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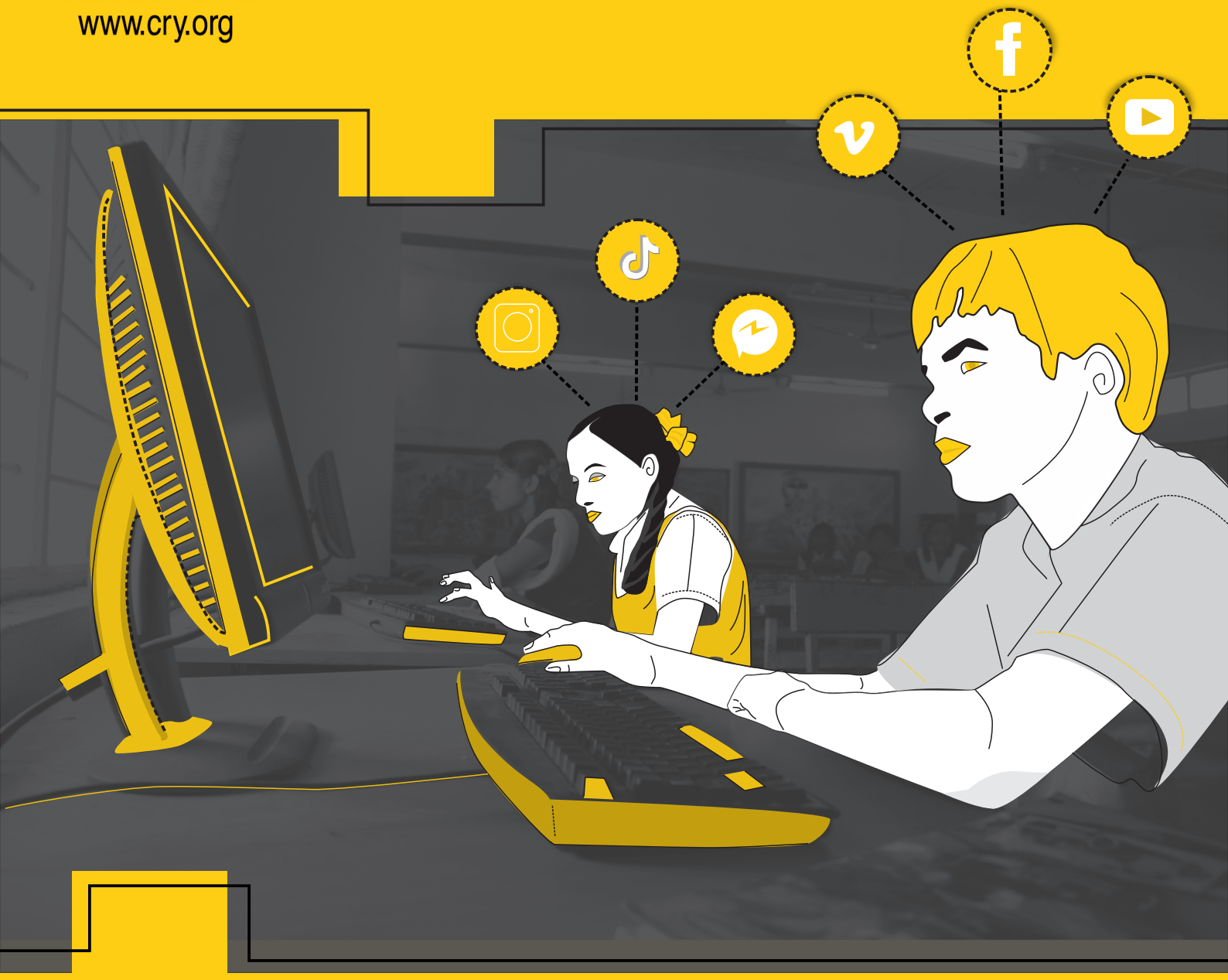

ONLINE SAFETY AND INTERNET ADDICTION

A Study Conducted Amongst Adolescents in Delhi-NCR

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Address: 632, 2nd floor, Lane No.3
(Beside Delhi Haath & Rajasthan Emporium Shops),
Westend Marg (Saket Metro Station to Garden of Five Senses),
Saiyad ul Ajaib, New Delhi,
Telephone: 011 2953 3451
Website: www.cry.org

Cryinfo.del@crymail.org Printed in India First Printing, 2020 www.cry.org

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CONTRIBUTIONS

STUDY TEAM

Ajay Kumar Sinha-FLAIR
Abdul Matin-FLAIR
Yusuf Ansari-FLAIR
Niraj Sinha-FLAIR
Veena Jayaram-CRY
Shreya Ghosh-CRY
Varun Sharma-CRY

REVIEW

Priti Mahara-CRY

Foreword

With the information revolution, arrived easy connectivity and inexpensive access – both in horizontal reach and vertical penetration to all remote corners of the land and at all levels of the society. And the result is there in front of our eyes – the Internet is an indispensable part of life today for most of us – for our work, entertainment and leisure. With its myriad offerings, the Internet hugely appeals to children and youth as well, providing unparalleled resources and experiences for education, amusement and social interactions. The traditional barriers such as caste, class, and religion disappear online and the Internet truly provides a level, neutral platform for people to participate, learn, grow and express themselves.

While the merits of the Internet are irrefutable, so is the emerging concern for online safety. The inherent anonymity of the Internet, coupled with the dynamic and fluid nature of online information gives rise to a lot of potential threats to privacy, confidentiality, personal security, integrity of information, possibilities of fraud and other forms of mistreatment. Moreover, the Internet is the window to a parallel, virtual world that can become widely addictive, and as harmful to the mind and body as any other substance abuse. In the discourse around Internet safety, children have always received special attention and strategic importance since the online world in its current form is largely designed for adults. Added to this is the fact that there is no central regulatory authority to ensure user protection.

Children and youth are particularly vulnerable to the harms of the alluring virtual world, since they tend to be more impressionable and impulsive in comparison to the adults. They tend to seek for novel experiences, are ready to soak new information, are always less hesitant of experimentation and are often not cognisant of the potential harms of their actions and expressions online.

In the Indian context, the usage of Internet among the masses (adults and children) has grown exponentially over the last decade. While this growth is fantastic since it opens up massive avenues of opportunities for people, concerns over online safety continue to linger and manifest themselves in increasingly sinister and sophisticated ways.

Over the last four decades, CRY's work on ground with communities has led us to the recognition of various vulnerabilities of children and very recently Online Safety and Internet addiction has been emerging as a very potent threat to the well-being of children and youth I do hope that this study will go a long way in demonstrating a topic so new and layered, place it into perspective, and help us understand and address it in its entireties.

With Faith & Hope,
Puja Marwaha
Chief Executive,
CRY – Child Rights and You.

Acknowledgments

CRY would like to express gratitude to all those, who have contributed to this study. We sincerely acknowledge our research partner Forum for Learning and Action with Innovation and Rigour (FLAIR), Noida. We are thankful to the Research and Ethics Committee of FLAIR who provided the ethical clearance for this study.

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We are also grateful to CRY colleagues Soha Moitra, Subhendu Bhattacharjee and Jaya Singh for extending their wholehearted support in facilitating discussions at the preliminary stage and supporting the team for accessing CRY programme areas in Delhi-NCR.

We are grateful to the Management and the Staff of the Schools in Delhi, Faridabad and NOIDA, where the study was conducted.

Last but not the least; we thank all children and their parents, for their willingness, time, and sincere responses during the course of this study.

Executive Summary

The last two decades have witnessed phenomenal growth of Internet usage in India and worldwide. The number of users in the country is pegged at 566 million currently and is expected to register double digit growth to reach 627 million in 2019. This growth has been largely driven by increased consumption in rural areas (Kantar IMRB). According to UNICEF (2016) estimates, one third of Internet users globally are children, with the proportion of Internet users likely to be higher in the lower income countries where Internet is rapidly penetrating in all spheres of public life. Statistics by The International Telecommunication Union (ITU) show that the youth (15-24 year olds) are at the forefront of Internet adoption (ITU, 2017).

Industry experts assert that due to the absence of central administration, the growth potential of Internet usage is enormous as it provides a window for organic growth of the network. Lack of a central administration allows for innovation, quick adaptation and organic growth; on the other hand. However, it also allows for unchecked growth of features and applications that are malicious and detrimental to the upkeep of law, order and general well-being. Children and adolescents are most vulnerable due to this risk of compromising well-being and proliferation of cybercrime.

While Internet is an enabler for the children and adolescents in many ways, the lack of digital literacy and online safety measures also expose them to hazards of cybercrimes like cyber bullying, cyber stalking, identity theft, sexual predation etc. They are also under the threat of Internet Addiction.

Any usage of Internet is termed problematic if there is a cognitive preoccupation with the Internet, an inability to control its use, going online to relieve emotional distress, continued use despite negative consequences, and associated Internet-related risks such as harassment, invasion of privacy and exposure to pornographic and violent content. The term “Internet Addiction” has been proposed and there are different opinions regarding whether problematic Internet use should be considered as a psychiatric disorder or a mental illness similar to other well-established addictive disorders. Dr. Kimberley Young was the first to highlight that excessive use of the Internet for nonacademic and nonprofessional reasons was associated with unfavorable effects to academic and professional performance.

As the number of adolescents using the Internet and mobile technologies keeps growing, research based evidence of both the opportunities and benefits that the Internet brings, and the associated risks and harms, is increasingly becoming important. In the Indian context, it is important to study pattern of Internet usage among adolescents and their relationship with the factors that aggravates and/or accentuates them. It is also important to understand the extent of Internet Addiction among adolescents. This study was carried out to build this understanding.

- To document the opportunities, benefits, risk and threats associated with Internet to adolescents;
- To study the patterns, forms and extent of Internet usage and association of any harm to their social life;

- To study the patterns of interactions between adolescents and their parents, teachers and immediate social groups for adolescents who have shown signs of social maladjustment and to document the concerns of out of school children

METHODOLOGY

The study was conducted among school going adolescents in the age group of 13 to 18 years, spread across urban and rural areas of Delhi-NCR (NCT of Delhi, Noida and Faridabad). Six hundred and thirty adolescents across eight schools in Delhi - NCR were selected for the study. A structured questionnaire capturing their Internet Usage habits and relevant characteristics were administered to the adolescents, in conjunction with an Internet Addiction Test (IAT), which was an adapted version (after securing requisite proprietary permissions) of the original IAT based on Young's 20-item scale for Internet addiction (YIAT 20). The psychometric properties of the IAT are well-documented in the literature[i]. Young's IAT, developed for screening and measuring levels of Internet addiction, and has been the most widely used and well-tested for its psychometric properties.[ii]

Additionally, open community-cum-workshops (n=3) with non-school going adolescents were conducted in selected study areas. In-depth interviews (IDIs) were conducted with a sub sample of adolescents (n=23), combining both who did (n=15) and did not show signs of social/psychological maladjustment (n=8). The IDI respondents were randomly selected and were carried out with the adolescents and their parents, in their home settings.

SALIENT FINDINGS

The subsection below covers the salient findings of the study in brief. The detailed trends based on age, gender etc. is available in the complete report.

