



Attitudes and Risk Factors of Pornography Consumption Among Bangladeshi University Students: An Exploratory Study

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Abstract

Pornography is extensively produced, distributed, and used as a medium of entertainment around the world but has been little studied in Bangladesh. The present study examined the attitudes and risk factors of Bangladeshi university students' pornography consumption. A survey was carried among 313 undergraduate students at Jahangirnagar University (Dhaka, Bangladesh). The study found that 72% of students consumed pornography at least once within their entire life, and approximately half of them were occasional consumers. Approximately two-thirds (67%) encountered pornography during high school, although females typically encountered pornography much later. Logistic regression analysis showed that pornography consumption was predicted by being male, living in a rural area, being in a relationship, engaging in online activities (such as using *Facebook*), and watching movies. Further research is needed to further determine the behavioral patterns and associated factors that influence pornography consumption among Bangladeshi students.

Keywords Pornography · Pornography consumption · Pornography attitudes · Student sexual behavior · Bangladeshi sex

Pornography is extensively produced and distributed, and used as a medium of entertainment around the world. The term “pornography” has been referred to as fictional drama in printed or visual form depicting explicit sexual body parts and/or sexual activity which some individuals may find offensive, rude, and immoral, and that is primarily intended to sexually arouse the target audience and is intended to entertain or arouse erotic desire (Flood 2007; Malamuth 2001; Mosher 1988). Similarly, Morgan (2011) defined consuming pornography as intentionally looking at pictures, videos, written, and/or audio material depicting naked people portrayed sexually, and/or people engaging in sex or masturbation.

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The issue of exposure to pornography (i.e., pornography consumption) has received a great deal of consideration. Studies have consistently shown that males are more likely to actively seek out and view sexually explicit materials than females (Bleakley et al. 2011; Brown and L'Engle 2009; Lim et al. 2017; Peter and Valkenburg 2006; Regnerus et al. 2016; Rissel et al. 2017; Shek and Ma 2016). It has been claimed that men are regular pornography consumers due to factors such as their common behavioral aptitudes and impulsivity (Chowdhury et al. 2018). Pornography consumption has also increased as a result of the internet because it has made pornography more accessible, affordable, and anonymous (Cooper 1998; Owens et al. 2012). The increased use of mobile devices (e.g., smartphones, tablets, etc.) has also led to new ways of interacting with friends (e.g., using *Facebook*) and engaging in other behaviors such as listening to music (via smartphones, MP3 players) and watching streamed movies and television boxsets (e.g., *Netflix*). The use of these new mobile devices and new ways of engaging in leisure activities may also be factors in the increased consumption of pornography. Other pornography consumption-related factors include when pornography was first encountered (i.e., childhood, adolescence, adulthood), where individuals live (e.g., urban or rural areas), peer influence, and type of preferred pornography (e.g., videos, photographs, sexual stories) (Braithwaite et al. 2015; Carroll et al. 2008; Chowdhury et al. 2018; Sørensen and Kjørholt 2007).

The reasons and factors involved in viewing pornography are multi-faceted and include wanting to be sexually aroused and/or for masturbatory purposes, for curiosity, for information and educational purposes, for improving mood, and for satisfying sexual fantasies etc. (Boies 2002; Mattebo et al. 2014; Merrick et al. 2013; Paul and Shim 2008). Accessing pornography can also shape attitudes towards it and can affect individuals' daily lives and associated activities (e.g., Patterson and Price 2012; Perry 2015, 2016, 2017). It has also been claimed that pornography can negatively affect community morals (Lo and Wei 2005; Mattebo et al. 2014), cause disruption to individuals' sex lives such as the frequency of sexual activity, inhibition of sexual performance, and relationship breakdown (Flood 2009; Hald and Malamuth 2008; Maddox et al. 2011; Paul and Shim 2008; Poulsen et al. 2013).

In Bangladesh (where the present study was carried out), the country has poor health literacy and sexuality is a covert issue due to its socio-cultural and religious environment (Ahsan et al. 2016; Arafat 2017; Arafat et al. 2018). Sexuality is not a topic that is discussed in public, and knowledge is poor, reinforced by traditional healers who contribute to disseminating sexual misconception among the population (Ahsan et al. 2016; Arafat 2017). To date, there has been a dearth of research in Bangladesh concerning sexual behavior, attitudes towards sex, and quality of sexual life. A recent Bangladeshi study by Chowdhury et al. (2018) reported that the prevalence rate for having accessed online pornography among those aged 20 to 25 years was 54% in males and 12.5% in females. Given the lack of research in Bangladesh, the present exploratory study examined undergraduate students' pornography consumption and their perceptions and attitudes towards pornography consumption. Risk factors for pornography consumption were explored including gender, residence area, relationship status, leisure activities, and engagement in online activities.

