

**Image-based sexual abuse: The extent, nature, and predictors of perpetration in a
community sample of Australian residents**

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Acknowledgement

The research upon which this article draws has been supported by funding from an Australian Criminology Research Council Grant (CRG 08/15-16) and an Australian Research Council Discovery Project Grant (DP170101433).

Abstract

Image-based sexual abuse (IBSA) involves three key behaviors: the non-consensual taking or creation of nude or sexual images; the non-consensual sharing or distribution of nude or sexual images; and threats made to distribute nude or sexual images. IBSA is becoming increasingly criminalized internationally, representing an important and rapidly developing cybercrime issue. This paper presents findings of the first national online survey of self-reported lifetime IBSA perpetration in Australia (n = 4,053), with a focus on the extent, nature, and predictors of perpetration. Overall, 11.1% (n = 411) of participants self-reported having engaged in some form of IBSA perpetration during their lifetime, with men significantly more likely to report IBSA perpetration than women. With regard to the nature of perpetration, participants reported targeting men and women at similar rates, and were more likely to report perpetrating against intimate partners or ex-partners, family members and friends than strangers or acquaintances. Logistic regression analyses identified that males, lesbian, gay or bisexual participants, participants with a self-report disability, participants who accepted sexual image-based abuse myths, participants who engaged in or experienced sexual self-image behaviors, and participants who had a nude or sexual image of themselves taken, distributed, or threatened to be distributed without their consent were more likely to have engaged in some form of IBSA perpetration during their lifetime.

Keywords: Image-Based Sexual Abuse, Cybercrime, Perpetration, Revenge Pornography, Victimization, Non-consensual Pornography

Introduction

Image-Based Sexual Abuse (IBSA) refers to the taking, distributing, and/or making of threats to distribute, a nude or sexual image without a person's consent (see e.g. DeKeseredy & Schwartz 2016; McGlynn & Rackley 2017; McGlynn, Rackley & Houghton 2017; Powell & Henry 2016; Powell & Henry 2017; Powell, Henry & Flynn, 2018).¹ While some research has drawn on alternative terms such as 'revenge pornography' (e.g. CCRI, 2014; Hall & Hearn 2017; Salter & Crofts 2015) or 'non-consensual pornography' (e.g. Citron & Franks 2014; Poole 2015; Suzor, Seignior & Singleton 2017; Walker & Sleath 2017), such studies have tended to focus primarily on the non-consensual distribution of nude or sexual images, without consideration of the related non-consensual taking or creation of such images and/or threats to distribute them. Furthermore, as Powell, Henry and Flynn (2018) have described, far beyond the popular understanding of an image shared by a jilted ex-lover, IBSA occurs in a range of contexts including: (1) *relationship retribution*, where a perpetrator misuses the nude or sexual images of a current or former intimate partner in order to seek revenge or cause distress following a relationship breakdown; (2) *sextortion*, where the perpetrator threatens to create or distribute an intimate image of another person in order to obtain further images, money, or unwanted sexual acts, regardless of whether or not the image exists; (3) *voyeurism*, where perpetrators seek to create or distribute images as a form of sexual gratification or social status building, including (but not limited to) 'upskirting' and 'down-blousing'²; (4) *sexploitation*, where the primary goal is to obtain monetary benefits through the trade of non-consensual nude or sexual imagery; and (5) *sexual assault*, where perpetrators and/or bystanders record sexual assaults and rapes on mobile phones or other devices and/or distribute those images via mobile phone or online (see also Powell & Henry 2017).

¹ We use the term image to capture both nude or sexual photos and videos.

² Upskirting refers to the act of someone taking an image up a victim's skirt or dress. Down-blousing refers to the act of someone taking a photo down the victim's shirt and/or of the victim's cleavage.

An emerging body of research has sought to examine the extent and nature of IBSA victimization. Some studies have found that, similar to other forms of intimate aggression, women are more commonly the targets of IBSA as compared to men (e.g. Wood et al. 2015), although other studies have found either similar victimization rates among both men and women (e.g. Lenhart, Ybarra & Feeney-Price 2016; Powell & Henry 2016; Reed, Tolman & Ward 2016), or somewhat higher victimization rates among men (e.g. Borrajo, Gámez-Guadix & Calvete 2015; Priebe & Svedin 2012). In addition to examining the gendered nature of IBSA, several studies have reported differing rates of IBSA victimization according to sexuality, with minority participants more likely to report a person having shared a sexual image of them without permission as compared to heterosexual participants (e.g. Lenhart, Ybarra & Feeney-Price 2016; Priebe & Svedin 2012). Though research into IBSA victimization is growing, by comparison there remains a dearth of research that has examined the perpetration of IBSA with regards to its extent, nature, and potential predictors.

The study described in this article is the first to undertake a comprehensive investigation that includes all three subsets of IBSA perpetration; that is, the non-consensual taking or creation of a nude or sexual image; the non-consensual sharing or distribution of a nude or sexual image; and threats made to distribute a nude or sexual image. Reporting on an online panel survey of 4,053 Australian residents (aged 16 to 49 years), we examine IBSA as it is increasingly conceptualized in the international literature, presenting original analyses of self-reported perpetration behaviors and potential predictors. The article begins by briefly summarizing the conceptualization of IBSA, before providing a more detailed review of the (limited) international literature on IBSA perpetration, and subsequent aims of the study reported here.

Literature Review

Prevalence of IBSA Perpetration

The majority of quantitative research in the broader field on technology and intimate relationships has been on ‘sexting’ (the sending and/or receiving of nude or sexual images or texts) among adolescents (see e.g. Crofts, Lee, McGovern & Miliovojevic 2015; Patrick, Heywood, Pitts & Mitchell 2015; Stanley et al. 2018; Villacampa 2017). While most of this research has focused on consensual forms of sexting, some studies have also sought to investigate the prevalence of ‘non-consensual sexting’, where images are either taken or shared without consent. For example, Patrick, Heywood, Pitts and Mitchell (2015) found that 10% of school students had sent ‘a sexually explicit nude or nearly nude photo or video of someone else.’ Similarly, in a 2014 survey with undergraduate psychology students, Strohmaier, Murphy and DeMatteo (2014) found that 11% of participants reported that a sext had been sent on without their consent while they were deemed to be a minor (i.e. under the age of 18). Crofts, Lee, McGovern and Miliovojevic’s study (2015) found a slightly lower rate with 6% of participants aged under 18 years reporting sending an image to another person without consent. In Crofts et al.’s (2015) study, 20% of adolescents surveyed reported that they had *shown* another person an image without the depicted person’s consent, such as by displaying the image on their mobile phone screen.