Access to the Internet - The adolescents had easy access to the Internet – 93 percent of the respondents had access to Internet in their homes, and 60 percent of the boys and 40 percent of the girls owned mobiles. Almost 50 percent of the respondents used two or more than two devices to access the Internet.

Usage – Seventy-six percent of the respondents used Internet for less than two hours per day. Eight percent of the respondents said that they accessed the Internet for more than four hours a day. 40 percent of the respondents used Internet as a studying-aid, while 38 percent of them used it as a resource for extra-curricular activities. YouTube, Facebook, 'Tik Tok' and Like Apps emerged as the 4 most frequently used applications by adolescents. YouTube was the most popular Social Media that was used by the responding adolescents (37%).

Privacy – 80 percent of the boys and 59 percent of the girls had social media accounts and 31 percent of the adolescents had more than two accounts. Three in five adolescents (63%) said they accepted friendship/connect requests only from people they knew while the rest said they accepted requests from friends of friends and strangers.

[i] Ngai SS. Exploring the validity of the Internet addiction test for students in grades 5-9 in Hong Kong. Int J Adolesc Youth 2007; 13:221-37.

[ii] Widyanto L, McMurran M. The psychometric properties of the Internet addiction test. Cyberpsychol Behav 2007; 7:443-50.

Knowledge of Internet Safety – Only a quarter of the adolescents had correct knowledge of minimum age for creating social media accounts, while nearly 90 percent of respondents knew the minimum age for buying SIM cards. 35 percent of the respondents had knowledge about NCERT Internet Safety Guidelines.

Lived Experiences – One in three adolescents reported going through negative experiences on the Internet. Around 10 percent of the respondents disclosed being subjected to cyber-bullying. Only one in two adolescents reported the cyber-bullying incident. It is noteworthy that cyber-bullying occurred least among adolescents who did not have social media accounts and those who did have knowledge about NCERT guidelines for Internet Safety. Around 10 percent of adolescents also reported being victims of hacking of profile/misuse of account, but this decreased sharply with age. One in four adolescents also reported seeing a morphed image or video, and only 50 percent of them reported the incident. In general, reporting of any kind of abuse increased steeply with age.

Internet Addiction – 48 percent of the respondents displayed any level of addiction to the Internet, and severe Internet addiction was observed in one percent of the respondents and it was mainly observed among boys. Internet Addiction tended to increase with age and was greater amongst those adolescents who had their own room at home, had their own mobile devices, and did not have both parents at home. Lack of Control was very widely prevalent among the sample adolescent population (60%). It was found that 4.6 percent of the respondents show signs of severe lack of control. 57 percent of the respondents had a score indicating mild to extreme anticipation while using the Internet and 44 percent of respondents displayed indications of neglecting their social life as a result of spending time on the Internet.

Among Internet addicted, majority of them (70%) were Childescents i.e., children between 15-18 years of age. Considerably high proportions were in Class IX (30%) and Class XI (26%). In Class X, the proportion was comparatively low; possibly due to pressure of examinations.

DISCUSSIONS & POLICY RECOMMENDATIONS

The aim of this study was to understand the nuances of usage patterns of Internet among the adolescents and suggest ways of usage so that the risks and harms caused by the Internet are mitigated and opportunities and benefits are accentuated. The risks and harms to the adolescents on the Internet are cybercrimes like – cyber bullying, hacking and misuse of online profile, morphing of images or videos, and Internet addiction. The opportunities and benefits on the Internet are – help in studies and extracurricular activities, increased and better communication and networking. Internet itself is a value neutral thing. It is only a medium. What makes it good or bad are the content and the algorithms that define the rules of communication and usage. The way the Internet is used, how much it is used and what it is used for decides the balance between opportunities and benefits on the one side and risks and harms on the other. This balance is dependent on various individual, household and community factors and also on the Internet Safety rules and practices and how the information is disseminated to the children and adolescents.

Awareness and capacity building of children on keeping themselves safe online: As the adolescents use Internet from multiple devices and switch to another device when they face restrictions on one device, any technological solution that monitors and controls devices used by the adolescents for their content and screen-time will not deliver the desired results.

Therefore, just developing Privacy Settings, Parental Controls etc. will not be sufficient. There will always be a need for other solutions that require building knowledge and skills of the adolescents to be safe and secure.

Convergence of Internet safety rules and curriculum: Developing and disseminating Internet Safety Rules will not deliver the desired results as shown in the findings of this study. The study shows that the incidences and their reporting did not find the required direction even when the adolescents had information about the rules. Real knowledge and skills of using and practicing those rules need to be built among the adolescents with the help of teaching and learning processes and classroom interactions. Therefore, these safety rules and practices need to be made part of the school curriculum as well as teacher training programmes.

Proactive engagement of parents and caregivers: Supervision and guidance from parents and caregivers at home was found to be of utmost importance in promoting opportunities and benefits and curbing risks and harms among the adolescents. Focus should be given on making them aware about Internet safety rules and the programmes should be developed to build their skills on safe Internet usage.

Effective supervision but no policing: It has been observed that when using the Internet alone, younger adolescents (when they have their own rooms at home) are at a higher risk of causing harm to themselves. Clear guidelines should be developed, and all the stakeholders should be made aware that younger adolescents should not use Internet without supervision and guidance. Mobile Internet is extremely difficult to control as it is cheap, portable, accessible. Children should be encouraged to use Internet on bigger screens in spaces which are not secluded. In addition to supervising 'how long' children are online, it is important to see 'what' they are doing online.

Supervised usage: It has been observed that it is very harmful when adolescents use Internet for more than three hours daily (on an average). Also, when the adolescents cross the threshold of three hours of daily usage, they tend to overshoot the daily usage and are on the Internet for more than four hours daily (on an average). So, it is important to keep the supervised usage of Internet contained within two hours daily (on an average).

Further research: Lack of control and anticipation has been observed in severe form in considerable population among the adolescents. Even though severe overall addiction was limited to around 1 percent of the sample, severe lack of control and severe anticipation was seen among a much larger adolescent population. This needs to be studied in greater detail and seen if it correlates with the content and algorithm of what the adolescents watch on the Internet – be it online games or applications like 'Tik Tok' or some forms of social Mmedia.

Tailored strategies: Boys have been found to be at greater risk from harm than girls. Therefore, the Safety programmes on the Internet need to focus on the social behaviour of the boys and their risk-taking attitude. Boys have also shown tendency and signs of "invulnerability", which is more of bravado. This needs to be factored while devising strategies for recognising and reporting harm and risks from harm among the boys.

Sensitize the parents/ guardians: Ownership of mobile phone has been the most crucial factor that exposes the adolescents to harm. Legally mobile SIM cards are not allowed for children below the age of 18 years, therefore children and adolescents must not be given their own mobile phones. They should be using

the Internet from a device with bigger screen in common spaces and with Internet connection from a Broadband connection or from their parents' mobile hotspot.

Existing Cyber laws must be reviewed and revised to make them child-centric: This would have to include provisions for educating children and parents on actively protecting themselves from online abuse. The laws must also have clear accountability structures to ensure redressal of grievances.

Strengthen existing child protection mechanism in the country to deal with cybercrimes against children: With increasing Internet access across India, investment would have to be made in building capacities of child protection mechanism from village level upwards on identifying and redress instances of child sexual abuse, cyber bullying etc. this would also help deal with out-of-school children who are subjected to / perpetrate online crimes

Strengthen school level child protection policies to include child online safety: School level child protection policies are a must given the increasing trend of crimes against children. A component on prevention, reporting and redressal of cybercrimes against children must also be included in these policies

Invest in smooth functioning of legislations related to child protection and online safety of children as well as cybercrime reporting portals: While budgetary allocations for child protection have been showing an increasing trend, there is a need to step up the investment in the direction of prevention of crimes, including cybercrimes against children as well as in rehabilitation of survivors of cybercrimes. Trained mental health professionals would be required to address issues related to Internet addiction as well as those related to online sexual abuse of children, all of which require adequate budgetary allocations.

Protect Privacy and Digital Footprints of Children: As per the Supreme Court judgment in the matter of KS Puttaswamy **vs**. Union of India, the Right to Privacy is the fundamental right of every Indian citizen including children and the digital footprint created by children on social network websites should not be used against them or to hamper their future in anyway. Therefore, cyber laws must be cognizant of protecting children's privacy and develop mechanisms to not criminalize harmful online practices of children.

Strengthen mechanisms to monitor and remove online content on child sexual abuse and pornography: Since the study findings have also indicated unpleasant experiences of children in terms of seeing morphed images inappropriate for their age, there is a need to create processes for monitoring and removing such child sexual abuse material from the Internet. The existing laws and policies dealing with investigation and prosecution of sexual offences against children must be reviewed considering the changing nature of online crimes against children.

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Acronyms

CBI	Central Bureau of Investigation
CCPW	Cyber Crime Prevention against Women and Children
FGD	Focused Group Discussion
FLAIR	Forum for Learning and Action with Innovation and Rigour
IAMAI	Internet and Mobile Association of India
IAT	Internet Addiction Test
ICMEC	International Centre for Missing and Exploited Children
IDI	In-Depth Interview
IPC	Indian Penal Code
ISEA	Information Security Education and Awareness
ISP	Internet Service Providers
ITU	The International Telecommunication Union
IWF	Internet Watch Foundation
MeitY	Ministry of Electronics and Information Technology
NCERT	The National Council of Educational Research and Training
NCR	National Capital Region
NCRB	National Crime Record Bureau
NPC	National Policy for Children
POCSO	Protection of Children from Sexual Offences
VoIP	Voice over Internet Protocol
WWW	World Wide Web
YIAT 20	Young's Internet Addiction Test 20 items

CONTEXT

Worldwide, Internet is linked through various autonomous networks that operate without a central governing body. Due to these inter-linkages, anonymity and voluntary association, monitoring is a challenging issue. Worldwide, public and commercial use of Internet dates to 1989. In the earlier years, the pace of Internet use was slow and in late 90s it picked up the momentum. Lately, Internet usage has not only impacted the world economy but also the social and cultural aspects of life due to the advent of instant communication by email, instant messaging, telephony (Voice over Internet Protocol or VoIP) and two-way interactive video calls. Further, the World Wide Web (WWW) with its discussion forums, blogs, social networking, online publication of documents and videos, and online shopping sites, has changed the world phenomenally.

Increasing amounts of data are transmitted at higher speeds over fiber optic networks as speed keeps increasing over the years. The cost of data transmission and storage is also decreasing, thereby bringing it within the reach of masses. Internet has connected the whole world virtually.

In the context of India, it is important to notice these latest facts and figures –

- India's Internet users expected to register double digit growth to reach 627 million in 2019, driven by rapid Internet growth in rural areas (Kantar IMRB). Internet usage in the country has exceeded half a billion people for first time, pegged at 566 million, driven by rural Internet growth and usage.

- In its ICUBE 2018 report that tracks digital adoption and usage trends in India, it noted that the number of Internet users in India has registered an annual growth of 18 percent and is estimated at 566 million as of December 2018. There is a 40 percent overall Internet penetration according to ICUBE 2018. ICUBE has projected a double-digit growth for 2019 and estimates that the number of Internet users will reach 627 million by the end of this year. Of the total user base, 87 percent or 493 million Indians are defined as regular users, having accessed Internet in last 30 days. Nearly 293 million active Internet users reside in urban India, while there are 200 million active users in rural India, it said. The report found that 97 percent of users use mobile phone as one of the devices to access Internet.

