

Gender as Mediator of the Relationship Between Computer-Mediated Communication and Risky Sexual Behaviours Among Engineering Students in Nigeria

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Abstract: The interaction effect of gender on computer-mediated communication and risky sexual behaviours seems to have been neglected. The current study sought to determine how gender mediate the relationship between computer-mediated communication and risky sexual behaviours among engineering students in Akwa Ibom State, Nigeria (N = 830) ex post facto design. Two instruments, namely; Student's Use of Computer-Mediated Communication (SAUCMCQ) and Student's Risky Sexual Behaviours Questionnaire (SARSBQ) were used for data collection in the study. The data collected were analysed using hierarchical multiple regression. The results indicated that the gender significantly mediates the relationship between computer-mediated communication and risky sexual behaviour among engineering students.

Key words: Gender, mediator, computer-mediated communication, risky sexual, risky sexual behaviours, engineering students

INTRODUCTION

The emergence of computer technology in Nigeria has created a new pattern of communication called "Computer-mediated communication". This type of communication refers to communications through messaging applications, social networking platforms (e.g., Facebook, 2go, WhatsApp, BBM, Badoo, Skype, Twitter, Instagram, Pinterest, Myspace, Skyrock, Usenet, YouTube, Foursquare) e-Mails, blogs, video, audio, phone and online calls (Bishop, 2009). This researcher further stressed that this communication system has become integral to the initiation, development and maintenance of interpersonal relationships and that the communication system is involved in the subtle shaping of communication in almost every relational context. According to McQuail (2005) computer-mediated communication refers to those interpersonal interactions that occur through the use of networked computer applications. Therefore, any kind of interpersonal interactions using computerized device is known as computer-mediated communication.

Though engineering student's use of computer-mediated communication (including social networking platforms, blogs and cell phones) may provide some opportunities for a reduction in sexually risky behaviours,

such media can also spread misinformation, perpetuate myths of safe sex and encourage sexually risky behaviours. Saewyc *et al.* (2004) described risky sexual behaviours as behaviours that can result in teenage pregnancy. Anonymous (2014) defined risky sexual behaviour as behaviour that increases one's risk of contracting sexually transmitted infections and experiencing unintended pregnancies. Poindexter (2013) established that sexual risk behaviours are behaviours that result in the contraction of HIV/AIDS and other Sexually Transmitted Infections (STIs) among engineering students. According to Anonymous (2014) publication reported that risky sexual behaviours are behaviours that puts people at risk for Sexually Transmitted Infections (STIs) unplanned pregnancy and being in a sexual relationship before being mature enough to know what makes a healthy relationship. Examples of risky sexual behaviours outlined by the researchers include: unprotected sexual intercourse without male or female condom use, except in a long-term, single-partner (monogamous) relationship, unprotected mouth-to-genital contact, except in a long-term monogamous relationship, early sexual activity, especially before the age of 18 years, having multiple sex partners, having a high-risk partner (one who has multiple sex partners or other risk factors) having anal sex or a partner who does, except in a

long-term, single-partner (monogamous) relationship, having sex with a partner who injects or has ever injected drugs and exchange of sex (sex research) for drugs or money, among others. However, Mohammadyari (2013) noted that gender could predict premarital sex engagement.

Gender is an important factor in understanding attitudes toward computer-mediated communication and risky sexual behaviour (Smith *et al.*, 2005). Gender refers to subjective feelings of maleness or femaleness (i.e., femininity or masculinity) irrespective of one's sex. It is possible to be genetically of one sex with a gender identity of another sex. For instance, transsexuals identify themselves with the gender of the opposite sex. This implies that one's gender may not necessarily be synonymous with that of one's sex. One's gender can be determined in many ways, e.g., behaviour.

