INTRODUCTION

Socio-emotional closeness refers to the sharing of privileged knowledge [1], emotional experiences and social networks, experiencing feelings of closeness, of being listened to, understood [2-5], and free in expressing oneself [6]. Closeness helps in protecting against stressors [7], psychosomatic symptoms, depression [6], powerlessness, loneliness and substance abuse [8] and, also, in gratifying various needs, e.g., self-esteem [9]. It has been usually equated with “intimacy” [10, 11] though the latter refers to more intense romantic or sexual closeness [12]. Closeness has been typically seen as positive and advocated by attachment [13], Eriksonian [14] and transactional analysis [8] theorists as well as artists, religions and media.

The term “pornography” is Greek in origin and was first used to describe prostitutes’ life and manners [15, 16, 17]. Following this, it has referred to all sorts of sexually explicit materials aiming to sexually excite and provide sexual pleasures and satisfaction. The term is widely used, has different meanings, depending on cultural and individuals’ context, and includes various types of media/presentation (e.g., sex-stories, visual pornography, sex-chats) and content (e.g. straight, group, gay, sado-masochism). (For the sake of clarity in this study the terms “pornography” and “porn” refer to sexual materials aiming to produce sexual excitement, involving informed and consenting adults.) Aided by new technologies (e.g., internet porn sites, chat-rooms, newsgroups), easy access and anonymity [18], pornography has become very popular [15, 17]. However, two opposing approaches towards pornography, “libertarians” (viewing it as healthy) and “romanticists” (viewing it as exploitative, risky and degrading) [19] continued to compete with each other. Nevertheless, it was reported that over 90% of Internet users accessed visual pornography (mainly men) and sex chat-rooms (mainly women) [20]. It was also reported that among working age population (18–65), seventy-four percent of males consumed pornography [21], with younger men accessing it more frequently [21, 22]. It has been noted that, in comparison to men, females had more critical [22, 23] attitudes to pornography.

As indicated by numerous published materials, there has been an ongoing scientific interest in closeness [1, 2, 24] and public use of pornography [18, 23, 25–28]. Porn web sites’ presentation of women as “objects” [18] and potential effects/risk from pornography use [29, 30] have been most frequently discussed. Sometimes, pornography use and closeness were linked. An Internet search (of “pornography use and closeness”) provided hundreds of typically unscientific materials advocating “pure” materials aiming to produce sexual excitement, involving informed and consenting adults.)
intimacy and blaming “sinful” pornography and its addictive qualities [31] for competing with and distorting marital intimacy. There have also been some scientific research (mainly reviews) and theories on a specific link between closeness and pornography use.

Some anecdotal evidence indicated that some women (and to a higher degree men) may be drawn to pornography when lonely and sexually frustrated [17]. In a few qualitative studies [32] that addressed the impact of pornography consumption upon romantic relationships, the focus was usually on the problematic/frequent habitual use of pornography and its impact on the porn users’ partners, relationships and family. Indeed, (heavy) pornography use has been blamed for its destructive effects on intimacy [33], specifically when couples were already having problems concerning trust and sex [22] and when partners were disapproving of pornography use [34]. However, Bergner and Bridges’ [33] discovery of various adverse effects of “heavy” pornography use has not come as a surprise; regardless of the human experience under consideration, overuse/overindulgence and/or secrecy/deceit tend to create relationship problems. However, it was also proposed that in pornography person-to-person communication could be simulated, which could be desirable to some [18], and, also, that pornography may be a healthy way of realizing sexual fantasy that could bring some couples closer together [22]. Furthermore, although fear of intimacy was sometimes pointed out as a significant factor in engaging in compulsive pornography use, Rinehart and McCabe [35] found that there were no significant differences between respondents with low or high interest in pornography on a measure of fear of intimacy.

Featherstone [22] cited some earlier findings reporting that, although a majority of women were not troubled by their partners’ interest in pornography, a minority felt betrayed and very disturbed by it. It was suggested that some of those distressed women may have developed a negative image of their body and sexuality [15], and felt threatened by the porn stars’ perfect appearance and ever-ready and pleasing sexual manners, while others may have been frightened by their partners’ unusual interests and immorality. (Indeed, it is likely that some discontented men retreat into their fantasy and heavy use of pornography as a way of withdrawing from the reality of life and their partner’s imperfection.)

