

---

**Relation between Pornography Browsing and Aggression among University Students****Ahmed Ibrahim Elaghoury<sup>1</sup>, Ahmed Abel-Rahman Mubarak<sup>2</sup>, Mervat Hosney Shalaby<sup>3</sup>, Sozy Ragab Mosa<sup>4</sup>.**

<sup>1</sup>Demonstrator, Psychiatric and Mental Health Nursing, Faculty of Nursing, Tanta University, Egypt.

<sup>2</sup>Professor of Neuro- Psychiatry, Faculty of Medicine, Tanta University, Egypt.

<sup>3</sup>Professor of Psychiatric/ Mental Health Nursing, Faculty of Nursing, Tanta University, Egypt.

<sup>4</sup>Lecturer of Psychiatric/ Mental Health Nursing, Faculty of Nursing, Tanta University, Egypt.

**Abstract**

Pornography browsing has become particularly evident among University students to the extent that there are several physiological, psychological and mental changes that escalate aggressiveness and behavioral problems. **This study was conducted to** determine the relation between pornography browsing and aggression among university students. **The study design was** descriptive correlational design. **Setting:** the study was conducted at Faculties of Tanta University. **Subjects:** 1600 undergraduate students were selected according to stratified random sampling from both practical and theoretical faculties. **Tools:** data was collected using two tools; Buss & Perry aggression questionnaire, and problematic pornography consumption scale. **The results** revealed that the majority of the studied students had no evidence of problematic pornography browsing, and there was a highly significant positive moderate correlation between pornography browsing and aggression. **It was concluded that** pornography browsing is particularly evident among university students, and that pornography browsing can predict aggressive behavior. **The study recommended that** providing Psycho-educational program about pornography browsing to students and their parents is vital to overcome adverse effects of pornography browsing .

**Keywords:** Pornography , Browsing, Aggression, University students.

**Introduction**

Since ancient civilizations, people have created explicit depictions of sex and nudity. This erotica was often intertwined with religious and the supernatural ideas about sexuality and included art work , artifacts, music, models and poetry <sup>(1)</sup>. After the modern invention of [photography](#), explicit depictions of sex expressed more clearly and purely by camera in pictures and movies <sup>(2)</sup>. As a result of the increased progress of technology and internet availability, the industry of online pornography is going through fast unstoppable development to the extent that provides for watching

materials like a video without the need to download. That's why explicit material is ubiquitously and readily available on the internet, which makes intended and unintended exposure to it more difficult to avoid <sup>(3-5)</sup>.

Pornography has been defined as professionally derived or user-generated pictures or videos (clips) intended to sexually arouse the viewer. These include videos and pictures depicting sexual activities, such as masturbation, oral sex, as well as vaginal and anal penetration in an unconcealed way, often with a close-up on

genitals <sup>(6)</sup>. Pornography is a multibillion-dollar industry <sup>(7)</sup>, The porn industry in the U.S. is of net worth \$10-\$12 billion and is still growing larger . Every day, around 40 pornographic videos are added in the internet from the nation of U.S. only and 100 thousand online searches of child pornography are being made <sup>(8)</sup>.

According to statistics shared by Pornhub, a major online website with explicit content, the group of pornography consumers is steadily increasing and it is mostly represented by men (over 70% of all users) and young adults, below 34 years old. Moreover, Similar Web's analysis, the top two *countries* with the *highest share* of adult websites are Iraq and Egypt <sup>(9)</sup>. In line with this data, over 70% of adult US citizens, aged 18–30 years old, admit to watching online pornography at least once a month while nearly 60% of college students admitted to its consumption once a week <sup>(10)</sup>. Excess viewing of pornography has been associated with psychiatric comorbidities such as anxiety and depression, and even sexual dysfunction. Individuals with pornography addiction have lower degrees of social integration, increase in conduct problems, higher levels of delinquent behavior, higher incidence of depressive symptoms, and decreased emotional bonding with caregivers. Pornography is an expression of fantasies and is said to have the potential to rewire pleasure centers of the brain and alter structures and function <sup>(11)</sup>.

The impact of pornography can also have physical manifestations in external behavior. This manifestation can be found most commonly in aggressive behavior towards others. College-aged females that were exposed to erotic material were significantly more likely to behave aggressively towards

a provoker than those that were exposed to neutral or aggressive material <sup>(12)</sup>.

Besides, pornography browsing is associated with a variety of consequences as more sexually aggressive behaviors, both in terms of perpetration and victimization <sup>(6)</sup>. Moreover, specific types of pornography exaggerates violence against women which support negative attitudes of verbal and physical aggression toward them. Pornography in general, present men as more powerful and in charge while women as submissive and obedient , viewing scene after scene makes it to seem normal which supports aggression and abuse <sup>(13-15)</sup>. Consumers of violent and nonviolent pornography are more likely to use verbal aggression, drugs and alcohol to force others into sex. As a result of pornography use, aggressive behaviors are manifested in the form of physical victimization ( being hit, slammed into something, or injured with object/weapon), sexual form (being kissed, touched, or physically forced to have sexual intercourse) and psychological forms <sup>(16-18)</sup>. However, on the other side, pornography viewers can get some benefits from viewing those sexually explicit materials. Significant contributors to pornography consumption include facilitating sexual satisfaction, achieving relaxation, increasing knowledge about sex, initiating relationships, and developing more excitement during sexual relations <sup>(19,20)</sup>. Moreover, among individuals with more frequency of pornography viewing, higher marital quality, enhanced sexual communication, and improved sexual experimentation/comfort were all recorded <sup>(21)</sup>.

