

Factors Influencing Sexist Attitudes

Beata Adamiak

Submitted in partial fulfilment of the requirements of the BA Hons in Psychology / Higher
Diploma in Psychology at Dublin Business School, School of Arts, Dublin.

Supervisor: Dr Deaglan Page

Programme Leader: Dr R. Reid

March 2015

Department of Psychology

Dublin Business School

Contents

Acknowledgements- pg.3

Abstract- pg.4

Chapter 1- Introduction

1.1 Introduction- pg.5

1.2 Literature Review- pg.5

1.2.1. The Effect of Single-sex versus Mixed-sex education

1.2.2. The Effect of female siblings

1.2.3. The Effect of relationship status

1.2.4. The Effect of pornography consumption

1.3 Aims & Objectives- pg.17

1.4 Hypothesis- pg.18

Chapter 2- Methodology

2.1 Participants- pg.19

2.2 Design- pg.20

2.3 Materials/Apparatus- pg.20

2.4 Procedure- pg.23

2.5 Data Analysis- pg.23

Chapter 3- Results

3.1 Descriptive Statistics and groups differences- pg.24

Chapter 4- Discussion

4.1 Objectives- pg.36

4.2 Findings- pg.37

4.3 Support for hypotheses and related research- pg.39

4.4 Limitations of the study and future research - pg.46

4.5 Conclusions- pg.49

References- pg.50

Appendix- pg.57

Acknowledgments

I would like to take that opportunity to thank the staff of the Dublin Business School, especially Dr Deaglan Page, without his knowledge and expertise this study would not have been possible. I would like to also thank the high school graduates that participated in this study and my friends and family for their support.

Abstract

The study aim was to investigate whether greater exposure to pornographic materials would be associated with more traditional attitudes about women in relation to mixed-sex versus single-sex school type attendance, relationship status and female siblings conditions. In total 62 high school male high school graduates participated. The study was a mixed factorial design. The participants were divided into the groups based on school type attendance, relationship status and whether or not they had a female siblings. Males completed a survey incorporating Attitudes Toward Women Scale and Pornography Use Scale. School type, female siblings or relationship status didn't have any effect on sexist attitudes while tested independently. However, having female siblings combined with attending to single-sex high school, significantly increased the risk of addiction to pornography. In addition, higher pornography consumption significantly correlated with more conservative attitudes toward women. Overall, this study supported the importance of female siblings and school type attendance in shaping attitudes toward women. It has also added significant support for the interaction between exposure to sexually explicit materials and sexist attitudes.

Chapter 1- Introduction

1.1 Introduction

Human development refers to changes that appear in human beings over the course of their life. One of the most critical transitions in life span is the period in human growth and development that occurs after childhood and before adulthood called adolescence. Change occurs both of a biological and psychological nature. It contains major transitions that determine the sense of morality, values, goals, and expectations toward self and others in the later life. In this period, strong attachment to the parents is replaced by new, more peer-oriented relationships that are crucial for shaping self-identity through reassurance and guidance. The educational environment is a place where most peer attachments if formed during adolescence. In context of Bronfenbrenner's ecological theory of development, the school is a place designed for teaching and learning and it's usually under the direction of instructors or teachers.

Based on what educational system has to offer and how a child will adapt to the changes required by puberty, it can be predicted how successful his/her course of life is going to be in terms of social interactions, attitudes towards opposite sex members and intimate relationships. In reference to Cotterell's view (1996) "identity at secondary school becomes a more complex concept, with the social categories assigned by the school system sometimes being at odds with those conferred by one's peers"(p.39).

Broadly speaking, sexist attitudes reflect hostility toward women such as negative stereotypes, and the endorsement of traditional gender roles such as restricting women's conduct to fit societal prescriptions and confining women to roles accorded less status and power than those of men (Glick & Fiske, 1997).

There are a various of potential factors that might influence sexist attitudes against women development. Interactions with either female siblings or female peers and capacity to engage in close relationships can determine attitudes towards women and decrease women objectification.

1.2 Literature Review

1.2.1 The Effect of Single-sex versus Mixed-sex education

The educational system is determined through gender perspective, characterised by recognition of either mixed sex-divided schools where male and female students either study in separate classes, schools or entire buildings or are mixed together. The single-sex school model was a good fit for many traditional and religious cultures before the mid-twentieth century and successfully prospers till today supported by a mounting body of evidence in terms of academic advantages for students. A number of countries, including Australia, New Zealand and Ireland, are known for having a sizeable number of single-sex schools. In countries like United States or Britain, the educational system is concerned with boys underachievement, so for that reason there is a growth in the promotion of single-sex schools (Smyth, 2010).

The majority of research done in favor of single-sex education emphasizes differences in understanding and information processing between males and females. That means that different teaching techniques are required for both genders (National Association for Single Sex Public Education, 2006). However, there is not enough studies done concerned with the range of social outcomes like social interactions, in particular the relationships and attitudes towards opposite sex.

Opponents of single-sex schooling argue that the system is not representative for real life set up and it's neglecting the social consequences that might follow the gender segregation during adolescence. The early study done by Harris (1986) among first-year Australian university

Students, suggested that even those who had attended single-sex school believed that

Co-educational schools lead to a more natural attitude towards the opposite sex.

Therefore, Meal (1998) argues that the coeducational school setting gives a good opportunity to train and highlight skills that will enable students to interact with peers of all genders, even in the larger society. It also promotes a better mental and emotional situation.

Both, Ireland and the UK have a long history of single-sex education and of debates around the issue which sex-schooling is seen to be more beneficial in terms of academic achievements and social education of the students.

The progressive school movement in the early 20th century and Edgar Dale's later influential work focused on relationships between the sexes (Dale 1969, Dale 1971, Dale 1974), both stressed the advantages of boys being educated with girls. Dale was dedicated to promote what he called "healthy relationships" and a more "natural" environment that only mixed-sex schools were able to offer. His work suggested new areas to explore including the effects of co-education in improving the attitudes between the sexes and in terms of "successful family formation". Unlike the majority of research done at this time, Dale introduced an evidence that mixed-sex school graduates were more likely to present positive attitudes towards each other and reflect the believe in the equality of the sexes, as well as maintaining happier marriages than graduates of single-sex schools. Another study done by Atherton (1973), that used retrospective data, supported Dale's suggestions and presented the findings in which co-educational schooling

graduates were more likely to end up in successful marriages than their peers from single-sex schools. However, Riordan (1990) examined the divorce rate in the US and found no correlation between the likelihood of remaining married to the first spouse for either men or women according to whether they had attended single-sex secondary schools (Riordan 1990).

Further research investigated the influence of single-sex education on attitudes towards women versus the coeducational system. Kenway and Willis (1994) argued that “when girls are taught separately then boys” education in this area is neglected and their problems of the sexist attitudes and behaviour remain. Also it was found that sex role stereotyping varies directly with the rape myth acceptance or restrictive definitions of rape (Feild, 1978; Klemmack & Klemmack, 1976).

In the current policy context on Ireland and the UK there is an increase of interest towards co-educational schools regarding boys parents that often perceive co-educational schooling as a positive socialising force (Ball and Gewirtz, 1997). There is a popular belief that increased contact in the mixed school might lead to a breakdown of traditional sex stereotypes (Brehony, 1984). Unfortunately, this is still the research area where strong opinions thrive in the absence of much evidence. There is a significant lack of research done in the area of relationship formation and general well-being or mental health of adults regarding whether they attended single-sex or co-educational schools.

In addition, it has to be noticed that attitudes became less traditional over the time. With social changes like women movement successfully forcing gender equality a social attitudes toward gender roles begun to change as well. Two longitudinal studies (Spence & Hanh, 2006; Twenge, 1997) in the space of approximately two decades repeatedly measured gender-role attitudes among college students and found out that while the time was passing by, attitudes

become increasingly egalitarian. However, that studies also shown that even though conservative attitudes gradually decrease in both genders, the differences in attitudes towards role-gender reminded significant.

Some researchers argue that attitudes to gender equality may be affected by single-sex schooling, especially male attitudes toward women. Interestingly, both sides of single-sex schooling debate use this argument in order to support their own views. The pro-co-educational side of the debate promote likelihood of more egalitarian relationships, followed by mixed-sex schooling. Alternatively, in the pro-single-sex supporters' view, "boys may assert their dominance in co-educational settings, perhaps with lasting consequences for the confidence of the girls" (Spender and Sarah 1980). Consequently some feminists argue that there is a relationship between single-sex schooling and attitudes towards gender roles where girls are exposed to more women in positions of leadership in single a sex school, this may affect their attitudes towards gender roles positively in terms of confidence, autonomy and independence in later life. Another pro-single school researcher has suggested that growing trend towards mix-sex schooling in the last decade can be detrimental for girls because teachers show a tendency to make the female gender more silent, and thus reinforce the sex stereotypes (Clarricoates, 1983; Stanworth, 1983; White, 1983). The classes are designed to attract the boys attention that are known for being easily distracted, while girls are more likely to be focused so for that reason they are often neglected as a result of the mix system (Clarricoates, 1983; Stanworth, 1983).

Contrary to that view, opponents argue that mix system promotes gender stereotypes reduction through everyday contact with peers of the opposite sex. Some findings however suggested that successful social interaction requires equal status, and the contact should involve some sort of cooperative activity (Allport, 1954, p.375; Hewstone & Brown, 1986, p.231).

Unfortunately there is not enough research done in the area of attitudes towards gender roles and the quality of relationships between the sexes.

This paper attempts to measure the attitudes towards women as a consequence of single-sex schooling versus mixed-sex schooling. The goal of this study is to determine whether a particular sex-schooling type influence or trigger sexist attitudes in males.