Investigating adolescents’ sexual disclosure on the Internet, Chiou [36] established that, unlike in real life, their online sexual self-disclosure depended on the level of anonymity and de-individuation and, also, that female participants were less likely to engage in sexual self-disclosure.

OBJECTIVE

Socio-emotional closeness and pornography have been the subject of some research, but the links have not been properly addressed and many issues in the area remain controversial and indeterminate. The current study was a part of a larger study which aimed to primarily investigate the potential link between pornography use and total and specific socio-emotional closeness [2, 4, 37] in men and women. Its objective was to establish whether female pornography users and non-users’ ratings in terms of socio-emotional closeness differed. The primary hypotheses were that there were no statistically significant differences between the two pornography groups in total (actual and ideal) closeness scores for combined items (adults) and in relevant discrepancy (ideal – actual) scores. Furthermore, it was hypothesized that there were no statistically significant differences between the two groups in specific (referring to partners, parents, and closest friends) actual, ideal, and discrepancy closeness scores. Sexual activities were examined as a relevant motivating factor.

METHODS

Participants

The participant group consisted of 66 female adults (taken from a non-clinical population), ranging in age between 19 and 59 years (mean age 35.62 years, SD=11.48). They were composed of two groups: pornography users (those who identified/self-categorized themselves as using pornography, this ranging from “less than once a year” to “once a day or more”) and pornography non-users (those who self-categorized themselves as never using it). The pornography users group consisted of 23 (35%) women and the pornography non-users group of 43 (65%) women (Table 1).

A majority of participants were white British (85%), employed (92%) and either Christians (58%) or with no religion (38%). The participants were assumed to be of normal intelligence and functioning on the basis of their recruitment sources, i.e., work place and/or further and higher education/training. The exclusion criterion was the age outside the range of 18 to 64 years, i.e. working age adults.

Mixed gender groups (in which males prevailed) were approached in order to remain neutral in research of such sensitive nature. Out of the 310 sets of questionnaires distributed, 233 were returned. Data from three participants were invalid and thus excluded; several questionnaires filled out incompletely (in that non-crucial items were not answered) were utilized as they appeared adequate to calculating relevant indices. This gave a total return of 230 valid responses; of those 230, 66 responses came from females which represented the final female sample.

<table>
<thead>
<tr>
<th>Table 1. Distribution of participants’ use of pornography (N=66)</th>
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<tbody>
<tr>
<td>Pornography consumption</td>
</tr>
<tr>
<td>Non-users</td>
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<td></td>
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<tr>
<td>Users</td>
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distribution method in which mixed gender groups were approached and their ratio being unknown, only the joint male and female response rate (74%) could be calculated.

**Measures**

*The Perceived Interpersonal Closeness Scale (PICS) [2]*

This is a psychometrically established, single-item and pictorial representation measure developed to tap Actual (page 1) and Ideal (page 2) interpersonal closeness with significant others ("Actual" referred to the level of closeness experienced and "Ideal" to the level of closeness desired by the respondent). The figure on both pages consisted of a number of concentric circles with the smallest one representing the Self and others representing a different level of closeness with the Self, thus providing a 6-point scale. Each participant was asked to place all significant relationships within the figure, with the closest circle to the Self representing "fully close" relationships (and scoring 5) and the area outside the biggest circle meaning "distant" (=0). The circles, i.e., levels of closeness between these two extremes were "very close" (=4), "moderately close" (=3), "a little bit close" (=2), and "neither close nor distant" (=1). There was a "special" category within the Self-circle/area, entitled "smothered". If appearing in Actual only this provided relevant clinical information about an extreme over-provision of closeness and was scored 1; if appearing in Ideal only or both Actual and Ideal, this then rather indicated a full closeness and was scored 5. Computation of total assigned Actual and Ideal scores of significant adults (children, both dependent and grown up, were excluded) and their discrepancies, as well as for each significant other (e.g., partner, parents, closest friend), represented the main scoring system. The discrepancy between the obtained actual and ideal scores provided the degree to which the persons' closeness needs and expectations were met. In order to take account of over-provision of closeness, that was when an Actual score was higher than its equivalent Ideal score, the discrepancies were both "non-recoded" (having a negative score assigned) and "recoded" (i.e., made to have a zero discrepancy [2, 4]). Several questions at the bottom of each page aimed to check the appropriateness of participants' responses, i.e., understanding of "closeness" and served as a simple validating scale.