### **Significance of the problem:**

There is a plenty of studies that point to the impact of pornography browsing on

adopting aggressive attitude in almost all behaviors of University students who consume online pornography more frequently. So it is important to understand the repercussions of pornography browsing on university student. Particularly because pornography browsing not only affect the students but also affect all others who interact with him like families and friends. It's a national problem that needs to get more attention on the local and global perspectives. This study offers an opportunity to elucidate the associations between psychopathological phenomena and their level of severity which may be relevant for clinical care.

**Aim of the study:** The aim of the study was to determine the relation between pornography browsing and aggression among Tanta University students.

**Research question:** What was the relation between pornography browsing and aggression among Tanta University students ?

**Research hypothesis:** Pornography browsing is expected to increase aggressive behavior among university students.

**Subjects and Method:**

**Research design:-**

Descriptive correlational design was utilized in the study.

**Setting:-**

The study was conducted at Faculties of Tanta University. Tanta University hosted 13 faculties beside a Technical Institute of nursing which is a total of 14 faculties (premises) which are affiliated to the Ministry of High Education. The faculties was stratified into two strata which are mainly theoretical and practical. A number of two faculties (premises) were in turn randomly selected from each

strata, the selected faculties were as follows :

- Faculty of Nursing and Faculty of Science were selected randomly from practical strata.

- Faculty of Arts and College of Education were selected randomly from theoretical strata.

**Subjects:-**

Sample of 1600 students, as 400 students was randomly chosen from each selected faculty bringing a total of 1600 students.

The sample size was calculated using Epi-Info software statistical package created by World Health organization and center for Disease Control and Prevention, Atlanta, Georgia, USA version 2002. The criteria used for sample size calculation were as follows:

- 95% confidence limit.
- Expected outcome was 50% with a 5% margin of error.
- The sample size based on the previously mentioned criteria was found to be at  $N > 384$  for each selected stratified group.

**Tools of the study:** -The data was collected by using the following two tools:-

To achieve the aim of the study, two tools were used.

**Tool I: Structured Interview Schedule:**

It consists of two parts:

**Part one: Socio-**

It was developed by the researcher to elicit data such as: age, gender, grade, educational level, marital status, residence, parents' education and occupation, and stability of parents' marriage.

**Part two: Buss & Perry Aggression Questionnaire:**

This scale was developed by [Arnold H. Buss](#) and Mark Perry.(1992)<sup>(22)</sup>. This

scale aimed to measure the intensity of aggression, It comprised 29 items. It is Likert type scale. Students were asked to give one of the following 5 responses to each item : 1(extremely uncharacteristic of me), 2 (somewhat uncharacteristic of me), 3 ( neither uncharacteristic nor characteristic of me), 4 ( somewhat characteristic of me), 5(extremely characteristic of me). Items (6 ,16) were reversely scored. The total scale score ranges from 29 to 145 with the higher scores indicate greater levels of aggression .

#### ❖ Scoring system :

-No evidence of aggression 29 -86

-Mild level of aggression 87-106

-Moderate level of aggression 107-126

-Sever level of aggression 127-145

#### **Tool II: Problematic Pornography Consumption Scale (PPCS)**

It was developed by **Bóthe B., et al. (2017)<sup>(23)</sup>**. This scale intended for measuring whether pornography use is a problem. It comprised 18-items, It is Likert type scale . Students were asked to give one of the following 7 responses for each item : 1 (never), 2 (rarely), 3 (occasionally), 4 (sometimes), 5 (often), 6 (very often), 7 (all the time). The total scale score ranges from 18 to 126 with the higher scores indicate greater levels of problematic pornography consumption.

#### **Scoring system :**

No problematic pornography use 18-75

Possible problematic pornography use 76-126

#### **Method**

1. An Official letter clarifying the purpose of the study was obtained from dean of Faculty of Nursing to deans of the selected

faculties to obtain permission for data collection.

#### **2. Ethical considerations:-**

-Research plan was approved by ethical committee recommendations

-Informed consent was obtained from the students after explanation of the purpose of the study.

-The students were reassured about the confidentiality and the privacy of their obtained information.

-The right of the students to withdraw at any time during data collection was respected.

-Privacy, humanity and the right of the students for anonymity and confidentiality was respected.

3. Study tools were translated into Arabic language by the researcher.

4. Tools of the study ( I and II) were tested for content validity by five experts in psychiatric field.

5. Tools of the study were tested for reliability through the appropriate statistical tests , as follows:

- Cronbach's Alpha for tool I is 0.741 for 39 items applied on 160 students.

- Cronbach's Alpha for tool II is 0.936 for 18 items applied on 160 students.

- Cronbach's Alpha for the sheet in total is 0.878 for 57 items applied on 160 students.

6.A pilot study was carried out on 10% of the sample from the previously mentioned settings to test the feasibility and applicability of the tools, it serves to estimate the approximate time required for data collection as well as identifying obstacles that may be faced during the process. Accordingly, necessary modification was done and the data obtained was excluded from the study.