1.2.2 The Effect of female siblings

While secondary school has a great impact on the adolescence stage of human development, a presence of opposite sex siblings is a primary source of contact. Some scientists even argue, that siblings may contribute to human development experience just as much or perhaps more than parents do. The self-concepts, personalities, social and cognitive skills, roles in group and values are influenced by relationships with siblings. The majority of the research highlights the role of siblings as models and sources of advice and reinforcement, especially in adolescence when parents are not the centre of social life anymore and peers seem to be more knowledgeable about school, social norm and activities (McHale, Kim, & Whiteman, 2006, p.127–150.).

According to social learning perspectives the goal of a sibling presence and influence should create similarities between the siblings gender role attitudes. In support to that view one study found that the gender attitudes of older siblings predicted changes in the gender attitude of younger siblings over a two year period (McHale, Updegraff, Herms-Ericson, & Crouter, 2001). On the other hand Healy and Malhotra (2031) conducted a study in which men in their 20s and 30s who grew up with sisters and no brothers were 8.3per cent more likely to identify as Republican because they developed 'more traditional views of gender'. Men surrounded by women growing up were less likely to get involved in stereotypical female tasks such as cooking

and cleaning. Controversially, men with only male siblings, would be more involved in household tasks, therefore emphasis is not placed on gender-divided roles.

However, in referral to the current study the underlying assumption has been made that males who have grown up with female siblings will have greater attitudes, a better understanding and show greater empathy towards females than males without female siblings at all. Another prediction of the present study is that school type condition in combination with female siblings factor will have influence on attitudes towards women.

1.2.3 The Effect of Relationship status

Adolescence is a critical stage of human development not only because of its significant physical, mental and psychological changes but also because of the occurrence of social changes in interpersonal relationships. Freud (1905) described adolescence as “the genital stage of Psychosexuality”. During the puberty the certain shyness, attraction, but also criticism towards the opposite gender appears. The process of building the confidence in relation to different sex members determines interpersonal skills and abilities to build the intimate relationships in adulthood. The acceptance by opposite sex members and the feeling of approval are crucial for developing social skills that are necessary for being able to maintain mature, romantic relationships in later life. The outcome of these interactions is whether adolescents develops positive or negative attitudes towards the opposite sex.

The school is a main source of interpersonal contact with peers. For that reason males attending single-sex secondary school are less likely to build confidence in relation to females than males attending mix-sex secondary schools. The segregation system is a cause of significantly limited opportunities to interact and build social relationships with the opposite sex.

According to Howard (1928, p. 217-219), studying and growing up together in coeducational school is very beneficial for both boys and girls as they have an opportunity to train the social skills and develop the capacity for meaningful and valuable friendships. Adolescents, especially boys, learn how to separate sexual attraction from social interaction with opposite sex members. In other words they gain the ability how to co-exist in true friendships without sexual objectification.

Dunphy's (1963) classic study shows how during puberty unisexual cliques begin to mix with opposite sex members and create new heterosexual cliques that prepare adolescents for the heterosocial world.

Another study by Ellis (1950) measured the attitudes and behavior in relation to love and family relationships and suggested that love is a learned reaction. Thus, females that grow up in small communities where contact with males is very limited are more likely to struggle in relation to intimate relationships and falling in love than females that grow up in large cities. Ellis argued that access to a representative sample of the opposite sex is a necessity for good heterosexual adjustment.

Common sense dictates that successful heterosexual relationships are suffused with love and caring, not sexism. Male expectations of female roles are often contradictory to the roles that women are wishing to hold (McHugh & Frieze, 1997). Within intimate relationships, this opposition can manifest either on a behavioural or psychological level and precipitate male violence against women. The belief that males with more conservative attitudes towards women are unable to develop meaningful relationships is supported by research that shows that attitudes towards women impact interpersonal relationships between men and women (Cherlin & Walters, 1981; O'Neil & Nadeau, 1999).

The underlying assumption is that there is a correlation between relationship status and attitudes toward women. The following prediction is that males without history of long term, meaningful relationships will be more likely to have negative attitudes toward women than males with history of long term, meaningful relationships.

1.2.4 The Effect of pornography consumption

Another aspect of this paper looks at the correlation between attitudes towards women and pornography consumption. According to several psychological perspectives, exposure to pornography and its content might have an effect on attitudes towards women, especially women objectification levels (Brownmiller, 1975; Kostach, 1978; Johnson & Goodchilds, 1973).

The term “pornography” refers to sexually explicit materials intended to create sexual arousal in the consumer (Hald et al., 2010, p.15).

In 1970, the Commission on Obscenity and Pornography introduced considerable evidence that pornography does not create an adverse or antisocial effects on people (Ferguson, Hartley, 2009). However, in modern days a large number of researchers have begun to question this assertion. Some argue that by depicting women as sexual objects pornography might produce a sexist ideology and perpetuates the traditional double standard (Brownmiller, 1975; Kostach, 1978; Johnson & Goodchilds, 1973). The relevant study done by Zillmann and Bryant (1984) found that subjects who were experimentally exposed to nonviolent pornography expressed less support for the women's liberation movement and more sexual callousness toward women.

Despite its rich history and ubiquity, pornography is charged with social and political issues of being highly addictive, degrading women, promoting violence against women, and normalizing risky sexual behaviour. Typical comments include: “No man who regularly uses

pornography can have a healthy sexual relationship with a woman” (Hamilton, quoted in Symons, 2004, p. 4). There has been concern that pornography can actually “damage” young people (Hamilton, quoted in Symons, 2004, p. 4). Many perceive pornography as: “a form of exploitation of women ... that plays on the confusion and ultimate emotional sterility of those who use it” (Shanahan, 2004, p. 13). In addition, there is a shared, popular belief that: “exposure to pornography” can turn people into sex offenders (Fewster, 2004, p. 17), including paedophiles and gang rapists (Hamilton, 2004, p. 11).

Another concern refers to phenomena of unrealistic expectations of sex and inability to engage in real sexual relationships that might follow the exposure to pornography materials (Hamilton, 2004, p. 11). Large body of research shows that higher levels of pornography consumption often result in serious negative consequences to one's physical, mental, social well being (Stein, Hollander & Rothbaum, 2009; Parashar, Varma, 2007). Excessive pornography consumption often replaces relationships. Individuals may experience the feeling of social isolation a result of their excessive internet pornography viewing impeding on their social life (Twohig, Crosby, 2010).

Consequently, pornography users find themselves lonely and lacking in human contact (Wastlund et al., 2001). For some individuals, the internet might be the way to purposefully avoid such social contact. Accordingly, the internet becomes a buffer for threatening social interactions (Wallace, 1999). The negative impact of pornography consumption on romantic relationships applies especially to decreased respect for long-term, monogamous relationships, and an attenuated desire for procreation (Zillmann, 1986).

Another study supported the view that higher porn use lead to a lower quality of the romantic relationships and reduce a sexual satisfaction, including displeasure with a partner's appearance,

the act of sex, and intimacy (Szymanski, Stewart- Richardson, 2014). In addition, it has been shown that happily married individuals are less likely to look at cyberporn (Buzzell, 2005).

Anti-pornography feminists argue that pornography reinforces sexist attitudes by using the female image as sexual objects that are inferior to men which reinforces sexist attitudes (Dworkin 1985; MacKinnon 1984, 1989). On the other hand, pro-pornography feminists argue that pornography is sexually empowering for women and is a celebration of the human body (Baron 1990). In order to verify this distinction in which the feminist movement believes, Brosius, Weaver and Staab (1993) used a random sample of 50 pornographic videotapes to analyze the themes depicted in the sexual scenes. As a result they produced the evidence that the only purpose for women to be depicted as sexual objects was for males to have an orgasm.

According to Brosius, Weaver and Staab (1993) the sexual empowerment of women is not reflected in pornographic materials characterized by a chauvinistic approach to sex which supports the objectification of women.

Since pornographic movies consistently depict women being degraded, Garcia (1984) found that if the men are repeatedly exposed to pornography, they are more likely to present sexist attitudes and they are more likely to present acts of sexual aggression, disrespect women sexually, and produce rape tolerant attitudes (Bowen 1987).

Additionally, in 1982 Zillman and Bryant assessed the impact of pornography on dispositions toward women. The results of the study showed that those who were exposed to massive amounts of pornography demonstrated significantly greater sexual callousness and lower compassion toward women than those who weren't exposed to large pornographic materials.

Continuously, it has been shown that greater exposure to pornography is also reported in dissatisfied and depressed youth often evoked through poor social functioning, interactions; and offline and online victimization (Peter & Valkenburg 2006; Wolak, Mitchell & Finkelhor 2007; Ybarra & Mitchell 2005). Poor social interactions with opposite sex can be a result gender separation in school system which can lead to higher pornography consumption.

Before considering the effects of pornography consumption it is important to note its variety of types and themes. Sabina et al. (2008) were particularly concerned with the degree of exposure to deviant sexual activity online before the age of 18. Her findings suggested that repeated exposure to pictures of sexual violence significantly increase likelihood of positive attitudes towards acts of sexual aggression. On the other hand, Kingston et al. (2008) predicted that only males with high risk for reoffending could be influenced by pornography through recidivism of sexual assault. In addition, they found that the type of pornography viewed was a stronger predictor of recidivism than the frequency of use and so was even a low amount of violent pornography watched in comparison to large amount of nonviolent pornography watched (Kingston et al. 2008).

1.3 Aims & Objectives

The prediction of the current study is that greater exposure to pornographic materials would be associated with more traditional attitudes about women in a variety of domains such as school type attendance, relationship status and female siblings. More specifically, it is predicted that that males without history of experiencing long term, meaningful relationships will be more likely to present high pornography consumption levels and more conservative attitudes toward women. Consequently, it is also predicted that males without female siblings will be more likely

to present high pornography consumption levels and more conservative attitudes toward women than males without female siblings. Another prediction of the paper is an assumption that single-sex school male graduates will score higher on pornography use scale and will present more conservative attitudes toward women than mix-sex school male graduates in accompaniment with more negative attitudes towards women.

Using a quantitative approach the present study attempts to analyse the sexist attitudes and levels of pornography consumption in relation school type, relationship status and female siblings factors.

