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## Exposure of Taiwanese Adolescents to Pornographic Media and its Impact on Sexual Attitudes and Behaviour

*This article examines the use of pornographic media by Taiwanese high school students, and explores the effects of exposure to such on their attitudes and behaviour in terms of sexual permissiveness.*

*The results of this research indicate that more than 90 per cent of the students interviewed had at least some exposure to a variety of pornography, with males reporting significantly higher exposure frequencies than females. The results also show that exposure to pornographic media has significant effects on high school students' sexual permissiveness and nonexclusive sexual attitudes and behaviour.*

**W**hilst economic measurements such as gross domestic product and standard of living indices are improving, Taiwan's leaders and parents are vexed by the increasing evidence for the weakening of traditional sexual standards and morality. Some points of particular concern are:

- Soaring pregnancy rates among unwed adolescents. Taiwan's rate of adolescent (15 to 19 year olds) pregnancies has reached 1.7 per cent and is the highest in Asia (Taiwan's rate of adolescent pregnancies, 12 December 1996).
- A virtual explosion of pornographic material in all media, readily available to adolescents (Huang, 1995).
- The insinuations that the pornographic explosion is promoting adolescents' sexually permissive attitudes and behaviour (Huang, 1995).

- The fear that traditional Chinese family values prohibiting premarital, extramarital and nonexclusive sex may not be able to cope with the new pornography-driven permissiveness (Lai, 1996).

Simultaneously, with the sharply increasing pregnancy rates for unwed adolescents, has been the proliferation in the availability of pornographic material. Parents and Society's leaders have wondered whether this is coincidence or whether there is a correlation between the two (Lai, 1996). Many factors may contribute to the high rate of unwed adolescent pregnancies, but many scholars contend that the syndrome is influenced to a considerable extent by the widespread dissemination of inaccurate sexual information through pornography, and its conveyance of unrealistic sexual themes and messages (Greenberg, Brown & Bouerkel-Rothfuss, 1993; Lai, 1996).

Since adolescents are poorly informed on sexual matters (Cernada, 1986; Chin, 1987), they are highly vulnerable and susceptible to the sexual information conveyed by the pervasive media (Greenberg, Brown & Buerkel-Rothfuss, 1993). The main concern of this study is to determine to what extent the increasing availability of pornographic material is shaping adolescents' sexually permissive and nonexclusive attitudes and behaviour. No previous research about the effects of pornographic media on adolescents' sexual attitudes and behaviour has been conducted in Taiwan.

## ■ Pornography in Taiwan: Chinese Cultural Context and Definition

There are some important considerations to bear in mind when addressing the use of pornography by adolescents in Taiwan. The relatively recent arrival of Western 'pornography' needs to be seen against the backdrop of traditional sexual attitudes in the centuries-old, Chinese cultural context. Another factor is that Western definitions of pornography may differ from those used in present-day Taiwan. Thus, the validity of evaluating research results from Taiwan by direct comparison with those from the West, must be viewed with caution.

Large segments of traditional Chinese literature are devoted to erotic themes (He, 1996), and there are even centuries-old drawings of sexual acts (Brewer, 1982). But Confucian concepts

of proper family life, filial piety and the correct behaviour of young persons, tended to keep this literature in perspective.

The advent of Western (including Japanese) pornography was relatively recent in Taiwan. Even in the West, trying to define pornography is like trying to hit a moving target (Bryant & Brown, 1989). The debate continues in the West over what constitutes 'pornography' and what constitutes 'art'. Harris (1994) notes that there is a class of media (at least in the US) which is clearly labelled as 'pornographic', 'X-rated', or 'sexually explicit'. Harris (1989: 196) says: 'These media are generally recognized as being for sexual purposes only and without recognized literary or artistic merit. One possible exception to this is the relatively tame *Playboy*, which, alone among sex magazines, has some genuine literary respectability. Finally, there is also a class of serious educational and semi-educational material such as sex manuals like *The Joy of Sex*'.