7. The tools of the study were distributed to the students in group basis whom were asked to fill the questionnaire in the presence of the researcher to clarify any misunderstanding for the students. The data collection was carried out at the first semester (from 1 October to 31 December) of the academic year 2020-2021.

#### **Statistical analysis:**

The collected data were organized, tabulated and statistically analyzed using SPSS software statistical computer package version 26. For quantitative data, the range, mean and standard deviation were calculated. For qualitative data, comparison was done using Chi-square test ( $\chi^2$ ).

For comparison between means for variables pre and post intervention in a group, paired samples T-test was used.

Correlation between variables was evaluated using Pearson and Spearman's correlation coefficient  $r$ . A significance was adopted at  $P < 0.05$  for interpretation of results of tests of significance (\*). Also, a highly significance was adopted at  $P < 0.01$  for interpretation of results of tests of significance (\*\*)<sup>(24)</sup>.

#### **Results:-**

**Table (1):** presents the socio-demographic characteristics of the studied students. The subjects of the present study consisted of 1600 university students. The results revealed that more than half of the studied subjects (60.4%) were female. Regarding to the student's age, more than half of the studied students (52%) aged between (20 - <22) years old, and less than one tenth (0,9 %) aged ( $\geq 22$ ) years old, with a mean age of (19.83 $\pm$ 1.405). Concerning marital status, majority of the studied students (95.1%) were single. In relation to their grade,

(34,1%) of the studied subjects in 3<sup>rd</sup> academic year, and (15,6%) in the 2<sup>nd</sup>. Regarding the student's residence, more than half of the studied students (59,1%) were living in urban areas. Concerning their parents' educational level, (42,3%) of subjects' fathers have bachelor degree, and (39%) of subjects' mothers respectively have diploma. In respect to their parents' occupation, the majority of their fathers ( 91,6% ) are working, while the majority of their mothers (68.3%) aren't working.

**Figure (1):** represents distribution of the studied subjects according to levels of problematic pornography consumption. the results revealed that the majority of the studied subjects (95.4%) had no evidence of problematic pornography use, while only (4.6%) had evidence of possible problematic pornography use.

**Figure (2):** represents distribution of the studied subjects according to levels of aggression, the results revealed that about two thirds of the studied subjects (65.1%) had no evidence of aggression, approximately one third (29.7%) have mild level of aggression, (5.1%) have moderate level of aggression, and only (0.1%) of the studied subjects have sever level of aggression.

**Table (2):** reveals percentage comparison and correlation between problematic pornography consumption and aggression among the studied subjects. It was found that there is a statistical highly significant positive correlation between problematic pornography consumption and aggression ( $r=0.275$ ;  $p < 0.001$ ). in addition to that there is a significant difference among levels of pornography consumption in relation to levels of aggression ( $p < 0.001$ ). this means that the studied subjects

who have a higher frequency of pornography consumption are more likely to be aggressive.

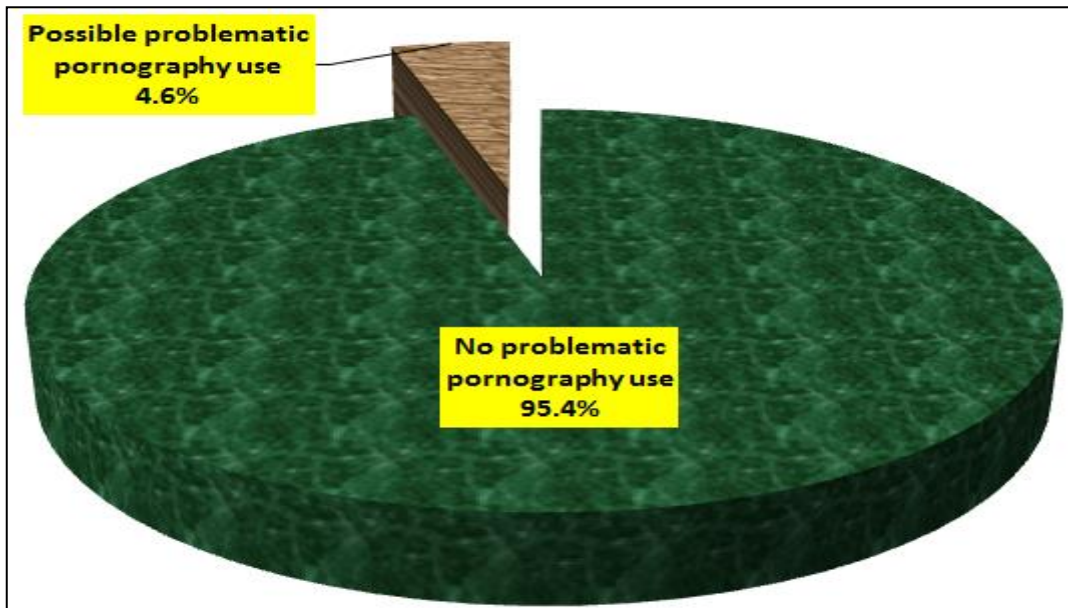
**Table (3):** Illustrates the relationship between total problematic pornography consumption score and socio-demographic characteristics of the studied students. It could be clearly noticed that there was no

statistically significant difference between problematic pornography consumption and socio-demographic data except for faculty, age, sex, residence and marital status. There is a significant correlation between total problematic pornography consumption score and faculty, age, sex, residence and marital status.