In most societies, for example, humility and submissiveness are considered feminine behaviour and women are expected to behave that way. Men, on the other hand are expected to be dominant and aggressive. Men have traditionally dominated the technology and have comprised the majority of users of computer networks, since, their inception but the result is that most of what has been written on computer-mediated communication incorporates a very one-sided perspective. However, there are differences in the ways men and women interact "Online". These differences are in two parts: first that women and men have recognizably different styles in posting to the internet, contrary to the claim that computer-mediated communication neutralizes distinctions of gender and second that women and men have different communicative ethics that is they value different kinds of online interactions as appropriate and desirable and their behaviours including risky sexual behaviours may not be the same. However, Sussman and Tyson (2000) observed that male power-display in communication has been consistent across those contexts that have been investigated in the past. Thus, it is expected that despite the opportunity which cyberspace offers for gender-neutral communication, gender (and the degree to which topics lie within one's gender domain) would still serve as a status characteristic and thereby foster power dynamics during computer-mediated interactions (The researchers further opined that men tend to be more competitive, proactive (opinionated) task-oriented (suggestive and informational) loquacious (producing more and longer statements) more likely to exercise opinion leadership and more apt to use conversational strategies (interruptions and dominant posturing) to construct relationships based on power.

In contrast, females are more socio-emotional, reactive and verbally dominant only when in the presence of males of equal status, ask more questions, write longer

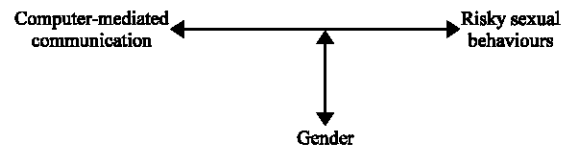


Fig. 1: Conceptual frameworks showing computer-mediated communication as correlate of risky sexual behaviours among engineering students

and more expressive statements and do more supportive work to prolong the longevity of a conversation (Tannen, 1990). Thus, males used their communication power to win the heart of females and lured them into risky sexual behaviours. Orratai *et al.* (2010) asserted that there were no gender differences in the reported sexual and delinquent behaviours among the engineering students. Whitley found that gender differences in beliefs about computers approached zero and did not vary by study population and Ajuwon *et al.* (2001) observed that both males and females were victims of coercion in a study with engineering student's sample.

However, it appears that the link between engineering student's exposure to computer-mediated communication and their sexual behaviours has hardly been approached from gender framework. Thus, the existing researches have largely ignored the role of engineering students' gender in the relationship between computer-mediated communication and risky sexual behaviours, there are still some evidences that exposure to computer-mediated communication could predict engineering students' engagement in risky sexual behaviours (Olugbenga-Bello *et al.*, 2009; Okafor and Obi, 2005; Peter and Valkenburg, 2008). The purpose of the present study is therefore to investigate how gender mediates the relationship between computer-mediated communication and risky sexual behaviours among engineering students in Akwa Ibom State, Nigeria. The null hypothesis that gender does not significantly mediate the relationship between computer-mediated communication and risky sexual behaviours among engineering students was tested.

Conceptual relationship: Figure 1 is a graphical representation of the likely relationship among the variables in the study. The figure shows that literally if engineering students are engaged in computer-mediated communication they could probably be engaging in risky sexual behaviours. It further expresses the likelihood of the relationship between computer-mediated communications being mediated by gender.

MATERIALS AND METHODS

Sample: The sample of the study comprised 415 engineering students who used computer-mediated communication, purposively selected from public higher institutions (universities, polytechnics, among others) in Akwa Ibom State, Nigeria.

From Table 1, male observed frequency is 478 while expected frequency is 415.0 with 63.0 residual. Female observed frequency is 352 while expected frequency is 415.0 with -63.0 residual.

Instrument for data collection: Two instruments were used for data collection: Student’s Computer-Mediated Communication Questionnaire (SACMCQ) Student’s Risky Sexual Behaviours Questionnaire (SARSBQ).

Student’s Use of Computer-Mediated Communication Questionnaire (SAUCMCQ): The SAUCMCQ is a researcher-developed questionnaire. The questionnaire has two sections-A and B. Section A sought for personal information such as gender and location. Section B has 19 items that focused on the extent of engineering students’ engagement in computer-mediated communication using a 4-point scale of Very High Extent (VHE) High Extent (HE) Low Extent (LE) and Very Low Extent (VLE).