In 1986, the US Attorney General's Commission on Pornography, commonly known as the Meese Commission, identified five categories of what it called 'pornography': (a) Sexually violent material depicting rape or other forced and physically harmful sexual activities; (b) Materials depicting degradation, domination, subordination, or humiliation portraying women as 'masochistic, subservient and over-responsive to the male interest'; (c) Depictions of vaginal or oral intercourse without the elements of violence or coercion; (d) Nakedness without sexual context; (e) child pornography (Final Report, 1986). But even the commission made a disclaimer in saying that because not everyone agrees that all of these categories constituted 'pornography'—particularly in categories (d) and (e)—and because 'pornographic' is a scientifically imprecise term, the commission generally referred to materials studied as 'sexually explicit'.

Differences of opinion over what constituted 'pornography' led to varying approaches in seeking to prohibit the showing, selling or renting of material, particularly films and videos. Whether or not a film was seen to stimulate 'prurient interest', in other words aimed mainly at sexual arousal, was one criterion set up in the West to determine 'community standards', which are used to control screening of sexual films in certain neighbourhoods (Donnerstein et al., 1987). The 'community standards' parameter is yet to be developed in Taiwan.

In Taiwan, and for the purposes of this study, 'pornography' includes R-rated and X-rated films on cable television, in a theatre,

on video tape, adult magazines, books, comic books, and sexually explicit material for computers. To elaborate, *Playboy* and *Penthouse* magazines imported from the West, showing full frontal nudity, are regarded as 'pornographic' in Taiwan. Recently added Chinese editions of these magazines, which do not show full frontal nudity, are also regarded as pornographic.

At a Taiwan roadside news vendor, a US edition of *Playboy* showing full frontal nudity of women, might be sold alongside an edition from Japan with pubic hair exposure airbrushed out. Also displayed could be a third version, in Chinese, showing only upper body nudity. Thus, any survey must take into account this backdrop of what might be called a 'changing pornographic scene'.

Having said this, it should be further noted that the majority of pornographic material available to adolescents in Taiwan is produced in the United States, Japan, Europe and Hong Kong, in that order. Local products in Chinese are limited (Wang, 1989).

Mainstream movie theatres may show sexually oriented R-rated films, prohibited to persons under the age of 18. However, it is popular for adolescents to attend sexually oriented R-rated films in out-of-the-way theatres. Furthermore, sexually explicit movies are widely available, regardless of age, in rural theatres and in video rental shops where supervision is lax.

The first video cassette recorder was imported to Taiwan in 1976 (Qiu, 1984). Since then the number has increased dramatically, with the penetration rate rising from 3.75 per cent in 1981, to 71.16 per cent of households by 1992 (DGBAS, 1995). Corner video rental shops proliferated and became the major source of pornographic films until the Cable Television Law was passed in 1993. It is illegal for members of the public to possess video tapes of R-rated or X-rated films which show male or female genitals. However, it is easy to find this kind of tape showing in small rooms of video shops or in entertainment districts. And age does not seem to be a restriction. In a study of the video tape business (Wang, 1989), it was found that 93 per cent of operators of corner video shops admitted that they provided pornographic films 'under the counter'.

VCR use has declined rapidly since 1993. Nowadays, pornographic material is rampant and readily available on cable channels, with some channels having shown such films before cable television was legalized. Under the cable television law, sexually explicit films or programmes (lower body nudity shown as mosaic or sprayed) may be shown from midnight to 5am on

general channels, and may be presented any time on special channels that are accessed through special coded devices. Some special channels, such as the Rainbow Channel, are available to all viewers after midnight. These channels also offer 'commercials' touting health and vitality products, friendship clubs and sexual books.

Glossy pornographic magazines were generally not available until Chinese editions of *Playboy* and *Penthouse* appeared in the 1990s, although Japanese adult comic books have long been popular in Taiwan, with no age constraints. Perusing Japanese adult comic books is said to be a popular leisure pastime for Taiwanese middle school students (Huang, 1995).

In Taiwan's exploding media mix, foreign products and images clash with traditional tendencies and behaviour. How Taiwanese adolescents' attitudes respond to the intrusion of pornography and how this intrusion affects their behaviour are important questions.

