

Perceptions of Netiquette Necessity Among High School Students: An Empirical Investigation

Dr. Anchal Pandey¹; Dr. Shishu Pal Singh²; Chandrashekher Verma³ & Prof. Sanjay Sonker⁴

¹Senior Fellow, Indian Council of Social Science Research, Faculty of Education (K), Banaras Hindu University, Varanasi, UP, India.

²Assistant Professor, Educational Survey Division (ESD), National Institute of Education (NIE), NCERT, New Delhi, India.

³Research Scholar, Faculty of Education (K), Banaras Hindu University, Varanasi, UP, India.

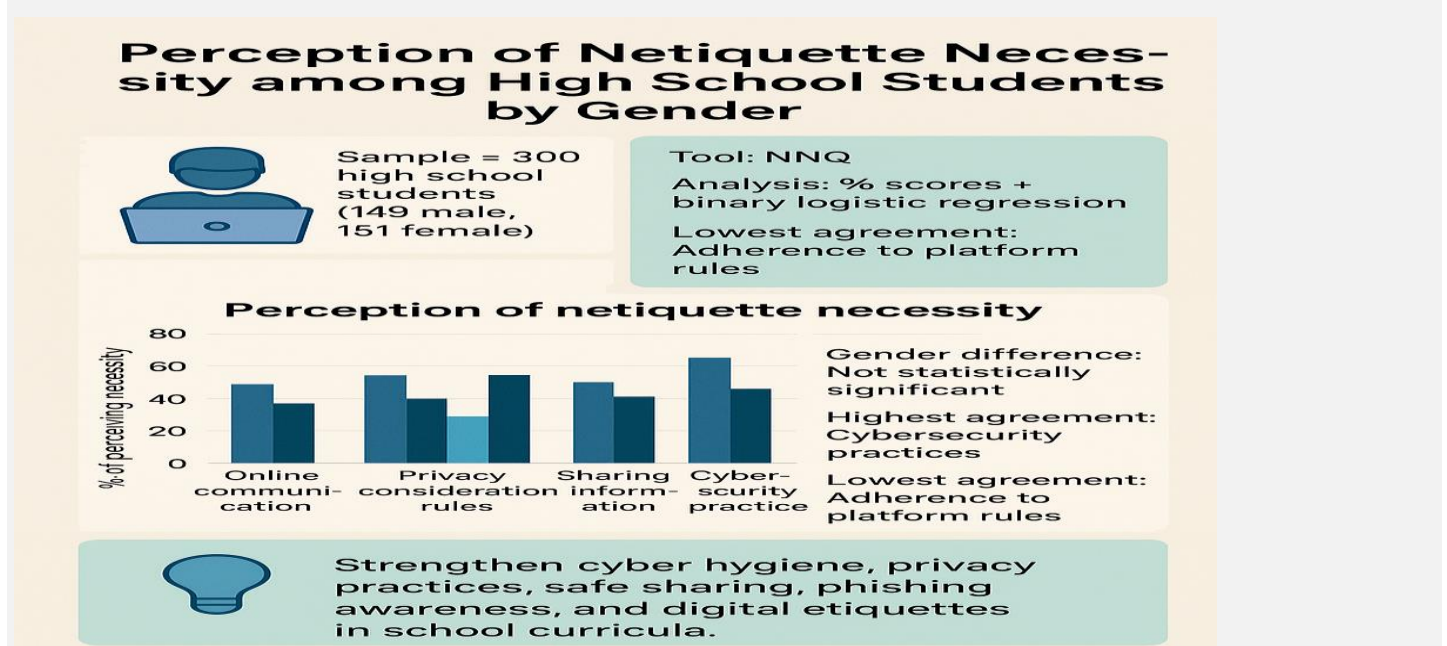
⁴Professor, Faculty of Education (K), Banaras Hindu University, Varanasi, UP, India.