**Table (1): Distribution of the studied students according to Socio-Demographic Characteristics.**

Characteristics		The studied students (n=1600)		
		N	%	
Age (in years)	(< 20)	624	39.0	
	(20-< 22)	832	52.0	
	≥ 22	144	9.0	
	<b>Range</b> <b>Mean ± SD</b>	<b>(17-30)</b> <b>19.83±1.405</b>		
Sex	Male	634	39.6	
	Female	966	60.4	
Residence	Urban	945	59.1	
	Rural	655	40.9	
Grade	1st year	455	28.4	
	2nd year	250	15.6	
	3rd year	546	34.1	
	4th year	349	21.8	
Marital Status	Single	1521	95.1	
	Married	74	4.6	
	Divorced	3	0.2	
	Separated	1	0.1	
	Widow	1	0.1	
Education level of parents	Father	Illiterate	62	3.9
		Read & write	238	14.9
		Preparatory	91	5.7
		Secondary	524	32.8
		University	677	42.3
		Post studies	8	0.5

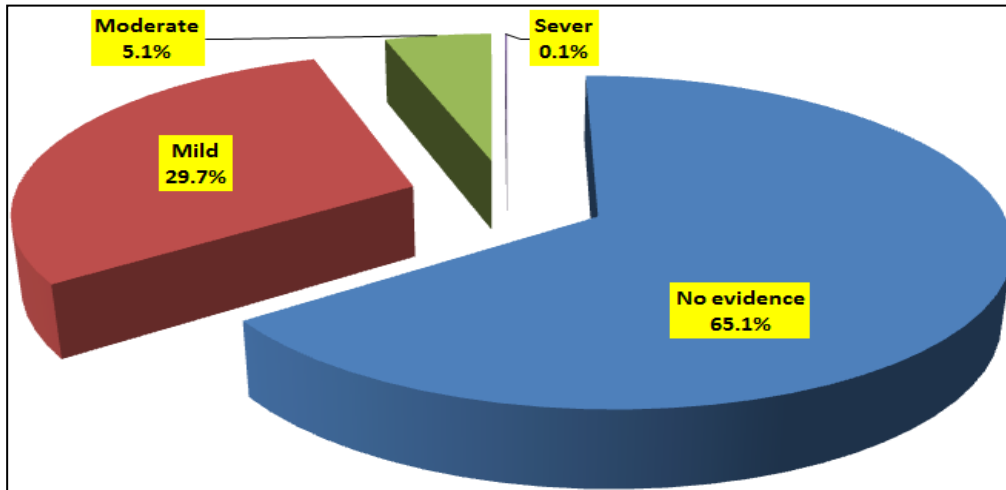
	<b>Mother</b>	Illiterate	126	7.9
		Read & write	193	12.1
		Preparatory	82	5.1
		Secondary	624	39.0
		University	563	35.2
		Post studies	12	0.8
<b>Occupation of parents</b>	<b>Father</b>	Work	1465	91.6
		Not work	135	8.4
	<b>Mother</b>	Work	507	31.7
		Not work	1093	68.3



(18-75) No problematic pornography use

(76-126) Possible problematic pornography use

**Figure (1): Distribution of the studied students according to their total level of problematic pornography consumption.**



**Figure (2):** Distribution of the studied students according to their total aggression level

**Table (2):** Percentage comparison and correlation between level of problematic pornography consumption and total aggression level of the studied subjects.

Total Aggression Level	The studied students (n=1600) Total problematic pornography consumption level				$\chi^2$ P
	No problematic pornography use (n=1526)		Possible problematic pornography use (n=74)		
	N	%	N	%	
▪ No evidence	1019	63.7	22	1.4	<b>46.63</b> <b>0.000*</b>
▪ Mild	434	27.1	41	2.6	
▪ Moderate	71	4.4	11	0.7	
▪ Sever	2	0.1	0	0.0	
<b>r , P</b>	<b>0.275 , 0.000**</b>				

r: Pearson' correlation coefficient

\* Significant at level  $P < 0.05$ .

\*\* Highly significant at level  $P < 0.01$ .



**Table (3): Relationship between Total Problematic Pornography Consumption Score and Socio-Demographic characteristics of the studied students.**

Characteristics		The studied students (n=1600) Total problematic Pornography consumption score Mean ± SD	T P
<b>Faculty</b>	<b>1.Arts</b>	27.34±1.271	<b>11.54</b> <b>0.000*</b>
	<b>2.Education</b>	27.96±1.020	
	<b>3.Nursing</b>	<b>33.36±2.351</b>	
	<b>4.Science</b>	33.28±2.162	
<b>Age (in years)</b>	- (< 20)	31.05±19.339	<b>4.890</b> <b>0.008*</b>
	- (20-< 22)	29.35±18.857	
	- ≥ 22	<b>34.60±23.129</b>	
<b>Sex</b>	- Male	<b>44.18±2.130</b>	<b>764.25</b> <b>0.000*</b>
	- Female	21.50±8.705	
<b>Residence</b>	- Urban	28.84±1.745	<b>16.61</b> <b>0.000*</b>
	- Rural	<b>32.86±2.346</b>	
<b>Year</b>	- 1st year	<b>31.25±1.668</b>	0.53 0.659
	- 2nd year	30.67±1.794	
	- 3rd year	29.70±1.892	
	- 4th year	30.58±2.292	
<b>Marital status</b>	- Single	30.78±1.563	<b>7.75</b> <b>0.000*</b>
	- Married	22.08±1.752	
	- Divorced	<b>71.67±5.209</b>	
	- Separated	52.00±0.00	
	- Widow	57.00±0.00	
<b>Educational level of parents</b>	<b>Father</b>	- Illiterate	0.48 0.789
		- Read & write	
		- Preparatory	
		- Secondary	
		- University	
		- Post studies	