- India accounted for the greatest share of growth in Internet users in the first quarter of 2019, with data from the Telecom Regulatory Authority of India showing that the country added more than 44 million new Internet subscribers in the first three months of the year.

APR 2019

DIGITAL AROUND THE WORLD IN APRIL 2019

THE ESSENTIAL HEADLINE DATE YOU NEED TO UNDERSTAND GLOBAL MOBILE, INTERNET AND SOCIAL MEDIA

CHANGES IN DATA PROVIDER METHODOLOGIES MEAN THAT DATA ON THIS SLIDE IS NOT DIRECTLY COMPARABLE TO DATA IN OUR PREVIOUS REPORTS

TOTAL POPULATION	UNIQUE MOBILE USERS	INTERNET USERS	ACTIVE SOCIAL MEDIA USERS	MOBILE SOCIAL MEDIA USERS
7.697 BILLION	5.110 BILLION	4.437 BILLION	3.499 BILLION	3.429 BILLION
URBANISATION 56%	PENETRATION 66%	PENETRATION 58%	PENETRATION 45%	PENETRATION 45%

SOURCES: WORLDOMETERS; UNITED NATIONS; US, CENSUS BIREAU; GSMA INTELLIGENCE; ITU; WORLD BANK; CIA WORLD FACTBOOK; EUROSTAR; LOCAL GOVERNMENT BODIES AND REGULATORY AUTHORITIES; MIDEASTMEDIA.ORG; REPORTS IN REPUTABLE MEDIA; SOCIAL MEDIA PLATFORMS' SELF-SERVE ADVERTISING TOOLS, PRESS RELEASES, AND INVESTOR EARNINGS ANNOUNCEMENTS, ARAB SOCIAL MEDIA REPORT; TECHRASA; NIKI AGHAEI; ROSE RU (ALL LATEST AVAILABLE DATA IN APRIL 2019).

Figure 1: Digital around the World in April 2019

There has been a volatile growth in the use of Internet not only in India but also worldwide in the last decade. A report by the Internet and Mobile Association of India (IAMAI) and Kantar IMRB found with 59 percent penetration, in the coming years, urban India is expected to see a slowdown. Thus, clearly highlighting that rural India is the next area of growth, as a large proportion of population resides in rural area and due to technology advancement and access to the technology. With the emergence of Web 2.0, the Internet is increasingly becoming more interactive and people across all sections of the society are using it than earlier. More people are connected now, with children and young people often being the largest user group.

Jasmina Byrnea and Patrick Burton, in their research paper titled, "Children as Internet users: how can evidence better inform policy debate?" highlighted that according to UNICEF estimates (Livingstone, Carr, and Byrne 2015) one third of Internet users globally are children, with the proportion of Internet users likely to be higher in lower income countries where the internet is rapidly penetrating in all spheres of public life. Statistics by the ITU show that in developing countries, young people aged between 15 and 24 outnumber the general population by 2 or 3 times (ITU 2013,150).

There are various factors that have contributed to this evolution and growth of Internet over time viz.

- Increase in affordable bandwidth;
- Increase in comparatively inexpensive storage capacity;
- Lower access costs and
- Development of the mobile Internet

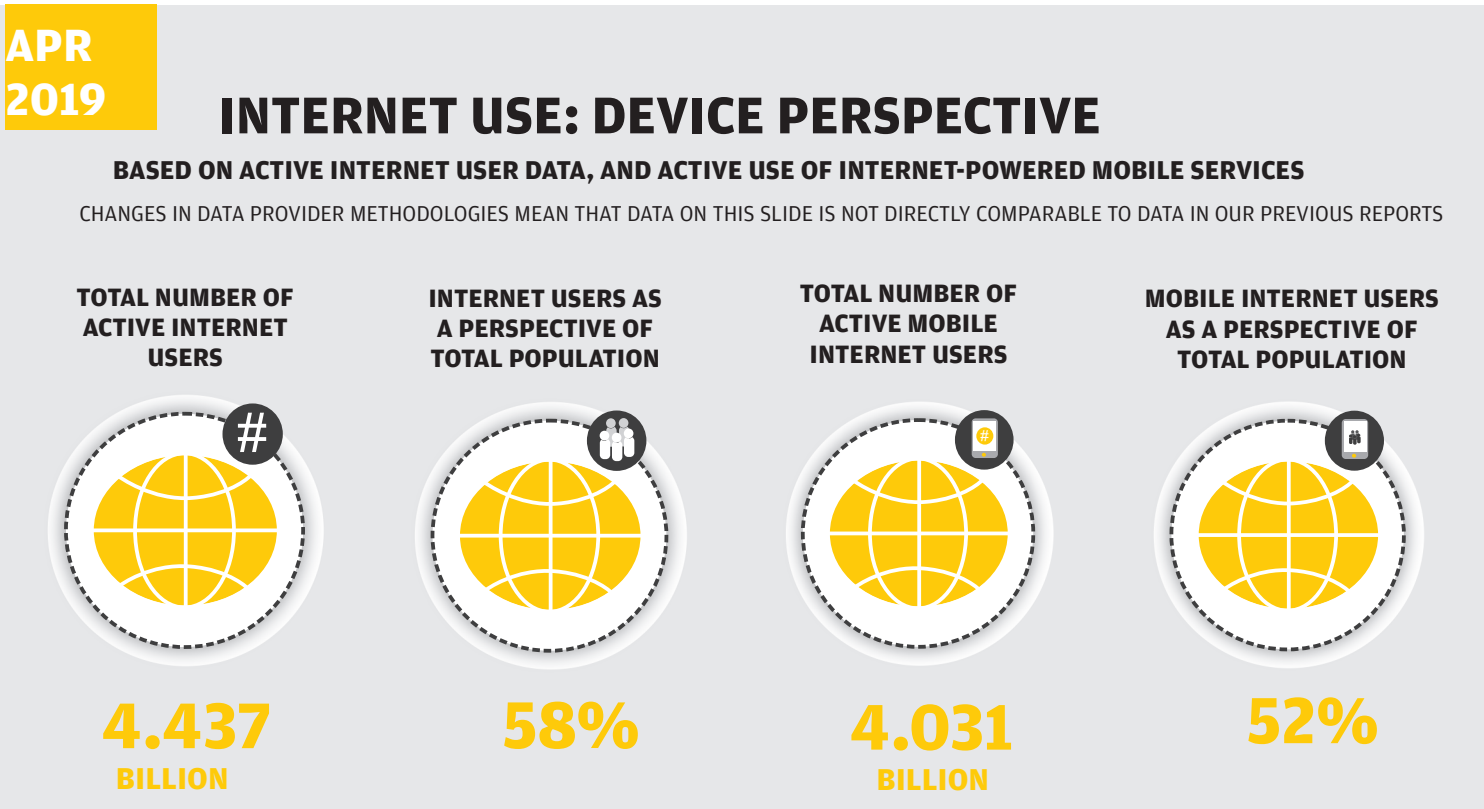

Figure 2: Internet Use – Device Perspective (April 2019)

Because of these developments the Internet now not only enables everyone to connect but also to publish their stories, comments, photographs and videos online on social media, blogs and vlogs. This new Internet, often referred to as Web 2.0, has the following characteristics:

- High levels of connectivity;
- High bandwidth;
- High levels of storage capacity;
- Personalised and interactive content (User Generated Content - UGC)

However, Internet has its merits and demerits. The threats and risks, that Internet poses to an individual are enormous. In absence of information/awareness, the virtual world's risks supersede real life threats. Government needs to put adequate measures in place as safeguard against these risks and threat through various legislations, policies and programmes. In Indian context, Government of India has laid down various policies and laws that safeguard an individual and child in the virtual world.

LEGISLATIONS, POLICIES AND PROGRAMMES FOR CHILD ONLINE SAFETY AND PREVENTION

A review of the legislations, policies, and programmes in place in the selected countries with different levels of Internet penetration suggests that countries with high Internet penetration have relatively strong legislations and policies to address a variety of online child safety issues. Countries with high Internet penetration have adopted both a top down approach with legislations to limit and respond to children's exposure to online harm and a bottom up approach that enables children, parents, and educators to take charge of minimizing the dangers that children face online. As these are generally high income countries, the public sector tends to be better resourced to lead and coordinate online child safety issues. For example, in Australia, the Office of the e-Safety Commissioner was established in 2015 to focus and coordinate efforts on online child safety issues. Most of the actors in these countries are from the public sector, but many of the initiatives involve public-private-civil society partnerships. Countries with high Internet penetration are also more likely to have a broad strategy for empowering children to protect themselves online, with government agencies, the private sector, and civil society working together to provide young Internet users the skills and tools they need to take control of their well being and strengthen their resilience to risks on the Internet.

Middle and low income countries that tend to have moderate and low Internet penetration, respectively, typically do not have as much resources at their disposal. In these countries, the public sector has taken initiatives to address online child safety issues through legislations and policies, albeit less rigorously than those with high Internet penetration. But international non governmental organisations such as End Child Prostitution and Trafficking, INHOPE, and the International Centre for Missing and Exploited Children (ICMEC), as well as United Nations agencies such as UNICEF and UNESCO, have stepped up to provide support in raising awareness and conducting research to inform policymaking.

The countries with moderate and low Internet penetration have mainly focused their efforts and resources on addressing online child sexual abuse and exploitation through a range of measures—legal, policy, technical, social, and educational. But they are starting to more actively support digital skills and safety training for children, although these efforts tend to be stand alone initiatives.

It is worth noting that mechanisms have been put in place in some moderate and low Internet penetration countries to focus on online child safety issues and on public-private-civil society partnerships to address these issues. For example, Malaysia has a Child Online Protection Taskforce, led by the Ministry of Women, Family and Community Development. The Philippines has an Inter Agency Council against Child Pornography composed of 12 governmental and three non governmental organisations.

In India, the National Advisory on Preventing and Combating Cyber Crime against Children, prepared in 2012, provides a set of guidelines to help state agencies minimise cases of cybercrime against young Internet users. In November 2019, the Central Bureau of Investigation (CBI) has set up an online child sexual abuse and exploitation (OCSAE) prevention/investigation unit under its special crime zone, headquartered at New Delhi, the unit's territorial jurisdiction would be throughout India.

The newly specialized unit will collect, collate and disseminate information regarding publication, transmission, creation, collection, seeking, browsing, downloading, advertising, promoting, exchanging, distribution of information relating to online child sexual abuse and exploitation.

The unit will investigate the offences covered under provisions of the Indian Penal Code (IPC) 1860, the Protection of Children from Sexual Offences (POCSO) Act 2012 (32 of 2012) and the Information Technology act 2000 (21 of 2000) and under various laws of the land, as applicable.

Children from Sexual Offences (POCSO) Act 2012 (32 of 2012) and the Information Technology Act 2000 (21 of 2000) and under various laws of the land, as applicable.