The quantitative research used in the current paper is in the form of a confidential survey. The survey is combined of a demographic sheet, pornography use scale and attitudes towards women scale. The online survey will allow for a large sample size without major expense to produce quantitative data that can be analyzed by a statistical computer program.

1.4 Hypothesis

1. Single-sex high schools male graduates will more likely hold to more negative attitudes towards women than mixed-sex high schools male graduates.
2. Single-sex high school male graduates will be more likely to present high pornography consumption in comparison with mixed-sex high school male graduates.
3. Males with single relationship status will more likely hold to more negative attitudes towards women than males being in romantic relationships.
4. Males with single relationship status will be more likely to present high pornography consumption in comparison with males in relationship.

5. Males without female siblings will more likely hold to more negative attitudes toward women than males with female siblings.
6. Males without female siblings will be more likely to present higher levels of pornography consumption than males with female siblings.
7. There is a significant correlation between the pornography consumption and attitude toward women.
8. Sexist attitudes are significantly influenced by correlations between female siblings, relationships and the school type factors.

Chapter 2- Methodology

2.1 Participants

The sample comprised of 62 males from two different cohorts of education: a) co-educational secondary school (n = 38) and b) boy's single sex secondary school (n = 24)). All participants are over 18. A majority of the participants declared themselves to be in a romantic relationship (38), from which, nearly a half was classified as long term (defined in this study as 'over 3 years'-18). 24 participants identified themselves as single. 11 participants in the study reported having grown up with older female siblings, 12 with growing up with younger female siblings and 10 having grown up with both. 29 participants reported having no female. Opportunity sampling via online social media was used as non-probability technique in order to identify potential subjects in the study. All of the participants participated on a voluntary basis.

2.2 Design

The study had a mixed factorial, quantitative survey design. In terms of the correlational analysis, the predictor variables were the secondary school type, relationship status and female siblings whilst the criterion variables are the attitude towards women and porn consumption. The between subjects variables were secondary school type, relationship status and whether or not the participant had female siblings. The within subjects variables in this study were the attitude towards women (as measured by Spence, Helmrich and Stapp 1978 Scale) and porn consumption. The mixed factorial design allowed the study to determine if sexist attitudes towards woman or a tendency to objectify women as suggested by consumption of pornography differed depending on female siblings, relationship status and type of school.

2.3 Materials/Apparatus

Two psychometric instruments were utilized within this study, namely short version of Attitudes Toward Women Scale (Spence, Helmrich & Stapp, 1978) and Pornography Use Scale (Szymanski & Stewart-Richardson, 2014).

The Attitude Toward Women Scale (ATW) was originally developed by Spence and Helmreich (1972) in order to measure the roles and freedoms of women. In 1978 the authors shortened the scale down to 15-item version which has been shown to maintain its psychometric properties. The 15-item short version of the scale had satisfactory test-retest reliability (Daugherty & Dambrot, 1986). In addition, the scale was also found to have good reliability and construct validity with adolescent samples (Galambos, Petersen, Richards, & Gitelson, 1985). Currently, after the examination of the 15-item short version of AWS factor structure, Whatley (2008) supported the unidimensionality of the scale. Furthermore, the results indicated that men were more likely to have negative attitudes toward women than do women and these gender

differences in AWS are consistent with the literature (Fine-Davis, 1983; Nelson, 1988; Öngen, 2006; Whatley & Riggi, 1992). The AWS is widely used to measure individual differences in attitudes toward women's rights and roles in the society. The items on this scale reflect the concept about appropriate responsibilities, rights and women's roles from vocational, educational, intellectual, independence, dating, etiquette, sexual, and marital perspective. Each item is scored on a 4-point Likert type scale. A few sample items are as follows: "Telling dirty jokes should be mostly a masculine prerogative", "Women should worry less about their rights and more about becoming good wives and mothers" and "women should worry less about their rights and more about becoming good wives and mothers". The items 2, 3, 4, 6, 10, 11, and 14 are reversely scored. The total score in the AWS is calculated by summarizing, all items.

The Pornography Use Scale (PUS) is a 14-items scale that was developed by Szymanski and Stewart-Richardson (2014) as there have been no previously developed validated scales that measure men's pornography use. PUS includes items assessing frequency of use and problematic use. A few sample items are as follows: "Taken together, how many hours per week do you view sexually explicit/pornographic material (such as magazines, movies, and/or Internet site)?", "I sometimes wish I would stop using sexually explicit materials/pornography". Higher mean scores indicate more pornography use. The frequency of use is assessed through use of three most popular types of pornography: videos/DVDs, the Internet, and magazines (Cooper, Delmonico, & Burg, 2000; Ropelato, 2007), across a variety of time frames (e.g., viewing time per sitting, per week, per month). A sample of frequency assessing single-item as follows: "How frequently do you view pornographic material, such as magazines, movies, and/or Internet sites?". Responses ranged from 0 (none) to 5 (every day or almost every day). Similar research literature assessing frequency of pornography use has found single-item measurement to be an

acceptable method to assess frequency of use (Svedin, Akerman, & Priebe, 2011; Poulsen, Busby, & Galovan, 2013). The problematic use is assessed by estimating when the amount of use becomes an issue to oneself and/or to others and results in secondary problems (e.g., life and relationship problems) related to that use. A sample of problematic use assessing single-item as follows: “I sometimes wish I would stop using sexually explicit materials/pornography”. Responses range from 1 (strongly disagree) to 5 (strongly agree). In the study by Szymanski and Stewart-Richardson (2014), the calculation of internal consistencies (alpha) for scores showed .88 for the frequency of use subscale and .91 for the problematic use subscale. Initial evidence for construct validity was provided by positive correlations between the frequency of pornography use and problematic pornography use subscales ($r = .42, p < .05$). Recent research confirmed that Problematic Pornography Use subscale items shows high internal consistency, convergent validity, and construct validity. Exploratory and confirmatory factor analyses revealed four core factors relating to proposed domains of problematic pornography use. High problematic pornography use scores were positively correlated with measures of psychopathology, low self-esteem and poor attachment (Kor, et al., 2014).

2.4 Procedure

The online survey was conducted among 62 male secondary graduates from Ireland through an opportunity sampling technique. The first slide of the survey contained the information about researcher, contact details, purpose of the study and the approximate time of completing the survey. Participants were also informed that the study has been approved by the Ethics Committee at the Dublin Business School. It was made clear to all participants that participation

was completely voluntary and all collected data remain confidential and anonymous even if presented on student congress. In addition, the first slide of survey gave the instructions and conditions under which the survey should be completed.

The survey began with 14-items Pornography Consumption Scale, followed by 15-items Attitudes Toward Women Scale. After survey was completed, all the participants were thanked for time and participation. In addition, contact information for several helplines were supplied in order to provide a confidential emotional support service for anyone experiencing a distress caused by participation.

2.5 Data Analysis

Data analysis was carried out using SPSS 22 software. A multivariate analysis of variance were employed. Tests of analysis of variance and Pearson's correlations were carried out. Descriptive statistics were also computed for pornography consumption and attitude toward women.

Chapter 3- Results

3.1 Descriptive statistics

The results from the data were obtained from psychometric measures were analyzed using SPSS 22 software.

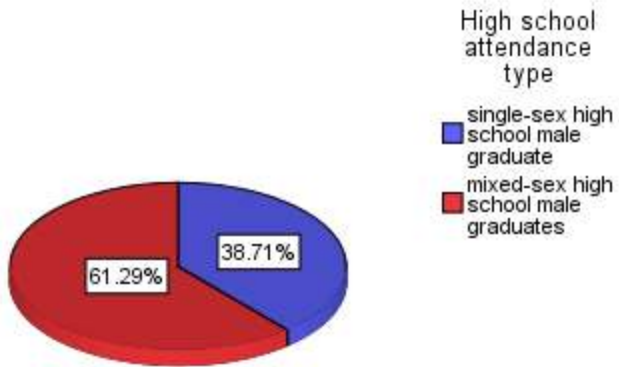


Fig1 Pie chart showing proportion between single-sex high school male graduates and mix-sex high school male graduates

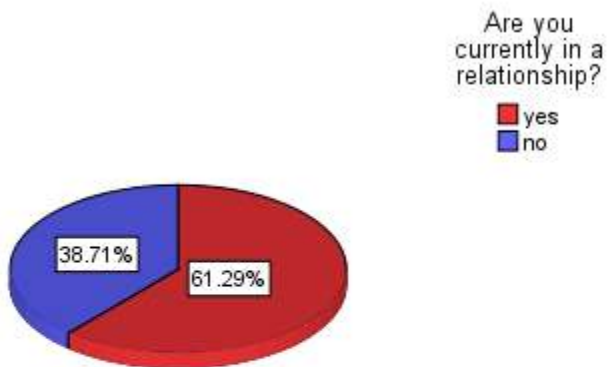


Fig 2 Pie chart showing proportion of relationship status

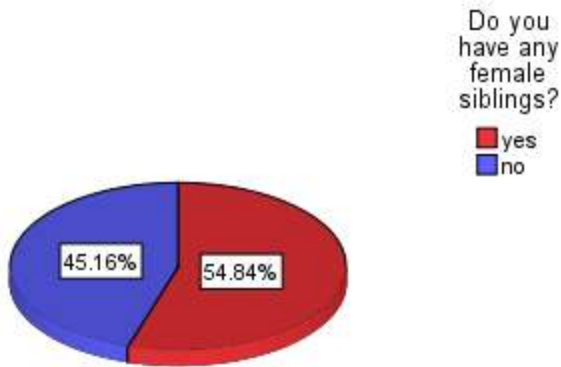


Fig 3 Pie chart showing the proportions of having female siblings

The proportion between single-sex and mixed-sex high school male graduates within this study can be seen in Figure 1 above. Twenty four single-sex high school male graduates (38.7%) and thirty eight mixed-sex high school male graduates (61.3%) participated within this study. Figure 2 above illustrates the proportion of relationship status among participants. Thirty eight (61.3%) participants described their relationship status as “in relationship”, out of which twenty (32.3%) declared to be in the relationship under three years while eighteen (29%) declared to be in long term relationship (over three years). Twenty four participants (38.7%) claimed to be single. In addition Figure 3 exposes the proportion of having female siblings. Thirty four (54.8%) participants declared to have female siblings while twenty eight (45.2%) claimed not having any female siblings.