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ABSTRACT

Netiquette is considered as one of the element of digital citizenship frameworks along with online safety, ethical technology and digital literacy developed by policy bodies and educational technologists. Present study is an attempt to understand how high school students perceive necessity of netiquette across five dimensions as online communication, privacy consideration, adherence to platform rules, sharing information online and cyber security practices. Simple random sampling was used to select male and female high school students, self made tool 'Necessity of Netiquette Questionnaire' (NNQ) was used and percentage wise scores and binary logistic regression was used as a statistical analysis. It was found that, high school students perceive necessity across the dimensions of netiquette, with the strongest identified for cyber security practices and the least for adherence to platform rules and gender does not significantly predict the perception of netiquette necessity in any dimension. This study recommends that educational policy and school curricula should continue to build on this strength, expand content on cyber hygiene, privacy practices, safe sharing, phishing awareness, and other related digital etiquettes/ netiquettes.



Keywords: Netiquette, online communication, privacy consideration, adherence to platform rules, sharing information online and cyber security practices

Highlights

Necessity of netiquette across five dimensions of netiquette

Examined high school students perception of netiquette necessity

Self-made tool “Necessity of Netiquette Questionnaire (NNQ)”

Data analyzed using percentage scores and binary logistic regression.

Highest necessity recognized was cyber security practices

Least necessity recognized was adherence to platform rules

Importance of strengthening educational curricula on cyber hygiene, privacy, safe sharing, phishing awareness, and digital etiquette.

INTRODUCTION

Socialization, communication, learning has been transformed by the integration of digital technologies into everyday life and in many countries adolescents are considered as the earliest adaptors of the digital platforms and the way they use sets a pattern for broader populations [1]. The necessity of digital devices like tablets, smartphones, laptops among students extends from formal learning to informal learning, as now the devices are used for searching information online to watching educational videos and for self-study [2]. The COVID-19 pandemic accelerated the emergence of digital platforms in education and as such the learning management systems, social media groups replaced the face to face interactions [3]. Virtual classrooms was adapted by both teachers and students and the absence of physical cues in online communication sometimes led to misunderstandings and even conflicts [4]. To maintain code of conduct, civility and cooperation while connecting with others through networked environment for bulletin boards, email lists and chatrooms gave rise to the term ‘netiquette’ [5].

The fields like education, social life and workplaces the concept of netiquette evolved as a component of digital citizenship to maintain digital communication [6]. Netiquette is considered as one of the element of digital citizenship frameworks along with online safety, ethical technology and digital literacy developed by policy bodies and educational technologists [7]. The Global citizenship Education guidelines of UNESCO stressed the concept of netiquette and consider respect online communication as a fundamental netiquette for empathy, tolerance and intercultural understanding in digital spaces [8]. The European Commission’s Digital Competence Framework for Citizens (DigComp) likewise identifies “interacting through digital technologies” and “netiquette” as core sub-competencies required for full participation in contemporary society [9]. The socially acceptable communication in the digital environment where individuals connects with each other by the help of network facilities can be referred as netiquette. The set of practical communication rules are required while connecting others through network considering social, cultural and ethical norms gave rise to the concept of netiquette [10]. Observing appropriate digital social norms or netiquette has been far from simple [11]. The online training environment has unique traits, conditions, professional standards, codes of conduct, roles and responsibilities, implicit norms, culture, values, beliefs, and principles [12-20]. In today’s digital world, being digitally literate and practicing netiquette is important for building positive relationships online [21]. With social media platforms integrated into becoming individuals’ increasingly daily lives, understanding and practicing how to use various applications can significantly improve our ability to communicate and adapt effectively [22].

LITERATURE REVIEW

Heitmayer, M., & Schimmelpfennig, R. (2024) explored young adults (22-39) using convenient sampling the perceptions and experiences of netiquette, or digital social norms that guide digitally mediated interactions, and found that digital social norms vary by platform; expectations for constant responsiveness and power

dynamics shape perceptions of appropriate netiquette [23]. Cyber etiquettes of prospective teachers with respect to gender, types of families, stream, caste, and habitat among 250 prospective teachers through random sampling found that majority of the prospective teachers had average-level cyber etiquette; Gender, family type, social category, and habitat influence prospective teachers' cyber etiquette [24]. Exploration of Digital Citizenship Education (DCE), its foundational understanding (including comparisons across school locations), and identify self-reported DCE competencies among teachers, students, and parents was carried out on 1,954 individuals, including teachers (205), students (972), and parents/guardians (777) through Surveys /online questionnaires and found that half of the school society members claim to be aware of the DCE concept, they lack the right competences to apply them in their daily practice [25]. An exploration of the perception and preferences of students and teachers towards the use of WhatsApp and Telegram as educational tools among 150 participants (100 undergraduate students and 50 undergraduate teachers) using self-developed perception questionnaire found that Both teachers and students preferred WhatsApp over Telegram for education, with teachers favoring both apps and students viewing WhatsApp favorably but Telegram neutrally [26].