The legal and policy framework for handling issues of Child Online Protection in India include –

- Constitution of India,
- National Policy for Children (NPC), 2013
- National Policy on ICT in Schools, 2012,
- Draft National Education Policy, 2019,
- Information Technology Act, 2000, and the IT (Amendment) Act, 2008,
- Indian Penal Code, 1860
- Indecent Representation of Women (Prohibition) Act, 1986,

- National Cyber Security Policy, 2013,
- Indecent Representation of Women (Prohibition) Act, 1986, and
- Protection of Children from Sexual Offences (POCSO) Act, 2012.

Box 1: Information Technology Act, 2000 and POCSO Act, 2012 and Child Online Protection in India

The Information Technology Act, 2000, and the IT (Amendment) Act, 2008, cover the following offences against children:

- Transmission and publication of obscene material, i.e., child pornographic material or other adult content in electronic form;
- Transmission or publication of sexually explicit acts in electronic form including any adult content video,
- MMS, short clip or image whether self-clicked or taken by someone else; • Publication or transmission of material depicting children in sexually explicit acts in electronic form or creating images, text, collecting, seeking, downloading, advertising, promoting or distributing content that depicts children in an obscene or sexually explicit manner;
- Enticement of a child or children into an online relationship for sexually explicit acts or in a manner that can offend a reasonable adult, or facilitate abusing children or recording in electronic form a person's own abuse or that of others relating to a sexually explicit act with children;
- Intentionally or knowingly capturing or publishing or transmitting images of a private area of any person without his or her consent including taking a picture of oneself or a person with consent and posting it on any communication device in nude or seminude form;
- Securing access to a computer without authority, downloading or copying data (data theft), introducing a virus or causing damage to a database or programme, disrupting access, tampering with a computer in any way, charging services to another person, destroying evidence, or similar activities with the aim of causing damage;
- Dishonestly receiving any computer resource or communication device, identity theft, i.e. making use of someone's password or electronic signature, cheating by personation which could be through blogs, fake profiles, false e-mail addresses, fake images, etc.
- Breach of confidentiality and privacy, i.e. sharing or making public-private information. The provisions cover child pornography, grooming, sexual predation, sex webcam recording, and live webcam streaming of sexual conduct.

The Protection of Children from Sexual Offences (POCSO) Act, 2012 deals with several online offences against children, including sexual harassment, grooming and pornography including:

- Sexual harassment of a child by showing him or her any object in electronic form for pornographic purposes, or repeatedly making contact with a child digitally or threatening the child with use of any form of media (Section 11 (ii),(iii)&(iv)), using real or simulated images of a child for pornographic purposes or enticing children for sexual gratification or pornography as stated in Section 11 (v)&(vi) ;
- Using or engaging a child in any medium such as print, electronic, computer or any other technology for preparing, producing, offering, transmitting, publishing, facilitating and distributing pornographic materials as stated in Section 13(a), (b)&(c);
- Storing pornographic material in any form involving a child for commercial purposes as stated in Section 15;
- Abetment to commit any of the above offences as stated in Section 16. - Child Online Protection in India (UNICEF,

INTRODUCTION

Industry experts assert that due to the absence of central administration, the growth of Internet is enormous as it provides a window for organic growth of the network. Due to its non-proprietary nature, any single entity cannot exert too much control over the network.

Nonetheless, the lack of a central administration has its pros and cons. On the one hand, it allows innovation, quick adaptation and organic growth but on the other hand, it also allows unchecked growth of features and applications that are malicious and detrimental to the upkeep of law, order and general well-being. Children and adolescents are most vulnerable due to this risk of compromising well-being and proliferation of cybercrime.

The Internet is enabling the children of the country to access and share useful material for learning purposes. It also helps them towards enhanced self-confidence and effective and regular mode to communicate with family and friends. It provides to children a sense of empowerment. While Internet is an enabler for the children and adolescents in many ways, the lack of digital literacy and online safety measures is also exposing them to –

- Hazards of cybercrimes like cyber bullying, cyber stalking, identity theft, sexual predation and other crimes, and
- Internet Addiction.

Digital Media and Children's Rights in UNCRC

On 12 September 2014, the Committee on the Rights of the Child devoted its twenty-first Day of General Discussion to "Digital Media and Children's Rights". The objective was to analyse the effects of children's engagement with social media and information and communications technologies (ICTs), in order to better understand the impact on and role of children's rights in this area, and develop rights-based strategies to maximize the online opportunities for children while protecting them from risks and possible harm without restricting any benefits. Children's lives increasingly have a direct online engagement component and that it is hard to draw the line between online and offline whendiscussing their lives. Yet, children's needs are rarely considered explicitly when formulating policies in this area. They tend to be ignored, left to parents or considered undemanding because children are supposedly "digital natives". At the same time, almost every day, we see reports in the media about the risks that children face online, such as Internet pornography or companies seeking new ways to profit from children.

At that meeting on General Discussion on "Digital Media and Children's Rights", Prof. Livingstone emphasized that although the Convention on the Rights of the Child had been formulated in the pre-digital era, the rights enshrined therein remained as relevant as ever. She pointed out that the emphasis should be on the right to protection from harm, the right to provision to meet needs and the right to participation as an agent, or citizen. The task at hand was therefore to identify where, when and how the Internet reconfigured the conditions of harm, need and agency.

- Protection of Children's Rights in a Digital Society, FLAIR Policy Paper Series – Digital Media and Society, No. DMS-PP-

Furthermore, heavy and inappropriate use of Internet may have significant adverse effects, such as loss of control over the use of the Internet, adverse effects on other daily activities, emotional status and communication among family members.

- A cognitive preoccupation with the Internet i.e. the individual keeps on thinking about Internet all time be it online or offline;
- An inability to control its use, going online to relieve emotional distress;
- Continued use despite negative consequences, and
- Associated Internet-related risks such as harassment, invasion of privacy and exposure to pornographic and violent content.

The term "Internet Addiction" has been proposed and there are different opinions whether problematic Internet use should be considered as a psychiatric disorder or a mental illness similar to other well-established addictive disorders. Dr. Kimberley Young was the first to highlight that excessive use of the Internet for non-academic and non-professional reasons was associated with unfavourable effects to academic and professional performance. Diagnostic and Statistical Manual Of Mental Disorders Fifth Edition (DSM-V) has recognized 'Internet Addiction" as a Mental Disorder and defines Internet addiction disorder as a pattern of excessive and prolonged Internet gaming that results in a cluster of cognitive and behavioural symptoms, including progressive loss of control over gaming, tolerance, and withdrawal symptoms, analogous to the symptoms of substance use disorders.

In the present days, Internet plays an integral part in adolescents' daily lives, yet the effects of Internet use on adolescents' emotional and behavioural development remains an area of concern and its associative and causal relationship with socio-economic and demographic factors remain ambiguous.

Research on Internet addiction has demonstrated that the greater use of the Internet is associated with some social and psychological variables such as – (a) decline in the size of social circle, (b) depression, (c) loneliness, (d) lower self-esteem and life satisfaction, (e) sensation seeking, (f) poor mental health, and (g) low family function.[iii]

Thus, taking the cognizance from above discourse, there is a greater need to understand in detail the use of Internet and its association with various contextual factors and associated risks, harms, benefits and opportunities of Internet usage. Also, there is a need to review the safety measures in place to deal with negative aspects of Internet in light with prevailing laws.

[iii] Akin, A, Iskender M. Internet Addiction and Depression, Anxiety and Stress. Int Online J Educ Sci. 2011; 3(1):138-48

Government's efforts

Information Technology Act 2000, detailed out the various offences and punishments e.g. computer related offences, punishment for sending offensive messages through communication service, etc. punishment for identity theft, punishment for violation of privacy, punishment for publishing or transmitting obscene material in electronic form and punishment for publishing or transmitting of material depicting children in sexually explicit act, etc., in electronic form and punishment for publishing or transmitting of material depicting children in sexually explicit act, etc., in electronic form. The Information Technology (IT) Act, 2000 has adequate provisions to deal with prevailing cybercrimes. Section 67B of the Act specifically provides stringent punishment for publishing, browsing or transmitting child pornography in electronic form. Further, sections 354A and 354D of Indian Penal Code provide punishment for cyber bullying and cyber stalking against women. Ministry of Home Affairs has approved a scheme namely 'Cyber Crime Prevention against Women and Children (CCPWC)' under which an online Cyber Crime reporting portal(www.cybercrime.gov.in) has been launched to enable public to report complaints pertaining to Child Pornography/ Child Sexual Abuse Material, rape/gang rape imageries or sexually explicit content. This portal facilitates the public to lodge complaints anonymously or through Report and track option. Steps have also been taken to spread awareness, issue of alerts/advisories, training of law enforcement agencies, improving cyber forensic facilities etc. These steps help to prevent such cases and speed up investigation. A handbook on Cyber Safety for Adolescents/Students has been released. This booklet on cyber safety for teenagers addresses concerns and provides safety tips in the light of their increased use of smartphones, gadgets, online gaming, social media and fake news.

Cyber Crime awareness campaign has been launched through Twitter handle (@CyberDost) and radio across the country. The Ministry of Women and Child Development had enacted the Protection of Children from Sexual Offences Act, 2012 (POCSO Act) as a special law to protect children from offences of sexual assault, sexual harassment and pornography and its Section 13 to Section 15 deals with the issue of child pornography. Section 14 and Section 15 lays down the punishment for using child for pornographic purposes and for storage of pornographic material involving child.

Government has taken several steps to be implemented by Internet Service Providers (ISPs) to protect children from sexual abuse online. These include:

- Government blocks the websites containing extreme Child Sexual Abuse Material (CSAM) based on INTERPOL's "Worst-of-list" shared periodically by Central Bureau of Investigation (CBI) which is the National Nodal Agency for Interpol. The list is shared with Department of Telecommunications (DoT), who then directs major ISPs to block such websites.

- Government ordered major Internet Service Providers (ISPs) in India to adopt and disable/remove the online CSAM dynamically based on Internet Watch Foundation (IWF), UK list.

- Ministry of Electronics and Information Technology (MeitY) has implemented a major programme on Information Security Education and Awareness (ISEA). A dedicated website for information security awareness (https://www.infosecawareness.in) has also been set up.

  Lately, government has also started publishing cyber crime against children under information technology Act data also that provides a snapshot of overall cybercrime rate against children. The National Crime Record Bureau (NCRB) data 2018 showed that cases under Cyber Crimes/Information Technology Act against children saw a steep rise of 48 per cent over the previous year, as 117 cases were reported in 2018 under this crime head.

  However, in India context, the research studies highlighting Internet addiction and/or that throw light on positive and negative experiences of Internet usage are scanty in nature.

  A study conducted by Sharmitha Krishnamurthy and Satish Kumar Chetlapalli on Internet Addiction among college students in Bengaluru, India identified 34 percent [95% confidence interval (CI) 29.91-38.09%] and 8 percent (95%, CI 5.97-10.63%) students with mild and moderate Internet addiction respectively. Binary logistic regression found Internet addiction to be associated with male gender [adjusted odds ratio (AOR) 1.69, 95%CI, 1.081- 2.65, P = 0.021], continuous availability online (AOR 1.724, 95% CI, 1.018-2.923, P = 0.042), using the Internet less for coursework/assignments (AOR 0.415, 95% CI, 0.263-0.655, P < 0.001), making new friendships online (AOR 1.721, 95% CI, 1.785-2.849, P = 0.034), getting into relationships online (AOR 2.283, 95% CI, 1.424-3.663, P = 0.001) (Krishnamurthy & Chetlapalli, 2015).