Student’s Risky Sexual Behaviours Questionnaire (SARSBQ): The SARSBQ is a researcher-developed questionnaire. This questionnaire has two sections-A and B. Section A sought for personal information such as gender and location. Section B has 16 items that focused on the extent of engineering student’s engagement in risky sexual behaviours using a 4-point scale of Very High Extent (VHE) High Extent (HE) Low Extent (LE) and Very Low Extent (VLE).

The two instruments were face validated by expert in psychometrics and communication psychology. The validates assessed and scrutinized the instrument with regard to the response format, appropriateness of the items and language clarity, especially as they relate to the purpose of the study. We effected all the modifications and suggestions given by the validates.

Test-re-test method was used to determine the internal consistency of the two instruments with 20 engineering students from Rivers State, Nigeria. The instruments yielded a reliability coefficient of 0.78 and 0.8, respectively.

Table 1: Chi square table showing the number of participants by gender

Variables	Observed N	Expected N	Residual
Male	478	415.0	63.0
Female	352	415.0	-63.0
Total	830		

Procedure: The researchers and three research assistants visited each sampled school to administer the instruments to the respondents subsequence upon approval by the school authority. In each school visited, the researchers purposively selected engineering students who were engaging in computer-mediated communication and used for the study. Lecturers and counsellors assisted the researchers to select the qualified students for the study based their experiences with the students. The researchers also conducted interview with the respondents to confirm their eligibility in the study before administration of the questionnaires.

Design of the study/method of data analysis: The study utilized ex post facto design to find out how engineering students use of computer-mediated communication could relates with risky sexual behaviours when controlling for gender.

Chi square and hierarchical multiple regression statistics were used for data analysis in the study. To ascertain the extent of relationship between the variables relating to the research questions, the following guideline was used: 0.00-0.19 (very low extent) 0.20-0.39 (low extent) 0.40-0.59 (moderate extent) 0.60-0.79 (high extent) and 0.80 and above (very high extent). The decision rule for testing the hypothesis was to reject the null hypothesis if the exact probability value (p-value) is less than the a priori probability value (0.05 level of significance) otherwise do not reject.

RESULTS AND DISCUSSION

Table 2 shows the percent of variability in the dependent variable (RSB) that can be accounted for by all the predictors together (CMC). The change in R² is a way to evaluate how much predictive power was added to the model by the addition of another variable (Gender) in step 2. In this case, the percentage of variability accounted for went up from 59-67% (about 8% increase).

Table 3 confirms our uncertainties: whether gender significantly mediates the relationship between CMC and RSB. The Table 3 shows that predicted scores on the RSB are statistically significant degree. (Look in the “Sig” column for p-values, which need to be below .05 to say that it was a statistically significant result). The first of

Table 2: Model summary of hierarchical multiple regression analysis showing gender mediating the relationship between Computer-Mediated Communication (CMC) and Risky Sexual Behaviour (RSB) among engineering students

Model	R	R ²	Adjusted R ²	SE
1	0.772 ^a	0.597	0.596	0.23
2	0.819 ^b	0.670	0.669	0.20

Table 3: ANOVA confirming gender as mediator of the relationship between CMC and RSB

Models	Sum of Squares	df	Mean squares	F-values	Sig.
Regression	65.519	1	65.519	1224.663	0.000 ^a
Residual	44.298	828	0.054		
Total	109.817	829			
Regression	73.596	2	36.798	840.155	0.000 ^a
Residual	36.222	827	0.044		
Total	109.817	829			

^aDependent variable: RSB, Predictors: (Constant) CMC, Predictors: (Constant) CMC, Gender

Table 4: Showing summary of the correlation coefficients of each variable

Model	B	SE	Beta	t-values	p-values
(Constant)	0.449	0.081		5.533	0.000
CMC	0.839	0.024	0.772	34.995	0.000
(Constant)	0.446	0.073		6.065	0.000
CMC	0.752	0.023	0.692	33.261	0.000
Gender	0.208	0.015	0.283	13.579	0.000

^aDependent variable: RSB

predictor (CMC) was significant and the second predictor (gender was also significant). This therefore means that gender significantly mediates the relationship between CMC and RSB.