Methods

Participants and Procedure A short offline ("pen-and-paper") survey was conducted among the first-year students at Jahangirnagar University (Dhaka, Bangladesh) between January and May 2018. A total of 500 students were approached in the university halls (i.e., their living

accommodation) and completed surveys were collected from 313 students (62.6% response rate). The survey comprised three sections: (i) socio-demographic information, (ii) perceptions towards pornography, and (iii) attitudes towards pornography. The survey comprised closed questions and took approximately 15 minutes to complete.

Materials The survey was formulated based on the findings of previous research (e.g., Braithwaite et al. 2015; Brown and L'Engle 2009; Carroll et al. 2008; Chowdhury et al. 2018; Sørensen and Kjørholt 2007). The questions were devised by the research team and were kept as simple as possible based on the observations from pretesting. Questions also included “Who first introduced you to pornography?”, “What type of pornography do you enjoy?”, “Why do you use pornography?”, “How do you feel after pornography use?”, and “What steps (if any) should be taken to abstain in pornography use?” Based on previous literature, it was hypothesized that several factors may contribute to pornography consumption including gender, residence area, relationship status, preferred leisure activities, and engagement in online activities. The survey also included perceptual questions (statements on the basis of whether pornography was viewed as “good” and “bad”) as a means to address the participants’ relationship with sexually explicit materials.

Statistical Analysis Data were analyzed using Statistical Package for Social Science (SPSS) version 22.0 and Microsoft Excel 2016. Descriptive statistics and first-order analysis were performed (e.g., frequencies, percentages, means, and chi-square tests) with SPSS 22.0. All variables found significant in bivariate analysis were then entered into a binary logistic regression model with pornography consumption as the dependent variable. The results of logistic regression are reported as unadjusted with 95% confidence intervals.

Ethics The study was approved by the Ethical Review Committee of the research team’s university’s Department of Public Health and Informatics. Data were collected anonymously and informed written consent was taken from the participants before data collection commenced. All participants were informed about the (i) nature and purpose of the study, (ii) procedure of study, (iii) right to refuse, and (iv) right to withdraw from participating in the study. The participants did not gain any financial benefit from taking part in the study. Confidentiality of data and anonymity to the participants was ensured.

Results

The mean age of the participants was 19.68 years (± 0.94) ranging from 18 to 23 years, comprising 69% males, with 57.8% of participants currently in no close romantic relationship (see Table 1 for overview of socio-demographic information). In relation to the statement of why “pornography is bad” (Table 2), participants described it as offensive and degrading (62%), that it violated religious principles (62%), and that it promoted masturbation (57.5%). In relation to why “pornography is good” (Table 2), participants described it as something that could be used for sexual control to masturbate rather than having sexual intercourse (31%), can lead to more open attitudes about sexuality (19.5%), and offers a harmless outlet for unconventional or other private fantasies (19%). Results also showed that 72% of participants had consumed pornography at least once in their entire life (Table 3). Peer influence was the most reported cause of pornography consumption (34.5%), and 67% of participants described their

Table 1 Distribution of socio-demographic variables of the respondents

Variables	Number	Percent
Gender		
Male	216	69.0
Female	97	31
Come from (residential area)		
Rural area	163	52.1
Urban area	150	47.9
Relationship status		
No relationship	181	57.8
In a relationship	110	35.1
Hobby ^a		
Using Facebook	168	14.7%
Listening music	184	16.1%
Watching movie	168	14.7%
Engaging relationship	63	5.5%
Gossiping	160	14.0%
Reading book	134	11.8%
Traveling	160	14.0%
Being alone	103	9.0%
Relationship with friends		
Very good	104	33.2
Good	117	37.4
Fair	77	24.6
Bad	11	3.5

^a Multiple response possible

initial encountering of pornography at high school level. Approximately half of the participants masturbated during or after watching the pornography (51%), and the most preferred type of

Table 2 Perceptions concerning pornography consumption and gender differences

Variables	Gender			<i>p</i> value
	Male (%)	Female (%)	Total (%)	
Perception of pornography as bad ^a				
Can be offensive and degrading	134 (62.0%)	61 (62.9%)	195 (62.3%)	0.886
Can undermine sexual relationships	111 (51.4%)	29 (29.9%)	140 (44.7%)	0.001
Can influence s the committing sexual crimes, including rape	100 (46.3%)	46 (47.4%)	146 (46.6%)	0.853
Can cause a breakdown of community morals	111 (51.4%)	45 (46.4%)	156 (49.8%)	0.414
Can violate religious principles	146 (67.6%)	49 (50.5%)	195 (62.3%)	0.004
Can lead from bad to worse (e.g., sex addiction)	83 (38.4%)	43 (44.3%)	126 (40.3%)	0.325
Can give rise to negative attitudes to the opposite sex	99 (45.8%)	32 (33.0%)	131 (41.9%)	0.033
Can promote masturbation	152 (70.4%)	28 (28.9%)	180 (57.5%)	0.01
Perception of pornography as good ^a				
Can learn about sexual education	36 (16.7%)	11 (11.3%)	47 (15.0%)	0.222
Can control behavior though masturbation instead of sexual intercourse	82 (38.0%)	13 (14.4%)	96 (30.7%)	0.000
Can improve sexual relationships	18 (8.3%)	8 (9.3%)	27 (8.6%)	0.783
Can lead to more open attitudes about sexuality	48 (22.2%)	12 (13.4%)	61 (19.5%)	0.068
Can offer a harmless outlet for unconventional or other private fantasies	50 (23.1%)	8 (9.3%)	59 (18.8%)	0.004
Can be a socially beneficial form of artistic self-expression	40 (18.5%)	8 (9.3%)	49 (15.7%)	0.037