Descriptive statistics, including means (M) and standard deviation (SD) for each of the variables investigated in the current study are presented below.

Table 1 Multi-dimensional Attitude Toward Women (ATW), Pornography Frequency Use (PFU) and Pornography Problematic Use (PPU) among single-sex high school male graduates and mixed-sex high school male graduates

School type	ATW Mean	ATW SD	PFU Mean	PFU SD	PPU Mean	PPU SD
Single-sex	56.63	3.76	20.75	6.46	16.83	6.17
Mixed-sex	58.47	5.66	18.6	6.61	15.45	5.27

Attitudes toward women (ATW) was examined across high school male graduates and mixed-sex high school male graduates (ref table 1 above). Single-sex high school male graduates had a slightly lower mean score in ATW Scale, $M=56.65$ ($SD=3.76$) which indicate slightly more conservative attitudes toward women than mixed-sex high school male graduates, $M=58.47$ ($SD=5.66$).

Porn frequency (PFU) was examined across high school male graduates and mixed-sex high school male graduates (ref table 1 above). Single-sex high school male graduates had a slightly higher mean score in PF, $M=20.75$ ($SD=6.46$), which indicate a slightly higher pornography consumption than mixed-sex high school male graduates, $M=18.6$ ($SD=6.61$).

Porn problematic use (PPU) was examined across high school male graduates and mixed-sex high school male graduates (ref table 1 above). Single-sex high school male graduates had a slightly higher mean score in PPU, $M=16.83$ ($SD=6.17$), which indicate a slightly higher

pornography problematic consumption than mixed-sex high school male graduates, $M=15.45$ ($SD=5.27$).

Table 2 Multi-dimensional Attitude Toward Women (ATW), Pornography Frequency Use (PFU) and Pornography Problematic Use (PPU) from relationship status perspective

Relationship status	ATW Mean	ATW SD	PFU Mean	PFU SD	PPU Mean	PPU SD
Single	57.9	3.95	19.36	5.72	16.04	5.43
Under 3 years	58.7	3.9	20.8	8.38	15.26	5.33
Over 3 years	57	3.91	18	5.35	16.72	6.4

Attitudes toward women (ATW) was examined from relationship status perspective (ref table 2 above). Single participants had a lower mean score in ATW, $M=57.9$ ($SD=.3.95$), than participants in relationships, $M=58.7$ ($SD-3.9$). On the other hand there was no difference between single subjects and subjects in long term relationship, $M=57$ ($SD=3.91$) in ATW.

Porn frequency Use (PFU) was examined from relationship status perspective (ref table 2 above). Participants in relationship under three years long had the highest mean score in PF, $M=20.8$ ($SD=8.38$) out of all conditions. Subjects in long term relationship had lowest mean score in PF, $M=18$ ($SD=5.35$) which indicate lowest porn consumption.

Porn problematic use (PPU) was examined from relationship status perspective (ref table 2 above). Participants in long term relationship had the highest mean score in PPU, $M=16.72$

(SD=6.4) out of all conditions. Subjects in under three years condition had lowest mean score in PPU, M=15.26 (SD=5.33) which indicate lowest porn consumption.

Table 3 Multi-dimensional Attitude Toward Women (ATW), Pornography Frequency Use (PFU) and Pornography Problematic Use (PPU) across males with and without female siblings

Female siblings	ATW Mean	ATW SD	PFU Mean	PFU SD	PPU Mean	PPU SD
Have	56.91	4.17	19.32	6.5	16	6.12
Doesn't have	58.76	5.87	19.57	6.8	15.96	5.07

Attitudes toward women (ATW) was examined across males with and without female siblings (ref table 3 above). Males with female siblings had a lower mean score in ATW, M=56.91 (SD=4.17) than males without female siblings, M=58.76 (SD=5.87) which indicate more conservative attitudes toward women.

Porn frequency (PFU) was examined across males with and without female siblings (ref table 3 above). There was no difference in PF between males with female siblings, M=19.32 (SD=6.5) and males without female siblings, M=19.57 (SD=6.8).

Porn problematic use (PPU) was examined across males with and without female siblings (ref table 3 above). There was no difference in PPU between males with female siblings, M=16 (SD=6.12) and males without female siblings, M=15.96 (SD=5.07).

Hypothesis: 1

Single-sex high schools male graduates will more likely hold to more negative attitudes towards women than mixed-sex high schools male graduates.

The single-sex high school male graduates (N=24), M=56.65 (SD=3.76) and mixed-sex high school male graduates (N=38), M=58.47 (SD=5.66) were associated with attitude towards women. To test the hypothesis that single-sex high school male graduates have more negative attitudes towards women, an independent t-test was performed. The single-sex school and mixed-sex school distributions were sufficiently normal for the purposes of conducting t test (ie., skew <|2.0| and kurtosis <|9.0|). Additionally, the assumption of homogeneity of variances was tested and satisfied with via Levene's F test, $F(60)= 1.78$, $p=.188$. The independent samples t-test was associated with statistically non-significant effect, $t(60)= -1.41$, $p=.163$. Thus, there was no significant difference in attitudes toward women between single-sex high school male graduates and mixed-sex high school male graduates. Cohen's d was estimated at .38, which is a small effect based on Cohen's (1992) guidelines.

Hypotheses: 2

Single-sex high school male graduates will be more likely to present high pornography consumption in comparison with mixed-sex high school male graduates.

The single-sex high school male graduates (N=24), M=20.75 (SD=6.46) and mixed-sex high school male graduates (N=38), M=18.6 (SD=6.61) were associated with frequency of pornography use (PFU). The problematic pornography use (PPU) was also associated with single-sex high school male graduates (N=24), M=16.83 (SD=6.17) and mixed-sex high school

male graduates (N=38), M=15.45 (SD=5.27). To test the hypothesis that single-sex high school male graduates will be more likely to present high PFU in comparison with mixed-sex high school male graduates an independent t-test was performed. The single-sex school and mixed-sex school distributions were sufficiently normal for the purposes of conducting t test (ie., skew <|2.0| and kurtosis <|9.0|). Additionally, the assumption of homogeneity of variances was tested and satisfied with via Levene's F test for PFU, $F(60)= 0.29$, $p=.865$, and for PPU, $F(60)=1.10$, $p=.298$. The independent samples t-test was associated with statistically non-significant effect for pornography frequency use, $t(60)= 1.26$, $p=.214$, and problematic pornography use, $t(60)= .94$, $p=.349$. Thus, there was no significant difference in porn consumption between single-sex high school male graduates and mixed-sex high school male graduates. Cohen's d was estimated at .33 for pornography frequency and .24 for problematic pornography use which is a small effect based on Cohen's (1992) guidelines.

Hypothesis 3

Males with single relationship status will more likely hold to more negative attitudes towards women than males being in romantic relationships.

The males with single relationship status (N=24), M=57.54 (SD=6.53), males in relationship under three years (N=20), M=58.7 (SD=3.91) and males in long term relationship (N=18), M=57 (SD=3.91) were associated with attitude toward women. To test the hypothesis that males with single relationship status will more likely hold to more negative attitudes towards women than males being in romantic relationship an independent t-test was performed. The relationship status distributions were sufficiently normal for the purposes of conducting t test (ie., skew <|2.0| and kurtosis <|9.0|). Additionally, the assumption of homogeneity of variances was tested and

satisfied with via Levene's F test, $F(60) = .04$, $p = 4.416$. The independent samples t-test was associated with statistically non-significant effect, $t(60) = .24$, $p = .813$. Thus, there was no significant difference in attitude toward women in the relation to relationship status. Cohen's d was estimated at .06 which is a small effect based on Cohen's (1992) guidelines.

Hypothesis:4

Males with single relationship status will be more likely to present high pornography consumption in comparison with males in relationship.

The males with single relationship status ($N=24$), $M=19.37$ ($SD=5.72$), males in relationship under three years ($N=20$), $M=20.8$ ($SD=8.38$) and males in long term relationship ($N=18$), $M=18$ ($SD=5.37$) were associated with pornography frequency use (PFU). The problematic pornography use (PPU) was also associated with males that declared single relationship status ($N=24$), $M=16.04$ ($SD=5.43$), males in relationship under three years ($N=20$), $M=15.25$ ($SD=5.33$) and males in long term relationship ($N=18$), $M=16.72$ ($SD=6.4$). To test the hypothesis that males with single relationship status will be more likely to present high pornography consumption in comparison with males in relationship. The relationship status distributions were sufficiently normal for the purposes of conducting t test (ie., skew $<|2.0|$ and kurtosis $<|9.0|$). Additionally, the assumption of homogeneity of variances was tested and satisfied with via Levene's F test for PFU, $F(60) = .89$, $p = .349$, and for PPU, $F(60) = .13$, $p = .718$. The independent samples t-test was associated with statistically non-significant effect for PF, $t(60) = .06$, $p = .955$, and for PPU, $t(60) = -.06$, $p = .949$. Thus, there was no significant difference in pornography

consumption in the relation to relationship status. Cohen's d was estimated at .02 for PFU and for PPU which is a small effect based on Cohen's (1992) guidelines.

Hypothesis 5:

Males without female siblings will more likely hold to more negative attitudes toward women than males with female siblings.