## ■ Literature Review

### ■ *Use of Pornography by Adolescents*

Although there has been plenty of literature from Western nations, particularly the United States, regarding the use of pornography by the general public, very little research has been done on the use of pornography by adolescents (Bryant & Brown, 1989; Greenberg, Brown, & Buerkel-Rothfuss, 1993). Research conducted in the United States indicates that adolescents have a surprisingly high level of exposure to a variety of pornography (Strasburger, 1995). In fact, use of pornography has become a normal part of the adolescent experience (Greenberg, Brown, & Buerkel-Rothfuss, 1993). One study of high school students, conducted in 1970 in the US, revealed that 89 per cent of males and 40 per cent of females reported having read *Playboy* (Elias, 1971). In the early 1980s, 100 per cent of male and 97 per cent of female high school students in the United States reported having read *Playboy* or *Playgirl* (Bryant, 1985).

Exposure to sexually oriented R-rated films by US junior-high school students begins at an average age of 12.5 years, with 94.3 per cent of them reported having seen an R-rated film. The average age of first exposure to an X-rated film by junior-high school



students was 13.5 years, with 92 per cent of them reporting having viewed such a film (Bryant, 1985). A more recent study of 1200 high school students in Michigan found that most respondents reported seeing their first R-rated film at age 13 or 14 years. Of 30 popular sexually oriented R-rated movies, high school males reportedly had viewed an average of 15.3 films; and high school females, 14.5 films (Greenberg & Linsangan, 1993).

In Taiwan, little was known about the use of pornography by adolescents. Most of the past research was conducted by researchers from the public health field as they studied young people's sexual attitudes and behaviour, which included a few questions about the use of pornography. For example, a study of 50,150 high school and college students by the Taiwan Provincial Family Planning Research Institute found 93.5 per cent of males and 66.9 per cent of females in the sample had been exposed to pornographic books or magazines. Pornographic films were reportedly viewed by 90.3 per cent of the males and 70.8 per cent of the females (Lin & Lin, 1996).

Another recent study found that pornographic comics were the most used medium, with 90 per cent of respondents reporting having read the books. Pornographic films were next on the list, with 61 per cent of respondents reporting having viewed such a film, either on cable television or by renting (Huang, 1995). Both studies reported only a few simplistic items about the use of pornography by adolescents. Actually, no systematic research has been attempted to study the use of pornography by adolescents in Taiwan.

### ■ *Effects of Pornography on Adolescents' Sexual Attitudes and Behaviour*

Over the last few years, communication researchers have shown considerable concern over the effects of pornography on sexual attitudes and behaviour. Most of the past studies have been concerned with the effects of pornography on sexual violence against women (Donnerstein et al., 1987), and on people's sexual callousness toward women and toward rape (Zillmann & Weaver, 1989). Very few studies have attempted to examine the effects of pornography on adolescents' sexually permissive and nonexclusive attitudes and behaviour.

One of the main concerns about the effects on adolescents'

permissive and nonexclusive attitudes and behaviour is that they may undermine family-taught values against premarital and extramarital sex. In pornographic media, sexual activities tend to de-emphasize friendship, love, and marriage (Prince et al., 1987). Most of the scenes feature sex between unmarried men and women (Prince et al., 1987; Greenberg, Brown, & Buerkel-Rothfuss, 1993). Women are portrayed as eagerly desiring and participating in sex (Palys, 1986; Buerkel-Rothfuss et al., 1993). Men and women engage in varied sexual behaviour without love or without emotional involvement (Zillmann & Bryant, 1989) and many of them tend to have sexual relations with more than one person (Prince et al., 1987).

It is obvious that the values expressed in pornography clash with the family values against premarital, extramarital and nonexclusive sex. As Zillmann and Bryant (1988: 521) note:

Pornographic scripts dwell on sexual engagements of parties who have just met, who are in no way attached or committed to one another, and who will part shortly, never to meet again. Not by accident, the parties involved accept no curtailing rules for their social and sexual conduct, enjoy sexual stimulation for what it is, and do so at no social or emotional expense...it should be clear that the projection clashes with the values that promote enduring social aggregations, especially those that are to serve reproduction.