A study on 'Digital ethics' and explore value and moral guidelines in virtual communication among higher education students among 59 student participants aged 17 to 25 years using online questionnaire found that cultured and prefer in-person communication; digital ethics and online communication culture as average to high; obscene language, insults, and discrimination, most students oppose common unethical behavior [27]. The study explored undergraduates' knowledge and practice of eight digital citizenship elements, excluding digital access among 204 undergraduate students; female students; between 18 and 26 years old using survey questionnaire found that students showed insufficient knowledge of digital citizenship, but many practiced ethical digital behaviors, however, concerns about security and safety were prevalent [28]. A study examine K-12 educators' perceptions of their students' digital citizenship knowledge and practices among One-hundred and seven K-12 educators using survey method and found that Educators perceive students' overall digital citizenship, especially netiquette, as lacking—many don't understand that using ALL CAPS or sharing mean content is inappropriate [29]. Investigation on different aspects of Facebook contacts between students and their lecturers (SL-contacts) was carried out among 2,849 participants (2,550 students and 299 lecturers) using online survey method and found that SL-contacts were mainly student-initiated but acceptable from both sides; norms were aligned; contacts were appropriate with mutual sympathy, friendship, or academic sharing [30]. Differentially analysis was carried out to understand the relationships between empathy, online emotional content, and netiquette according to gender in adolescents in compulsory secondary education among 774 adolescent (ages 10-15 years old) using Likert scale questionnaire and found that girls scored higher than boys in netiquette, online emotional content, and empathy; managing online emotions predicted better netiquette for both genders, while emotional expression predicted worse netiquette; cognitive empathy uniquely predicted netiquette for boys [31]. Study analyzed the extent to which online emotional content and the use of netiquette predict phubbing, considering the possibility of differences among genders among 953 students aged 12 to 17 using non-probabilistic sampling for convenience and found that higher emotional content linked to more phubbing in both boys and girls; netiquette reduces phubbing, with a stronger effect for girls [32].

An investigation on the extent of implementing netiquette practices among university students at Tafila Technical University was carried out on 267 undergraduate students using Likert scale questionnaire and found limited awareness of Netiquette rules; varied levels of implementation; no impact from gender, specialization, or study level [33]. The examination of perceived digital etiquette behaviors, to compare perceived digital etiquette by gender; compare perceived digital etiquette across study programs (management, accounting, information systems) among 109 first-year college students (18 to 22 years) Thai college students was carried out using 5-point rating scale self-administrated questionnaire and found that overall digital etiquette behaviors were high; no gender differences in perceived digital etiquette; accounting students showed higher digital etiquette than management students [34]. 342 college students (55.8% female and 44.2% male respondents) awareness of social media netiquette, its impact on their online behavior, influencing factors, behavioral patterns, and to propose strategies for encouraging responsible digital conduct was carried out using survey Likert scale and found that high level of netiquette awareness among college students; Positive correlation between awareness and online behavior [35].

The role of digital ethics in higher education, particularly in the context of effective communication in

cyberspace, and exploration of the need for modernizing moral values in this digital environment among 160 students and 60 faculty members and it was found that traditional moral values are undergoing significant change and require modernization and codification, relationships in the digital environment should be based on moral norms such as duty, self-discipline, mutual responsibility, and respect and that a formal digital ethics code is widely supported as a means to ensure effective and ethical communication, improve learning outcomes, and address emerging problems like privacy concerns and academic misconduct [36]. Study was conducted on students of two Russian universities to analyze the ideas of value and moral guidelines in virtual communication and the result demonstrated an increasing interest in the problems of compliance with moral and ethical standards in digital communication, the level of digital ethics was rated as average by the respondents and among the main factors identified that influence the ethics of a particular person's behavior were the family, social circle, and level of education [27]. The understanding and application of electronic etiquette among university students was carried out and concluded that most students do not observe even basic rules of electronic communication and the study observed lack of "netiquette" among students and proposes recommendations for teaching it [37]. Undergraduate 204 students' knowledge and practice of eight of the nine elements of digital citizenship: digital commerce, digital communication, digital literacy, digital etiquette, digital law, digital rights and responsibility, digital health and wellness and digital security was investigated using purposeful sampling method and it was found that undergraduates adhered to the rules of digital etiquette such as sharing personal information, dialogue and conversation, adequately dealing with inappropriate messages, exchanging offensive content and respecting others' opinions [28].