To date, few empirical studies have explored non-consensual behaviors among adult populations. This is despite some research (e.g. Borrajo & Gámez-Guadix 2015) indicating that technology-based abuse between partners occurs more often between young adults, rather than adolescents or pre-adolescents. While it is difficult to synthesize the findings of the few existing studies, given the different sample sizes, definitions, and instruments used, collectively these studies indicate an approximate range of between 12% and 30% of participants who report sharing nude or sexual images without the consent of the person depicted in the video or photo. In their Australian ‘sexting’ study, Crofts et al. (2015) found

that among participants aged over 19 years ($n = 422$), 16% had shown a sexual image to another person who was not meant to see it, 4% had shared the image online, and 4% had forwarded the image via MMS or email. While the authors differentiated between different forms of ‘sharing,’ in other studies it is unclear what ‘sharing’ means. For instance, in an Italian study on sexting and dating violence among a sample of 13 to 30 year olds ($n = 1,334$), the authors found that 13% of participants had shared a sexual image without another person’s consent at least once (Morelli, Bianchi, Baiocco, Pezzuiti & Chirumbolo 2016). In a study on ‘technology-based coercion’ ($n = 795$), Thompson and Morrison (2013) found that 16% of men had shared a sexually suggestive message or picture of someone without their consent ($n = 795$). Another sexting study of American adults aged between 21 and 75 years ($n = 5,805$) by Garcia et al. (2016) found that more than one in five participants (23%) reported sharing a ‘sexy’ photo with someone else without consent. It is important to note that the Garcia et al. study focused on sharing photos, whereas the Thompson and Morrison study did not differentiate between sexual images (videos and/or photos) or text, and in all of these examples, participants were asked only about sharing or distributing sexual material without consent, and not about other related image-taking or threat behaviors.

Characteristics of IBSA Perpetrators

Overall, existing studies have rarely reported on gender, sexuality, or other differences in relation to self-reported perpetration items. An exception is the aforementioned study by Garcia et al. (2016), which found that more men (25%) than women (20%) had ‘shared a received sexy photo with someone else.’ This study also found that gay men were twice as likely as lesbian women to share such images (Garcia et al. 2016). Meanwhile, qualitative studies on IBSA perpetration have further sought to examine the potential gendered nature of these behaviors. In one study, Hall and Hearn (2017) examined the online comments that accompanied the postings of non-consensual nude or sexual images on a popular ‘revenge

porn' website. They found not only that most of the images posted were of women, and were shared by men, but that the text accompanying many of the images occurred in a context of homosocial interaction in which men communicated normative masculine identities; effectively reinstituting themselves as 'real men' within the mostly male community of website users. In a second study, Uhl, Rhyner, Terrance and Lugo (2018) undertook content analysis of 134 non-consensual photos contained on seven different websites. The researchers found that 92% of victims depicted in the images were women. Moreover, for over a third of the images (36%), the text accompanying the image revealed the perpetrator's stated reason for sharing the image with the most common being that the woman was an 'ex' (22%), the woman was 'hot' or 'sexy' (22%), or the woman was 'a slut' (15%), or unfaithful (6%) (Uhl et al. 2018). These findings indicate that while some IBSA perpetration may indeed be motivated by 'revenge,' in other instances, it may be more related to other motivations such as status-seeking among online male-dominated communities.

A small number of studies have begun to explore attitudes towards IBSA perpetration such as through participant responses to hypothetical scenarios and the potential inclination of participants to seek revenge through the non-consensual distribution of intimate images (e.g. Bothamley & Tully 2018; Hudson, Fetro & Ogletree 2014; Pina, Holland & James 2017; Scott & Gavin 2018). For instance, in a study by Scott and Gavin (2018), when confronted with two hypothetical scenarios (one in which the perpetrator was a man and the victim a woman, and the other in which the perpetrator was a woman and the victim a man), participants perceived IBSA to be more serious when the perpetrator was a man. Meanwhile, Hudson, Fetro and Ogletree's (2014) survey ($n = 697$) of young adults aged between 18 to 19 years, recorded a statistically significant difference in *attitudes* towards the sending and receiving of explicit images among women and men. They found that male participants held more favorable attitudes towards sexting, as well as higher intentions to send sexually explicit images than female participants. Finally, Pina, Holland and James (2017) found an

association between higher levels of ambivalent sexism, Machiavellianism, narcissism, and psychopathy with a greater self-reported proclivity to engage in non-consensual sexual image sharing. Though low numbers of male participants precluded a gender analysis in the study, the authors note that the findings reflect those of broader sexual violence research in which psychological characteristics such as sexism and narcissism are frequently found to be associated both with perpetration, and to be higher among male participants.

In summary, there is currently only limited research into the extent and nature of IBSA perpetration, and indeed the characteristics of IBSA perpetrators. Moreover, in all of the survey studies mentioned here, some of which only included one IBSA perpetration item, the primary focus is on the non-consensual sharing or distribution of nude or sexual images (or in some cases, other text-based sexual material), and not on related forms of sexual image-based perpetration. The limited number of studies conducted to date indicate a potential role of gender and/or sexuality as predictors of IBSA perpetration. However, it is unclear what role other factors (such as attitudinal and/or experiential characteristics) might have on the likelihood of an individual engaging in perpetration behavior, and indeed how such factors might interact with the key characteristics of interest as identified in the literature.

The Current Study

The current study represents one component of a larger research project into IBSA victimization and perpetration. The project, funded by an Australian Criminology Research Council Grant, aimed to examine the extent, nature, and impacts of IBSA, as well as the effects of existing and proposed legislative reform in Australia. The project draws on a mixed methods approach, including empirical data on victimization and perpetration, as well as the experiences of key stakeholders (e.g. police, legal services, women's information services, domestic violence services, disability services, and sexual assault services). Here, we report on findings from the perpetration component of this research project. In particular, this

component sought to investigate IBSA perpetration among a community sample of Australian residents aged 16 to 49 years. This age range was selected for the study because it represents both those at highest risk for sexual- and family- related violence (ABS 2012), as well as the majority of mobile and Internet users (ACMA 2011). The current study therefore aimed to examine: (1) the extent of self-reported IBSA perpetration, (2) the nature of self-reported IBSA perpetration, and (3) the predictors of self-reported IBSA perpetration.

Method

Recruitment and Participants

Research Now, an online panel provider, invited 113,294 Australian residents to participate in the research and 4,303 responded, representing a 3.8% response rate.³ Of these participants, 221 were excluded from the data analysis because of incomplete responses regarding self-reported IBSA perpetration items and 29 were excluded because they identified as transgender or non-binary gender (unfortunately, the number in this category was insufficient for data analysis). The final sample comprised 4,053 Australian residents, 2,298 females and 1,755 males, with an average age of 34.55 years ($SD = 8.95$, range 16 to 49 years). The demographic characteristics of the final sample are presented in Table 1.