Prolonged exposure of adolescents to pornography may result in more permissive sexual attitudes and behaviour, and may consequently weaken the traditional family values against premarital and nonexclusive sex. Whilst indirect evidence for this is rather convincing, there has been very little direct research conducted on it. Drawing on social learning theory (Bandura, 1977) and cultivation theory (Gerbner et al., 1980), Greenberg and his associates (Greenberg, Brown, & Buerkel-Rothfuss, 1993) note that heavy users of pornographic material may derive certain inflated perceptions about the nature of sexual activity, such as frequency of occurrence of various sexual behaviour between unmarried men and women. Zillmann and Bryant (1982, 1984) demonstrated that massive exposure to pornography resulted in subjects overestimating the popularity of common and uncommon sexual practices like fellatio, cunnilingus, anal intercourse, sadomasochism, and bestiality. In a recent study of 343



undergraduate students, Buerkel-Rothfuss and Strouse (1993) also found heavy consumption of pornographic media to be related to higher estimates of sexually explicit behaviour, such as erotic dreams, reading eroticism, reaching orgasm during intercourse, and oral sex among males and females in the real world.

In general, past research seems to indicate that there is some relationship between the pornographic material audiences consume, and the way they perceive the world around them. The inflated perceptions about the nature of human sexual behaviour may affect adolescents' own attitudes (Strouse & Buerkel-Rothfuss, 1987), and may consequently produce more permissive and nonexclusive sexual behaviour (Greenberg, Brown & Buerkel-Rothfuss, 1993). According to social learning theory, adolescents are not given the opportunity to observe actual sexual behaviour in real life or educational settings, and thus they depend on media for sexual learning (Baran, 1976). Past research also indicates that media are a major source of sexual information for adolescents (Roberts, 1982; Greenberg, Linsangan, & Soderma, 1993). From the social learning perspective, therefore, one would expect that exposure to pornography may produce more permissive and nonexclusive attitudes and behaviour. Again, however, there has been very little research conducted regarding this connection.

Most of the past research was designed primarily to measure the effects of exposure to more mainstream media on people's sexual attitudes and behaviour. For example, Greeson and Williams (1986) found that adolescents who watched less than one hour of MTV were more likely to approve premarital sex than adolescents who did not watch it. Another study by Strouse and Buerkel-Rothfuss (1987) also found that consumption of sexually suggestive media was an important predictor of sexually permissive attitudes and behaviour for male and female undergraduate students. Those who had a higher level of exposure to sexually suggestive media tended to have sexual relations with more than one person. They also tended to agree that love is not a necessary component of a sexual relationship. Only one study was designed to assess the effects of exposure to pornography on people's sexually permissive and nonexclusive attitudes and behaviour. In an experimental study of 160 college students and adults by Zillmann and Bryant (1988) it was found that subjects viewing six hours of X-rated films over six weeks tended to show greater acceptance of premarital and extramarital

sex than did a control group seeing nonsexually-explicit films. Subjects viewing X-rated films also showed a greater acceptance of nonexclusive sexual behaviour, and tended to see sex without love as being more important than the control group did.

## ■ Research Questions and Hypotheses

Based on the above discussion, this study attempts to answer the following research questions, and to test the related hypotheses:

### *Research Questions*

- (1) What is the frequency of exposure to pornographic media among Taiwanese high school students?
- (2) Is there any difference in frequency of exposure to pornographic media between male and female students?

### *Hypotheses*

- (1) Those who have had a higher level of exposure to pornographic media would exhibit higher levels of sexually permissive attitudes and behaviour.
- (2) Those who have had a higher level of exposure to pornographic media would exhibit higher levels of sexually nonexclusive attitudes and behaviour.

## ■ Methodology

### ■ *Sample*

The study employed a multistage cluster-sampling plan. Subjects for this study were drawn from 15 randomly selected high schools in Taipei. Three classes were randomly chosen from each school. The sample, which comprises 45 classes, was designed to provide a wide range of socioeconomic backgrounds. The self-administered questionnaires were distributed in class during a two-week period in December 1996. The total completed sample was 1858, consisting of 964 (51.6 per cent) males and 894 (47.8 per cent) females. Of the respondents, 642 (34.6 per cent) were in Grade 10, 638 (34.4 per cent) in Grade 11, and 574 (31.0 per cent) in Grade 12. Questionnaires were distributed and instructions given by trained senior undergraduate students at the National Chengchi University.