Parents' Occupational status	Mother	- Illiterate	29.29±1.566	0.78 0.563
		- Read & write	28.25±1.134	
		- Preparatory	<b>31.72±1.797</b>	
		- Secondary	31.03±1.753	
		- University	30.72±1.337	
		- Post studies	31.08±1.238	
Parents' Occupational status	Father	- Work	30.34±1.508	0.98
		- Not work	<b>32.08±1.538</b>	0.320
	Mother	- Work	<b>30.75±1.528</b>	0.137
		- Not work	30.36±1.510	0.711

\* Significant at level  $P < 0.05$ .

### Discussion:

The online pornography industry has been developing at a fast pace due to a global increase of Internet accessibility and technological progress, particularly in streaming media that allow users to continuously watch content, usually videos, without the need to download it<sup>(3)</sup>. It is, thus, no surprise that pornography material is now ubiquitously and readily available on the Internet while intended and unintended exposure to it may sometimes be difficult to avoid.<sup>(4,5)</sup> which may be experienced as problematic for a variety of reasons. These include personal or moral/ ethical reasons, social and relational reasons, the frequency of use, amount of time spent engaging with pornographic content or consuming pornography at the expense of other responsibilities<sup>(25)</sup>.

At the shadow of this, the present study conducted to determine the effect of pornography browsing on the occurrence of aggressive behavior among Tanta University students. Emerging results of the present study revealed that majority of the studied

subjects had no evidence of problematic pornography use, while only less than half tenth of them had evidence of possible problematic pornography use. This might be due to that the majority of the studied subjects did not have higher sexual preoccupation, which made them less likely to engage in pornography use. In the same line, the study of **Clancy, Howard, et al. (2021)** had supported that sexual preoccupation was significantly associated with increased rates of pornography use, risky offline sexual behaviors, and both sending and receiving of sexts<sup>(26)</sup>.

In the same direction, religiosity and spirituality could play a significant role in low access to pornography, this is evident in the results of the study of **Camilleri, Sammut, et al. (2018)**, which declared that faith, morality and personal motivation had significant effects to decrease pornography use<sup>(27)</sup>. Even if the students consume pornography accidentally or intentionally, they are completely aware that it is against the values, beliefs and attitudes of society

and must be stopped, so they fight against consuming pornography. Another issue, is that university students are preoccupied by their study roles and obligations, so they are too busy to seek internet for pornography.

Regarding the distribution of the studied subjects according to levels of aggression, The present study revealed that about two thirds of the studied subjects had no evidence of aggression, approximately one third have mild level of aggression, around half tenth of the studied students have moderate level of aggression, and a scarcity of the studied subjects have sever level of aggression. The more acceptable explanation of this finding is that social norms in our society prohibited aggressive behaviors. Social norms typically are the “rules and standards that are understood by members of a group, and that guide or constrain social behaviors without the force of law” and often relate to a perceived social reinforcement to engage or not engage in specific behaviors.

Social norms tend to work in an implicit manner, where individuals’ perception of normative behaviors are used to guide behavioral patterns and intentions, but can be based on direct and explicit communication between group members. Also the faculty put many restrictions on the student’s behavior through policies that must be followed and this in turn prompted our study results. This is similar to **Shor (2022)**, founded that the majority of the interviewees, whether men or women, did not seek aggression in pornography and did not want to see more representations of aggression or pain<sup>(28)</sup>. Our study result is in contrast with the results of **Abo- Elyzeed (2016)**, which reported that around half of the studied nursing students had moderate

level of aggression , and around one quarter had high<sup>(29)</sup>.

A noteworthy finding in the current study is the correlation between problematic pornography consumption and aggression among the studied subjects. It was found that there is highly significant positive moderate correlation between problematic pornography consumption and aggression. This means that the studied subjects who have a highier frequency of pornography consumption are more likely to be aggressive.

This could be due to that pornography has become increasingly available with more aggressive themes, and the more frequently use of pornography among consumers. Also exposure to violent pornography may to a greater extent make boys become more aggressive because they are more frequently exposed to more extreme sexual images, which may contribute to attitudes more accepting of interpersonal violence, and sexual violence in particular. On the other hand, some male adolescents may simply possess a propensity for aggression, which is manifested in violence in their dating interactions and intentional consumption of images that depict violence and degradation<sup>(30)</sup>.