The males with female siblings ($N=34$), $M=56.91$ ($SD=4.17$) and males without female siblings ($N=28$), $M=58.76$ ($SD=5.87$) were associated with attitude toward women. To test the hypothesis that the males without female siblings will more likely hold to more negative attitudes toward women than males with female siblings, an independent t-test was performed. The female siblings distributions were sufficiently normal for the purposes of conducting t test (ie., skew $<|2.0|$ and kurtosis $<|9.0|$). Additionally, the assumption of homogeneity of variances was tested and satisfied with via Levene's F test, $F(60)= 2.36$, $p=.128$. The independent samples t-test was associated with statistically non-significant effect, $t(60)= -1.47$, $p=.148$. Thus, there was no significant difference in attitudes toward women from female siblings perspective. Cohen's d was estimated at .36, which is a small effect based on Cohen's (1992) guidelines.

Hypothesis 6:

Males without female siblings will be more likely to present higher levels of pornography consumption than males with female siblings.

The males without female siblings (N=28), M=19.57 (SD=6.8) and males with female siblings (N=34), M=19.32 (SD=6.5) were associated with frequency of pornography use (PFU). The problematic pornography use (PPU) was also associated with males without female siblings (N=28), M=15.96 (SD=5.07) and males with female siblings conditions (N=34), M=16 (SD=6.12) . To test the hypothesis that males without female siblings will be more likely to present higher levels of pornography consumption than males with female siblings. an independent t-test was performed. The female siblings distributions were sufficiently normal for the purposes of conducting t test (ie., skew <|2.0| and kurtosis <|9.0|). Additionally, the assumption of homogeneity of variances was tested and satisfied with via Levene's F test for PFU, F(60)=.15, p=.701., and for PPU, F(60)=1.78, p=.187. The independent samples t-test was associated with statistically non-significant effect for pornography frequency, t(60)= -.15, p=.884, and problematic pornography use, t(60)= .03, p=.98. Thus, there was no significant difference in porn consumption from female siblings perspective. Cohen's d was estimated at .04 for pornography frequency and .01 for problematic pornography use which is a small effect based on Cohen's (1992) guidelines.

Hypothesis:7

There is a significant correlation between the pornography consumption and attitude toward women.

A Pearson product-moment correlation coefficient was computed to assess the relationship between the pornography consumption (N=62), M=35.42 (SD=10.26) and attitude toward women (N=62), M=57.76 (SD=5.06). There was a negative correlation between the two variables, $r = -.262$, $n = 62$, $p = .04$. A scatter plot summarizes the results (Figure 4) Overall,

there was a moderate, negative correlation between porn consumption and attitudes toward women. Increase in porn consumption were correlated with more negative attitudes towards women.

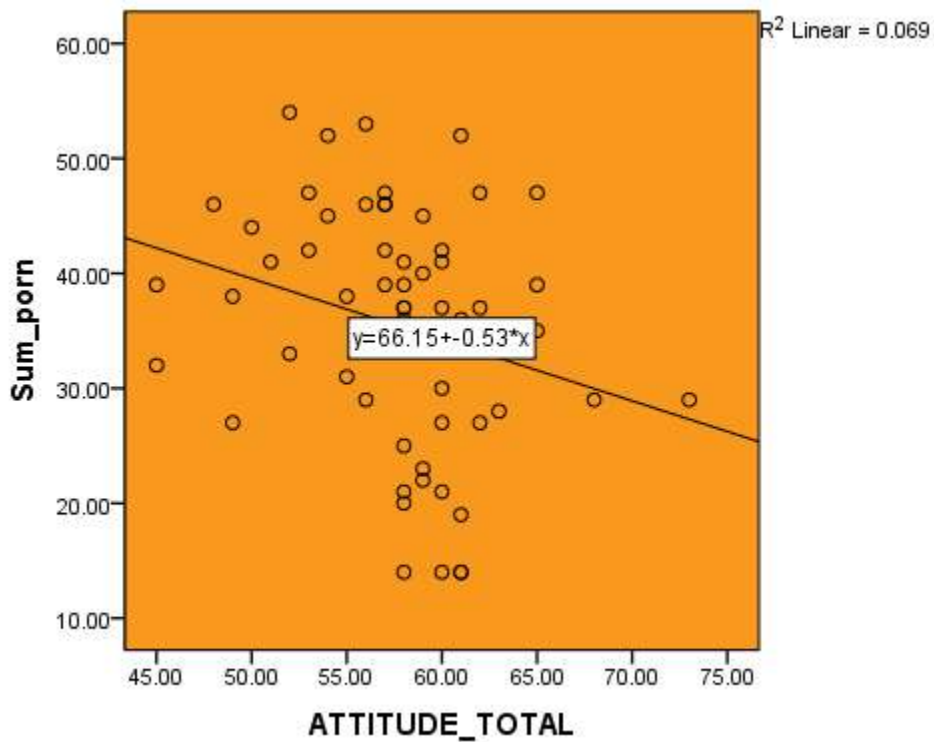


Fig 4 Scatter plot showing the correlation between pornography consumption and attitude towards women

Hypothesis: 8

Sexist attitudes are significantly influenced by correlations between female siblings, relationships and the school type factors.

Sexist attitudes were measured in correlations between three factors: female siblings, relationships and the school type. MANOVA analyses confirmed that there was no significant multivariate effect in terms of female siblings, relationships and the school type factors combination, $F(3, 52)=.76, p=.521$.

Similarly, MANOVA analyses confirmed that there was no significant multivariate effect in terms of school type in correlation with relationship status factor, $F(3, 52)=.97, p=.416$.

Continuously, MANOVA analyses confirmed that there was no significant multivariate effect in terms of female siblings and relationship status factor correlation, $F(3,52)= .36, p=.808$.

However, MANOVA analyses confirmed that there was a significant multivariate effect in terms of female siblings and school type factor correlation, $F(3, 52)=2.96, p=.04$. Univariate independent one-way ANOVA's showed significant main effect for female siblings and school type factor correlation in respect of Pornography Problematic Use Scale, $F(1, 54)=8.56, p=.005$.

The mean of Problematic Pornography Use scale score of single-sex high school graduates that didn't have any siblings ($N=11$), $M=14$ ($SD=5.51$), was significantly lower than mean score of the same school type condition with female siblings ($N=13$), $M=19.23$ ($SD=5.83$). Continuously, mix-sex high school graduates with female siblings also showed lower mean score ($N=21$), $M=14$ ($SD=5.52$) than the same school type condition without female siblings ($N=17$), $M=17.24$ ($SD=4.48$).

Chapter 4- Discussion

4.1 Objectives

The objectives of the study were to expand the research that has investigated does sex segregation in educational system during adolescence have any impact on attitudes towards women. It also investigated whether or not higher pornography consumption correlate with more negative attitudes towards women. This study also looked at attitudes towards women in terms of porn consumption, female siblings and relationship status. In other words, the study investigated does having female siblings and being in relationship correlate with more egalitarian attitudes toward women and lower pornography consumption.

4.2 Findings

The findings acquired from this study showed that there was a significant negative correlation between the pornography consumption and attitude toward women $r_{(60)} = -.262$, $p = .04$. More specifically, increase in porn consumption were correlated with more negative attitudes towards women. However, neither of predictable variables had a significant overall effect on attitude toward women and porn consumption.

Firstly it was hypothesized that single-sex highs schools male graduates will more likely hold to more negative attitudes towards women than mixed-sex highs schools male graduates. The results from the analysis of data gathered did not support the hypothesis. Thus, there was no significant difference in attitudes toward women between single-sex high school male graduates and mixed-sex high school male graduates ($p=.163$).

Second, it was hypothesized that single-sex high school male graduates will be more likely to present high pornography consumption in comparison with mixed-sex high school male graduates. The results from the analysis of data gathered showed a non-significant effect for pornography consumption. Thus, there was no significant difference in pornography frequency,

($p=.214$), and problematic pornography use, ($p=.349$), between single-sex high school male graduates and mixed-sex high school male graduates.

Third, it was predicted that males with single relationship status will more likely hold to more negative attitudes towards women than males being in romantic relationships. Continuously, the results from the analysis of data gathered did not support the hypothesis. In other words, there was no significant difference in attitude toward women in the relation to relationship status ($p=.813$).

Fourth, the study investigated will males with single relationship status be more likely to present high pornography consumption in comparison with males in relationship. Unlikely to what was predicted; the results from the analysis of data gathered showed a non-significant effect for pornography consumption. Thus, there was no significant difference in pornography frequency, ($p=.955$), and problematic pornography use, ($p=.949$), in relation to relationship status.

Fifth, it was hypothesized that males without female siblings will more likely hold to more negative attitudes toward women than males with female siblings. The results from the analysis of data gathered did not support the hypothesis. Thus, there was no significant difference in attitudes toward women from female siblings perspective ($p=.148$).

Sixth, the study investigated whether males without female siblings would be more likely to present higher levels of pornography consumption than males with female siblings. The results from the analysis of data gathered showed a nonsignificant effect for pornography consumption. Thus, there was no significant difference in pornography frequency, ($p=.884$), and problematic pornography use, ($p=.98$), in relation to female siblings.

The last but not the least, the study whether or not the sexist attitudes are significantly influenced by correlations between female siblings, relationships and the school type factors. The results confirmed that there was no significant multivariate effect in terms of female siblings, relationships and the school type factors combination, ($p=.521$). Similarly, it was confirmed that there was no significant multivariate effect in terms of school type in correlation with relationship status factor, ($p=.416$) and in terms of female siblings and relationship status combination, ($p=.808$). However, there was a significant multivariate effect in relation to female siblings and school type factor correlation, ($p=.04$). More specifically, the significant main effect for female siblings and school type factor correlation was found in respect of Pornography Problematic Use Scale, ($p=.005$).

4.3 Support for hypotheses and related research

First hypothesis

It was hypothesized within this study that single-sex high schools male graduates will more likely hold to more negative attitudes toward women than mixed-sex high schools male graduates.

Upon viewing the findings of this study, this hypothesis was insufficiently supported ($p > .05$). Attitudes toward women did not differ overall as a result of school type attendance. However on the basis of descriptive statistics, on average single-sex high school male graduates reported lower mean score in ATW scale, $M=56.65$ ($SD=3.76$), which indicate slightly more conservative attitudes toward women than mixed-sex high school male graduates, $M= 58.47$ ($SD=5.66$).