  In another study, conducted in Nanded city on the prevalence of Internet addiction hypothesized that Internet addiction leads to proper mental health status and found mild Internet addiction among 31.36 percent of study subjects and moderate Internet addiction was among 34.49 percent. The study also recommended the need to evolve a comprehensive approach combining periodical awareness to the students, integrating good practices of Internet use (Surwase, Adikane, Bagdey, & Narlawar, 2016).

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Another study on health professional undergraduates on Internet addiction, prevalence and pattern found that the total prevalence of Internet addiction was 19.85 percent, with moderate and severe addiction being 19.5 percent and 0.4 percent respectively. Internet addiction was associated with gender, computer ownership, and preferred time of Internet use, login status, and mode of Internet access ($P < 0.05$). It was also associated with anxiety, depression, and loss of emotional/behavioral control, emotional ties, life satisfaction, psychological distress, and lower psychological well-being ($P < 0.05$). Significant association was found between psychopathology and Internet addiction. Male gender, login status, emotional ties, and psychological distress were found to be important predictors of Internet addiction among students (Gedam, Ghosh, Modi, Goyal, & Mansharamani, 2017).

A study conducted in China, tried to understand online activities, and risk factors related to family and school among adolescents, found that severe Internet Addiction (0.96%) was not common, but mild Internet addiction was reported by more than one fourth of all participants. The rates of Internet Addiction varied by gender, grade, the quality of family relationships and school situation, suggesting these factors should be considered when designing and implementing interventions (Xin et al., 2018).

Thus, taking cues from the earlier studies and policy provisioning in India, this study was carried out.

RESEARCH OBJECTIVES, DESIGN AND ANALYTICAL FRAMEWORK

As accelerating number of adolescents use the Internet and mobile technologies, research-based evidence of both the opportunities and benefits that the Internet brings, and their associated risks and harms, is increasingly becoming important. In the Indian context, where a large percentage of adolescents use Internet cut across sections, it is important to study pattern of Internet usage among adolescents and their relationship with the factors that aggravates and/or accentuates them. Also, it is important to understand the extent of Internet Addiction among adolescents and the socio-economic and demographic factors that influence the Internet Addiction.

The specific objectives of this study are as follows: -

- To document the opportunities, benefits, risk and threats associated with Internet to adolescents;
- To study the patterns, forms and extent of Internet usage and association of any harm to their social life;
- To study the patterns of interactions between adolescents and their parents, teachers and immediate social groups for adolescents who have shown signs of social maladjustment and to document the concerns of out of school children

Also, documenting the negative experiences on Internet, e.g. (a) Cyber Bullying, (b) Profile Misuse/Hacking of Account, (c) Seen Morphed Images/Videos and their reporting is essential for strengthening policies and identifying gaps and to design adequate intervention strategies.

This understanding may also enable the adolescents to maximize the opportunities and benefits from Internet and to minimize the risks and harms associated with its unsupervised and reckless use.

Nature of information collected

To develop this understanding this study was carried out that collected details and data on the demographic characteristics of adolescents (age, gender, education qualification), family /household characteristics (information about siblings, occupation of parents, having separate room at home and type of family), duration of Internet usage, access to Internet (place and device), information about general rules of Internet usage (minimum age requirement for making an account on social media platforms like Facebook, or information about the National Council of Educational Research and Training (NCERT) Internet Safety Guidelines); use of social media and Internet and adherence to safety and privacy practices while using Internet.

Internet Addiction and experiences

- Effect on the following indicators of opportunities, benefits, risks and harms were seen and analyzed
- Internet addiction scores (through Young's Internet Addiction Test)
- Negative experience on Internet, e.g. (a) Cyber Bullying, (b) Profile Misuse/Hacking of Account, (c) Seen Morphed Images/Videos and their reporting,
- Help of Internet in studies and extra-curricular activities

Social Maladjustment

An attempt was made to study the patterns of interactions of adolescents with their parents, teachers and immediate social group for adolescents who have shown signs of social maladjustment on account of problematic Internet usage as well as those who have not shown signs of social maladjustments.

Research Method

The study used a mixed method research where the information about socio-economic characteristics, demographics and Internet usage patterns were collected through a quantitative research instrument. The information about – (a) opportunities for benefits, and (b) risks of harm were also collected through quantitative research instruments. But the information about actual benefits and harms were collected only through a qualitative research instrument from smaller sub-sample of children and their parents.

The study carefully veers away from taking judgmental and moralistic positions in instances of screen time and usage of different features and applications of the Internet. Only those dimensions of Internet Usage have been treated harmful that are in contravention of a law or that has been proven by research-based evidence as harmful for the children and adolescents. By default, when permitted by law, Internet usage by children and adolescents has been treated as a phenomenon that is inherently and intrinsically evolutionary.

This study presents both - (a) description of Internet Usage patterns through qualitative and quantitative research data, and (b) analytical associative relationship between different independent and dependent variables.

Thus, these research findings are helpful in designing strategies of policy and practice as to what steps could be taken to enhance the benefits and curb the risks from usage of Internet among the adolescents.

The research design of this exploratory study is a combination of quantitative and qualitative research.

RESEARCH PROCESS AND ETHICAL CONSIDERATIONS

This being an exploratory study carried out with a small/limited sample of school going adolescents in Delhi NCR on an issue that has not been explored much, care was taken to introduce the topic of research and its objectives in a phased and non-threatening manner to the respondents and also to the school teachers and administrators. A small sample of out of school adolescents was also taken to understand their concerns about online safety and Internet usage.

The process of data collection started with approaching the school administration and explaining them thoroughly about the need and objective of the study. Thereafter, a brief "School Information Sheet" was filled up by the Research Investigator by asking a School Teacher. An "Informed Consent" was taken from the Head of the School or a Senior Teacher of the School. Informed Consent was also taken from each respondent, i.e. the adolescents.

There were three phases of data collection –

- Focused Group Discussions (FGDs) with non-school going adolescents in Delhi, Faridabad and Noida;
- Quantitative Data Collection through "Internet Addiction Test" and "Structured Questionnaire", and
- In Depth Interviews with a selected sub sample of Adolescent Students and their parents.

The quantitative research instruments were self-administered and thus had to be thoroughly explained by the field investigators in the beginning.

In-depth interviews (IDIs) were conducted with a sub sample of 15 adolescents who have shown signs of social/psychological maladjustment and 8 adolescents who have not shown signs of social/psychological maladjustment. IDIs respondents were randomly selected. IDIs were carried out with the adolescents and their parents, in their home settings separately to ensure privacy and confidentiality. The field investigators reached their homes upon coordinating with

their school administration. Three open community-cum-workshops (FGDs) were conducted in the study sites with out of school adolescents to document their concerns about Internet use.

To ensure anonymity of the responding adolescents, information was collected through pre-coded quantitative research instruments. The meta-data of the respondents' identity was used by the researchers only to draw a sub-sample for administration of qualitative research instrument. The personal identifiers of the respondents were kept confidential and had limited access. Only the research team of Child Rights and You (CRY) and Forum for Learning and Action with Innovation and Rigour (FLAIR) had access to personal identifiers of the respondents. All the respondents had voluntarily participated in the study.

This study was carried out under the supervision and approval of FLAIR's Research and Ethics Committee.

LIMITATIONS

The sample for this study was small and therefore the descriptive statistical findings are not representative of the phenomena for the geography of this study or the age group of respondents. The statistical findings of this study should be interpreted to get insights into associative relationships between various factors that influence and get influenced by - (a) socio-demographic factors, (b) positive experiences on the Internet, (c) negative experiences on the Internet, and (d) Internet Addiction.

The questionnaires were self-administered but in some instances the adolescents wrote their responses in the presence of their teachers and thus, the probability of the respondents marking socially desirable options cannot be ruled out. Therefore, the statistical results need interpretation with the help of insights from qualitative research.

RESEARCH INSTRUMENTS AND METHODS

RESEARCH INSTRUMENTS

The Research Instruments for Quantitative Research were -

Structured Questionnaire – This was a research instrument with 20 questions on - Internet usage (device, place, number of hours etc.), demographics, socio-economic background of the respondents, information and knowledge about Internet rules and guidelines, positive experiences on Internet, negative experiences on Internet and their reporting.

Internet Addiction Test – An Internet Addiction Test based on Young's 20-item scale for

Internet addiction (YIAT 20) was applied to qualify for the prevalence of Internet addiction. It is a 20-item questionnaire measured on the five-point Likert Scale. After all the questions have been answered, numbers for each response are added to obtain a final score. The higher the score range, the greater the level of addiction; normal range: 0-30 points; mild: 31-49 points; moderate: 50-79 points and severe: 80-100 points.[iv] The psychometric properties of YIAT 20 questionnaire are well-documented in the literature.[v] Young's IAT, developed for screening and measuring levels of Internet addiction, and has been the most widely used and well-tested for its psychometric properties.[vi] The items of the IAT, each rated from 1 (rarely) to 5 (always), include compulsive behavior related to use of the Internet, the occupational or academic difficulties, lack of competence at home, problems in interpersonal relations, and emotional problems.[vii] The rationale for basing the Internet Addiction Test was that Young's diagnostic questionnaire for the study was that it is the first global psychometric measure and hence has been extensively and frequently used across many studies globally, is self-completed, has been validated on adult and adolescent populations, and has good internal consistency reliability as well as concurrent validity.

In Indian context, IAT was used in earlier studies with young population and adolescents aged 18-24[1] years and 16 years[2] (Sachin R Gedam et al., 2017; Sharmitha Krishnamurthy, Satish Kumar Chetlapalli, 2015)

IAT - MODIFICATION OF QUESTIONS AND RANGE IN SCORES

YIAT 20 was used with modification and adaptation as it was to be administered to adolescents in the age group of 13 to 18 years. There are two questions in the 20-items questionnaire that seeks information about an adult subject (specifically question number 3 and 4) and hence were modified to suit the age group of the respondents.

IAT Q No. 3 - How often do you prefer the excitement of the Internet to intimacy with your partner?
IAT Q No. 4 - How often do you form new relationships with fellow online users?

[iv] Young KS, de Abreu CN. Internet Addiction: A Handbook and Guide to Evaluation and Treatment. New York: Wiley; 2010. p. 23.

[v] Ngai SS. Exploring the validity of the Internet addiction test for students in grades 5-9 in Hong Kong. Int J Adolesc Youth 2007; 13:221-37.

[vi] Widyanto L, McMurran M. The psychometric properties of the Internet addiction test. Cyberpsychol Behav 2007; 7:443-50.

[vii] Young KS. Caught in the Net: How to Recognize the Signs of Internet Addiction--and a Winning Strategy for Recovery. New York, NY, USA: John Wiley & Sons, Inc.; 1998.

[1] Gedam S, Ghosh S, Modi L, Goyal A, Mansharamani H. Study of Internet addiction: Prevalence, pattern, and psychopathology among health professional undergraduates. Indian

[2] Krishnamurthy S, Chetlapalli S. Internet addiction: Prevalence and risk factors: A cross-sectional study among college students in Bengaluru, the Silicon Valley of India. Indian Journal of Public Health. 2015; 59(2):115-21.Journal of Social Psychiatry. 2017; 33(4):305-11.