^a Multiple response possible

Table 3 Pornography consumption of participants and gender differences

Variables	Gender			<i>p</i> value
	Male (%)	Female (%)	Total (%)	
Encountering pornography				
Never	27 (12.6%)	60 (64.5%)	87 (28.2)	0.001
Yes	188 (87.4%)	33 (35.5%)	221 (71.8)	
First introduced by				
Close friend	84 (38.8%)	24 (24.8%)	108 (34.5%)	0.025
Oneself	88 (40.8%)	11 (11.4%)	99 (31.6%)	0.000
Found accidentally on the internet	36 (16.7%)	10 (10.3%)	46 (14.7%)	0.142
Other	34 (16.0%)	8 (8.5%)	42 (13.7%)	0.080
First encountering of pornography				
Primary school (6–12 years old)	24 (12.8%)	6 (14%)	30 (13.1%)	0.001
High school (13–17 years old)	137 (72.8%)	18 (43.9%)	155 (66.6%)	
University (18 to more years old)	27 (14.3%)	17 (41.5%)	44 (19.2%)	
Pornography consumption				
One or two times in ever	89 (42.2%)	21 (9.7%)	110 (50.9%)	0.001
Once a week	43 (19.9%)	7 (3.2%)	50 (23.1%)	
A few times a week	39 (18.1%)	2 (0.9%)	41 (19.0%)	
Once a day	6 (2.8%)	2 (0.9%)	8 (3.7%)	
Several times a day	6 (2.8%)	1 (0.5%)	7 (3.2%)	
Frequency of exposure to pornography (last 15 days)				
I did not use porn in the last 15 days	66 (35.1%)	21 (51.2%)	87 (38.0%)	0.008
Less than 1 h	68 (36.2%)	7 (17.1%)	75 (32.8%)	
2–5 h	35 (18.6%)	3 (7.3%)	38 (16.6%)	
6–15 h	13 (6.9%)	6 (14.6%)	19 (8.3%)	
More than 16 h	6 (3.2%)	4 (9.7%)	10 (1.7%)	
Type of pornography engaged in				
Looking a nude photographs	50 (23.7%)	9 (9.3%)	59 (19.2%)	0.003
Looking at a sexual magazine	65 (30.8%)	10 (10.3%)	75 (24.4%)	0.001
Watching a nude video	113 (53.6%)	13 (13.4%)	126 (40.9%)	0.001
Fantasizing about someone sexually	70 (32.5%)	10 (10.3%)	80 (25.5%)	0.025
Engaging in phone or chat sex	27 (12.6%)	5 (5.2%)	32 (10.3%)	0.046
Reasons for pornography consumption				
Out of curiosity	80 (37.0%)	28 (28.9%)	108 (34.5%)	0.160
To entertain myself	82 (38.0%)	6 (6.2%)	88 (28.1%)	0.001
To masturbate	98 (45.4%)	9 (9.3%)	107 (34.1%)	0.001
To engage in sexual fantasy	84 (38.9%)	8 (8.3%)	92 (29.4%)	0.002
To improve my mood	24 (11.1%)	8 (8.2%)	32 (10.2%)	0.439
To educate myself	22 (10.2%)	7 (7.2%)	29 (9.3%)	0.402
Reactions to consuming pornography				
No problem—I am fine with my porn use	63 (29.2%)	12 (12.4%)	75 (24.0%)	0.001
I masturbate	144 (66.6%)	16 (16.5%)	160 (51.1%)	0.001
I feel sinful while using pornography	53 (24.5%)	9 (9.3%)	62 (19.8%)	0.002
Other	35 (16.2%)	12 (12.4%)	47 (15.0%)	0.380
Abstaining from pornography				
Yes	144 (73.8%)	35 (79.5%)	179 (74.9%)	0.431
No	51 (26.2%)	9 (20.5%)	60 (25.1%)	
Step that can be taken to abstain from pornography				
Following religious discipline	132 (61.1%)	26 (26.8%)	158 (50.5%)	0.001
Gossiping with friends	95 (44.0%)	14 (14.4%)	109 (34.8%)	0.001
Engaging in study/work	100 (46.3%)	23 (23.7%)	123 (39.3%)	0.001
Pornographic sites should be offed	72 (33.3%)	14 (14.4%)	86 (27.5%)	0.001
Engaging in favorite tasks	98 (45.4%)	25 (25.8%)	123 (39.3%)	0.001

pornography was watching videos (Table 3). Self-rated pornography consumption was strongly associated with gender ($p < 0.001$) with males engaging in pornography 12 times more than females (Table 4).