Although this is not significant in the current study, it does lend support to the volume of research that has reported various differences in gender-role attitudes as a result of school type condition and it's further, social consequences (Atherton, 1973; Riordan, 1990). Continuously, this slight difference in mean scores does also support Kenway and Willis (1994) argument that “when girls are taught separately then boys” education in this area is neglected and their problems of the sexist attitudes and behavior remain. It also does support the popular belief that increased contact in the mixed school might lead to a breakdown of traditional sex stereotypes (Brehony, 1984).

Second hypothesis

It was hypothesized within this study that single-sex high school male graduates will be more likely to present high pornography consumption in comparison with mixed-sex high school male graduates.

The findings of this study have failed to support the hypothesis ($p > .05$). School type did not determined or significantly influenced the pornography consumption. However on the basis of descriptive statistics, on average single-sex high school male graduates reported higher mean scores in both , Porn Frequency Scale $M=20.75$ ($SD=6.46$) and Porn Problematic Use Scale $M=16.83$ ($SD=6.17$) , which indicated slightly higher pornography consumption than mixed-sex high school male graduates. Although the results were not significant in the current study, the research does suggest that poor or lack of social interactions with opposite sex can lead to higher pornography consumption (Peter & Valkenburg 2006; Wolak, Mitchell & Finkelhor 2007; Ybarra & Mitchell 2005). The mean scores differences support also Howard's (1928, p. 217-219) view that studying and growing up together in coeducational school is very beneficial for

training the social. Boys have an opportunity to learn how to separate sexual attraction from social interaction with opposite sex members and gain the ability how to co-exist in true friendships without sexual objectification, which prevent from high pornography consumption.

Third hypothesis

It was hypothesized within this study that males with single relationship status will more likely hold to more negative attitudes towards women than males being in romantic relationships.

Upon investigating the findings attitudes toward women did not differ significantly according to relationship status ($p > .05$). Continuously, in accordance to descriptive statistics, on average single participants had a lower mean score in ATW scale, $M=57.9$ ($SD=.3.95$) which indicate slightly more conservative attitudes toward women than participants in relationships. Although the findings couldn't be interpreted as significant in the current study, they do lend support to a body of research that has presented differences in attitudes toward women as a result of relationship status (Cherlin & Walters, 1981; O'Neil & Nadeau, 1999).

Fourth hypothesis

It was hypothesized within this study that males with single relationship status will be more likely to present high pornography consumption in comparison with males in relationship.

The findings of this study did not support this hypothesis ($p > .05$). Relationship status did not determined or significantly influenced the pornography consumption. Similarly to previously discussed hypothesis, descriptive statistics shows that on average subjects in long term relationship had lowest mean score in PF scale, $M=18$ ($SD=5.35$), which indicate lowest porn

consumption. Although this is not significant in the current study, it does lend support to the view that poor ability to develop social interactions with opposite sex can lead to higher pornography consumption (Peter & Valkenburg 2006; Wolak, Mitchell & Finkelhor 2007; Ybarra & Mitchell 2005). Additionally, it also support the study showing that happily married individuals are less likely to look at online pornography (Buzzell, 2005). Consequently, it has been suggested that pornography users find themselves lonely and lacking in human contact (Wastlund et al., 2001). Some of the individuals might even use the internet as the way to purposefully avoid such social contact. Accordingly, the internet becomes a buffer for threatening social interactions (Wallace, 1999). Continuously, according to descriptive statistics, on average males in long term relationship that had the highest mean scores in PPU scale, $M=16.72$ ($SD=6.4$). Once again, even though, that findings couldn't be interpreted as significant in the current study, they do lend support to a body of research that pornography consumption has a negative impact of on romantic relationships, it decreases respect for long-term, monogamous relationships (Zillmann, 1986) and leads to a lower quality of the romantic relationships and reduction of sexual satisfaction, including displeasure with a partner's appearance, the act of sex, and intimacy (Szymanski, Stewart- Richardson, 2014).

However, according to descriptive statistics, on average participants in relationship under three years long had the highest mean scores in PF scale, $M=20.8$ ($SD=8.38$). Those findings are in opposition to the prediction of the study that single males will show highest pornography consumption as it has been shown that high pornography consumption often replaces relationships and individuals may end up socially isolated, therefore single as a result of their excessive internet pornography viewing impeding on their social life (Twohig, Crosby, 2010).

Fifth hypothesis

It was hypothesized within this study that males without female siblings will more likely hold to more negative attitudes toward women than males with female siblings.

The alternative hypothesis was rejected in current study ($p > .05$). Attitudes toward women did not differ overall as a result of having or not having female siblings. Furthermore, males with female siblings had a lower mean score in ATW scale, $M=56.91$ ($SD=4.17$), than males without female siblings, $M=58.76$ ($SD=5.87$), which indicate more conservative attitudes toward women. The results of current study are in opposition to the prediction of the study that males without female siblings will more likely hold to more negative attitudes toward women than males with female siblings. Those findings lend support to one of the recent studies, which states that males who grew up with sisters and no brothers are more likely to developed 'more traditional views of gender' (Healy, Malhotra, 2031). According to that study men surrounded by women growing up were less likely to get involved in stereotypical female tasks such as cooking and cleaning.

Sixth hypothesis

It was hypothesized within this study that males without female siblings will be more likely to present higher levels of pornography consumption than males with female siblings.

The findings of this study have failed to support the hypothesis ($p > .05$). Female siblings condition did not determined or significantly influenced the pornography consumption. Additionally in reference to descriptive statistics, there was no difference in mean scores on pornography consumption scales between males with female siblings and males without female siblings. Those findings do not support the belief that growing up in the presence of females

should create similarities between the siblings gender role attitudes and decrease the sexist objectification of women (McHale, Updegraff, Herms-Ericson, & Crouter, 2001).

Seventh hypothesis

It was hypothesized within this study that there is a significant correlation between the pornography consumption and attitude toward women.

The findings of current study supported this hypothesis ($p < .05$). Significant negative correlation was found between the pornography consumption, $M=35.42$ ($SD=10.26$), and attitude toward women, $M=57.76$ ($SD=5.06$), where increase in porn consumption were correlated with more negative attitudes towards women. These significant findings agree with previous research that through depicting women as sexual objects pornography might produce a sexist ideology and perpetuates the traditional double standard (Brownmiller, 1975; Kostach, 1978; Johnson & Goodchilds, 1973). These results support also study done by Zillmann and Bryant (1984), which found out that subjects who were experimentally exposed to nonviolent pornography expressed less support for the women's liberation movement and more sexual callousness toward women.

Eighth hypothesis

It was hypothesized within this study that Sexist attitudes are significantly influenced by correlations between female siblings, relationships and the school type factors.

The findings of current study partly supported this hypothesis. Sexist attitudes was not determined or significantly influenced by the combination of three factors, including female siblings, relationships and the school type. Similarly, no significant effect was found in the

relation to sexist attitudes combined with the correlation between female siblings and relationship status conditions. Continuously, no significant effect was found in the relation to sexist attitudes combined with the correlation between relationship status and school type factor. However, there was a significant main effect for female siblings and school type factor correlation in respect of Pornography Problematic Use Scale. The Problematic Pornography Use scale in single-sex school condition that had female siblings, $M=19.23$ ($SD=5.83$) was observed to be significantly higher than in any other condition which indicate excessive pornography use and lend a support to theory that sexual segregation in school encourage sexist attitudes (Kenway, Willis, 1994), associated with higher pornography consumption (Brownmiller, 1975; Kostach, 1978; Johnson & Goodchilds, 1973). In addition, the highest pornography consumption combined with the presence of female siblings supports the findings that males surrounded by female siblings present more sexist attitudes, as there are less involved in household tasks (Healy, Malhotra, 2031) , therefore they grow up in the presence of gender-divided roles and women objectification, which leads to higher pornography consumption.

4.4 Limitations of the study and future research

The study had some limitations which were revealed in the results – particularly in terms of measurement tools used. It is believed that particular weaknesses of the scales used contributed to lack of significance shown in the study.

Attitudes Toward Women Scale (ATWS) used in current study is over four decades old. The scale appeared in the male-dominant culture in United States when women movement were still developing and growing in strengths. Since that time, women have – to a point – exercised their rights to attain the same educational and employment status as men. Along with that social changes a social attitudes toward gender roles begun to change as well. The large body of

research demonstrated that attitudes became less traditional over the time. As mentioned before, Spence and Hanh (2006) in the space of two decades repeatedly measured gender-role attitudes among college students and found out that while the time was passing by, attitudes become increasingly egalitarian. Another study by Twenge (1997) supported that findings and showed that gender-role attitudes in both, males and females became significantly more egalitarian in 25-years period between 1970 and 1995. An extension of this flaw is that some of the activities could be thought to be ‘of their time’ for example one item on the ATW Scale asked if “it is ridiculous for a woman to run a locomotive and for a man to darn socks”. Both of which could be viewed as outmoded activities.

Another limitation of the ATW Scale used in current paper applies to the ‘ceiling effect’. Mostly all of the responses in the study clustered near high, egalitarian end of the scale which produced lack of variability in scale responses and led to difficulties in determining the relationships of the scale with different variables. That ceiling effect can be considered as another indicator of the change over time in gender role attitudes.

Continuously, in current times it is socially unacceptable to express any kind of negative attitudes toward women openly. Taking under consideration that ATW is an overt type of measure, it can be suspected that not all egalitarian responses reflect truthful beliefs of participants. In order to increase the level of honest responses, more subtle measures of gender-role attitudes should be used in current study. For instance, unlike overt type of measures, the Modern Sexism Scale developed by Janet Swim and her colleagues, estimate the degree to which subjects deny that discrimination against women exists.