In this context, With the proliferation of the Internet and other forms of media, students have easy access to a large collection of sexually explicit material. Indeed, a considerable portion of students are exposed to pornography **Peter & Valkenbur. (2016)**<sup>(31)</sup>, and more frequent pornography viewing has been associated with acts of sexual aggression and adolescent dating violence **Wright, Tokunaga, et al. (2016)**<sup>(16)</sup>. given that some studies suggest that a large portion of pornography is

aggressive **Dekeseredy (2015)<sup>(32)</sup>**, and research has demonstrated that adolescents who intentionally viewed violent pornography were almost six times more likely to report sexually aggressive behavior than those who had not **Ybarra, Mitchell, et al. (2011)<sup>(33)</sup>**.

In addition to that frequency of pornography consumption cause degeneration of the prefrontal cortex that is responsible for executive functions like decision making, problem solving, morality, judgment and impulse control, which in turn results in impulsivity to gratify ones needs and desires at the expense of rights of others and irresponsible acts while interacting and communicating with others as aggression<sup>(34)</sup>. The present study clarified that there is a significant positive correlation between total problematic pornography consumption score and faculty, age, sex, residence and marital status. Firstly, in regard to the faculty, it was founded that the problematic pornography mean score among the studied subjects at faculties of nursing and science was higher than the mean score of subjects at the other faculties, the only acceptable explanation is that the higher mean score was related to the higher male percentage of the included subjects from each faculty, as the male percentage of the subjects included from faculties of science and nursing were double the male percentage from the subjects of the other faculties, and it is clearly evident that the mean score of males was more than the double mean score of females.

Besides, the fact that the faculty students have cell phones, which enabled them to connect to the Internet. The primary methods of access to pornography were internet-related technologies (Cell phone,

laptop, desktop computers and tablets). University students use internet for accessing information, entertainment, communication and this largely promoted easy access to pornographic materials and logging into pornographic sites. The explosive growth in access to the Internet has led to a commensurate increase in the availability, anonymity, and affordability of pornography.

Internet is being incorporated as a part of our everyday existence because the handling of internet has been a growing concern worldwide. Homes, schools, colleges, libraries and internet cafes are the places which are more connected to internet nowadays. Carrying out schoolwork, playing online games, reading and writing emails are the general online activities **Mishra, PriyadarshiniRout, et al. (2015)**. So, this undoubtedly led the online pornography use to new heights. It is now offered in almost unlimited sexual diversity via free-of-charge online websites accessible through any device with Internet access, mostly in the form of video pornography, which was reported to be the most sexually arousing of all forms of explicit materials<sup>(35)</sup>.

Regarding the positive correlation between total problematic pornography consumption score and age, where those aged  $\geq 22$  years had higher total problematic pornography consumption score. This might be due to that most individuals actively explore sexual behaviors and gain sexual experience until their mid-20s, which encouraged pornography consumption in this age group. **Bulot, Leurent, et al. (2015)** reported that The average age of initial exposure was 15.2 years<sup>(36)</sup>. According to statistics shared by **Pornhub**, the group of pornography consumers is steadily increasing and it is

mostly represented by young adults, below 34 years old<sup>(9)</sup>. In line with this data, over 70% of adult US citizens, aged 18–30 years old, admit to watching online pornography at least once a month while nearly 60% of college students admitted to its consumption once a week<sup>(10)</sup>.

Concerning the positive correlation between total problematic pornography consumption score and sex, where males had higher total problematic pornography consumption score than females. This might be returned to that females generally view pornography as less socially acceptable than men and less likely to engage in it. Another distinction between males and females is that, more females were exposed unintentionally, while more males were exposed intentionally for personal curiosity. According to statistics shared by Pornhub (2019), the group of pornography consumers is mostly represented by men (over 70% of all users)<sup>(9)</sup>.

This is clearly evident in the study of **O'Reilly, et al. (2007)**, which reported significant gender differences that men viewed pornography more than women, and that men approved to use pornography more than women<sup>(37)</sup>. Also, the study of **Wright, et al. (2019)**, agreed that pornography use is heavily gendered and males are more inclined to seek pornography than females<sup>(38)</sup>. In addition, the results of **Camilleri, et al. (2021)** indicated that a significantly higher proportion of males than females used pornography<sup>(39)</sup>. Also, **Regnerus, et al. (2016)**, concluded that the prevalence of such use remains higher in men<sup>(40)</sup>.

Besides, female students are very shy and find it difficult to disclose such sensitive data because of issues related to confidentiality, privacy and lack of trust

despite a great effort done to maintain privacy and confidentiality like anonymity and secrecy to make it easy for them to participate honestly in sharing their private data ; unlike male students who were progressive, initiative, very welcoming and enthusiastic to share their experience, they had appreciated the vital role that I am playing by touching a highly significant portion of their mental and sexual life, which play a major role for the results to be fairly representative of the students actual life patterns.

Regarding the positive correlation between total problematic pornography consumption score and residence, where rurals had total problematic pornography consumption score higher than urbans. This could be explained by that rurals may have a lower educational level, lack of sexual awareness and parent child openness, lack of sportive and recreational activities, conservative religious patterns and also stigma of mental illness which make seeking psychiatric consultations to be considered as shameful attitude. All these factors may play a role for rurals to have a higher problematic pornography consumption score than urbans.

It is greatly consistent with the study conducted by **Abd-Elgawad, Ghozy, et al. (2021)** to understand pornography consumption among Arab countries who eventually clarified that lower educational level, conservative religious patterns, lack of exercise and absence of psychiatric regular consultation are all predictors for higher pornography viewing and should be considered when designing public health intervention in a related context<sup>(41)</sup>.