---Table 1 about here---

Overall, our sample compared favorably with the Australian Census on markers such as gender (57% vs. 52% female) and indigeneity (97% vs. 97% non-Aboriginal), and languages spoken other than English (16% vs. 21% other languages) (ABS 2017). However, it was overrepresented by Australian born participants (88% vs. 74% Australian born), participants with a high level of education (76% vs. 66% at least one non-school qualification), and

³ The low response rate was the consequence of difficulties recruiting men aged between 16 and 24 years.

participants with a lesbian, gay or bisexual (LGB) sexuality (88% vs. 97% heterosexual). It was also slightly underrepresented by participants with a self-reported disability (12% vs. 18% assistance required) (ABS 2017).

All participants were informed that the purpose of the research was to examine attitudes and experiences of sex, technology, and relationships. The research was approved by an institutional ethics committee and two police ethical committees, following guidelines as prescribed by the Australian National Statement on Ethical Conduct in Human Research.

Measures

In light of the very limited quantitative research into IBSA, a survey instrument was developed by the research team that comprised a range of items including those pertaining to: (1) demographic characteristics; (2) sexual image-based abuse myth acceptance; (3) online dating behaviors; (4) sexual self-image behaviors; (5) IBSA victimization; (6) IBSA perpetration; and (7) the nature of IBSA perpetration. The measures used for the purpose of the current study are described below.

Demographic Characteristics

Participants were asked to complete the following items: gender (female, male), sexuality (heterosexual, bisexual, gay, lesbian), age (in years), nativity (Australian born, overseas born), languages spoken other than English (English only, other languages), indigeneity (non-Aboriginal, Aboriginal), education (high school or less, trade certificate, university/college, postgraduate/advanced degree), and disability (no assistance required, assistance required). The survey instrument included three items regarding disability, one relating to assistance with self-care activities, one relating to assistance with body movement activities, and one relating to assistance with communication activities (no, yes sometimes, yes always). A composite variable was first created by summing the number of 'yes'

responses (yes sometimes and yes always) to the three original items ($M = 0.27$, $SD = 0.80$, range 0 to 3). This composite variable was then used to create a dichotomous ‘disability’ variable for the purpose of data analysis.

Sexual Image-Based Abuse Myth Acceptance

The sexual image-based abuse myth acceptance (SIAMA) scale was developed by the research team and modelled on rape myth acceptance (Payne, Lonsway & Fitzgerald 1999; see also Powell & Webster 2018 for a review). It contains 18 items and asks participants about their attitudes towards minimizing/excusing the harms and blaming the victims of IBSA (see Table A1 of the Appendix). All items were rated on the same 7-point Likert scale where 1 = ‘strongly disagree’ and 7 = ‘strongly agree’ (no labels were provided for points 2, 3, 4, 5, and 6 on the scale). The SIAMA scale has been found to have two components: the ‘minimize/excuse’ component contains 12 items ($M = 2.30$, $SD = 1.33$, range 1 to 7, $\alpha = .94$) and the ‘blame’ component contains six items ($M = 3.70$, $SD = 1.65$, range 1 to 7, $\alpha = .86$). The higher the score, the greater the minimizing/excusing of harms and blaming of victims of IBSA.

Online Dating Behaviors

Participants self-reported whether they had ever engaged in or experienced nine different online dating behaviors (see Table A2 of the Appendix). All items were rated on the same 5-point Likert scale where 0 = ‘never,’ 1 = ‘rarely,’ 2 = ‘sometimes,’ 3 = ‘often,’ and 4 = ‘frequently.’ Principal component analysis with varimax rotation was performed to examine the underlying structure of the nine items and one component was identified that accounted for 67.55% of variance ($\alpha = .94$). An average composite variable was first created for the nine items ($M = 0.82$, $SD = 0.91$, range 0 to 4). This average composite variable was

then used to create a dichotomous ‘online dating behaviors’ variable for the purpose of data analysis.

Sexual Self-Image Behaviors

Participants self-reported whether they had ever engaged in or experienced 11 different sexual self-image behaviors (see Table A2 of the Appendix). Again, all items were rated on the same 5-point Likert scale where 0 = ‘never,’ 1 = ‘rarely,’ 2 = ‘sometimes,’ 3 = ‘often,’ and 4 = ‘frequently.’ Principal component analysis with varimax rotation was performed and one component was identified that accounted for 74.37% of variance ($\alpha = .97$). An average composite variable was first created for the 11 items ($M = 0.52$, $SD = 0.83$, range 0 to 4). This average composite variable was then used to create a dichotomous ‘sexual self-image behaviors’ variable for the purpose of data analysis.

IBSA Victimization

Participants self-reported whether they had ever (since 16 years of age) had a nude or sexual image of themselves taken, distributed, and/or threatened to be distributed without their consent. Participants responded to nine items relating to the content of the image for each of the three IBSA victimization contexts (taken, distributed, and threatened), using a dichotomous (yes, no) question format (see Table A3 of the Appendix). Three composite variables were first created by summing the number of ‘yes’ responses to the nine content items in each of the three contexts (IBSA victimization [taken]: $M = 0.58$, $SD = 1.54$, range 0 to 9; IBSA victimisation [distributed]: $M = 0.34$, $SD = 1.25$, range 0 to 9; IBSA victimization [threatened]: $M = 0.30$, $SD = 1.20$, range 0 to 9). For the purpose of data analysis, these composite variables were then used to create three dichotomous variables: ‘IBSA

victimization (taken)'; 'IBSA victimization (distributed)'; and 'IBSA victimization (threatened).'

IBSA Perpetration

Participants self-reported whether they had ever (since 16 years of age) taken, distributed, and/or threatened to distribute a nude or sexual image of another person without their consent. Participants responded to eight items relating to the content of the image for each of the three IBSA perpetration contexts (taken, distributed, and threatened), using a dichotomous (yes, no) question format (see Table A3 of the Appendix). Three composite variables were first created by summing the number of 'yes' responses to the eight content items in each of the three contexts (IBSA perpetration [taken]: $M = 0.32$, $SD = 1.26$, range 0 to 8; IBSA victimization [distributed]: $M = 0.27$, $SD = 1.19$, range 0 to 8; IBSA victimization [threatened]: $M = 0.21$, $SD = 1.07$, range 0 to 8). For the purpose of the descriptive and chi-square analyses, these composite variables were then used to create three dichotomous IBSA perpetration variables: 'IBSA perpetration (taken)'; 'IBSA perpetration (distributed)'; and 'IBSA perpetration (threatened)'. An additional composite variable was created by summing the number of 'yes' responses to all 24 content items ($M = 0.81$, $SD = 3.28$, range 0 to 24), and this composite variable was used to create a dichotomous 'IBSA perpetration' variable for the purpose of the logistic regression analyses.