Similarly, results from the regression analysis showed that being male was a predictor of pornography consumption (OR = 12.66; 95% CI: 7.05–22.74). Students from rural areas (OR = 1.93; 95% CI: 1.17–3.20) and those engaged in relationships (OR = 1.87; 95% CI 1.07–3.29) were also identified as predictors of pornography consumption. Among hobbies, using *Facebook* (OR = 2.06; 95% CI: 1.25–3.41) and watching movies (OR = 2.122; 95% CI 1.28–3.52) were the strongest predictors of pornography consumption. In relation to negative perceptions of pornography, pornography consumption was predicted by perceiving pornography as (i) promoting masturbation (OR = 4.86; 95% CI 2.86–8.37), (ii) undermining sexual relationships (OR = 3.02; 95% CI 1.75–5.20), and (iii) having negative attitudes towards the opposite sex (OR = 1.57; 95% CI 0.94–2.63). In relation to positive perceptions of pornography, pornography consumption was predicted by perceiving pornography as (i) controlling behavior via masturbation instead of sexual intercourse (OR = 4.32; 95% CI 2.17–8.59), (ii) being a socially beneficial form of artistic self-expression (OR = 4.077; 95% CI 1.56–10.66), (iii) offering a harmless outlet for unconventional or other private fantasies (OR = 2.96; 95% CI 1.34–6.54), and (iv) leading to more open attitudes about sexuality (OR = 2.31; 95% CI 1.11–4.79).

Discussion

The aim of the present study was to assess consumption and attitudes towards pornography and their associated factors among Bangladesh undergraduate university students. Results showed that nearly three-quarters of students consumed pornography at least once in their lifetime (72%). The overall pornography consumption rate was therefore less than reported in studies from India (80%; Das 2013), Sweden (98%; Donevan and Mattebo 2017), and Australia (87%; Lim et al. 2017), but greater than the one previous study in Bangladesh (42%; Chowdhury et al. 2018). These differing results are most likely due to different methods, criteria, and sample studied. For instance, the present study recruited undergraduate university students whereas other studies used different populations. The sample in the present study is also more likely to have had more (i) accessible, affordable internet services compared to the previous study in Bangladesh and (ii) familiarity and expertise with accessing the internet compared to those in more rural populations.

Because internet technology has become more accessible, affordable, and anonymous, (Griffiths 2000; Owens et al. 2012), it has facilitated individuals accessing online material of a sexual nature including online pornographic videos, online sexual chatting, etc. (Boies 2002; Goodson et al. 2001; Griffiths 2001; 2012; Shaughnessy et al. 2011; Short et al. 2012). Regression analysis in the present study showed that pornography consumption was significantly associated with a number of activities including having online hobbies (e.g., using *Facebook*) and watching movies. Given that watching movies online was the most preferred form of pornography in the present study, the finding makes intuitive sense.

From the regression analysis, results demonstrated that the students originally from rural areas in Bangladesh were more likely to consume pornography from those in urban areas, which is the reverse from the result of the previous study on pornographic consumption in Bangladesh (Chowdhury et al. 2018). Pornography consumption was also predicted by being in a relationship, a finding that has not been reported before to the authors' knowledge.

Table 4 Logistic regression analysis of factor associates with pornography consumption

Variables	Pornography consumption	
	Odds ratio (95% confidence interval)	<i>p</i> value
Demographic factors		
Gender		
Male	12.66 (7.05–22.74)	0.001
Female	1.00	
Come from (residential area)		
Urban	0.52 (0.31–0.86)	0.010
Rural	1.00	
Relationship with boyfriend/girlfriend		
Have no relationship	0.53 (0.30–0.94)	0.029
Have a relationship	1.00	
Hobby		
Using <i>Facebook</i>		
Yes	2.062 (1.246–3.413)	0.005
No	1.00	
Listening to music		
Yes	1.118 (0.676–1.850)	0.663
No	1.00	
Watching movies		
Yes	2.122 (1.280–3.518)	0.004
No	1.00	
Engaging in a relationship		
Yes	1.664 (0.853–3.247)	0.135
No	1.00	
Gossiping with friends		
Yes	1.371 (0.833–2.255)	0.214
No	1.00	
Reading books		
Yes	0.606 (0.368–0.999)	0.049
No	1.00	
Traveling		
Yes	1.504 (0.913–2.479)	0.109
No	1.00	
Being alone		
Yes	0.526 (0.314–0.879)	0.014
No	1.00	
Perception regarding pornography use as bad		
Offensive and degrading		
Yes	0.858 (0.511–1.442)	0.564
No	1.00	
Undermines sexual relationships		
Yes	3.019 (1.751–5.205)	0.001
No	1.00	
Influences the committing of sexual crimes, including rape		
Yes	0.935 (0.569–1.537)	0.792
No	1.00	
Breakdowns of community morals		
Yes	0.951 (0.579–1.562)	0.843
No	1.00	
Violates religious principles		
Yes	1.330 (0.802–2.207)	0.269
No	1.00	
Leads from bad to worse (e.g., sex addiction)		
Yes	1.091 (0.657–1.812)	0.736
No	1.00	