Finally, regarding the positive correlation between total problematic pornography

consumption score and marital status, where divorced used pornography more than other categories. An alternative explanation is that divorced engage in pornography in order to meet their physical and psychological demands and to avoid feeling lonely particularly after having their sexual life stopped abruptly. It is strongly consistent with the study conducted among Arab countries by **Abd-Elgawad, Ghozy, et al. (2021)** that about 95,55% didn't report living with a life partner<sup>(41)</sup>, which would make them tend to consume pornography more often as an alternative to compensate the real sexual gratification<sup>(42)</sup>.

In the light of these findings. It is clearly evident that pornography use among university students is widely distributed to a great extent that require a considerable attention to take action as it is very problematic and may result in many physiological, psychological and mental disturbances that exacerbate the students' aggressive behaviors which adversely affect the way they communicate with themselves and others.

#### **Conclusions:-**

Based on the results of the present study, it can be concluded that pornography browsing has significant relationship with aggression among Tanta University students. It was also found that pornography browsing significantly predicted aggressive behavior . Students who consume pornography more frequently and for long time, are more likely to be aggressive and demonstrate acting out behaviors in their interactions with others .

#### **Recommendations**

In the light of the study findings, the following recommendations were suggested:-

#### **Recommendations related to students**

-Giving guidance and counseling to students about healthy usage of internet and websites especially as a tool of collaborative learning.

#### **Recommendations related to student's parents**

- Increasing awareness of the parents about the significance of the problematic pornography consumption via psycho-educational programs.

#### **Recommendations related to faculty members**

-Faculty members should carry out workshops to orient students about the problematic pornography use and how to prevent it.

#### **Recommendations related to society**

- Establishing campaigns through television and media for public to increase awareness regarding the problematic pornography use and the enhancement of the effective healthy use of internet and websites.

#### **Acknowledgments**

We thank all study participants who collaborated in this study.

#### **References**

- 1- Tarrant S. The pornography industry: What everyone needs to know. Oxford University Press; 2016; 3-11.
- 2- Mukharji P. Search for 'Context': Commodities, Consumption and Abul Hasanat's Material Sexscape. South Asia: Journal of South Asian Studies. 2020; 1-20.
- 3- Wilkinson E. The diverse economies of online pornography: From paranoid readings to post-capitalist futures. Sexualities. 2017; 20: 981– 98.
- 4- Zhang J & Jemmott J. Unintentional Exposure to Online Sexual Content and Sexual Behavior Intentions among College

- Students in China. *Asia-Pac. J. Public Health*. 2015;27:561– 71.
- 5- Wright P, Sun C & Steffen N. Pornography Consumption, Perceptions of Pornography as Sexual Information, and Condom Use. *J. Sex Marital Ther.* 2018;10:1–6.
- 6- Infante S. A Systematic Review of the Psychological, Physiological, & Spiritual Effects of Pornography on Males. Trevecca Nazarene University; 2018.
- 7- Munsterman B. Globalization, Sex Tourism and Economies of Desire: A Sociological Analysis. MacEwan University Student Research Proceedings. 2019;4(1).
- 8- Das I & Bhattacharjee A. Aggression Among Young Adults: Does Cyber pornography affect?. *Journal of the Social Sciences*. 2020;48(3).
- 9- Pornhub. [(accessed on 2 May 2019)]; Available online: <https://www.pornhub.com/insights/2018-year-in-review>.
- 10- Eyes C. Pornography statistics: 250+ facts, quotes, and statistics about pornography use (2015 Edition). Retrieved September 13:2017.
- 11- George M, Maheshwari S, Chandran S & Rao T. Psychosocial aspects of pornography. *Journal of Psychosexual Health*. 2019 ;1(1):44-7.
- 12- Nufer R. A Brief Background of Pornography and its Effects on Physical, Psychological, and Emotional Health in Youth. *Intuition: The BYU Undergraduate Journal of Psychology*. 2017;12(1):2.
- 13- Lim M, Carrotte E & Hellard M. The impact of pornography on gender-based violence, sexual health and well-being: what do we know?. *J Epidemiol Community Health*. 2016;70(1):3-5.
- 14- DeKeseredy W. Critical Criminological Understandings of Adult Pornography and Women Abuse: New Progressive Directions in Research and Theory. *International Journal for Crime, Justice, and Social Democracy*, 2015; 4(4) 4-21.
- 15- Rothman E, Kaczmarzky C, Burke N, Jansen E, & Baughman A. “Without Porn...I Wouldn’t Know Half the Things I Know Now”: A Qualitative Study of Pornography Use Among a Sample of Urban, Low-Income, Black and Hispanic Youth. *Journal of Sex Research*, 2015; 52(7): 736- 46.
- 16- Wright P, Tokunaga R & Kraus A. A Meta-Analysis of Pornography Consumption and Actual Acts of Sexual Aggression in General Population Studies. *Journal of Communication*, 2016 ; 66(1): 183-205.
- 17- Kann L, McManus T, Harris W , Shanklin S, Flint K, Hawkins J & Zaza S. Youth risk behavior surveillance—United States, 2015. *MMWR Surveillance Summary*,2016; 65(6): 1–174.
- 18- Ybarra M, Espelage D, Langhinrichsen-Rohling J, Korchmaros J , & Boyd D. Lifetime prevalence rates and overlap of physical, psychological, and sexual dating abuse perpetration and victimization in a national sample of youth. *Archives of Sexual Behavior*,2016;45(5):1083– 99.
- 19- Mitchell K, Finkelhor D, Jones L, et al. Prevalence and characteristics of youth sexting: A national study. *Pediatrics English Edition* 2012;129:13.
- 20- Ross M, Månsson S & Daneback K. Prevalence, severity and correlates of problematic sexual Internet use in Swedish men and women. *Archives of Sexual Behavior*. 2012; 41(2):459-66..