Nature of IBSA Perpetration

Participants who self-reported taking, distributing, and/or threatening to distribute a nude or sexual image of another person without their consent were asked to complete nature items regarding their most recent IBSA perpetration experience. These items included victim gender (i.e. the gender of the person/people in the nude or sexual image: female, male, female and male, don't know), and perpetrator-victim relationship (i.e. their relationship to the

person/people in the nude or sexual image: intimate partner or ex-partner, family member, friend [known face to face], friend [known online only], work colleague or ex-work colleague, acquaintance, stranger, or don't know).

Data Analysis

Data analyses were conducted on the unweighted sample in three stages using IBM SPSS Statistics Version 24. First, descriptive and chi-square analyses, with phi as a measure of effect size, were performed to examine the extent of self-reported IBSA perpetration. Chi-square analyses were performed to determine whether or not there were differences in IBSA perpetration (taken, distributed, and threatened) according to participant gender and sexuality. Additional chi-square analyses using 3-way crosstabulations were performed to determine whether or not there were any significant interactions for gender and sexuality with regard to the extent of IBSA perpetration. Second, descriptive and chi-square analyses, with phi and Cramer's V as measures of effect size, were performed to examine the nature of self-reported IBSA perpetration. Chi-square analyses were performed to determine whether or not there were differences in victim gender and perpetrator-victim relationship according to participant gender and sexuality. Additional chi-square analyses using 3-way crosstabulations were then performed to determine whether or not there were any significant interactions for gender and sexuality with regard to the nature of IBSA perpetration.

Third, logistic regression analyses were performed to examine the predictors of self-reported IBSA perpetration. Hosmer, Lemeshow, and Sturdivant's (2013) seven step 'purposeful selection' model building process was used to examine the relationship between 15 participant characteristics and the dichotomous IBSA perpetration variable. The 15 participant characteristics comprised eight demographic characteristics (gender, sexuality, age, nativity, languages spoken other than English, indigeneity, education, and disability), two attitudinal characteristics (minimize/excuse and blame), and five experiential

characteristics (online dating behaviors, sexual self-image behaviors, IBSA victimization [taken], IBSA victimization [distributed], and IBSA victimization [threatened]). The seven steps comprised: 1) performing univariable analyses to identify participant characteristics with p -values less than 0.25; 2) entering these participant characteristics into an initial model and removing any characteristics with p -values less than 0.05; 3) determining whether any removed participant characteristics should be re-entered into the model; 4) entering participant characteristics originally excluded into the model to determine whether any have p -values less than 0.05; 5) creating a main effects model; 6) identifying any significant interaction terms and creating the final model; and 7) testing the adequacy and fit of the final model (Hosmer et al 2013). A p -value of 0.25 was used during Step 1 because research suggests use of a more traditional significance level (e.g. a p -value of 0.05) may fail to identify important predictor variables (Bendel & Afifi 1977; Mickey & Greenland 1989). Assumption testing was performed prior to assessment of the initial and final models. This testing revealed that the sample size and multicollinearity assumptions were not violated. With regard to outliers and influential cases, although there were outliers in the initial and final models, assessment using Cook's distance revealed that these outliers did not have an undue influence on the models (Tabachnick & Fidell 2013).

Results

Extent of IBSA Perpetration

Overall, 11.1% of participants self-reported engaging in one or more of the 24 IBSA perpetration behaviors during their lifetime. Behaviors involving the taking of a nude or sexual image (8.7%) were the most common, followed by behaviors involving the distribution of a nude or sexual image (6.4%), and behaviors involving threats to distribute a

nude or sexual image (4.9%). Table 2 presents the lifetime prevalence of self-reported IBSA perpetration behaviors.

---Table 2 about here---

A series of chi-square analyses were performed to examine whether or not there were significant differences in the lifetime prevalence of self-reported IBSA perpetration by participant gender and sexuality. These analyses revealed that male participants were more likely than female participants to self-report ever taking (12.0% vs. 6.2%), distributing (9.1% vs. 4.4%), and/or threatening to distribute (7.0% vs. 3.3%) a nude or sexual image of another person without their consent: $\chi^2(1, n = 4,053) = 42.01, p < .001, \phi = .10$, $\chi^2(1, n = 4,053) = 36.87, p < .001, \phi = .10$, and $\chi^2(1, n = 4,053) = 28.44, p < .001, \phi = .08$ respectively. They also revealed that LGB participants were more likely than heterosexual participants to self-report ever taking (17.2% vs. 7.5%), distributing (13.7% vs. 5.4%) and/or threatening to distribute (9.5% vs. 4.3%) a nude or sexual image of another person without their consent: $\chi^2(1, n = 4,053) = 49.62, p < .001, \phi = .11$, $\chi^2(1, n = 4,053) = 47.59, p < .001, \phi = .11$, and $\chi^2(1, n = 4,053) = 24.23, p < .001, \phi = .08$ respectively. Additional chi-square analyses confirmed that the significant findings for participant gender were consistent across the categories of sexuality (heterosexual, LGB); that the significant findings for participant sexuality were consistent across the categories of gender (female, male); and that there were no significant interaction effects for participant gender and sexuality for the three IBSA perpetration variables (taken, distributed, and threatened).

Nature of IBSA Perpetration

Of the 352 participants who self-reported ever taking a nude or sexual image, 43.5% targeted females and 37.2% targeted males. Similarly, of the 259 participants who self-

reported ever distributing a nude or sexual image, 36.7% targeted females and 35.5% targeted males. Finally, of the 198 participants who self-reported ever threatening to distribute a nude or sexual image, 38.9% targeted females and 28.3% targeted males. The remaining participants targeted both females and males, or did not know the gender of their victim. Table 3 presents the lifetime prevalence of self-reported IBSA perpetration by victim gender and perpetrator-victim relationship.

---Table 3 about here---

With regard to perpetrator-victim relationship, most participants who self-reported ever taking a nude or sexual image targeted an intimate partner or ex-partner, a family member, or a friend. For IBSA perpetration (taken), 40.1% of participants targeted an intimate partner or ex-partner, 20.5% targeted a friend, and 20.2% targeted a family member. For IBSA perpetration (distributed), 29.8% of participants targeted a friend, 22.8% targeted an intimate partner or ex-partner, and 20.1% targeted a family member. Finally, for IBSA perpetration (threatened), 34.8% of participants targeted a friend, 24.7% targeted a family member, and 22.2% targeted an intimate partner or ex-partner. The remaining participants targeted a work colleague or ex-work colleague, an acquaintance, a stranger, or did not know the nature of their relationship with the victim.