Table 4 (continued)

Variables	Pornography consumption	
	Odds ratio (95% confidence interval)	<i>p</i> value
Raises negative attitudes to opposite sex		
Yes	1.570 (0.938–2.629)	0.086
No	1.00	
Promotes masturbation		
Yes	4.895 (2.864–8.366)	0.001
No	1.00	
Perception regarding pornography use as good		
People can learn sexual education		
Yes	1.548 (0.733–3.270)	0.252
No	1.00	
Can control behavior though masturbation instead of sexual intercourse		
Yes	4.318 (2.170–8.591)	0.001
No	1.00	
Can improve sexual relationship		
Yes	1.417 (0.552–3.841)	0.468
No	1.00	
Can lead to more open attitudes about sexuality		
Yes	2.310 (1.114–4.790)	0.024
No	1.00	
Offers a harmless outlet for unconventional or other private fantasies		
Yes	2.962 (1.342–6.538)	0.007
No	1.00	
Socially beneficial form of artistic self-expression		
Yes	4.077 (1.559–10.662)	0.004
No	1.00	

Research is needed to further address these demographic factors to establish this and other risk factors of pornography consumption. Predictably, more male students consumed sexually explicit materials than females, and analysis demonstrated that males were 12 times more likely to engage in pornography consumption than females similar to results from previous studies in the USA (Bleakley et al. 2011; Brown and L'Engle 2009; Regnerus et al. 2016), Netherlands (Peter and Valkenburg 2006), Hong Kong (Shek and Ma 2012, 2016), Taiwan (Lo et al. 1999), Sweden (Häggström-Nordin et al. 2006), and Australia (Lim et al. 2017; Rissel et al. 2017). Men are active consumers of pornography due to common behavioral aptitudes (Chowdhury et al. 2018), but the results of the present study indicate that some women are occasional users of pornography as has been noted elsewhere (Carroll et al. 2008). Interestingly, although female pornography consumption was much lower than males, among those that had accessed pornography, females viewed more of it than males in terms of number of hours in the past 15 days. This is a novel finding not reported previously in the literature and may be because the time needed to reach optimum sexual arousal (i.e., ejaculation/orgasm) is typically shorter among men than women (Huey et al. 1981).

The rate of pornography consumption once per week (23%) was greater than Braithwaite et al.'s (2015) two studies (10% in the first study and 14% in the second study) but less than Carroll et al.'s study (27% in males, 2% in females) and about the same as Sørensen and Kjørholt's study (22%). Engaging in pornography consumption a few times a week (19%) was greater than Carroll et al.'s (2008) study (16% in males, 0.8% in females), but less than Sørensen and Kjørholt's study (22%). Engaging in pornography consumption once (3.7%) or

several times a day (3.2%) was less than Carroll et al.'s (2008) study (16% once a day; 5.2% several times in a day) but marginally greater than Braithwaite et al.'s (2015) studies (once a day (2%), several times a day (2%) in the first study; once a day (2%), several times a day (3%) in the second study). Having a close friend engaged in pornography consumption was more likely to influence an individual's pornography consumption than them seeking it out on their own. Furthermore, although the internet now plays a key role in consuming pornography (Boies 2002; Cooper 1998; Goodson et al. 2001; Griffiths 2012; Shaughnessy et al. 2011; Short et al. 2012), the participants in the present study were more likely to consume it via other means than the internet.

Adolescence is the most vulnerable period to encounter pornography (Bleakley et al. 2011; Donevan and Mattebo 2017; Hald and Malamuth 2008; L'Engle et al. 2006; Mattebo et al. 2014; Peter and Valkenburg 2006; Sørensen and Kjørholt 2007); therefore, it was unsurprising that a large proportion of participants in the present study (i.e., 67%) were exposed to pornography at high school level (13–17 years old). However, females were equally as likely to first encounter pornography at university as they were at high school. The types of sexually explicit materials was found in various formats both online and offline including magazines and videos and concurs with previous research (Morgan 2011) although Bangladeshi students appear to access pornography less on the internet than in other countries (Griffiths 2012). The most preferred form of pornography by participants in the present study was watching pornographic videos (41%) which is greater than one study conducted in USA (male 36%; female 24%) (Brown and L'Engle 2009), but fantasizing about someone sexually was also considered by 25.5% of participants to be a pornographic activity. Whether this is really a form of pornography is highly debatable and further research is needed on other populations to determine if such thinking is widespread. Some of these findings may perhaps be explained by participants living in a Muslim country although the religion of participants (and whether they proactively lived by Muslim codes of practice) was not investigated. The results suggest that despite religious and moral values being highly prevalent in Bangladesh, such values do not prevent pornography consumption. This may have implications for how sex education is taught in high school and that education about pornography should be a topic that is discussed rather than ignored in such education.