Existing knowledge and Knowledge gap

The existing literature mainly focuses on digital interaction have emphasized netiquette norms across platforms among adults [23], cyber etiquette linked to demographics among prospective teachers [24], and broader constructs such as digital citizenship among students, teachers, parents and undergraduates [25, 28], digital ethics [27,37,37], and e-etiquette practices among university students[38]. Some research has also examined specific contexts like WhatsApp/Telegram for education [26] or social media awareness among college students or educators [35,29]. Only a few directly addressed netiquette among adolescents [9, 10], though often with emphasis on empathy, phubbing, or behavior, rather than skill perception. Despite the expanding literature, key limitations persist in the current body of research, underscoring the need for further investigation into the perceptions of netiquette among high school students—particularly from a gender-based perspective.

The present study is an attempt to answer the following **research questions**:

What proportion of high school students perceive netiquette as a necessary skill in their online interactions?

Is there any variation regarding high school students netiquette perception on the basis of gender?

MATERIALS AND METHODS

Study setting

The study was conducted on high school students of Varanasi district. Students of academic session 2024-2025 from CBSE, ICSE and UP board were considered in the present study.

Study design and sampling

Data was collected by the help of Self-made tool as 'Necessity of Netiquette Questionnaire' (NNQ). In the first draft of the 16 items were included to assess the necessity of five dimensions of netiquette among high school students of Varanasi district like respectable online communication, privacy consideration, adherence to platform rules, responsibility in sharing information online and cyber security practices. There were two options for each item as 'Yes' and 'No'. Students were to tick the correct option that best suits them. To test the reliability of the tool pilot study on 37 students (18 boys, 19 girls) was carried out. For content and face validity the questionnaire was distributed to different lectures, professors, scholars and teachers. Thus, the final

draft of the questionnaire included 29 items (four during reliability test and two during validity test were excluded) on five dimensions concerning digital etiquette/netiquette. The reliability coefficient by Cronbach Alpha was 0.789, whereas the reliability index by the split-half method was 0.729. The first draft of ‘Necessity of Netiquette Questionnaire (NNQ)’ consisted of 18 items, later by content validity final draft consisted of 10 items (**Appendix A**).

Simple random sampling method was used for the selection schools of Varanasi district along with the selection of the class 9th and 10th students from the selected schools. Total sample of the present study is 300 (Male=149 & female=151). Detailed description of the sample is as follows:

Table 1: Description of the sample selection

Gender	N	%
Male	149	49.7
Female	151	50.3
Total	300	100

Result

Research question 1: What proportion of high school students perceives netiquette as a necessary skill in their online interactions?

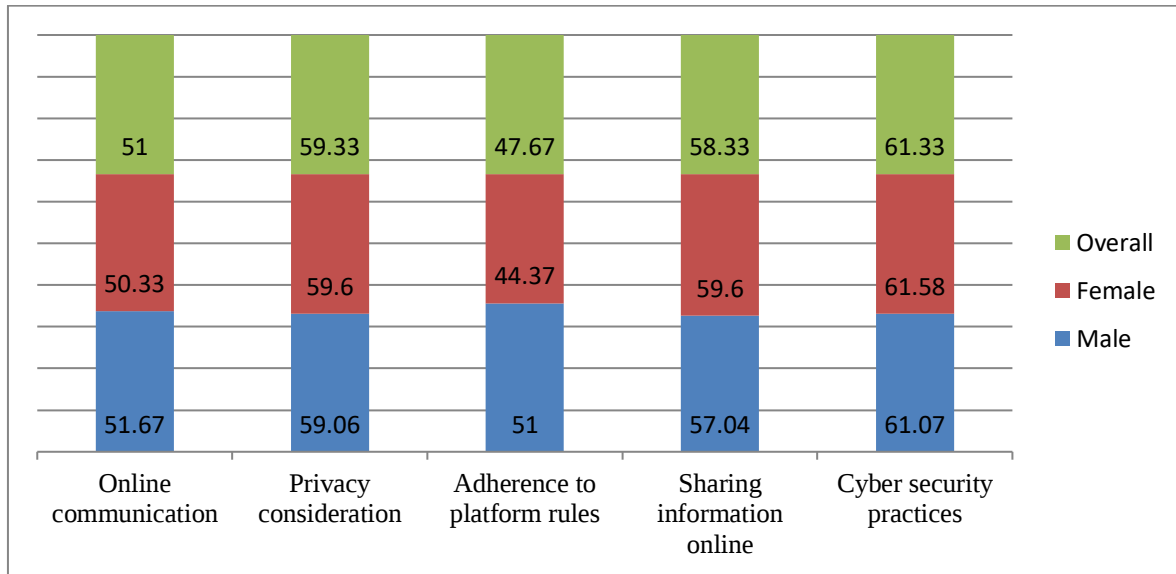
Descriptive statistics were calculated. Frequencies and percentages of “Yes” responses were computed for each netiquette dimension, combining male and female respondents.