Similarly to ATW Scale, the Pornography Frequency Use Scale (PFUS) is a self-reported scale which honesty of responses can be also questioned. The participants could have a difficult

time to give true answers as they might experience the feeling of the guilt evoked by the topic of the measure scale that is still considered to be shameful in today's society. Shame and guilt are negative self-evaluative emotions that arise after a mistake or a failed attempt. A shame experience views the entire self as worthless or broken while a guilt experience views specific behavior as wrong. The admitting to pornography use can feel like admitting to doing something wrong for some participants. For that reason, the self-reported measure could lead to false responses. In other words, the responders could admit lower frequency of pornography use than it really was. The future research should rely less on self-reported measurements and ideally obtain access to participant's personal devices, which could provide an valid information about downloaded and stored pornographic material, check for memberships of a pay sites that allow users to consume pornographic content for a fee, and measure the website traffic to the free sites that allow consumers to view either samples, photographs or full videos without paying.

In addition, future research should investigate the type of pornography viewed as large body of research support the belief that sexist attitudes go hand in hand with aggressively toned (or violent) pornography.

While Pornography Frequency Scale focuses directly on the measurement of exposure to sexually explicit materials, the Problematic Pornography Use Scale searches for influence of pornography consumption on several aspects of life including romantic relationships, self-esteem, social interactions, addiction and psychological well-being. Majority of the items on the PPU scale refers to the topics of a very sensitive matter. Admitting the negative effects that pornography use can have on various aspects of life might be very difficult for participants. Through activity of defensive mechanisms, many of excessive users might not be able to face their own, often severe issues. Future research could increase the validity of the responses

through using less direct measures. The items on the scale should ask the questions about close relationships, self-esteem and general well being without the direct link to pornography consumption and then look for the correlation between pornography frequency and various aspects of life.

The main limitation of the current study was the nature of using self-report measures and the fact that it did not include a scale of social desirability. Considering the highly sensitive nature of the variables measured, it could have been valuable to measure the degree to which participants were answering truthfully.

Another weakness of the study refers to demographic variables limitations. In terms of investigating the effect of women presence while growing up, the study focused on female siblings but ignored the role of mothers and the depths of relationships with female family members. It was also not taken under consideration that some participants could have a female siblings but grown up separately or not have a biological female siblings but grown up in the same home with female peers. Future research should investigate entire population of a female presence while growing up and not limit itself to female siblings only.

Continuously, following limitations apply to relationship status that is limited to current relationship measurement that participants are involved with during the time of the study. It doesn't necessarily reflect holding the real experience of being in close company of a women by participants. Future studies should ask for the length and number of meaningful relationships that a participant was ever in and not investigate only current relationship status.

The main strength of the study applies to its results showing that higher pornography consumption significantly correlates with more conservative attitudes toward women as

predicted. The study also shows that males might be on higher risk of addiction to pornography if they had attended single-sex high school and they have a number of female siblings.

Conclusion of this study

In conclusion, this study has found that if measured independently, sexist attitudes doesn't differ across school type, relationship status or female siblings. However, if measured in correlation with each other, the study showed significant effect for female siblings combined with school type conditions in relation to Pornography Problematic Use Scale. In addition, the study accepted the null hypothesis that males with female siblings will be more likely to present sexist attitudes than males without female siblings due to the results presented and related research. This study has found that there is a significant negative correlation between the pornography of consumption and attitudes toward women. Taken in general terms, it has added significant support for the interaction between exposure to sexually explicit materials and sexist attitudes.

References

- Allport, G.W. (1954). *The Nature of Prejudice*. Reading, MA: Addison-Wesley.
- Atherton, B.F. (1973) Co-educational and Single-sex Schooling and Happiness of Marriage. *Educational Research*, 15, 221-226.
- Ball, S.J., Gewirtz, S. (1997). Girls in the Education Market: choice, competition and complexity. *Gender and Education*, 9, 207-222.

Bowen, N. 1987. Pornography: Research, review, and implications for counseling. *Journal of Counseling and Development*, 65, 345-350.

Buzzell, T. (2005). Demographic characteristics of persons using pornography in three technological contexts. *Sexuality & Culture*. 9, 28-48.

Brehony, K., (1984). Co-education: Perspectives and debates in the early twentieth century. In *Co-education Reconsidered: Reviving the Debate*, ed. R. Dem, p. 1-36. Milton Keynes, UK: Open University Press.

Brosius, H. B., Weaver, J. B., Staab, J. F. (1993). Exploring the social and sexual "reality" of contemporary pornography. *Journal of Sex Research*, 30, 161-170.

Brownmiller, S. (1975). *Against your will: Men, women and rape*. New York; Bantam Books.

Cherlin, A., Walters, P. (1981). Trends in United States Men's and Women's sex roles: 1972 to 1978. *American Sociological Review*. 46 (4).

Clarricoates, K. (1983). Classroom interaction. *Sexism in the Secondary Curriculum*. Harper and Row, London.

Cotterell, J. L. (1992). The relation to attachments and support to adolescent well-being and school adjustment. *Journal of Adolescent Research*, 7(1), 28-42.

Dale, R.R. (1969, 1971, 1974). *Mixed or Single-Sex School?* Volumes I-III. London: Routledge and Kegan Paul.

Dunphy, D. (1963). The social structure of urban adolescent peer groups. *Sociometry*. 26, 230-246.

Dworkin, A. (1985). Against the male flood: Censorship, pornography, and equality. *Harvard Women's Law Journal*, 8, 1-19.

Ellis, A. (1950, May). Love and Family Relationship of American College Girls. *American Journal of Sociology*, p.550-55.

Ferguson, C.J., Hartley, R.D. (2006). The pleasure is momentary...the expense damnable? The influence of pornography on rape and sexual assault. *Aggression and Violent Behavior*. 14, 323–329.

Field, H.S. (1978). Attitudes towards rape: a comparative analysis of police, rapists, crisis counsellors and citizens. *Journal of Personality and Social Psychology*, 36, 156-179.

Freud, S. (1905). Three Essays on the Theory of Sexuality.

Hamilton, C. (2004, August,11). Guarding our kids from a perverse twist. *The Australian*.

Garcia, L. (1984). Exposure to pornography and attitudes about women and rape: A correlational study. *Journal of Social Issues*, 30: 378-385.

Glick, P., Fiske, T. (1997). Hostile and Benevolent Sexism; Measuring Ambivalent Sexist Attitudes Toward Women. *Psychology of Women Quarterly*, 21, 119-135.

Hald, G., Malamuth, N., Yuen, C. (2010). Pornography and attitudes supporting violence against women: Revisiting the relationship in nonexperimental studies. *Aggressive Behaviour*.36 (1);14-24.

Harris, M.B. (1986). Co-education and sex roles. *Australian Journal of Education*, 30, 117-131.

Healy, A., Malhotra, N. (2013). "Childhood Socialization and Political Attitudes: Evidence from a Natural Experiment. *Journal of Politics*. 75(4): 1023-1037.

Hewstone, M., Brown, R. (1986). *Contact and Conflict in Intergroup Encounters*. Oxford: Blackwell.

Howard, B.A. (1928). *The Mixed School*. London: University of London Press.

Johnson, P., Goodchilds, J.D. (1973). Comment: Pornography, sexuality and social psychology. *Journal of Social Issues*, 29, 231-238.

Kenway, J., Willis, S., Blackmore, J., Rennie, L. (1994). Making 'hope practical' rather than 'despair convincing': feminist post-structuralism, gender reform and education change. *British Journal of Sociology of Education*, 15 (2), 187-210.

Kingston, D., P. Fedoroff, P., Firestone, S., Curry, J. (2008). Pornography use and sexual aggression: The impact of frequency and type of pornography use on recidivism among sexual offenders. *Aggressive Behavior* 34: 341-351.

Klemmack, S.H., Klemmack, D.L. (1976). The social definition of rape. Retrieved from Sexual Assault: Victim and the rapist. Lexington, Mass.: Lexington Books.

Kostach, M. (1978). Pornography: Feminist view. *This Magazine*, 12(3), 4-7.

O'Neil, J., Nadeau, R. (1999). Men's gender-role conflict, defense mechanisms, and self-protective defensive strategies: Explaining men's violence against women from a gender-role socialization perspective. In Harway, M., O'Neil, J.(Eds.). *What causes men's violence against women?* Pp. 89-117. Thousand Oaks, CA: SAGE Publications, Inc.
doi:<http://dx.doi.org/10.4135/97814522319121.n7>

MacKinnon, C. A. (1984). Not a moral issue. *Yale Law & Society Review*, 2, 321-345.

MacKinnon, C. A. (1989). *Toward a feminist theory of the state*. Cambridge, MA: Harvard University Press.

Mael, F. (1998). Single-sex and coeducational schooling: Relationships to socioemotional and academic development. *Review of Educational Research*, 68 101-129.

Malamuti, N.M., Donnerstein, E. (1984). *Pornography and sexual aggression*. Orlando: Academic Press. p. 115-138.

McHale, S.M., Kim, J., Whiteman, S.D. (2006). Sibling relationships in childhood and adolescence. *Close Relationships. Psychology Press.*

McHale, S.M., Updegraff, K.A., Helms-Erikson, H., Crouter, A.C.(2001). Sibling influences on gender development in middle childhood and early adolescence: A longitudinal study. *Developmental Psychology.* 37,115–125.

McHugh, M. C., Frieze, I. H. (1997). The measurement of gender role attitudes: A review and commentary. *Psychology of Women Quarterly*, 21, 1-16.

National Association For Single Sex Public Education (2006). *Single-sex public schools in United States*. Retrieved from <http://www.singlesexschools.org/schools-schools.htm>

Parashar, A., Varma, A. (2007). “Behaviour and substance addictions: is the word ready for a new category in DSM-V?” *CNS Spectr* 12 (4): 257.

Peter, J. Valkenburg, P.M. (2006). ‘Adolescents’ exposure to sexually explicit online material and recreational attitudes toward sex’. *Journal of Communication.* 56(4), 639-60.

Riordan, C. (1990) *Girls and boys in school: Together or separate?* Teachers College Press, New York.