These were changed to –

IAT Q No. 3 - How often do you prefer the excitement of the Internet to outdoor games with other children?
IAT Q No. 4 - How often do you form new friendships with online users whom you do not know in real life?

This Internet Addiction Test and the study in general have been approved by Research and Ethics Committee (FLAIR).

The User Manual for Young's Internet Addiction Test specifies the following -

"The examiner should evaluate the score ranges for the purposes for which the IAT is being used. If the examiner's purpose is to measure detection of persons with Internet addiction, then the upper level of each range should be lowered to minimize false negatives. This method would be useful in screening for possible cases of Internet addiction. To reduce the number of false positives, the examiner should raise the upper level of each range. This method is used in research for which one wishes to obtain as pure a sample as possible of persons with Internet addiction."

In the scope of this study, detection of adolescents was used for screening and to reach out for more detailed qualitative interactions, the upper level in each range was lowered. Also, in the pilot testing the team had observed marking of false negatives. Thus, lowering the upper range will increase the probability of having more adolescents in the net of problematic use of Internet. Thus, after lowering of the upper levels in each range the ranges for – (a) Normal, (b) Mild, (c) Moderate, and (d) Severe, were as follows:

- Normal – 0 to 23
- Mild Addiction – 24 to 42
- Moderate Addiction – 43 to 72
- Severe Addiction – 73 to 100

This lowering of upper levels of each range has been discussed and approved by the Research and Ethics Committee.

DETAILED INTERPRETATION OF INTERNET ADDICTION TEST SCORES

Because an IAT total score yields only an estimate of the overall severity of Internet addiction being described by a person, the study also considered other aspects of psychological

functioning exhibited by the person. The IAT score was inspected for a pattern of symptom complaints as follows:

Sr. No.	Dimension of Internet Addiction (Questions of the Test)	Explanation
1	**Salience – questions 10, 12, 13, 15, and 19**	High ratings for Salience-related exam items indicate that the respondent most likely feels preoccupied with the Internet, hides the behavior from others, and may display a loss of interest in other activities and/or relationships only to prefer more solitary time online. High ratings also suggest that the respondent uses the Internet as a form of mental escape from distributing thoughts and may feel that life without the Internet would be boring, empty, or joyless.
2	**Excessive Use – questions 1, 2, 14, 18, and 20**	High ratings for Excessive Use-related items indicate that the respondent engages in excessive online behavior and compulsive usage and is intermittently unable to control time online that he or she hides from others. High ratings also suggest that the respondent is most likely to become depressed, panicked, or angry if forced to go without the Internet for an extended length of time.
3	**Neglect Work – questions 6, 8, and 9**	High ratings for Neglect Work-related exam items indicate the respondent may view the Internet as a necessary appliance akin to the television, microwave, or telephone. Job or school performance and productivity are most likely compromised due to the amount of time spent online and the respondent may become defensive or secretive about the time spent online.

4	**Anticipation – questions 7, 11**	High ratings for Anticipation-related items indicate that the respondent most likely thinks about being online when not at the computer and feels compelled to use the Internet when offline.
5	**Lack of Control – questions 5, 16, and 17**	High ratings for Lack of Control-related items indicate that the respondent has trouble managing his or her online time, frequently stays online longer than intended, and others may complain about the amount of time he or she spends online.
7	**Neglect Social Life – questions 3 and 4**	High ratings for Neglect of Social Life-items indicate the respondent most likely utilizes online relationships to cope with situational problems and/or to reduce mental tension and stress. High ratings also suggest that the respondent frequently forms new relationships with fellow online users and uses the Internet to establish social connections that may be missing in his or her life.

SAMPLE FOR QUANTITATIVE AND QUALITATIVE RESEARCH

The study was conducted among school going adolescents in the age group of 13 to 18 years, spread across urban and rural areas of Delhi-NCR (NCT of Delhi, Noida and Faridabad).

The details of the sample are as follows:

Spread of Schools (Senior Secondary Government/Private Schools) –

- National Capital Territory (NCT) of Delhi – 4 Schools
- Noida – 2 Schools
- Faridabad – 2 Schools

Sample for this study was drawn from eight schools of Delhi-NCR. 630 adolescents across eight schools in Delhi NCR were selected for the study. Out of the total, 65 percent were boys and 35 percent were girls

Table 1: Sample of Respondents (Gender Composition)		
Respondents	**Number**	**Percentage**
Boys	409	64.92%
Girls	221	35.08%
Total	630	

As four schools were selected from NCT of Delhi, 50 percent of sampled adolescents were from NCT of Delhi, 24 percent and 26 percent were from Noida and Faridabad respectively.

Table 2: Sample of Respondents (Location Composition)		
Cities	**Number**	**Percentage**
Delhi	316	50.16%
Noida	151	23.97%
Faridabad	163	25.87%
Total	630	

Average age of the respondents was 15.3. Respondents from Faridabad had higher average age (16.09) than that of Noida and Delhi (15.2 and 14.9 respectively). Around 31 percent respondents were young teens (13-14 years) and 69 percent were 'Childescents' [3]

[3] 'Childescents' is a term coined by CRY to define children aged 15-18 years in its previously published report - 'Childescents of India: We are children too' (2018) https://www.cry.org/pdf/childescents-in-india-cry.pdf

Table 3: Sample of Respondents (Age Composition)		
Respondents	**Number**	**Percentage**
13 Years	58	9.2%
14 Years	138	21.9%
15 Years	131	20.8%
16 Years	175	27.8%
17 Years	99	15.7%
18 Years	29	4.6%
Total	630	

The data was collected from students of Classes VIII to XI. In these classes the students mostly were in the age group of 14 to 17 years. Therefore, a very small sample of children was of 13 years and 18 years of age.

Household profile

One in every five adolescents has a separate room at home and a minuscule percentage (3.5%) was the only child. Occupation profile of parents of adolescents revealed that more than 80 percent of adolescents reported that their father were doing some job or business, mothers were predominately home markers (79%).

Out of these 630 adolescents, a sub sample of 15 adolescents who had shown signs of social/psychological maladjustment and eight adolescents who had not shown signs of social/psychological maladjustment were selected randomly for an in-depth qualitative study through an interview guide (check list) with the child and parent/care giver.

Parameters of social/psychological maladjustments were - (a) Moderate to Severe Internet Addiction and (b) Having experienced Cyber Bullying, Online Profile Hacking and indiscriminate use of Internet for social media, Online Video Gaming etc.

RESEARCH FINDINGS

The research findings are based on the analysis of both quantitative and qualitative data. There are two sections for the research findings – the first section deals with (a) opportunities and benefits of Internet and (b) risks and harms or Internet and the second section deals with Internet Addiction.

The first section is further subdivided into three subsections and the second section is further subdivided into two subsections.

For the first section of research findings the three subsections are as follows –

1. General descriptive statistics of usage patterns of Internet, device ownership and usage, places of usage, usage of social media accounts, average daily usage of Internet, period since the respondent is using the Internet and knowledge about rules of Internet;
2. Usage of Internet for studies and extra-curricular activities, and their relationship with Internet usage patterns and socio-demographic factors
3. Experience of Cyber Crime and their reporting and other unpleasant experiences e.g. hacking of account, profile misuse etc. and their relationship with socio-demographic factors and Internet usage patterns;

In the first section, the descriptive statistics was also cross tabulated with socio-economic and demographic factors to analyse and understand the factors that accentuate or mitigate them. The descriptive statistics have been interpreted with the help of findings from qualitative research. Insights from the qualitative research are used as triangulation and validation of the findings of quantitative research.

In the first subsection of the second section statistics of prevalence of Internet Addiction has been presented and their relationship with socio-demographic factors. Bi[4] variate analysis was carried out and chi square[5] was used to analyze the association of Internet addiction with socio-economic and demographic characteristics of adolescents.

[4] Bivariate analysis is the simultaneous analysis of two variables (attributes). It explores the concept of relationship between two variables, whether there exists an association and the strength of this association, or whether there are differences between two variables and the significance of these differences

[5] The Chi-Square test of independence is used to determine if there is a significant relationship between two nominal (categorical) variables.

SECTION 1.1: PATTERNS OF INTERNET USAGE AND SOCIO-DEMOGRAPHIC FACTORS

General Descriptive Analysis

Out of total 630 adolescents interviewed, 82 percent reported that their fathers were working, and 17 percent reported their mothers were working. 14 percent adolescents reported that both parents were working.

Compared to girls (15%), a higher percentage of boys (23%) have separate room at home and own mobile phones (22% v/s 43%). Percentage of adolescents reported to own mobile phones and social media account increased with age (26% for adolescents aged 13 years to 47% for adolescents aged 17 years).

Table 4: Socio-Demographic Characteristics of the Respondents

	Total Respo-ndents	Boy	Girl	Age 13 Years	Age 14 Years	Age 15 Years	Age 16 Years	Age 17 Years	Age 18 Years
Total Respondents ⇢	**630**	**409**	**221**	**58**	**138**	**131**	**175**	**99**	**29**
Father not available at home	516	339	177	47	119	101	150	78	21
Mother not available at Home	108	66	42	12	18	24	34	14	6
Both parents not available at home	86	55	31	8	14	18	30	12	4
At least one parent available at home	544	354	190	50	124	113	145	87	25
Has his/her own room at home	127	93	34	06	25	32	37	20	07
Own mobile + social media account	226	177	49	15	36	43	76	47	09
Own mobile + social media account + playing online game	43	40	03	04	08	10	09	10	02
Own mobile + social media account + uses Internet more than 3 hours daily	39	28	11	0	04	10	09	14	02
Own mobile + uses Internet more than 3 hours daily	45	32	13	0	07	10	10	16	02
Own mobile + Uses Internet more than 3 hours daily + Has social media account + Uses Internet for online gaming	12	11	01	0	01	03	02	06	0
Own mobile + own room at home	75	58	17	04	10	17	22	17	05
Own mobile + own room at home + uses Internet more than 3 hours daily	21	16	05	0	02	05	07	06	01
Own mobile + own room at home + neither parent at home	08	08	0	0	0	03	02	03	0

Gender wise, 61 percent boys and 41 percent girls own mobile and over 3/4th have account on social media. Around 43 percent have account on more than two social media platforms. Likewise, majority of boys (80%) have account on social media, whereas, 59 percent of girls have account on social media.

With the age, the percentage of adolescents having own mobile phone increases (31% - 13th years to 56% - 17th years). Same trend was observed in case of having an account on social media platform (64% v/s 73%).

Out of total 630, one in every tenth respondent (9%) has experienced cyber bulling and there was no such gender differential evident (10% v/s 9% boys and girls respectively). However, with the age, the experiences of cyber-bullying increase (3 % to 17% - 13 years to 17 years respectively).

One in every tenth respondent (10%) has experienced profile misuse or hacking of account. The percentage was higher among boys (12%) compared to girls (7%) and with age it increased (10% - 13 years to 13% - 17 years).

Around 23 percent have seen morphed image or video on Internet and no such gender difference was seen in this case (23% and 22% boys and girls respectively).