A series of chi-square analyses were performed to examine whether or not there were significant differences with regard to the nature of self-reported perpetration (i.e., victim gender and perpetrator-victim relationship) by participant gender and sexuality. These analyses revealed that LGB participants were more likely than heterosexual participants to take, distribute, and threaten to distribute a nude or sexual image of a male and less likely than heterosexual participants to take, distribute, and threaten to distribute a nude or sexual image of a female, $\chi^2(3, n = 352) = 18.74, p < .001, \phi_v = .23, \chi^2(3, n = 259) = 11.86, p = .008,$

$\phi_v = .21$, and $\chi^2(3, n = 198) = 10.87, p = .012, \phi_v = .23$ respectively. There were no significant differences for participant gender with regard to victim gender or perpetrator-victim relationship, and no significant differences for participant sexuality with regard to perpetrator-victim relationship. Additional chi-square analyses confirmed that the non-significant findings for participant gender with regard to perpetrator-victim relationship were consistent across the categories of sexuality (heterosexual, LGB), and that the non-significant findings for participant sexuality with regard to perpetrator-victim relationship were consistent across the categories of gender (female, male). However, these additional analyses also revealed significant interaction effects for participant gender and sexuality with regard to the three IBSA perpetration variables. This included that there were significant differences for participant sexuality with regard to victim gender for male participants, but there were no significant differences for participant sexuality with regard to victim gender for female participants. LGB males were more likely to take a nude or sexual image of a male (73.7% vs. 25.5%) and less likely to do the same of a female (14.0% vs. 50.3%) than heterosexual males, $\chi^2(3, n = 210) = 41.98, p < .001, \phi_v = .45$. LGB males were also more likely to distribute a nude or sexual image of a male (63.8% vs. 28.6%) and less likely to do the same of a female (14.9% vs. 42.9%) than heterosexual males, $\chi^2(3, n = 159) = 19.48, p < .001, \phi_v = .35$. Finally, LGB males were more likely to threaten to distribute a nude or sexual image of a male (61.3% vs. 24.2%) and less likely than heterosexual males to do the same of a female (16.1% vs. 41.8%) than heterosexual males, $\chi^2(3, n = 122) = 14.86, p = .002, \phi_v = .35$.

Predictors of IBSA Perpetration

Logistic regression analyses were performed to examine the relationship between 15 participant characteristics and the lifetime prevalence of self-reported IBSA perpetration. Eight participant characteristics were demographic and included: gender, sexuality, age, nativity, languages spoken other than English, indigeneity, education, and disability. Two

participant characteristics were attitudinal: minimize/excuse and blame. The remaining five were experiential: online dating behaviors, sexual self-image behaviors, IBSA victimization (taken), IBSA victimization (distributed), and IBSA victimization (threatened).

Univariable Analyses

A series of chi-square and t-test analyses were performed to identify which of the 15 participant characteristics to include in the initial model, and 12 characteristics were identified. Five participant characteristics were demographic: gender, $\chi^2(1, n = 4,053) = 42.44, p < .001, \phi = .10$, sexuality, $\chi^2(1, n = 4,053) = 54.63, p < .001, \phi = .12$; age, $t(527) = -4.82, p < .001, d = .24$; indigeneity, $\chi^2(1, n = 4,046) = 82.78, p < .001, \phi = .14$; and disability, $\chi^2(1, n = 4,049) = 502.78, p < .001, \phi = .35$. Two participant characteristics were attitudinal: minimize/excuse, $t(458) = 15.76, p < .001, d = .92$; and blame, $t(533) = 8.52, p < .001, d = .43$. Five were experiential: online dating behaviors, $\chi^2(1, n = 4,053) = 107.44, p < .001, \phi = .16$; sexual self-image behaviors, $\chi^2(1, n = 4,053) = 230.34, p < .001, \phi = .24$; IBSA victimization (taken), $\chi^2(1, n = 4,053) = 640.31, p < .001, \phi = .40$; IBSA victimization (distributed), $\chi^2(1, n = 4,053) = 941.22, p < .001, \phi = .48$; and IBSA victimization (threatened), $\chi^2(1, n = 4,053) = 1133.20, p < .001, \phi = .53$. Three participant characteristics, all demographic, did not reach the 0.25 level of significance and were therefore excluded from the initial model: nativity, $\chi^2(1, n = 4,047) = 0.59, p = .444, \phi = .01$; languages spoken other than English, $\chi^2(1, n = 4,051) = 0.06, p = .815, \phi = .00$; and education, $\chi^2(3, n = 4,051) = 0.49, p = .920, \phi = .01$. Table 4 presents frequencies and descriptives for the 15 participant characteristics by lifetime prevalence of self-reported IBSA perpetration.

---Table 4 about here---

Logistic Regression Analyses

The initial model contained 12 participant characteristics and was statistically significant, $\chi^2(12, n = 4,042) = 944.14, p < .001$. It correctly classified 93.4% of cases (98.8% with no self-reported IBSA perpetration, 45.9% with self-reported IBSA perpetration) and explained between 20.8% (Cox & Snell R square) and 43.3% (Nagelkerke R square) of variance in the lifetime prevalence of self-reported IBSA perpetration. Four non-contributing participant characteristics were removed from the model during Step 2, and no additional characteristics or interaction effects were found to contribute to the creation of a parsimonious model during Steps 3 to 7. The final model therefore contained eight participant characteristics and was statistically significant, $\chi^2(8, n = 4,049) = 935.29, p < .001$. It correctly classified 93.4% of cases (98.7% with no self-reported IBSA perpetration, 46.1% with self-reported IBSA perpetration) and explained between 20.6% (Cox & Snell R square) and 42.9% (Nagelkerke R square) of variance in the lifetime prevalence of self-reported IBSA perpetration. A summary of the initial and final models is presented in Table 5.

---Table 5 about here---

Overall three demographic characteristics were significant predictors of self-reported IBSA perpetration. Male participants had 78% greater odds than female participants, and LGB participants had 54% greater odds than heterosexual participants, to self-report having engaged in IBSA perpetration (OR = 1.78, 95% CI = 1.37 to 2.31 and OR = 1.54, 95% CI = 1.11 to 2.13 respectively), controlling for other participant characteristics in the model. Furthermore, participants with a self-reported disability had 106% greater odds than participants without a self-reported disability to self-report having engaged in IBSA perpetration (OR = 2.06, 95% CI = 1.49 to 2.86), controlling for other participant characteristics in the model. One attitudinal characteristic was a significant predictor of self-

reported IBSA perpetration. A one-point increase in participants' blame scores was associated with 15% greater odds of self-reporting having engaged in IBSA perpetration (OR = 1.15, 95% CI = 1.06 to 1.25), controlling for other participant characteristics in the model.