Sabina, C., J. Wolak,, D. Finkelhor. (2008). The nature and dynamics of Internet pornography exposure for youth. *CyberPsychology & Behavior*, 11: 691-693.

Senn, C. Y., Radtke, H. L. (1990). Women’s evaluations of and affective reactions to mainstream violent pornography, nonviolent pornography, and erotica. *Violence and Victims*, 5, 143-155.

Shanahan, A. (2004, March 12). Memo to the gender police: sex is not a morality-free zone. *The Age* (Australia), p. 13.

Smyth, E. (2010). "Single-sex Education: What does research says us?" *French Magazine of Pedagogy*. 171, 47-55.

Spence, J. T., Hahn, D. (2006). The Attitudes Toward Women Scale and Attitude change in college students. *Psychology of Women Quarterly*. 21(1), 17-34.

Spender, D., Sarah, E. (1980). Learning to Lose: sexism and education. *Women's Press*, London.

Stanworth, M. (1983). *Gender and Schooling*, Hutchinson, London.

Stein, D. J., Hollander, E., Rothbaum, B. (2009). *Textbook of Anxiety Disorders*. American *Psychiatric Pub*, 359– ISBN 978-1-58562-254-2. Retrieved 24 April 2010.

Szymanski, D., Stewart-Richardson, D. (2014). Psychological, Relational, and Sexual Correlates of Pornography Use on Young Adult Heterosexual Men in Romantic Relationships. *The Journal of Men's Studies* 22: 64–82. doi:10.3149/jms.2201.6410.3149/jms.2201.64.

Twenge, J.M. (1997). Attitudes Toward Women, 1970-1995 a Meta-Analysis. *Psychology of Women Quarterly*. 21(1), 35-51.

Twohig, M. P., Crosby, J. M. (2010). "Acceptance and Commitment Therapy as a Treatment for Problematic Internet Pornography Viewing". *Behavior Therapy* 41 (3): 285 295. doi:10.1016/j.beth.2009.06.002. PMID 20569778.

Wastlund, B., A., Norlander, T., Archer, T., et al. (2001). Internet blues revisited: replication and extension of an internet paradox study. *Cyber Psychology & Behavior*. 4, 385-391.

Wallace, P. (1999). *The Psychology of the Internet*. Cambridge: Cambridge University Press.

Wolak, J., Mitchell, K., Finkelhor, D. (2007). Unwanted and wanted exposure to online pornography in a national sample of young internet users. *Pediatrics*. 119(2), 247-57.

Zillman, D., Bryant, J. (1982). Pornography, sexual callousness, and the trivialization of rape. *Journal of Communication*. 32(4), 10–21.

Zillmann, D. (1986). Effects of Prolonged Consumption of Pornography. *National Institutes of Health*.

Ybarra, M.L., Mitchell, K.J. (2005). Exposure to internet pornography among children and adolescents: A national survey. *Cyberpsychology and Behavior*. 8(5), 473-86.

Appendix

Part I

Attitudes Towards Women Scale

Instructions: The statements listed below describe attitudes toward the roles of women in society which different people have. There are no right or wrong answers, only opinions. You are asked to express your feeling about each statement by indicating whether you (A) agree strongly, (B)

agree mildly, (C) disagree mildly, or (D) disagree strongly.

1. Swearing and obscenity are more repulsive in the speech of a woman than of a man.

A B C D

Agree strongly Agree mildly Disagree mildly Disagree strongly

2* Women should take increasing responsibility for leadership in solving the intellectual and social problems of the day.

A B C D

Agree strongly Agree mildly Disagree mildly Disagree strongly

3.* Both husband and wife should be allowed the same grounds for divorce.

A B C D

Agree strongly Agree mildly Disagree mildly Disagree strongly

4. Telling dirty jokes should be mostly a masculine prerogative.

A B C D

Agree strongly Agree mildly Disagree mildly Disagree strongly

5. Intoxication among women is worse than intoxication among men.

A B C D

Agree strongly Agree mildly Disagree mildly Disagree strongly

6.* Under modern economic conditions with women being active outside the home, men should share in household tasks such as washing dishes and doing the laundry.

A B C D
Agree strongly Agree mildly Disagree mildly Disagree strongly

7.* It is insulting to women to have the "obey" clause remain in the marriage service.

A B C D
Agree strongly Agree mildly Disagree mildly Disagree strongly

8.* There should be a strict merit system in job appointment and promotion without regard to sex.

A B C D
Agree strongly Agree mildly Disagree mildly Disagree strongly

9.* A woman should be free as a man to propose marriage.

A B C D
Agree strongly Agree mildly Disagree mildly Disagree strongly

10. Women should worry less about their rights and more about becoming good wives and mothers.

A B C D

Agree strongly Agree mildly Disagree mildly Disagree strongly

11.* Women earning as much as their dates should bear equally the expense when they go out together.

A B C D

Agree strongly Agree mildly Disagree mildly Disagree strongly

12.* Women should assume their rightful place in business and all the professions along with men.

A B C D

Agree strongly Agree mildly Disagree mildly Disagree strongly

13. A woman should not expect to go to exactly the same places or to have quite the same freedom of action as a man.

A B C D

Agree strongly Agree mildly Disagree mildly Disagree strongly

14. Sons in a family should be given more encouragement to go to college than daughters.

A B C D

Agree strongly Agree mildly Disagree mildly Disagree strongly

15. It is ridiculous for a woman to run a locomotive and for a man to darn socks.

A B C D

Agree strongly Agree mildly Disagree mildly Disagree strongly

16. In general, the father should have greater authority than the mother in the bringing up of children.

A B C D

Agree strongly Agree mildly Disagree mildly Disagree strongly

17. Women should be encouraged not to become sexually intimate with anyone before marriage, even their fiancés.

A B C D

Agree strongly Agree mildly Disagree mildly Disagree strongly

18.* The husband should not be favored by law over the wife in the disposal of family property or income.

A B C D

Agree strongly Agree mildly Disagree mildly Disagree strongly

19. Women should be concerned with their duties of childbearing and house tending rather

than with desires for professional or business careers.

A B C D

Agree strongly Agree mildly Disagree mildly Disagree strongly

20. The intellectual leadership of a community should be largely in the hands of men.

A B C D

Agree strongly Agree mildly Disagree mildly Disagree strongly

21.* Economic and social freedom is worth far more to women than acceptance of the ideal of femininity which has been set up by men.

A B C D

Agree strongly Agree mildly Disagree mildly Disagree strongly

22. On the average, women should be regarded as less capable of contributing to economic production than are men.

A B C D

Agree strongly Agree mildly Disagree mildly Disagree strongly

23. There are many jobs in which men should be given preference over women in being hired or promoted.

A B C D
Agree strongly Agree mildly Disagree mildly Disagree strongly

24.* Women should be given equal opportunity with men for apprenticeship in the various trades.

A B C D
Agree strongly Agree mildly Disagree mildly Disagree strongly

25.* The modern girl is entitled to the same freedom from regulation and control that is given to the modern boy.

A B C D
Agree strongly Agree mildly Disagree mildly Disagree strongly

In scoring the items, A=0, B=1, C=2, and D=3 except for the items with an asterisk where the scale is reversed. A high score indicates a profeminist, egalitarian attitude while a low score indicates a traditional, conservative attitude.

Part II

Pornography Use Scale

Frequency of Pornography Use Subscale

1. How frequently do you view sexual explicit materials/pornography via adult magazines (e.g., Playboy, Hustler)?

0 = none

1 = once a month or less

2 = 2 or 3 days a month

3 = 1 or 2 days a week

4 = 3 to 5 days a week

5 = everyday or almost everyday

2. How frequently do you view sexual explicit materials/pornography via adult videos, movies, and/or films?

0 = none

1 = once a month or less

2 = 2 or 3 days a month

3 = 1 or 2 days a week

4 = 3 to 5 days a week

5 = everyday or almost everyday

3. How frequently do you view sexual explicit materials/pornography via the Internet?

0 = none

1 = once a month or less

2 = 2 or 3 days a month

3 = 1 or 2 days a week

4 = 3 to 5 days a week

5 = everyday or almost everyday

4. Taken together, how frequently do you view sexually explicit/pornographic material (such as magazines, movies, and/or Internet sites)?

0 = never

1 = rarely

2 = sometimes

3 = frequently

4 = most of the time

5. More specifically, how frequently do you view sexually explicit/pornographic material (such as magazines, movies, and/or Internet sites)?

0 = none

1 = once a month or less

2 = 2 or 3 days a month

3 = 1 or 2 days a week

4 = 3 to 5 days a week

5 = everyday or almost everyday

6. Taken together, how many hours per week do you view sexually explicit/pornographic material (such as magazines, movies, and/or Internet site)?

0 = none

1 = about 1 hour per week

2 = between 2 and 4 hours per week

3 = between 4 and 6 hours per week

4 = between 6 and 8 hours per week

5 = more than 8 hours per week

7. When using/viewing sexually explicit/pornographic materials (including online, magazines, DVD/videos/movies) in one sitting, I spend approximately amount of time doing such;

0 = I do not ever use/view such materials

1 = less than 15 minutes

2 = between 15 minutes and 30 minutes

3 = between 31 minutes and 60 minutes

4 = between 61 minutes and 90 minutes

5 = more than 90 minutes

Problematic Pornography Subscale

Strongly disagree Disagree

Neutral

Agree

Strongly Agree

1 2 3 4 5

8. I use sexually explicit materials/pornography (including online, magazines, DVD/videos) more than I would like to.

9. My use of sexually explicit materials/ pornography (including online, magazines, DVD/videos) has interfered with certain aspects of my life.

10. My use of sexually explicit materials/ pornography (including online, magazines, DVD/videos) has interfered with certain aspects of my relationship.

11. I sometimes wish I would stop using sexually explicit materials/pornography.

12. My use of sexually explicit materials/ pornography is a problem in my romantic relationship currently.

13. My use of sexually explicit materials/ pornography has negatively affected me.

14. I believe I am addicted to sexually explicit materials/ pornography.