- 21- Perry SL. Does viewing pornography reduce marital quality over time? Evidence from longitudinal data. *Archives of Sexual Behavior*. 2017;46(2):549-59.
- 22- Buss A & Perry M. The Aggression Questionnaire. *Journal of Personality and Social Psychology*, 1992; 63: 452- 59.
- 23- Bóthe B, Tóth-Király I, Zsila Á, Demetrovics Z, Griffiths M, & Orosz G. The development of the Problematic Pornography Consumption Scale (PPCS). *Journal of Sex Research*, in press, 2017.
- 24- Gerstman B. Basic biostatistics, Statistics for public health practice. Jones and Bartlet publisher, Inc, 6339 Ormindale Way, Mississauga, Ontario L5V 1J, Canada, 2008
- 25- Sniewski L & Farvid P. Hidden in shame: Heterosexual men's experiences of self-perceived problematic pornography use. *Psychology of Men & Masculinities*. 2020;21(2):201.
- 26- Clancy E, Howard D, Chong S & Klettke B. Dream It, Do It? Associations between Pornography Use, Risky Sexual Behaviour, Sexual Preoccupation and Sexting Behaviours among Young Australian Adults. *Sexes*. 2021;2(4):433-44.
- 27- Camilleri C, Perry J & Sammut S. Compulsive internet pornography use and mental health: a cross-sectional study in a sample of university students in the United States. *Frontiers in psychology*. 2021:3870.
- 28- Shor E. Who Seeks Aggression in Pornography? Findings from Interviews with Viewers. *Archives of sexual behavior*. 2022;51(2):1237-55.
- 29- Abo- Elyzeed S. Aggressive Behaviors among Faculty of Nursing Students. *IOSR Journal of Nursing and Health Science*. 2016;5(6): 76-83.
- 30- Rostad W, Gittins-Stone D, Huntington C, Rizzo C, Pearlman D & Orchowski L. The association between exposure to violent pornography and teen dating violence in grade 10 high school students. *Archives of sexual behavior*. 2019;48(7):2137-47.
- 31- Peter J & Valkenburg P. Adolescents and pornography: A review of 20 years of research. *The Journal of Sex Research*. 2016; 53(4-5):509-31.
- 32- DeKeseredy W. Patriarchy. com: Adult Internet pornography and the abuse of women. *Understanding diversity: Celebrating difference, challenging inequality*. 2015:186-99.
- 33- Ybarra M, Mitchell K, Hamburger M, Diener- West M & Leaf P. X- rated material and perpetration of sexually aggressive behavior among children and adolescents: Is there a link?. *Aggressive behavior*. 2011;37(1):1-8.
- 34- Barr R, Watching pornography rewires the brain to a more juvenile state, 2019. Available at: Watching pornography rewires the brain to a more juvenile state (theconversation.com)
- 35- Mishra S, Priyadarshini Rout R & Jayakrishnan K. A correlative study to assess the internet addiction and psychopathologies among the students of SOA University Bhubaneswar *OSR Journal of Nursing and Health Science (IOSRJNHS)* 2015; 4(1):66-9 .
- 36- Bulot C, Leurent B & Collier F. Pornography sexual behavior and risk behavior at university. *Sexologies*. 2015;24(4):78-83,187-93.
- 37- O'Reilly S, Knox D & Zusman M. College student attitudes toward pornography use. *College Student Journal*. 2007;41(2):402-7.



- 38- Wright P & Štulhofer A. Adolescent pornography use and the dynamics of perceived pornography realism: Does seeing more make it more realistic?. *Computers in Human Behavior*. 2019;95:37-47.
- 39- Camilleri C, Perry J & Sammut S. Compulsive internet pornography use and mental health: a cross-sectional study in a sample of university students in the United States. *Frontiers in psychology*. 2021:3870.
- 40- Regnerus M, Gordon D & Price J. Documenting pornography use in America: A comparative analysis of methodological approaches. *The Journal of Sex Research*. 2016;53(7):873-81.
- 41- Abd Eljawad M, Se'eda H, Ghozy S, El-Qushayri A, Elsherif A, Elkassar A, Atta-Allah M, Ibrahim W, Elmahdy M & Islam SM. Pornography Use Prevalence and Associated Factors in Arab Countries: A Multinational Cross-Sectional Study of 15,027 Individuals. *The journal of sexual medicine*. 2021;18(3):539-48.
- 42- Miller D, McBain K, Li W & Raggatt P. Pornography, preference for porn- like sex, masturbation, and men's sexual and relationship satisfaction. *Personal Relationships*. 2019;26(1):93-113.