Table 2: Proportion of High School Students perceiving netiquette necessity on the basis of gender

S. No.	Dimension	Male (n=149) Yes (%)	Female (n=151) Yes (%)	Overall Yes (%)
1	Online communication	77 (51.67)	76 (50.33)	51.00
2	Privacy consideration	88 (59.06)	90 (59.60)	59.33
3	Adherence to platform rules	76 (51.00)	67 (44.37)	47.67
4	Sharing information online	85 (57.04)	90 (59.60)	58.33
5	Cyber security practices	91 (61.07)	93 (61.58)	61.33

Descriptive analysis indicated that the perception of netiquette as a necessary skill was moderately high across all assessed dimensions, with the proportion of “Yes” responses ranging from 47.67% to 61.33%. Approximately equal percent of males (51.67%) and females (50.33) response indicate and recognize online communication as necessity netiquette. Strong recognition for privacy consideration netiquette was identified by 59.06% male and 59.60% by female respondents. The least necessity was for adherence to platforms rules by male respondents (51%) and female respondents (44.37%). High necessity was recognized for sharing information online necessity by male respondents (57.04%) and female respondents (59.60%). The highest and approximately equal perceived necessity netiquette was identified to be cyber security practices among 61.58% males and 61.07% female respondents.

Fig. 1: Percentage wise score across netiquette dimensions



Research question 2: Is there any variation regarding high school students perception of netiquette on the basis of gender?

Binary logistic regression was performed to assess the effect of gender on the perception of netiquette as a necessary skill across five dimensions. It was performed to estimate the odds of perceiving netiquette as necessary among females relative to males. For each dimension, regression coefficients (β), odds ratios (OR), 95% confidence intervals (CI), and p-values were calculated. Logistic regression was selected as it allows quantifying the likelihood of perception based on gender for a binary outcome while also providing effect size measures (OR) for interpretation.

Table 3: Binary logistic regression for netiquette perception on the basis of gender

Dimension	β	SE	z	p-value	OR	95% CI for OR
Online communication	-0.054	0.231	-0.233	0.816	0.95	0.60 – 1.49
Privacy consideration	0.023	0.230	0.098	0.922	1.02	0.65 – 1.61
Adherence to platform rules	-0.266	0.232	-1.145	0.252	0.77	0.48 – 1.21
Sharing information online	0.105	0.230	0.456	0.648	1.11	0.71 – 1.73
Cyber security practices	0.022	0.228	0.095	0.924	1.02	0.66 – 1.59

Binary logistic regression indicates that for online Communication, the odds of females perceiving netiquette as necessary were 0.95 times those of males ($\beta = -0.054$, $p = 0.816$, 95% CI [0.60, 1.49]). Similar non-significant results were found for privacy consideration (OR = 1.02, $p = 0.922$), Adherence to platform rules (OR = 0.77, $p = 0.252$), sharing information online (OR = 1.11, $p = 0.648$), and cyber security practices (OR = 1.02, $p = 0.924$). These findings indicate that gender does not significantly predict the perception of netiquette necessity in any dimension.