Only 1/4th respondents have the correct knowledge about minimum age of making social media account and the knowledge were comparatively higher among girls (32% v/s 20% girls and boys respectively). With the age there was an inverse trend seen where young adolescents seemed to have fairly correct knowledge (50% - 13 years) than older ones (11% - 17 years).

Majority of the respondents (89%) were aware about the minimum age of buying SIM card. Around 1/3rd respondents (36%) know about NCERT Internet safety guidelines and compared to girls (29%), more boys (39%) know about NCERT guidelines. However, knowing / heard of NCERT guidelines may not result into accurate information about the guidelines. This was not explored in the scope of this study. No clear trend emerged as per the age categories.

The study also explored the benefits and opportunities Internet provides to adolescents. Forty percent of adolescents reported that Internet helps them in studies in more than two ways and compared to girls (33%) the percentage was higher for boys (44%). With age there appeared an increased trend. Internet also helps the adolescents in extra-curricular activities and 37 percent reported that it helps them in more than two ways. The percentage was higher among boys (42%) compared to girls (29%).

Table 5: Internet Usage Profile of the Respondents

	Total Respo-ndents	Boy	Girl	Age 13 Years	Age 14 Years	Age 15 Years	Age 16 Years	Age 17 Years	Age 18 Years
Has account on social media	457	327	130	37	94	99	135	72	20
Has account on more than two social media	197	161	36	20	43	35	64	30	05
Has experienced cyber bullying	58	39	19	02	08	07	22	17	02
Reported incidence of cyber bullying (from amongst those who experienced cyber bullying)	29	21	08	01	04	03	10	11	00
Has experienced profile misuse or hacking of account	65	50	15	06	13	13	19	13	01
Reported incidence of profile misuse or hacking of account (from amongst those who experienced profile misuse or hacking of account)	32	23	09	05	05	06	10	05	01
Has seen morphed image or video	142	94	48	16	30	32	29	27	08
Has reported having seen morphed image or video (from amongst those who have seen morphed image or video)	79	41	38	10	19	19	13	12	06
Any negative experience on Internet - cyber bullying or profile misuse or having seen morphed photo/video	201	134	67	19	40	42	50	42	08
Help of Internet in studies (more than two choices ticked)	252	180	72	23	56	56	65	44	08
Help of Internet in studies (more than three choices ticked)	165	121	44	14	38	35	42	31	05
Help of Internet in extracurricular (more than two choices ticked)	236	172	64	24	51	54	60	40	07
Help of Internet in extracurricular (more than three choices ticked)	146	110	36	12	33	35	35	25	06
Correct knowledge about minimum age of making social media account	151	81	70	29	39	29	42	11	01
Correct knowledge about minimum age of buying SIM card	558	362	196	53	130	107	135	88	25
Having knowledge about NCERT Internet safety guidelines	224	161	63	19	53	47	64	33	08
Having knowledge of all three - minimum age for social media account, minimum age for buying SIM card and knowledge of NCERT safety guidelines	43	18	25	08	12	06	13	04	0

Most used Place for use of Internet

"With the advent of Mobile Internet technology and its easy access and affordable outreach it was evident that children would use Internet mostly at their Homes (93.3%)".

However, it was observed that approximately 4 percent of the respondents used Internet at friend's or relative's place and approximately 2.4 percent at an Internet Cafe. A higher percentage of Boys (8.31%) used Internet outside their homes than the Girls (3.61%) -**Table 6.** This may be attributed to the prevalent social norms that restrict mobility of Girls in the communities from where data was collected. Similarly, a slightly higher percentage of children in the higher age group used the Internet outside their homes -**Table 7.**

Table 6: Places of Most Use of Internet – Gender Differential

Most Use of Internet	Overall (N = 630)	Boys (N = 409)	Girls (N = 221)
School	0.32%	0.49%	0.00%
Home	93.33%	91.69%	96.38%
At Internet Café	2.38%	3.18%	0.90%
At Friend or Relative Place	3.97%	4.65%	2.71%

Table 7: Places of Most Use of Internet – Age Wise Distribution

Most Use of Internets	Overall (N=630)	13 Years (N=58)	14 Years (N=139)	15 Years (N=128)	16 Years (N=175)	17 Years (N=102)	18 Years (N=28)
School	0.32%	0.00%	0.00%	0.00%	0.57%	1.01%	0.00%
Home	93.33%	96.55%	93.48%	93.13%	93.71%	89.90%	96.55%
At Internet Café	2.38%	0.00%	2.17%	3.05%	2.29%	4.04%	0.00%
At Friend or Relative Place	3.97%	3.45%	4.35%	3.82%	2.29%	5.05%	3.45%

These findings also triangulate well with the qualitative findings that showed that boys and especially elder boys tend to use Internet for the purposes of shooting videos for applications like "Tik Tok" outside their homes and in groups. During an in-depth interview in Noida, mother of a boy from Class 8 was especially worried about the risky videos that her child was making, as there had been an instance of a boy getting seriously injured while making a video of jump and somersault. In all the Focused Group Discussions, shooting of videos and trying to make them more and more interesting figured prominently among the uses that mobiles were put to.

Devices used for accessing and using Internet

"Almost 50 percent of the respondents used two or more than two devices to access the Internet and percentage was higher among boys compared to girls".

Amongst boys, a higher percentage used more than two devices (25.92%) than amongst girls (15.38%) - Table 8. Approximately, 44 percent of the respondents use their own devices to access and use Internet. This percentage was higher among the boys (52%) compared to the girls (29%) -Table 10.

It was observed that the percentage of ownership of mobile among the respondents is higher but still many of them use Internet from their parents' mobile. Approximately, 60 percent of the boys and 40 percent of the girls own mobiles but only 52 percent of the boys and 29 percent of the girls use their own mobile to access Internet. Triangulation with qualitative findings confirm that the quality of smartphones of many children is not of as good quality as that of their parents thereby prompting them to access Internet or their parents' device. Also, the data pack in the parents' devices is of higher value. This trend of using parents' smart phones to access Internet is higher amongst girls as lesser percentage of them own mobiles and amongst them also the mobiles are of lower quality **[Table 10].**

"We will get a new smartphone for Sunil, a boy from Faridabad of Class 8, (name changed) when he will be in Class 11. We have given him an old mobile since both of us go out for work and he is alone at home during the day after school. He takes my smartphone as soon as I return from work at 5:00 PM. I let him use my mobile as at least he does not go out to play with neighborhood boys in the evening. The boys in neighborhood have bad habits and some of them even take drugs".

Sunil's Mother, Faridabad

Also, as the children grow up, they tend to use their own device for accessing Internet (Table 11).

Table 8: No. of Devices Used for Internet Usage – Gender Differential			
Devices Used for Internet Usage	**Overall (N = 630)**	**Boys (N = 409)**	**Girls (N = 221)**
One Device	51.11 %	44.99 %	62.44 %
Two Devices	26.67 %	29.1 %	22.17 %
More than two Devices	22.22 %	25.92 %	22.17 %

Table 9: No. of Devices Used for Internet Usage – Age Wise Distribution							
Devices Used for Internet Usage	**Overall (N=630)**	**13 Years (N=58)**	**14 Years (N=139)**	**15 Years (N=128)**	**16 Years (N=175)**	**17 Years (N=102)**	**18 Years (N=28)**
One Device	51.11 %	51.72 %	44.93 %	43.51 %	52.57 %	62.63 %	65.52 %
Two Devices	26.67 %	20.69 %	32.61 %	29.01 %	25.71 %	22.22 %	20.69 %
More than two Devices	22.22 %	27.59 %	22.46 %	27.48 %	21.71 %	15.15 %	13.79 %

Table 10: Whose Device is used for Internet Usage – Gender Differential			
Devices Used for Internet Usage	**Overall (N = 630)**	**Boys (N = 409)**	**Girls (N = 221)**
One Device	43.65 %	51.59 %	28.96 %
Parent's Mobile	52.38 %	43.52 %	68.78 %
Any other Device	3.97 %	4.89 %	2.26 %

Table 11: Whose Device is used for Internet Usage – Age Wise DISTRIBUTION							
Devices Used for Internet Usage	Overall (N=630)	13 Years (N=58)	14 Years (N=139)	15 Years (N=128)	16 Years (N=175)	17 Years (N=102)	18 Years (N=28)
One Device	43.65 %	31.03 %	36.23 %	39.69%	50.86%	55.56 %	37.93 %
Parent's Device	52.38 %	67.24 %	61.59 %	56.49%	46.86%	36.36 %	48.28 %
Any other Device	3.97 %	1.72 %	2.17 %	3.82%	2.29 %	8.08 %	13.79 %

Usage of Social Media

"YouTube was the most popular Social Media that was used by the responding adolescents. 36.71 percent of the respondents used YouTube and YouTube's popularity among girls was higher than among the boys"

Facebook was a close second among the popular social media channels (33.1%), but among the boys it was the most popular (38.34%). Instagram was more popular among the girls than boys. Applications like 'Tik Tok' were also quite popular at 14.07 percent of the respondents using it. 'TikTok' was more popular among the boys (15.8%) than among the girls (10.66%) - **Table 12.**

Table 12: Usage of Social Media Channels – Gender Differential			
Social Media Use Maximum	Overall (N = 630)	Boys (N = 409)	Girls (N = 221)
YouTube	36.71 %	34.2 %	41.62 %
Facebook	33.1 %	38.34 %	22.84 %
Tik Tok App	14.07 %	15.8 %	10.66 %
Like App	8.23 %	6.48 %	11.68 %
Instagram	4.29 %	3.63 %	5.58 %
Any Other	2.92 %	1.04 %	6.6 %
Vigo App	0.69 %	0.52 %	1.02 %

Popularity of YouTube was higher among lower age group children while among higher age group children Facebook was more popular. Popularity of TikTok also increased with age **[Table 13].**

Table 13: Usage of Social Media Channels – Age Wise Distribution

Social Media Use Maximum	Overall (N=630)	13 Years (N=58)	14 Years (N=139)	15 Years (N=128)	16 Years (N=175)	17 Years (N=102)	18 Years (N=28)
YouTube	36.71 %	48 %	44.88%	30.65%	31.65%	38.95%	27.59%
Facebook	33.1 %	14 %	21.26%	46.77%	33.54%	37.89%	41.38%
Tik Tok App	14.07 %	18 %	15.75%	12.1%	16.46%	7.37%	17.24%
Like App	8.23 %	6 %	10.24%	6.45%	8.86%	8.42%	6.9%
Instagram	4.29 %	4 %	5.51%	2.42%	4.43%	4.21%	6.9%
Any Other	2.92 %	8 %	2.36%	0.81%	4.43%	2.11%	0%
Vigo App	0.69 %	2 %	0%	0.81%	0.63%	1.05%	0%

Practice of Privacy Norms on Social Media

"Approximately, 63 percent of the respondents accept friendship from people whom they know offline. This percentage was higher among the girls than the boys".