Finally, four experiential characteristics were significant predictors of self-reported IBSA perpetration. Participants who had engaged in or experienced sexual self-image behaviors had 210% greater odds than participants who had not engaged in or experienced sexual self-image behaviors to self-report having engaged in IBSA perpetration (OR = 3.10, 95% CI = 2.19 to 4.38), controlling for other participant characteristics in the model. Furthermore, participants who had a nude or sexual image of themselves taken without their consent had 178% greater odds than participants who had not experienced this subtype of victimization to self-report having engaged in IBSA perpetration (OR = 2.78, 95% CI = 2.05 to 3.77), controlling for other participant characteristics in the model. Similarly, participants who had a nude or sexual image of themselves distributed without their consent had 135% greater odds than participants who had not experienced this subtype of victimization to self-report having engaged in IBSA perpetration, and participants who had a nude or sexual image of themselves threatened to be distributed without their consent had 367% greater odds than participants who had not experienced this subtype of victimization to self-report having engaged in IBSA perpetration (OR = 2.35, 95% CI = 1.60 to 3.44 and OR = 4.67, 95% CI = 3.17 to 6.87 respectively), controlling for other participant characteristics in the model.

Discussion and Implications

This article has presented data on the first international study that specifically investigates the extent and nature of IBSA perpetration in a community sample of Australian residents (aged 16 to 49 years). With regard to the extent and nature of IBSA perpetration, we found that 1 in 10 participants self-reported having engaged in at least one of the 24 IBSA behaviors surveyed. Males were significantly more likely than females to self-disclose

engaging in IBSA perpetration behaviors. Perpetrators were similarly likely to report that their victim was female as male, which is broadly consistent with the limited available research into IBSA victimization by gender (Gámez-Guadix et al. 2015; Lenhart, Ybarra & Price-Feeney 2016; Reed, Tolman & Ward 2016; Henry, Powell & Flynn, 2017). Sexuality was a significant finding in relation to perpetration, with LGB participants more likely than heterosexual participants to self-report perpetration of any IBSA perpetration behavior. These findings suggest that as in other forms of intimate aggression, gender and sexuality are particularly relevant in understanding the extent and nature of IBSA experiences.

Male and female perpetrators were also more likely to report that the victim was an intimate partner or ex-partner, family member or friend, than a stranger or acquaintance. In practical terms, the vast majority of victims were known to the perpetrator in some way, and a substantial proportion of these (approximately half) were intimate partners or ex-partners. What this suggests is that IBSA perpetration represents *both* a method of harassment or abuse in the context of intimate relationships, and of harassment or abuse in non-partner contexts of family relationships and friendships. Importantly, such a finding may indicate that multiple strategies for responding to and preventing IBSA in these different relational contexts may be needed.

With regard to potential predictors of IBSA perpetration, 8 of the original 15 participant characteristics were found to relate to the lifetime prevalence of self-reported IBSA perpetration. Demographic characteristics included gender, sexuality and disability, whereby males, LGB participants and participants with a self-reported disability were more likely to have engaged in some form of IBSA perpetration during their lifetime. Attitudinally, participants who accepted sexual image-based abuse myths and blamed victims of IBSA for the harms they experience were more likely to have engaged in IBSA perpetration. This finding is broadly consistent with the much more developed field of attitudinal research as related to other forms of sexual aggression, including rape myths, as discussed at the outset of

this paper (see Payne, Lonsway & Fitzgerald 1999; Pina et al. 2017; Powell & Webster 2018).

The most noteworthy finding reported in this study is the strength of the relationship between participants having experienced IBSA victimization and reporting engaging in IBSA perpetration themselves. Experiential characteristics included sexual self-image behaviors and three measures of IBSA victimization, whereby participants who engaged in or experienced sexual self-image behaviors, as well as participants who had a nude or sexual image of themselves taken, distributed, and/or threatened to be distributed without their consent were more likely to have engaged in some form of IBSA perpetration during their lifetime. Care should be taken, however, to avoid inferring a causal relationship between these characteristics. Rather, this study adds substantially to related findings on IBSA victimization, which suggest that both of these experiences occur within a broader context of sexual image-taking and/or sharing. It is vital to note that self-reported rates of both IBSA perpetration (1 in 10 reported here), and victimization (1 in 5, see Henry, Powell & Flynn, 2017) are much lower than participation in sexual selfie behaviors overall. In other words, although engaging in sexual self-imagery behaviors, perhaps unsurprisingly, increases the odds of either perpetration or victimization experiences (as might be anticipated through the increased potential for misuse of a nude or sexual image), a majority of participants engage in sexual self-imagery behaviors and do not engage in IBSA perpetration, nor do they experience IBSA victimization. Such findings have important implications for policy responses and particularly prevention of IBSA.

Specifically, in seeking to prevent IBSA perpetration, the findings reported here suggest that sexual self-image taking and exchanging is common among the 16 to 49 year-olds surveyed. As such, prevention education which is foremost directed at abstaining from sexual self-image taking and exchanging is at odds with the majority of participants' lived experiences. Rather, prevention may be better directed at, for example, education regarding

safer sexual self-image practices as well as the unethical (and indeed increasingly criminal) nature of sharing nude or sexual images without another person's consent. Importantly, such education would appear to be relevant for the broader general community of young and middle-aged adults, at least in the Australian context.

Despite the advances represented by the present study, there are some limitations that should be mentioned to guide future research efforts. First, this study involved a non-generalizable community sample recruited via an online panel. While online panel providers make efforts at recruiting a diverse population, some research suggests that online panel samples may under-represent some subgroups compared with others (AAPOR 2010). Indeed, as acknowledged in this article, our sample was overrepresented by Australian born participants, participants with a high level of education, and participants with a LGB sexuality (according to Census data from the ABS 2017). Future research should thus seek to validate these findings among a more representative sample of the general population and further examine the experiences of different subgroups.

Second, in light of the approximately 1 in 10 IBSA perpetration rate reported here, even our relatively large sample of over 4,000 participants precluded robust comparative analyses of perpetrator subgroups (such as between genders within specific age groups, or by sexuality), in which participant numbers became too low. As such, future research should consider sampling strategies that provide sufficient participant numbers of self-reported IBSA perpetrators so as to allow for such subgroup comparative analyses.

Third, while this survey has provided unique insights into the possible extent, as well as the nature of IBSA perpetration, there are limitations to understanding the experiences, perspectives, and motivations of IBSA perpetrators. In particular, if community education and prevention initiatives are to be developed, an in-depth understanding of the contexts and rationalizations of IBSA perpetration would be highly valuable to policy and program development.

A fourth area for future research might thus comprise qualitative fieldwork with those engaged in IBSA perpetration behaviors. Though, it should be noted, such research is difficult to operationalize in practice and studies in other areas of sexual offending are often limited to forensic samples due in part to the challenges in recruiting perpetrators. Given the rate of disclosure in this anonymous online survey method, it is possible that an anonymous online or digital interview method might be better suited than traditional face-to-face interviews for addressing this important research gap. There is also a potentially important role of those who may be sent a sexual or nude image of another person without their consent, that has not been explored in detail in this study and represents a valuable area for future research, particularly given the possible prevention opportunities of improving ‘bystander’ interventions in IBSA.