**Background and Pornography Use Information Questionnaire [21]**

This is a brief, non-psychometric tool, consisting of 13 multi-choice items aiming to obtain important information about the participants' background (age, gender, religion, ethnicity, relationship, and employment status), sexual activities (with another person, self-masturbation), pornography use (frequency, media, type), and relevant attitudes [21]. The participants were classified as pornography non-users or users through their self-report on this questionnaire based on one of the two options ("Never/No" vs. "Yes") to the key question ("Do you use pornography?"). From a list of frequency categories within the "Never" ("Never – has never seen it" and "Never – but has seen it") or within the "Yes" category (from "Yes, less than once a year" to "Yes, once a day or more"), they further selected/ticked the frequency of their pornography use. (More detailed information on the range of pornography use is provided in Table 1)

**Procedure**

The trial run (early 2007) suggested a ratio between pornography users and non-users and confirmed males' higher interest in pornography [20, 28, 38, 39] that helped with the decision on the relevant sample size and two separate research groups based on gender. Following the preliminary investigation, a majority of potential participants were approached as individuals belonging to various social sub-groups (students, working class, middle class, unemployed, as well as individuals of different education levels), to make the sample more representative. They were contacted as students/trainees in the local educational environment (university, college, further education for unemployed) or as employees in their place of work (local public and private employers). They were briefly introduced to the study by the researcher or his assistant, and given the information/consent sheet together with a set of two questionnaires in a pre-paid envelope, to complete at their leisure (thus being informed in advance that the study was of a sexual nature). Participants were asked to first complete the PICS and then the Background and Pornography Use Questionnaire. Furthermore, they were given an option to bring those questionnaires (completed or uncompleted) back in a sealed envelope at a later stage or to send them individually by post. The study was carried out anonymously and the participants were not required to give any identifying personal details, or sign a consent form but the return of uncompleted questionnaire was encouraged in order to obtain further information about the potential refusal rate. The study, approved by the relevant ethics board, was carried out anonymously and participants were not compensated.

**Analysis strategy**

The relevant literature [40–43], previous research on PICS closeness [2], and the limited preliminary data on pornography use were consulted to determine statistical power and the group's sample size for males only [21], as here females were treated as a pilot study. Nevertheless, post-hoc analysis for t-test for independent sample means showed that for the medium effect d=0.50, at alpha=0.05, two-tailed test [42, 43], the given, actual sample of 66 (43 vs. 23) female participants secured the statistical power of 0.48 while 62 (42 vs. 20) of these who participated in ideal closeness calculations secured the statistical power of 0.44. As the
independent t-test required the highest sample size, the obtained statistical power for correlation (medium effect size r=0.3, alpha=0.05, two-tailed) was higher, i.e., 0.71 (for sample of 66) and 0.68 (for sample of 62).

The data were analyzed using SPSS 15.0 [44]. The main attention was given to the calculations of differences between pornography users and non-users with regard to their socioemotional closeness, the latter primarily referring to the PICS’ total score and total numbers but also the scores of the four most significant adults. Differences in the closeness scores between the two groups were tested using a non-parametric test for independent samples (Mann-Whitney U) as the distribution of the PICS’ results were found to be skewed [2]. Furthermore, to avoid statistically significant results appearing due to chance in multiple exploratory analyses, a priori procedures were used, i.e. unimportant comparisons were not carried out and the probability required for significance was adjusted from 0.05 to 0.01, reflecting a more conservative criterion [43].