DISCUSSION

The descriptive findings indicates that high school students perceive necessity across the dimensions of netiquette, with the strongest identified for cyber security practices and the least for adherence to platform rules. Further, gender does not significantly predict the perception of netiquette necessity in any dimension. The finding align with the finding that cyber security behaviours like password strength, software updates, proactive checking can be significantly associated with age but gender cannot a significant predictor for those behaviours [38], gender did not significantly predict levels of awareness about cybercrime among secondary students [39]. In a study it was found that girls scored higher than boys on many netiquette [32] and emotional content dimensions and adolescents tend to prioritize netiquette norms that directly support personal relationships and emotional well-being [40]. Curriculum aligned with cyber security programs, national and regional training programs initiatives leads students to realize the necessity of cyber security netiquette [41]. Specific protection behavior like password hygiene, limiting public profile information are the factors adolescents understand as privacy perceptions [42]. Behaviors around personal safety and social consequences through cyber security training are more helpful in place of abstract policy explanations and program evaluations and course implementations [43], cyber security and digital citizenship efforts was found to equalizing perceived necessity for cyber-hygiene practices across gender [44]. As both male and female students can differ in terms of emotional expressions but they are exposed to and share same digital platforms so significant differences in how they evaluate the necessity of cyber practices cannot be translated [45]. Survey study report that in some sample of females they share private content indicating gender differences [46], whereas in one study it was found that emotional intelligence, self-control, and social media exposure were key factors influencing netiquette application [47].

CONCLUSION

The present study's results offer a clear and consistent narrative: high school students perceive netiquette as broadly necessary across several dimensions, with cyber security practices judged highest in necessity and adherence to platform rules lowest. Simultaneously, gender does not emerge as a significant predictor for any of these dimensions. The study indicates that as the high school students perceive cyber security necessity and it can be seen that various initiatives are taken across India to train school going children to train them against cyber threats or attacks. The study, titled "Exploring Cyber Threats and Digital Risks to Indian Educational Institutions", was conducted under CyberPeace Foundation's flagship e-Kawach initiative in collaboration with DELNET, Resecurity and Autobot Infosec revealed that Indian educational institutions suffered more than two lakh cyber attacks and nearly four lakh data breaches in just nine months [48]. An internship program was launched by the Amroha police to educate and empower students, equipping them with the knowledge and skills necessary to combat cyber offences effectively [49]. Under the supervision of Rahul Gupta (SP-Cyber crime) a preventive measure was taken as a part of Cyber Surakshit Goem campaign, the cyber cell of Goa police in collaboration with the education department and 450 high school computers were trained in cyber crime awareness [50]. The study recommends that educational policy and school curricula should continue to build on this strength, expand content on cyber hygiene, privacy practices, safe sharing, phishing awareness, and other related digital etiquettes/ netiquettes.

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APPENDIX A

Confidential

NECESSITY OF NETIQUETTE QUESTIONNAIRE (NNQ)

Section A: Demographics (Please tick the correct option)

Gender: (1) Male (2) Female

Family type: (1) Joint (2) Nuclear

Background: (1) Rural (2) Urban

Section B: Necessity of Netiquette

The following items are related to the kinds of digital etiquette/ netiquette you perceive as necessary. Two options are there as 'Yes' and 'No', please tick the option that best suits you. Data will be kept confidential and it will be used only for research purpose.

S.no.	items	Yes	No
1	Offensive language, name calling or insulting words should not be used for people of different culture or linguistic background while connecting online.		
2	It is necessary to avoid posting controversial, provocative, sarcasm words online that might hurt other's feelings.		
3	One should always respect private life of others and avoid pushing them to share the information online they feel uncomfortable with.		
4	We all should believe and adapt the privacy consideration in the online/digital platform.		
5	It is necessary to read the online platforms terms and conditions of services carefully before signing in to that platform.		
6	We should report the post if found to violate the online platform's community guidelines like hate speech or harmful contents.		
7	I feel it is necessary to delete/apologize if unintentionally fake news is shared by me online.		

8	While taking any online content to write the assignment or for any educational purpose we should cite the source of the information.		
9	I feel one should report an email as phishing and block the sender that claim of winning a prize and asking for personal information.		
10	We should be extremely cautious about clicking on links or attachments in messages from unknown or suspicious sources.		