This present study found that approximately half of participants reported masturbating while consuming pornography, which is less than a previous Canadian study (40%) (Boies 2002). As with the findings of other studies, the present study found that the common reasons for consuming pornography were for physical release and masturbation, curiosity, sexual learning, and satisfying fantasies (e.g., Boies 2002; Merrick et al. 2013; Paul and Shim 2008). These “good” reasons for pornography were unsurprisingly predictors of pornography consumption in the regression analysis. In Muslim countries like Bangladesh, sexuality and pornography are arguably viewed as sensitive and hidden taboo topics (Ahsan et al. 2016). The participants in the present studies may be religiously and culturally sophisticated and whose religious beliefs, commitments, and morals may have influenced their reasons as to why pornography is “bad,” such as it being offensive and degrading, violating religious principles, and conflicting with their personal values (Patterson and Price 2012). The values relating to sexual desire and behavior in Bangladesh is that they should be carried out within monogamous, married, and heterosexual relationships (Perry 2017). Further research is needed on the conflict between what the culture and religion of a country expects from a sexual perspective and what happens in actuality.

The influence of excessive pornography consumption can be in opposition to the nation's individual health which includes physical health, sexual health, and mental health (Flood 2009; Weaver III et al. 2011), and the implications of this means that sexual literacy in such countries needs to be more pragmatic and less moralizing particularly among adolescents and emerging adults. However, it should also be noted that some studies claim that pornography can decrease the quality of life and facilitate negative attitudes concerning friendliness and respect towards the opposite gender (Hald and Malamuth 2008; Paul and Shim 2008), impact negatively on relationships (Maddox et al. 2011), and lead to marriage break-ups (Paul and Shim 2008). Some participants in the present study clearly had no interest in pornography whatsoever, and this may have been due to what the participant felt were potential negative effects on their own relationships. This was far more prevalent among female participants in the present study. Participants provided many recommendations as to how to abstain from pornography consumption including following religious discipline, engaging with work and/or study, and gossiping with friends. The implications of this finding suggests that in Bangladesh (at least), such factors could be included as potential discussion topics in sexual health programs in high schools and universities.

Limitations

The present study is now without its limitations. The present study was cross-sectional in design and therefore cannot provide an indication of causality. In order to remedy this, longitudinal investigations of pornography consumption are needed to assess causal relations between the assessed variables. The sample size was also modest, and the data were self-report (and open to well-known biases such as memory recall and social desirability). The response rate (62.6%) while arguably good still meant that approximately one-third of those individuals approached did not participate. Reasons for non-participation are unknown but this could have affected the results. Future research should therefore comprise larger samples and try to increase participation rates. Furthermore, the present study was conducted at the only university near the capital of Bangladesh and therefore generalizability to other university student samples (and other types of populations) in the country (and other countries) may be limited. Consequently, future research should use more representative samples in both Bangladesh and other countries.

Conclusions

The present study provided novel findings indicating that perceptions and attitudes towards pornography consumption can be conflicting in a highly religious culture and warrants further study. The study's findings add to the existing evidence regarding the association between demographic factors, perceptions, and attitudes in predicting pornography consumption. It also provides data from a country that has rarely studied the topic of pornography and its consumption. Results demonstrated that a large proportion of Bangladeshi students consume pornography even though there is much emphasis upon sex only being monogamous and within a heterosexual marriage. Socio-demographic factors (such as coming from a rural area) were associated with pornography consumption in the present study and may be a factor unique to Bangladesh and/or similar religious cultures. Moreover, the perceptions regarding pornography being both good and bad do little to clarify individuals' real attitudes towards

pornography consumption. Many of the bad things said regarding pornography were likely stated from a religious, moral, and cultural (socially desirable) perspective whereas the good things may have been stated from a personal and/or pragmatic perspective. The role of both gender and religion (including its beliefs and morals) in relation to pornography consumption require further study in Bangladesh and other countries.

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Compliance with Ethical Standards

Ethics The study was approved by the Ethical Review Committee of the research team's university's Department of Public Health and Informatics.

Conflict of Interest The authors declare that they have no conflict of interest.

