitudes to consent -> Comfort with consensual vignettes	.16	-.08	.602
Sexual consent norms -> Comfort with nonconsensual vignettes**	.05	.14	.003
Indirect behavioural approach to consent -> Comfort with nonconsensual vignettes	.04	.06	.073
Positive attitudes to consent -> Comfort with non-consensual vignettes*	.37	-.92	.012

** p < .01 *p < .05