In addition, Table 4 confirms variables that were significant in the study. Since, the exact probability value (0.000) is less than the a priori probability value (0.05) the null hypothesis which states that gender will not significantly mediate the relationship between computer-mediated communication and risky sexual behaviours among engineering students is rejected. The Beta (β) weighting of 0.69 indicates that for every standard deviation unit change in computer-mediated communication, risky sexual behaviour will rise by 0.69 (69%). The beta weighting of 0.28 is an indication that gender account for the relationship between CMC and RSB by 28%.

The study shows that the extent gender mediates the relationship between computer-mediated communication and risky sexual behaviours among engineering students is high. In addition, the study confirmed that gender significantly mediates the relationship between engagement in computer-mediated communication and risky sexual behaviours. This finding lends credence to many previous findings. For instance, the finding is in line with Olugbenga-Bello *et al.* (2009) who reported high rates of risky sexual activities with gender differences among Nigerian engineering students. The finding of Frank, Esterhuizen, Jinabhai, However, this finding is not in agreement with Orratai *et al.* (2010) who asserted that there were no gender differences in the reported sexual and delinquent behaviours among the engineering students, Whitley (1997) who found that gender differences in beliefs about computers approached zero and did not vary by study population and Ajuwon *et al.*

(2001) who observed that both males and females were victims of coercion in a study with engineering students sample. This disagreement may be due to dissimilarities in design, measures, location and methods between the previous studies and present one.

Though due to recent civilizations and technological advancement, negative effect of sex-role stereotypes has been eradicated, making it possible for both boys and girls to have the same privileges and opportunities in the families and societies, there are still some circumstances that boys and girls would differ. A typical example of the analogy is the case of this study where males and females differ in their engagement in computer-mediated communication and risky sexual behaviours. However, since men are culturally bound to initiate sexual communication in the contemporary society, it could be said that males engineering students play vital role in initiating such communication and maintaining the relationship thereof. Though in some circumstances, girls of the present generation have the tendency to initiate sexual communication non-verbally by exposing sensitive parts of their body like breast, buttocks, hips, laps or tummy for boys to see or caressing, kissing, touching or hugging the boys or allowing the boys to do same to them. Some girls find it comfortable to approach boys of their choice through sexting, facebooking, whatsapping or 2going. Whatever is the case, this study establishes that gender mediates the relationship between computer-mediated communication and risky sexual behaviour among engineering students, though location plays vital role also in such relationship.

CONCLUSION

As obtained in this study, the relationship between computer-mediated communication and risky sexual behaviours is significantly mediated by gender to a high extent. That is to say, maleness or femaleness could have influence on individual's engagement in computer-mediated communication and risky sexual behaviours.

This implies that maleness or femaleness has a way of affecting one's behaviour due to role differences between males and females. Hence, gender role which is traditionally defined by culture can influence engineering student's engagement in computer-mediated communication and risky sexual behaviours. This is because some culture may not permit females to exhibit certain behaviours while engaging in computer-mediated communication with males and this may put them at a disadvantage. For instance, a man that is older than a female engineering students may attempt to override the

engineering student's right of privacy by making advances toward luring her into risky sexual behaviours with the mindset that the engineering students will not react for the fear of disrespecting the man. Unfortunately if the engineering student keeps quiet, she might become prey to the man and fall a victim of unwanted pregnancy or STIs or combination of both. Thus, female engineering students should be given special training on how to resist male's dominance in computer-mediated communication. Male should be enlightened about gender sensitivity and equality to enable them treat female folks as fellow human beings. Above all, both male female engineering students should be exposed to prompt assertive training programmes to enable them develop self-confidence and self-esteem that would enable them overcome gender influence.

LIMITATIONS

However, it could be possible that a particular participant is not involved in all the aspect of the computer-mediated communication mentioned in this study. Likewise the risky sexual behaviours, it could be possible that some of the participants are not engaging in all the risky sexual behaviours mentioned in the study. But the ex post facto in the study design failed to take different dimensions of CMC and RSB into specific consideration.

RECOMMENDATION

To this end, future researchers that will improve upon the limitations of this present study are urgently needed.

ACKNOWLEDGEMENTS

The researchers wish to appreciate all the participants and research assistants used in the study. Special thanks go to staff of Otusum Consult, Training and Services, Nigeria for their technical advice regarding the analysis of data in the study.

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