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References

- Ahsan, M. S., Arafat, S. M. Y., Ali, R., Rahman, S. M. A., Ahmed, S., & Rahman, M. M. (2016). Sexual history taking competency: A survey among the clinicians in Bangladesh. *International Journal of Psychiatry, 1*(1), 4.
- Arafat, S. M. Y. (2017). Dhat syndrome: culture bound, separate entity, or removed. *Journal of Behavioral Health, 6*(3), 147–150.
- Arafat, S. M. Y., Majumder, M. A. A., Kabir, R., Papadopoulos, K., & Uddin, M. S. (2018). Health literacy in school. In *Optimizing health literacy for improved clinical practices* (pp. 175–197). Hershey: IGI Global.
- Bleakley, A., Hennessy, M., & Fishbein, M. (2011). A model of adolescents' seeking of sexual content in their media choices. *Journal of Sex Research, 48*, 309–315.
- Boies, S. C. (2002). University students' uses of and reactions to online sexual information and entertainment: Links to online and offline sexual behaviour. *Canadian Journal of Human Sexuality, 11*(2), 77–89.
- Braithwaite, S. R., Coulson, G., Keddington, K., & Fincham, F. D. (2015). The influence of pornography on sexual scripts and hooking up among emerging adults in college. *Archives of Sexual Behavior, 44*(1), 111–123.
- Brown, J. D., & L'Engle, K. L. (2009). X-rated: Sexual attitudes and behaviors associated with US early adolescents' exposure to sexually explicit media. *Communication Research, 36*(1), 129–151.
- Carroll, J. S., Padilla-Walker, L. M., Nelson, L. J., Olson, C. D., McNamara Barry, C., & Madsen, S. D. (2008). Generation XXX: Pornography acceptance and use among emerging adults. *Journal of Adolescent Research, 23*(1), 6–30.
- Chowdhury, M. R. H. K., Chowdhury, M. R. K., Kabir, R., Perera, N. K. P., & Kader, M. (2018). Does the addiction in online pornography affect the behavioral pattern of undergrad private university students in Bangladesh? *International Journal of Health Sciences, 12*(3), 67–74.
- Cooper, A. (1998). Sexuality and the internet: Surfing into the new millennium. *Cyberpsychology & Behavior, 1*(2), 187–193.