RESULTS
Sociodemographic information, sexual activities and pornography consumption

As previously reported, females consume less pornography (Table 1) than males [21] which justified the existence of two separate participating groups based on gender. There were no significant between-group differences on age, ethnicity, employment, religion, relationship status, and sexual activities [21].

Pornography use and socio-emotional closeness

Differences in the PICS’ mean Actual, Ideal, and “non-recoded” and “recoded” (Actual > Ideal = 0) discrepancies scores between the pornography groups were separately investigated for total score for adults and total numbers of adults and for the scores of the four most significant adults. Tables 2 and 3 show PICS’ main global indices of the two groups. (Means and statistical deviations are reported to provide consistency with previous studies.)

No significant differences were found between the female pornography non-users and pornography users regarding total Actual (U=460.5; Z=-0.460, ns) and Ideal (U=412.0; Z=-0.121, ns) numbers of significant adults (Table 2) and total Actual (U=469.0; Z=-0.343, ns) and Ideal (U=402.0; Z=-0.271, ns) scores of significant adults (Table 3). Equally, no significant differences were found between the two female groups regarding all discrepancies investigated.

Similarly, no statistical differences were found between the two groups’ specific Actual and Ideal scores. More specifically, no significant differences were found between the female pornography non-users and users regarding Actual (U=393.0; Z=-0.308, ns) and Ideal (U=332.5; Z=-0.726, ns) closeness with partner, Actual (U=296.0; Z=-1.449, ns) and Ideal (U=331.5; Z=-0.061, ns) closeness with closest friend, Actual (U=236.0; Z=-0.760, ns) and Ideal (U=229.0; Z=-0.285, ns) closeness with mother and Actual (U=254.5; Z=-0.047, ns) and Ideal (U=227.0; Z=-0.065, ns) closeness with father.

Correlation analyses (Spearman’s r, two-tailed) between porn usage (nine) levels and total socioemotional closeness scores confirmed no associations of porn usage with actual (rs=-0.04; N=66, ns) and ideal (rs=-0.05; N=62, ns) total number, with and actual (rs=0.01; N=66, ns) and ideal (rs=-0.04; N=62, ns) total scores of adults. (Parametric Pearson r provided very similar values of the same significance.) There were no significant associations between porn usage and total number or scores of adults’ discrepancies. Concerning the four most significant others, i.e. specific closeness scores, no association appeared significant.

In short, no differences between the two female groups were found with regard to reported levels of Actual and Ideal closeness scores.

Table 2. Means (X), standard deviations (SD), medians (Med) and ranges for total number of significant (scoring) adults and for relevant discrepancies on the PICS for two groups

<table>
<thead>
<tr>
<th>Measure</th>
<th>Non-users (N_actual=43; N_ideal=42)*</th>
<th></th>
<th>Users (N_actual=23; N_ideal=20)*</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>X</td>
<td>SD</td>
<td>Med</td>
<td>Range</td>
</tr>
<tr>
<td>Actual</td>
<td>10.19</td>
<td>7.06</td>
<td>8.00</td>
<td>4-46</td>
</tr>
<tr>
<td>Ideal</td>
<td>10.48</td>
<td>7.01</td>
<td>8.50</td>
<td>4-46</td>
</tr>
<tr>
<td>Discrepancy**</td>
<td>0.14 (0.40)</td>
<td>1.37 (0.91)</td>
<td>0.00 (0.00)</td>
<td>-5-4 (0-4)</td>
</tr>
</tbody>
</table>

* The number of participants varied for Ideal vs. Actual ratings because not every participant completed the ideal closeness subscale.

** In order to take account of over-provision of closeness, the difference (Actual > Ideal) was also „recoded”, i.e. was made to have a zero discrepancy (and reported here in brackets).