Table 1  
Principal Component Analysis  
of Pornographic Media Exposure with Varimax Rotation

	<i>Factor 1 Print Media and Computer Exposure</i>	<i>Factor 2 Electronic Media Exposure</i>
Pornographic comics	0.87	0.18
Pornographic books	0.82	0.17
Pornographic magazines	0.77	0.31
Pornography on computer or CD rom	0.53	0.30
X-rated films at a theatre	0.12	0.80
X-rated rental films	0.35	0.73
R-rated films at a theatre	0.14	0.72
R-rated rental films	0.37	0.68
R-rated films or programmes on CATV	0.43	0.53
Sexually explicit films on special channels of CATV	0.44	0.52
Per cent of variance	48.10	11.10
Eigenvalues	4.81	1.11
Total per cent of variance	59.20	
Cronbach's alpha	0.82	0.82

### ■ Variables

#### *Exposure to pornographic media*

A list of 10 pornographic media was provided, and respondents were asked how often they had seen each of them in the last one or two years. The response categories were: never (0), once or twice a year (1), once or twice per month (2), once or twice per week (3), and nearly everyday (4). Answers on the five-point scale were used to compute percentages of exposure to each medium. Exposure means were computed for each medium. Thus, the higher the score, the more frequent the exposure to that medium.

A set of pornographic media exposure indices was constructed using principal component analysis. The 10 pornographic media

exposure items yielded two factors (Table 1). The two-factor solution explained 59.2 per cent of the total variance. Items 7–10, which loaded on the first factor, were combined to constitute a measure of ‘pornography exposure in print media and on computer’ (Eigenvalue=4.81; Cronbach’s alpha=0.82). Factor scores were computed to weight a respondent’s total score on the exposure index. To compute a respondent’s total score on the index, his or her score on each item in the index was taken and weighted by the factor score for the respective item on the index and sum (mean=0.74; SD=0.95). Items 1–6 loaded on the second factor (Eigenvalue=1.12; Cronbach’s alpha=0.82). A measure of ‘pornography exposure on electronic media’ was created by adding items 1–6. Factor scores were computed to weight a respondent’s total score on the exposure index (mean=0.38; SD=0.75).

#### *Sexually permissive attitudes*

A measure of sexually permissive attitudes toward holding hands, kissing, love touching, and sexual intercourse was developed based on previous research (Cernada, 1986). Each respondent was asked to indicate his or her agreement (5=strongly agree, 1=strongly disagree) with these intimate actions by unmarried men or women with a casual person.

Principal component analysis (Table 2) showed that the items

Table 2  
Principal Component Analysis  
of Sexually Permissive Attitudes

<i>Items</i>	<i>Factor Loading</i>
Holding hands	0.91
Kissing	0.88
Love touching	0.81
Sexual intercourse	0.71
Per cent of variance explained	68.90
Eigenvalue	2.76
Cronbach’s alpha	0.85

measuring sexually permissive attitudes toward a casual person were grouped in a single factor and measured the same underlying concept. Thus, the four items were constructed to form an attitude index. The one factor solution explained 68.9 per cent of the total variance (Eigenvalue=2.76; Cronbach's alpha=0.85). Factor scores were computed to weight a respondent's total score on the attitude index (mean=3.26; SD=1.25).

#### *Sexually permissive behaviour*

Each respondent was also asked how often he or she had experienced holding hands, kissing, love touching, and sexual intercourse with a casual person. The response categories were: never (0), seldom (1), sometimes (2), often (3).

Principal component analysis confirmed that the four items were loaded in a single factor and measured the same underlying concept (Table 4). The one factor solution explained 68.9 per cent of the total variance (Eigenvalue=2.55; Cronbach's alpha=0.76). An index was constructed to measure the respondents' sexually permissive behaviour. Factor scores were computed to weight a respondent's total score on the attitude index (mean=0.29; SD=0.66).

#### *Sexually nonexclusive attitudes*

Sexually nonexclusiveness refers to the act or inclination of having more than one sexual partner. Respondents were asked to express their agreement (5=strongly agree, 1=strongly disagree) with the following four statements reflecting their attitudes toward nonexclusiveness: (1) It is better for married men and women to have one sex partner; (2) It is better for unmarried men and women to have one sex partner at the same time; (3) It is allowable for married men and women to have more than one sexual partner; (4) It is allowable for unmarried men and women to have more than one sexual partner at the same time.