- Das, A. M. (2013). More than 80 percent of high school students exposed to porn, says study. *Indian Express*, July 30. Retrieved from: <http://www.newindianexpress.com/states/kerala/2013/jul/30/More-than-80-percent-of-high-school-students-exposed-to-porn-says-study-501873.html>. Accessed 29 Sept 2018.
- Donevan, M., & Mattebo, M. (2017). The relationship between frequent pornography consumption, behaviours, and sexual preoccupation among male adolescents in Sweden. *Sexual & Reproductive Healthcare*, 12, 82–87.
- Flood, M. (2007). Exposure to pornography among youth in Australia. *Journal of Sociology*, 43(1), 45–60.
- Flood, M. (2009). The harms of pornography exposure among children and young people. *Child Abuse Review*, 18(6), 384–400.
- Goodson, P., McCormick, D., & Evans, A. (2001). Searching for sexually explicit materials on the Internet: An exploratory study of college students' behavior and attitudes. *Archives of Sexual Behavior*, 30(2), 101–118.
- Griffiths, M. D. (2000). Excessive internet use: Implications for sexual behavior. *Cyber Psychology and Behavior*, 3, 537–552.
- Griffiths, M. D. (2001). Sex on the internet: Observations and implications for sex addiction. *Journal of Sex Research*, 38, 333–342.
- Griffiths, M. D. (2012). Internet sex addiction: A review of empirical research. *Addiction Research & Theory*, 20(2), 111–124.
- Hägström-Nordin, E., Sandberg, J., Hanson, U., & Tydén, T. (2006). It's everywhere!' Young Swedish people's thoughts and reflections about pornography. *Scandinavian Journal of Caring Sciences*, 20(4), 386–393.
- Hald, G. M., & Malamuth, N. M. (2008). Self-perceived effects of pornography consumption. *Archives of Sexual Behavior*, 37(4), 614–625.
- Huey, C. J., Kline-Graber, G., & Graber, B. (1981). Time factors and orgasmic response. *Archives of Sexual Behavior*, 10(2), 111–118.
- L'Engle, K. L., Brown, J. D., & Kenneavy, K. (2006). The mass media are an important context for adolescents' sexual behavior. *Journal of Adolescent Health*, 38(3), 186–192.
- Lim, M. S. C., Agius, P. A., Carotte, E. R., Vella, A. M., & Hellard, M. E. (2017). Young Australians' use of pornography and associations with sexual risk behaviours. *Australian and New Zealand Journal of Public Health*, 41(4), 438–443.
- Lo, V.-H., & Wei, R. (2005). Exposure to Internet pornography and Taiwanese adolescents' sexual attitudes and behavior. *Journal of Broadcasting & Electronic Media*, 49(2), 221–237.
- Lo, V., Neilan, E., Sun, M., & Chiang, S. (1999). Exposure of Taiwanese adolescents to pornographic media and its impact on sexual attitudes and behaviour. *Asian Journal of Communication*, 9(1), 50–71.
- Maddox, A. M., Rhoades, G. K., & Markman, H. J. (2011). Viewing sexually-explicit materials alone or together: associations with relationship quality. *Archives of Sexual Behavior*, 40(2), 441–448.
- Malamuth, N. M. (2001). Pornography. In N. J. Smelser & P. B. Baltes (Eds.), *International Encyclopedia of Social and Behavioral Sciences* (Vol. 17, pp. 11816–11821). Amsterdam: Elsevier.
- Mattebo, M., Larsson, M., Tydén, T., & Haggström-Nordin, E. (2014). Professionals' perceptions of the effect of pornography on Swedish adolescents. *Public Health Nursing*, 31(3), 196–205.
- Merrick, J., Tenenbaum, A., & Omar, H. A. (2013). Human sexuality and adolescence. *Frontiers in Public Health*, 1, 41.
- Morgan, E. M. (2011). Associations between young adults' use of sexually explicit materials and their sexual preferences, behaviors, and satisfaction. *Journal of Sex Research*, 48(6), 520–530.
- Mosher, D. L. (1988). Pornography defined: sexual involvement theory, narrative context, and goodness-of-fit. *Journal of Psychology and Human Sexuality*, 1(1), 67–85.
- Owens, E. W., Behun, R. J., Manning, J. C., & Reid, R. C. (2012). The impact of internet pornography on adolescents: A review of the research. *Sexual Addiction & Compulsivity*, 19(1–2), 99–122.
- Patterson, R., & Price, J. (2012). Pornography, religion, and the happiness gap: Does pornography impact the actively religious differently? *Journal for the Scientific Study of Religion*, 51(1), 79–89.
- Paul, B., & Shim, J. W. (2008). Gender, sexual affect, and motivations for Internet pornography use. *International Journal of Sexual Health*, 20(3), 187–199.
- Perry, S. L. (2015). Pornography consumption as a threat to religious socialization. *Sociology of Religion*, 76(4), 436–458.
- Perry, S. L. (2016). From bad to worse? Pornography consumption, spousal religiosity, gender, and marital quality. *Sociological Forum*, 31, 441–464.
- Perry, S. L. (2017). Spousal religiosity, religious bonding, and pornography consumption. *Archives of Sexual Behavior*, 46(2), 561–574.
- Peter, J., & Valkenburg, P. M. (2006). Adolescents' exposure to sexually explicit material on the Internet. *Communication Research*, 33(2), 178–204.
- Poulsen, F. O., Busby, D. M., & Galovan, A. M. (2013). Pornography use: Who uses it and how it is associated with couple outcomes. *Journal of Sex Research*, 50(1), 72–83.

- Regnerus, M., Gordon, D., & Price, J. (2016). Documenting pornography use in America: A comparative analysis of methodological approaches. *Journal of Sex Research, 53*(7), 873–881.
- Rissel, C., Richters, J., de Visser, R. O., McKee, A., Yeung, A., & Caruana, T. (2017). A profile of pornography users in Australia: Findings from the second Australian study of health and relationships. *Journal of Sex Research, 54*(2), 227–240.
- Shaughnessy, K., Byers, E. S., & Walsh, L. (2011). Online sexual activity experience of heterosexual students: Gender similarities and differences. *Archives of Sexual Behavior, 40*(2), 419–427.
- Shek, D. T. L., & Ma, C. M. S. (2012). Consumption of pornographic materials among early adolescents in Hong Kong: Profiles and psychosocial correlates. *International Journal on Disability and Human Development, 11*(2), 143–150.
- Shek, D. T. L., & Ma, C. M. S. (2016). A six-year longitudinal study of consumption of pornographic materials in Chinese adolescents in Hong Kong. *Journal of Pediatric and Adolescent Gynecology, 29*(1), S12–S21.
- Short, M. B., Black, L., Smith, A. H., Wetterneck, C. T., & Wells, D. E. (2012). A review of Internet pornography use research: Methodology and content from the past 10 years. *Cyberpsychology, Behavior and Social Networking, 15*(1), 13–23.
- Sorensen, A. D., & Kjørholt, V. S. (2007). *How do Nordic adolescents relate to pornography? A quantitative study. In: Generation P? Youth, gender and pornography* (pp. 87–102). Copenhagen: Danish School of Educational Press.
- Weaver III, J. B., Weaver, S. S., Mays, D., Hopkins, G. L., Kannenberg, W., & McBride, D. (2011). Mental-and physical-health indicators and sexually explicit media use behavior by adults. *The Journal of Sexual Medicine, 8*(3), 764–772.

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