Table 3. Means (X), standard deviations (SD), medians (Med) and ranges for total scores of significant (scoring) adults and for relevant discrepancies on the PICS for two groups

<table>
<thead>
<tr>
<th>Measure</th>
<th>Non-users (N_actual=43; N_ideal=42)*</th>
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<th>Users (N_actual=23; N_ideal=20)*</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>X</td>
<td>SD</td>
<td>Med</td>
<td>Range</td>
</tr>
<tr>
<td>Actual</td>
<td>32.21</td>
<td>20.21</td>
<td>27.00</td>
<td>10-120</td>
</tr>
<tr>
<td>Ideal</td>
<td>38.21</td>
<td>23.45</td>
<td>31.50</td>
<td>10-143</td>
</tr>
<tr>
<td>Discrepancy**</td>
<td>5.40 (5.43)</td>
<td>5.20 (5.18)</td>
<td>4.50 (4.50)</td>
<td>-1-23 (0-21)</td>
</tr>
</tbody>
</table>

* The number of participants varied for Ideal vs. Actual ratings because not every participant completed the ideal closeness subscale.

** In order to take account of over-provision of closeness, the difference (Actual > Ideal) was also „recoded”, i.e. was made to have a zero discrepancy (and reported here in brackets).
DISCUSSION

Sociodemographic characteristics, pornography consumption and sexual activities

The current research supported the earlier observations that pornography consumption depended on gender [20, 23, 28, 38, 39, 45]. This study found that females' pornography use was not related to age as it was previously found in males [46].

That there were no significant differences between the two female (and gender; [21]) groups in terms of sexual activities with another person suggested that pornography use had no negative effect on partner closeness. This could be explained by "normal" sexual diversity [47] and complex human behaviours (e.g., non-addictive pornography use, secrecy, joint pornography viewing, compensatory behaviours, lack of insight). There were no available details on why individuals watched pornography and on whether they did it alone or with their partner. Users may have viewed it for various reasons. For example, pornography may have been seen as recreational sexual activity and some kind of intimacy with self; those who used it may have aimed at being in touch with their own (sometimes secret) fantasies, aided by pornography. Others may have used it because of excessive sexual desire, paraphilic interest, partner’s demands or as an additional stimulation. If pornography use blocks closeness in some situations (e.g., partners’ disapproval, addictive and secret consumption of it), in other situations it could help with the increasing and more complex demands placed on human sexual identities, and assist the closeness (e.g., partner exploring their fantasies together or one satisfies his/her needs for "kinky sex" watching porn rather than pressuring his/her partner).

Pornography consumption and socio-emotional closeness

Many results on PICS’ socio-emotional closeness were consistent with previous findings on closeness [2, 5, 48]. A few participants rated their Ideal/desired closeness lower than their Actual closeness, indicating a problematic over-provision of closeness. Furthermore, in comparison to men [21, 46], females specifically rated total Actual score of closeness to adults and Ideal closeness with partner and mother higher than their male counterparts. No statistical difference was found between gender groups for all other total and specific closeness scores.

There were no associations between the self-reported use of pornography and perceived interpersonal closeness which suggested that female porn users and non-users remained equally close to the most significant people and wished to have the same levels of closeness. This is different to findings within males; for example, male pornography users were found to score significantly higher than porn non-users on main global PICS’ indices, i.e. total Actual and Ideal numbers and closeness scores of significant adults [46]. This difference between the gender groups suggested that male pornography users craved closeness/intimacy more than their male and gender counterparts; whether this is because females had lower level of “intimacy motive” and/or testosterone level or they have better realised their need for closeness/intimacy remain to be established. That there is no significant relationship between gender and sexual activity with another person but that there is a highly significant relationship between gender and masturbatory activities, in that females tended to masturbate less frequently than their male counterparts [21], may support the above idea.