Principal component analysis (Table 3) showed that the four statements were grouped in a single factor and measured the same underlying concept (Cronbach's alpha=0.63). The one factor solution explained 49.8 per cent of the total variance (Eigenvalue=1.99; Cronbach's alpha=0.63). The four items were combined to form an index of 'sexually nonexclusive behaviour'. Factor scores were computed to weight a respondent's total score on the attitude index (mean=2.58; SD=1.00).

Table 3  
Principal Component Analysis  
of Sexually Nonexclusive Attitudes

<i>Items</i>	<i>Factor Loading</i>
It is allowable for married men and women to have more than one sex partner	0.80
It is better for married men and women to have one sex partner	0.75
It is allowable for unmarried men and women to have more than one sex partner at the same time	0.74
It is better for unmarried men and women to have one sex partner at the same time	0.49
Eigenvalue	1.99
Total per cent of variance accounted for	59.20
Cronbach's alpha	0.63

Table 4  
Principal Component Analysis  
of Sexually Permissive Behaviour

<i>Items</i>	<i>Factor Loading</i>
Holding hands	0.91
Kissing	0.88
Love touching	0.72
Sexual intercourse	0.67
Eigenvalue	2.55
Total per cent of variance accounted for	63.80
Cronbach's alpha	0.76



### *Sexually nonexclusive behaviour*

Respondents were asked to indicate how many sex partners they had in the past year. The response categories were: none (0), one (1), two (2), three or more (3).

## ■ Results

Table 5 presents descriptive statistics regarding the number of television sets, number of VCRs, and availability of cable television in the home. Almost all respondents (99.2 per cent) said they had a television set, and 87.7 per cent said they had a VCR. The average number of television sets per household was 1.88, and the average number of VCRs was 1.3. About 80 per cent of respondents said they received cable television in the home.

## ■ *Answers to Research Questions*

The first stage of the analysis was to answer the two research questions. Table 5 also presents frequencies of exposure to the ten pornographic media of the high school students in the sample. By far the most used medium was R-rated films or programmes on cable television, with 58.7 per cent of respondents reporting having watched them in the past two years. Pornographic comics were next (46.2 per cent), followed by sexually explicit films on special cable channels (38.1 per cent), and R-rated rental films (37.9 per cent). X-rated films viewed in movie theatres received the lowest viewership rating, with only 8.9 per cent of respondents reportedly viewing them.

The gender analyses showed that males consistently reported seeing much more pornographic media overall. The greatest discrepancy was for pornographic magazines, with 51.8 per cent of the males and only 18.1 per cent of the females reporting at least some exposure in the past two years. The second greatest discrepancy was for exposure to the sexually explicit films on special channels of cable television, with 54.1 per cent of the males and 20.9 per cent of the females reporting having watched them in the past two years.

Overall, the data indicated that 90.9 per cent of respondents in the sample reported at least some exposure to pornographic media, with males reporting significantly higher exposure frequencies than females.

Table 5  
Frequency of Exposure to 10 Pornographic Media among Taiwan High School Students

<i>Medium</i>	<i>Total</i>		<i>Male</i>		<i>Female</i>		<i>t-values</i>
	<i>Exposure at least once or twice a year</i>	<i>Mean</i>	<i>Exposure at least once or twice a year</i>	<i>Mean</i>	<i>Exposure at least once or twice a year</i>	<i>Mean</i>	
R-rated films at a theatre	23.8	0.32	27.2	0.40	20.2	0.24	5.31 <sup>1</sup>
R-rated rental films	37.9	0.57	50.3	0.82	24.4	0.29	14.13 <sup>1</sup>
R-rated programmes on CATV	58.7	1.08	71.1	1.45	45.3	0.67	16.24 <sup>1</sup>
Sexually explicit films on special channels of CATV	38.1	0.76	54.1	1.18	20.9	0.31	18.46 <sup>1</sup>
X-rated films at a theatre	8.9	0.16	12.6	0.24	4.6	0.07	6.62 <sup>1</sup>
X-rated rental films	22.5	0.35	34.7	0.57	9.3	0.12	13.71 <sup>1</sup>
Pornographic magazines	35.6	0.57	51.8	0.88	18.1	0.23	16.98 <sup>1</sup>
Pornographic books	33.7	0.53	41.5	0.70	25.2	0.34	9.17 <sup>1</sup>
Pornographic comics	46.2	0.74	61.9	1.08	29.3	0.38	16.97 <sup>1</sup>
Pornography for computers	23.3	0.40	38.1	0.69	7.1	0.09	16.91 <sup>1</sup>