Finally, attitudes minimizing or excusing IBSA, and blaming the victim, were significant in the overall model predicting IBSA perpetration, and as such, are worthy of further investigation. In particular, it may be that attitudes towards IBSA share patterns in common with other forms of sexual aggression (see e.g. Pina et al. 2017). Future research might further examine the nature of potential inter-relationships between gender, IBSA supportive attitudes, sexist ideology, proclivity, and self-reported perpetration behaviors.

Conclusion

The findings of this study suggest several important directions for policy, and indeed prevention, in order to address IBSA perpetration. While much prevention education material to date has been focused on school-age young people, this study suggests that prevention and legal education may well benefit from being tailored for the specific contexts of different perpetrator subgroups, with particular patterns of IBSA perpetration emerging according to demographic characteristics, such as gender, sexuality, disability, and indigeneity. However, given the overlap between IBSA perpetration and victimization reported here, it is important

to address referral and support information in ways that take care not to blame or minimize the harms experienced by victims, while at the same time not excusing the behaviors of perpetrators. Rather, both of these groups within the community may benefit from referral, support, and legal information pathways. While no direction can be attributed to the relationship between IBSA perpetration and victimization found here, it is possible that one may be a response or reaction to the other. In the Australian legal context in which recognition and/or redress options for IBSA are variable across jurisdictions, and either not effectively utilized or their effectiveness remains somewhat unknown, it may well be the case that neither victims nor perpetrators of IBSA are fully aware of the potential legal consequences of the non-consensual taking, distributing, and/or making of threats to distribute nude or sexual images.

There is a clear need to continue to examine and understand the varied contexts and subgroups engaged in, and affected by, IBSA. As countries globally continue to grapple with the extent, nature, impacts, and legal ramifications of IBSA, it is crucial that policy, prevention, as well as legal and other supports, are targeted appropriately to those who need them most.

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Table 1

Demographic characteristics

	%	<i>n</i>
Gender		
Female	56.7	2298
Male	43.3	1755
Sexuality		
Heterosexual	88.3	3577
LGB	11.7	476
Nativity		
Australian born	76.7	3105
Overseas born	23.3	942
Languages spoken other than English		
English only	83.5	3384
Other languages	16.5	667
Indigeneity		
Non-Aboriginal	97.5	3943
Aboriginal	2.5	103
Education		
High school or less	24.0	973
Trade certificate	25.9	1050
University/college	32.8	1330
Postgraduate/advanced degree	17.2	698
Disability		
No assistance required	87.9	3559
Assistance required	12.1	490

Note. Six participants did not respond to the nativity item, two participants did not respond to the languages other than English item, seven participants did not respond to the indigeneity item, two participants did not respond to the education item, and four participants did not respond to the disability item.

Table 2

Lifetime Prevalence of Self-Reported IBSA Perpetration Behaviors

	Taken	Distributed	Threatened
	% (n)	% (n)	% (n)
IBSA perpetration			
Where they were partially clothed or semi-nude	6.5 (263)	5.1 (208)	3.8 (152)
Where the person's breasts, including their nipples, were visible	4.6 (186)	3.4 (139)	3.1 (125)
Where they were completely nude	4.4 (180)	3.6 (146)	2.6 (107)
Where the person's genitals were visible	3.8 (155)	3.4 (138)	2.5 (101)
Where they were engaged in a sex act	3.6 (145)	3.2 (128)	2.5 (101)
Where they were showering, bathing or toileting	3.8 (152)	2.9 (116)	2.4 (99)
Which was up their skirt (e.g. 'up-skirting')	3.1 (125)	2.7 (108)	2.1 (85)
Which was of their cleavage (e.g. 'down-blousing')	2.7 (111)	2.6 (104)	2.2 (89)
Any nude/sexual images taken	8.7 (352)	6.4 (259)	4.9 (198)

Table 3

*Lifetime Prevalence of Self-Reported IBSA Perpetration by Participant Gender and Perpetrator-Victim**Relationship*

	Taken	Distributed	Threatened
	% (n)	% (n)	% (n)
<i>Victim gender</i>			
Female	43.5 (153)	36.7 (95)	38.9 (77)
Male	37.2 (131)	35.5 (92)	28.3 (56)
Female and male	10.8 (38)	17.4 (45)	21.7 (43)
Don't know	8.5 (30)	10.4 (27)	11.1 (22)
<i>Perpetrator-victim relationship</i>			
Intimate partner or ex-partner	40.1 (141)	22.8 (59)	22.2 (44)
Family member	20.2 (71)	20.1 (52)	24.7 (49)
Friend (known face-to-face)	19.0 (67)	17.4 (45)	22.7 (45)
Friend (known online only)	6.0 (21)	12.4 (32)	12.1 (24)
Work colleague or ex-work colleague	4.0 (14)	5.4 (14)	5.1 (10)
Acquaintance	2.3 (8)	5.4 (14)	7.1 (14)
Stranger or don't know	8.5 (30)	16.6 (43)	6.1 (12)

Table 4

Frequencies and Descriptives for the 15 Participant Characteristics by Lifetime Prevalence of Self-Reported IBSA Perpetration

	Yes		No		Total	
	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>
Demographic characteristics						
Gender						
Female	7.4	171	92.6	2127	100.0	2298
Male	13.7	240	86.3	1515	100.0	1755
Sexuality						
Heterosexual	8.9	317	91.1	3260	100.0	3577
LGB	19.7	94	80.3	382	100.0	476
Nativity						
Australian born	10.3	320	89.7	2785	100.0	3105
Overseas born	9.4	89	90.6	853	100.0	942
Languages spoken other than English						
English only	10.2	345	89.8	3039	100.0	3384
Other languages	9.9	66	90.1	601	100.0	667
Indigeneity						
Non-Aboriginal	9.5	373	90.5	3570	100.0	3943
Aboriginal	36.9	38	63.1	65	100.0	103
Education						
High school or less	9.8	95	90.2	878	100.0	973
Trade certificate	10.0	105	90.0	945	100.0	1050
University/college	10.6	141	89.4	1189	100.0	1330
Postgraduate/advanced degree	10.0	70	90.0	628	100.0	698
Disability						
No assistance required	6.2	220	93.8	3339	100.0	3559
Assistance required	38.8	190	61.2	300	100.0	490

Experiential characteristics						
Online dating behaviors						
No	2.0	21	98.0	1053	100.0	1074
Yes, one or more	13.1	390	86.9	2589	100.0	2979
Sexual self-image behaviors						
No	2.4	45	97.6	1833	100.0	1878
Yes, one or more	16.8	366	83.2	1809	100.0	2175
IBSA victimization (taken)						
No	4.3	140	95.7	3132	100.0	3272
Yes	34.7	271	65.3	510	100.0	781
IBSA victimization (distributed)						
No	5.3	194	94.7	3457	100.0	3651
Yes	54.0	217	46.0	185	100.0	402
IBSA victimization (threatened)						
No	5.4	202	94.6	3525	100.0	3727
Yes	64.1	209	35.9	117	100.0	326
	Yes		No		Total	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Demographic characteristics						
Age	32.68	8.23	34.76	9.01	34.55	8.95
Attitudinal characteristics						
Minimize/excuse	3.51	1.69	2.16	1.20	2.30	1.33
Blame	4.30	1.48	3.63	1.66	3.70	1.65