There are some methodological issues and limitations of the study. For instance, only the joint male and female response rate could be calculated due to the distribution method in which mixed gender groups were approached and their ratio being unknown. The response rate was good but the small sample size and related small effect sizes require caution in interpreting the results. Self-categorisation was used to create two discrete (pornography) groups rather than using any other more judgmental and artificial frequency cut-off point, and this seemed logical and justifiable. Through self-selecting “Yes” or “No/ Never” the issue of overlapping between the subcategories was avoided. However, the individual use of pornography significantly varied, making the pornography user group quite a heterogeneous group. Unusually for postal surveys [49], the response rate in the current study was good; personal contact, privacy and anonymity achieved may have helped. Still, some individuals worried about social stigmatization [28], detection, public exposures, pathologizing and criminalization [27] may have not replied, demanding caution in making any generalization. Various other general methodological issues concerning the questionnaires used and related measuring issues were addressed elsewhere [2, 21]. Furthermore, the Mann-Whitney test is almost as powerful as its parametric counterpart, and Spearman’s rho closely approximates the numerical value of the Pearson r [50]. However, parametric statistics, i.e., multi-variate parametric procedures may/would be better control for an age difference between the two relevant groups and, also, provide a more conservative, formal and precise procedure, the Bonferroni t test, for controlling the familywise error rate [43, 51]. (As reported in the Method section, to avoid statistically significant results appearing due to chance in multiple calculations, only more qualitative approaches, as suggested by Howell [1], were used in this study.)

Further, preferable cross-cultural, investigations of pornography’s complex links with socio-emotional and sexual closeness on larger samples may allow more reliable comparisons between gender (e.g., females may tend to be less sexually diverse [49]), pornography users groups (e.g., having non-uses, occasional and frequent users groups) and those in different romantic/sexual relationship (e.g. permanent/stable vs. casual). Future research may also wish to consider in depth the reasons why people use (or do not use) pornography and if so, why they find it useful. The links between pornography use and individuals’ and their partners’ perceptions of closeness (as their percep-
tion may differ), their cognitive frameworks and/or sexual satisfaction may also be investigated. Such research may be of social, legal, ethical, clinical and educational relevance.

CONCLUSION

The main data in this study highlighted that females' socio-emotional closeness and pornography consumption were not associated; this finding differs from investigation into men. Though women seemed less interested in pornography than their male counterparts, a significant number of them indulged in pornography.

ACKNOWLEDGEMENTS

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REFERENCES

34. Hardy S. The Reader, the Author, his Woman and her Lover: Soft-Core Pornography and Heterosexual Men. London: Cassell; 1999.
44. SPSS. SPSS Base 8.0 Application Guide. Chicago: SPSS Inc.; 1998.
Коришћење порнографије и блискост са другима код жена
Миодраг Поповић
Камбријанско британско национално здравствено удружење са специјалним статусом, Карлајл, Велика Британија

КРАТАК САДРЖАЈ
Увод Међусобна блискост и порнографија се понекад повезују, а често се приказују у такмичарском односу. Обе варијабле су истраживане, али су многа питања у овом подручју остала неразјашњена и неусаглашена.
Циљ рада Циљ рада је био да се утврди да ли се жене које користе порнографију и оне које то не чине разликују у процени између коришћења порнографског материјала и аспекта социоемоционалне блискости у неклимичком узорку жена.
Методе рада У истраживању је учитавало 66 жена. Њихова остварена и идеална социоемоционална блискост мерила се Скалом перцептивне међусобне блискости (енгл. Perceived Interpersonal Closeness Scale – PICS), док се њихова употреба порнографије испитала Упитником за испитивање коришћења порнографије. Приказане су могуће везе између двеју варијабле, као и налази упоређени са резултатима постигнутим код мушкараца.
Резултати Резултати показују да нема значајне разлике између самокатегорисаних корисница порнографије и жена које је не користе када је реч о укупним и скоровима блискости, али и специфичној социоемоционалној блискости с најважнијим одраслим особама у њиховом животу (партнер, пријатељи, мајка и отац).
Закључак Резултати потврђују да постоје разлике између приступа порнографији и блискости између мушкараца и жена; слабије интересовање жена за порнографију и њено слабије коришћење нису повезани с вишим укупним и скоровима блискости. С обзиром на ограничења у величини испитиване групе, овај узорак је коришћен за прелиминарна испитивања која могу омогућити основни увид у рељеванто понашање жена. Даља испитивања сложене везе између порнографије и социоемоционалне блискости на великим узорцима испитивачка могла би пружити поузданија поређења између полове и група које користе и не користе порнографски материјал.
Кључне речи: блискост; интимност; порнографија; корисници порнографије

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