(1)  $p < 0.001$

How many TV sets? None=0.8%, 1=31.2%, 2=47.6%, 3 or more=20.4%; Mean=1.88

How many VCRs? None=12.3%, 1=65.7%, 2=18.9%, 3 or more=3.1%; Mean=1.13

CATV in home? No=20%, Yes=80%

### ■ *Test of Hypotheses*

The second stage of the analysis was to test the two hypotheses. Pearson Correlations were used to explore the bivariate relationship between pornographic media exposure, and sexually permissive and nonexclusive attitudes and behaviour. The Pearson Correlations are presented in Table 6.

The first hypothesis predicted that pornographic media exposure would be positively correlated with sexually permissive attitudes and behaviour. As shown in Table 6, this hypothesis was supported. Exposure to pornographic media was significantly related to sexually permissive attitudes and behaviour.

The second hypothesis predicted that pornographic media exposure would be positively correlated with sexually nonexclusive attitudes and behaviour. As shown in Table 6, this hypothesis was also supported. Exposure to pornographic media was significantly related to sexually nonexclusive attitudes and behaviour.

### ■ *Regression Analyses*

In order to gain further insight into the relationship between exposure to pornographic media, sexually permissiveness, and nonexclusive attitudes and behaviour, four separate hierarchical

Table 6  
Correlation between Age, Grade Average, Gender, Exposure to Pornographic Media, and Sexually Permissiveness with Nonexclusive Attitudes and Behaviour

<i>Variables</i>	<i>Grade Average</i>	<i>Age</i>	<i>Gender</i>	<i>Print Media &amp; Computer</i>	<i>Electronic Media</i>
Permissive attitudes	0.09 <sup>3</sup>	0.07 <sup>2</sup>	0.35 <sup>3</sup>	0.26 <sup>3</sup>	0.22 <sup>3</sup>
Permissive behaviour	0.05 <sup>1</sup>	0.04	0.17 <sup>3</sup>	0.18 <sup>3</sup>	0.29 <sup>3</sup>
Nonexclusive attitudes	0.08 <sup>3</sup>	0.01	0.31 <sup>3</sup>	0.22 <sup>3</sup>	0.23 <sup>3</sup>
Nonexclusive behaviour	0.06 <sup>1</sup>	0.09 <sup>3</sup>	0.11 <sup>3</sup>	0.13 <sup>3</sup>	0.29 <sup>3</sup>

Grade average was coded into four categories ranging from upper quartile (1) to lower quartile (4). Gender was coded 1=male, 0=female.

(1)  $p < 0.05$       (2)  $p < 0.01$       (3)  $p < 0.001$

regression analyses were performed. Gender, age and grade average were used as predictor variables, because previous studies have indicated that they were significant predictors of sexual attitudes and behaviour (Greenberg, Brown, & Buerkel-Rothfuss, 1993; Greenberg & Linsangan, 1993). Table 7 summarizes the results. The standardized regression coefficients reflect the comparative predictive power of each variable, while controlling for the overlapping effects of other predictor variables. As shown in Table 7, gender was the best predictor of sexually permissive attitudes toward a casual person, indicating that males exhibited a significantly higher level of sexually permissive attitudes than did

Table 7  
Hierarchical Regression Analyses of Sexually Permissive,  
Nonexclusive Attitudes and Behaviour on Age, Grade  
Average, Gender, and Pornographic Media Exposure

<i>Step Variables</i>	<i>Sexually Permissive Attitudes</i>	<i>Sexually Permissive Behaviour</i>	<i>Sexually Nonexclusive Attitudes</i>	<i>Sexually Nonexclusive Behaviour</i>
Block 1				
Grade Average	0.05 <sup>1</sup>	0.02	0.04	0.03
Age	0.04	0.00	-0.02	0.05 <sup>1</sup>
Gender	0.26 <sup>3</sup>	0.06 <sup>2</sup>	0.22 <sup>3</sup>	0.00
R Square	0.13	0.03	0.10	0.02
Block 2				
Electronic Media Exposure	0.17 <sup>2</sup>	0.26 <sup>3</sup>	0.17 <sup>3</sup>	0.27 <sup>3</sup>
Print Media & Computer Exposure	0.14 <sup>3</sup>	0.14 <sup>3</sup>	0.12 <sup>3</sup>	0.11 <sup>3</sup>
Incremental R Square	0.03	0.08	0.03	0.08
Final R Square	0.16	0.11	0.13	0.10

Beta weights from final regression equation with all blocks of variables in the model. Grade average was coded into four categories ranging from upper quartile (1) to lower quartile (4). Gender was coded 1=male, 0=female.