Table 5

Summary of the Initial and Final Logistic Regression Models Predicting Lifetime Prevalence of Self-Reported IBSA Perpetration

	<i>B</i>	<i>SE</i>	<i>p</i>	<i>OR</i>	95% CI	<i>B</i>	<i>SE</i>	<i>p</i>	<i>OR</i>	95% CI
Demographic characteristics										
Gender	0.53	.14	<.001	1.71	[1.31, 2.23]	0.57	.13	<.001	1.78	[1.37, 2.31]
Sexuality	0.42	.17	.012	1.52	[1.10, 2.11]	0.43	.17	.010	1.54	[1.11, 2.13]
Age	0.01	.01	.462	1.01	[0.99, 1.02]	-	-	-	-	-
Indigeneity	0.49	.32	.120	1.64	[0.88, 3.06]	-	-	-	-	-
Disability	0.60	.18	.001	1.83	[1.29, 2.59]	0.72	0.17	<.001	2.06	[1.49, 2.86]
Attitudinal characteristics										
Minimize/excuse	0.10	.06	.102	1.10	[0.98, 1.24]	-	-	-	-	-
Blame	0.09	.05	.071	1.10	[0.99, 1.21]	0.14	.04	.001	1.15	[1.06, 1.25]
Experiential characteristics										
Online dating behaviors	0.49	.27	.072	1.63	[0.96, 2.78]	-	-	-	-	-
Sexual self-image behaviors	0.89	.20	<.001	2.44	[1.64, 3.62]	1.13	.18	<.001	3.10	[2.19, 4.38]
IBSA victimization (taken)	1.03	.16	<.001	2.79	[2.05, 3.78]	1.02	.16	<.001	2.78	[2.05, 3.77]
IBSA victimization (distributed)	1.50	.20	<.001	4.47	[3.02, 6.61]	0.83	.20	<.001	2.35	[1.60, 3.44]
IBSA victimization (threatened)	0.80	.20	<.001	2.23	[1.51, 3.29]	1.54	.20	<.001	4.67	[3.17, 6.87]

Note. Reference categories: gender = female, sexuality = heterosexual, indigeneity = non-Aboriginal, disability = no assistance required, online dating behaviors = no, sexual self-image behaviors = no, IBSA victimization (taken) = no, IBSA victimization (distributed) = no, IBSA victimization (threatened) = no.

Appendix

Table A1

Sexual Image-Based Abuse Myth Acceptance (SIAMA) Scale Items

Minimize/excuse

1. Women should be flattered if a partner or ex-partner shows nude pics of her to some close friends
2. A woman should share a nude image of herself with her partner, even if she doesn't really want to, for the good of the relationship
3. If a guy shares a nude or sexual pic of his partner with his friends when he's drunk, he can't really be held responsible
4. A man shouldn't get upset if his partner sends nude pics of him to others
5. Although most women wouldn't admit it, they generally find it a turn-on for a guy to share nude pics of her with his mates
6. A woman shouldn't get upset if her partner sends nude pics of her to others
7. If a woman shows her friends a nude or sexual image of her partner, it just shows how proud she is of him
8. It's only natural for a guy to brag to his mates by showing them a nude or sexual image of his partner
9. If a woman is willing to send a nude or sexual image to a man she just met, then it's no big deal if he goes a little further by showing it to his mates
10. Women tend to exaggerate how much it affects them if a nude or sexual image of them gets out online
11. A man's reputation is boosted among his mates if he shares nude pics of a sexual partner
12. Men don't usually mean to pressure a partner into sending nude pics, but sometimes they get too sexually carried away

Blame

1. If a person sends a nude or sexual image to someone else, then they are at least partly responsible if the image ends up online
2. A woman who sends a nude or sexual image to her partner, should not be surprised if the image ends up online
3. If a man sends a nude or sexual image to someone he just met, he should not be surprised if the image ends up online

4. Celebrities and well-known media personalities who take sexy images of themselves should not expect that those images will remain private
 5. People should know better than to take nude selfies in the first place, even if they never send them to anyone
 6. If a man sends a nude or sexual image to a partner, he can't expect it will remain private
-

Table A2

Online Dating and Sexual Self-Image Behavior items

Online dating behaviors
1. Flirted with someone online
2. Asked someone out for a first date
3. Asked someone out by sending them a text message or email
4. Used the internet or email to maintain a long-distance romantic relationship
5. Used an online dating website
6. Used a dating or hook-up app on your mobile phone
7. Asked someone you first met online to meet-up for sex
8. Went on a date with someone you met through an online dating website or app
9. Sent someone a flirty or sexy text or chat message

Sexual self-image behaviors
1. Sent a nude or sexual photo or video of yourself to a current sexual partner
2. Sent a nude or sexual photo or video of yourself to a person you only knew online
3. Sent someone you just met a nude or sexual photo or video to flirt with them
4. Let a sexual partner or date take a nude or sexual photo or video of you
5. Asked someone to send you a nude or sexual photo or video
6. Made a nude or sexy video with a sexual partner
7. Sent someone a nude or sexual photo or video when you didn't really want to
8. Felt pressured to send a nude or sexual photo or video when you really didn't want to
9. Received a nude or sexual photo or video of another person when you hadn't requested it (not including spam)
10. Received a photo or video of someone's genitals when you hadn't requested it (not including spam)
11. Discovered that an image was drawn, 'photoshopped' or manipulated to represent you in a sexual way

Table A3

The Nine IBSA Victimization and Eight Perpetration Items relating to the Content of the Nude or Sexual Image

Nine IBSA victimization items

1. Where you are partially clothed
2. Where your breasts, including your nipples, are visible
3. Where you are completely nude
4. Where your genitals are visible
5. Where you are engaged in a sex act
6. Where you are showering, bathing or toileting
7. Which is of a sex act that you did not agree to
8. Which is up your skirt (e.g., ‘up-skirting’)
9. Which is if your cleavage (e.g., ‘down-blousing’)

Eight IBSA perpetration items

1. Where they were partially clothed or semi-nude
2. Where the person’s breasts, including their nipples, were visible
3. Where they were completely nude
4. Where the person’s genitals were visible
5. Where they were engaged in a sex act
6. Where they were showing bathing or toileting
7. Which was up their skirt (e.g., ‘up-skirting’)
8. Which was of their cleavage (e.g., ‘down-blousing’)

Note. Only those participants who identified as female (or non-binary gender) were provided IBSA victimization items 2, 8 and 9.