(1)  $p < 0.05$       (2)  $p < 0.01$       (3)  $p < 0.001$

females. Grade average was also a significant predictor.

The analyses also indicate that both exposure to pornography on electronic media, and exposure in print media and on computer were related significantly to sexually permissive attitudes, accounting for three per cent of the variance in sexually permissive attitudes. Table 7 indicates that exposure to pornography on electronic media emerged as the most powerful predictor. Pornography in print media and on computer was the second most powerful one. These two variables contributed about eight per cent of the total variance explained in sexually permissive behaviour. Gender was also a significant predictor, whilst grade average and age did not appear to exert any influence.

With regard to sexually nonexclusive attitudes and behaviour, the analyses indicate that gender was the most powerful predictor, however, it did not exert any influence on behaviour. Age was only significantly related to sexually nonexclusive behaviour. Grade average was not a significant predictor either.

Exposure to pornography on electronic media was the most powerful predictor of sexually nonexclusive behaviour, and was the second most powerful predictor of sexually nonexclusive attitudes. Exposure to pornography in print media and on computer was also significantly related to sexually nonexclusive attitudes and behaviour. The two pornographic media exposure variables accounted for three per cent of the variance in nonexclusive attitudes and eight per cent in nonexclusive behaviour.

## ■ Discussion

The results of this study indicate that more than 90 per cent of the students interviewed had at least some exposure to a variety of pornography, with males reporting significantly higher exposure frequencies than females. The results also indicate that sexually oriented films or programmes on cable television, including special channels, were the most frequently accessed pornographic material.

The study reveals that government restrictions against Taiwanese high school students under 18 years of age watching sexually oriented films shown after midnight, and against rental or purchase of pornographic films, are probably ineffective. In other words, a majority of high school students have had access to materials forbidden by the government. Who is to blame for this government policy failure? Who is to blame for this easy access to pornographic

material? Should parents hold themselves responsible for failing to implement government policy?

The most important finding of this study is that exposure to pornographic media does have a significant effect on the sexual permissiveness and nonexclusive sexual attitudes and behaviour of high school students. Also, the exposure effects that were obtained apply to both males and females. Such a finding is consistent with previous experimental studies by Zillmann and Bryant (1988, 1989).

Some analysts dismiss pornography as a harmless form of sex education in the absence of parental guidance on such matters. But past research suggests the consumption of pornography in various media may create socially inappropriate perceptions for young people. It is clear from the results of this study that unrealistic depictions of human sexuality are being consumed in considerable quantities, especially by male high school students.

Because males have a significantly higher exposure than females, males and females may have different perceptions and expectations in their sexual relations in terms of how they should behave toward each other. Young males may tend to overemphasize the role of sex in relationships to the exclusion of other activities. Based on facts and actual responses by high school students, there is an indication that, at the very least, adolescents need more education on handling intimate relationships.

There is unanimous agreement that consumption of pornography erodes traditional, Chinese family values against premarital and nonexclusive sex; promiscuous sexual behaviour is definitely a taboo in traditional Chinese families, particularly for females.

This study shows that the clandestine consumption of pornography among high school students is prevalent, and has a significant effect on what is regarded as inappropriate sexual behaviour. These implications beg further questions and research. Is education the answer? Is more discipline the answer? Are more government regulations the answer? Would a reduction of exposure to pornography lower the pregnancy rate among unwed high school students?

The clock is ticking; urgency is required for society to address these consequences. Future research needs to examine more closely the content of pornographic media. No such research has been done in Taiwan, and it is a task demanding sophistication and thoroughness. Future research is also advised to examine whether exposure to pornography leads adolescents to engage in



nonrealistic sexual activities portrayed in sexual media. There also needs to be investigations into whether parental mediation could effectively alter the effects of pornography on adolescents' sexual attitudes and behaviour.

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