Among the girls, 73.55 percent accept friendship only from people whom they know offline - **Table 14.**

"As the children grow older, they tend to accept friendship from persons whom they do not know offline in real life – from strangers and friends of friends"

Table 14: Practice of Privacy Norms on Social Media – Gender Differential

Acceptance of Friendship on Social Media	Overall (N = 630)	Boys (N = 409)	Girls (N = 221)
Friends whom I know	51.11 %	58.91 %	73.55 %
Strangers	8.62 %	10.89 %	3.62 %
Friends of Friends	27.89 %	30.2 %	22.83 %

Table 15: Practice of Privacy Norms on Social Media-Age Wise Distribution							
Acceptance of Friendship on Social Media	Overall (N=630)	13 Years (N=58)	14 Years (N=139)	15 Years (N=128)	16 Years (N=175)	17 Years (N=102)	18 Years (N=28)
Friends whom I know	63.49 %	78.57 %	62.36 %	62.69 %	60.54 %	64.75 %	60.98 %
Strangers	8.62 %	5.71 %	9.55 %	7.77 %	9.96 %	7.19 %	9.76 %
Friends of Friends	27.89 %	15.71 %	28.09 %	29.53 %	29.53 %	28.06 %	29.27 %

In-depth interviews with selected adolescents, also suggested that adolescents do not foresee any risk or security concern by using Internet and social media and to have more friends in the virtual world, they accept friend request from strangers and/or friends of friends.

Average daily use of Internet

"Most of the children use Internet less than 2 hours per day. Girls tend to use Internet for lesser number of hours than boys".

Around 46.51 percent children use Internet for less than 1 hour per day and 30.16 percent use Internet between 1 and 2 hours daily. Worth noting that once the children cross the 2 to 3 hours daily usage mark, they tend to use it for more than 4 hours daily and this trend is observed more among the girls than the boys [Table 16]. It was also observed that elder children use Internet for longer hours daily **[Table 17].**

The study sought the information about Internet usage by the child in a day on an average.

Table 16: Average Daily Use of Internet – Gender Differential			
Average No. of hours per day on Internet	Overall (N = 630)	Boys (N = 409)	Girls (N = 221)
Less than 1 Hour	46.51%	43.77%	51.58%
1 - 2 Hours	30.16%	32.03%	26.7%
2-3 Hours	12.7%	12.47%	13.12%
3 - 4 Hours	2.7%	3.91%	0.45%
More than 4 Hours	2.7%	7.82%	8.14%

Table 17: Average Daily Use of Internet – Age Wise Distribution							
Average No. of hours per day on Internet	Overall (N=630)	13 Years (N=58)	14 Years (N=139)	15 Years (N=128)	16 Years (N=175)	17 Years (N=102)	18 Years (N=28)
Less than 1 hour	46.51%	60.34%	48.55%	50.38%	41.14%	35.35%	62.07%
1-2 hours	30.16%	27.59%	29.71%	26.72%	35.43%	30.3%	20.69%
2-3 hours	12.7%	5.17%	13.77%	9.92%	15.43%	15.15%	10.34%
3-4 hours	2.7%	1.72%	2.17%	3.82%	2.86%	3.03%	0%
More than 4 hours	7.94%	5.17%	5.8%	9.16%	5.14%	16.16%	6.9%

Time Period since using the Internet

"Maximum percentagesof children (42.1%) are recent entrant to the usage of Internet".

The trend of using Internet reverses between 24 to 36 months and more than 36 months and more children have been using the Internet since more than 36 months than between 24 to 36 months. This trend was observed more among boys than among girls **[Table 18].** This trend was also observed among elder children more than among the younger children **[Table 19].** In the earlier section of the report, it was found that percentage of adolescents who have own mobile and social media account and use Internet more than 3 hours daily was increasing with age (0% in case of 13 years to 14% in case of 17 years).

Table 18: Time Period since Using the Internet – Gender Differential			
Time since Using Internet	Overall (N = 630)	Boys (N = 409)	Girls (N = 221)
6 - 12 Months	42.06%	34.96%	55.20%
12 - 18 Months	21.90%	23.47%	19.00%
18 - 24 Months	10.32%	11.98%	7.24%
24 -36 Months	8.25%	8.80%	7.24%
More than 36 Months	17.46%	20.78%	11.31%

Table 19: Time Period since Using the Internet – Age Wise Distribution							
Time since Using Internet	Overall (N=630)	13 Years (N=58)	14 Years (N=139)	15 Years (N=128)	16 Years (N=175)	17 Years (N=102)	18 Years (N=28)
6 - 12 Months	42.06%	55.17%	38.13%	36.72%	40.00%	49.02%	46.43%
12 - 18 Months	21.90%	22.41%	23.02%	24.22%	25.71%	12.75%	14.29%
18 - 24 Months	10.32%	8.62%	9.35%	10.16%	11.43%	12.75%	3.57%
24 -36 Months	8.25%	3.45%	10.79%	8.59%	6.86%	10.78%	3.57%
More than 36 Months	17.46%	10.34%	18.71%	20.31%	16.00%	14.71%	32.14%

Ownership of Mobile

"Every second child own mobile phone. Mobile ownership was higher among the boys (60.6%) than the girls (40.7%)".

Ownership of mobile increases with age and was highest among children of 16 years (59.4%) and 17 years (60.6%). A lower percentage of 18 year old children in the sample had their own mobile phones **[Table 21 and Figure 3].**

Mobile ownership was the maximum among those children who were single child (73%) - **Figure 4.** In the scope of this study, having own room at home and being a single child and both parents not available at home were used as proxy indicators for economic well-being of the family.

Table 20: Mobile Ownership – Gender Differential			
Ownership of Mobile	Overall (N = 630)	Boys (N = 409)	Girls (N = 221)
Own Mobile	53.7%	60.6%	40.7%

Table 21: Mobile Ownership - Age Wise Distribution							
Time since Using Internet	Overall (N=630)	13 Years (N=58)	14 Years (N=139)	15 Years (N=128)	16 Years (N=175)	17 Years (N=102)	18 Years (N=28)
Own Mobile	53.7%	48.3%	50.0%	48.1%	59.4%	60.6%	48.3%

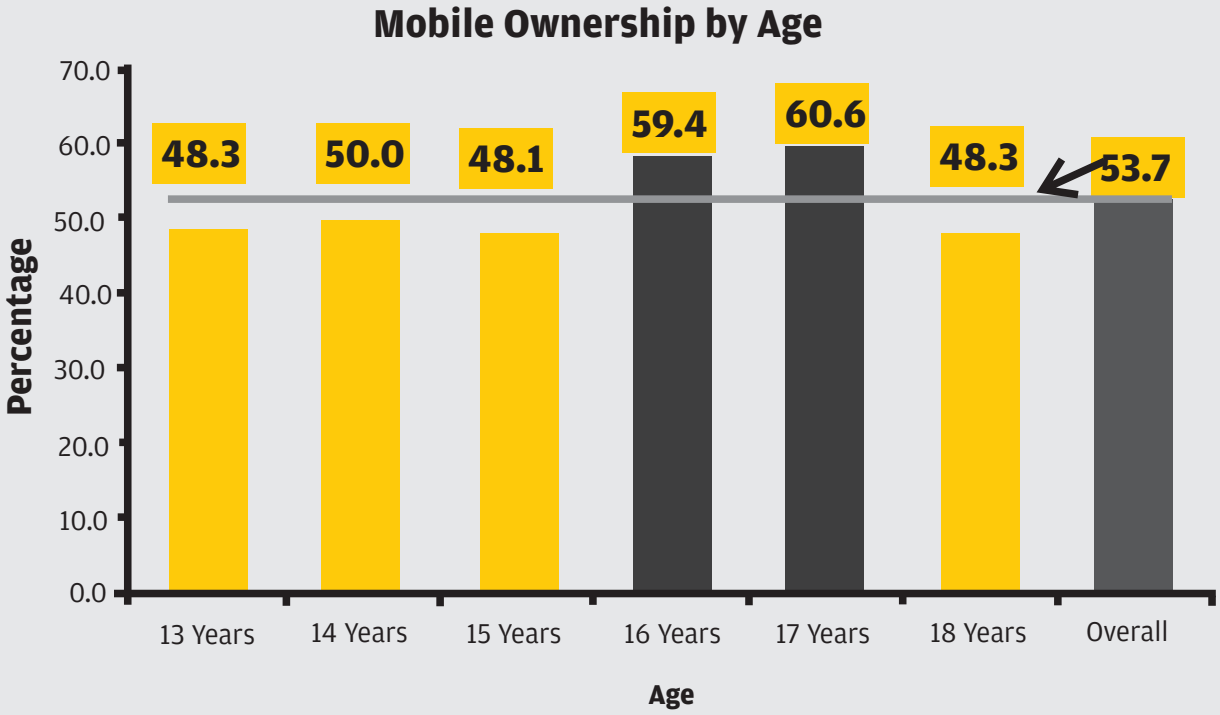

Figure 3: Mobile Ownership:- Age Wise Distribution

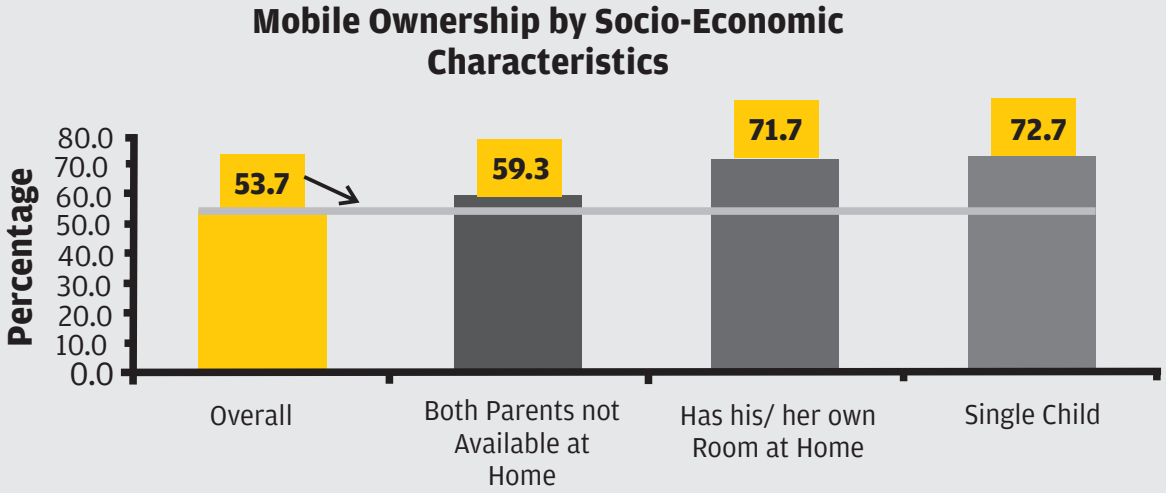

Figure 4: Mobile Ownership by Socio-Economic Characteristics

Figure 4 highlights that overall, 53 percent adolescents own mobile phones. However, among those, whose both parents are working, 59 percent have mobile. Among those who have separate room at home 72 percent have mobile and those who are single child among them 73 percent have mobile phones. These characteristics were used as proxy indicators for socioeconomic wellbeing.

Accounts on Social Media

"Three in every four children had any social media account. The percentage was higher among the boys (80%) as compared to the girls (59%)".

Around 31.3 percent had accounts on more than two social media platforms. This percentage is higher among boys than among girls (39% and 16% respectively) - **Figure 5.**

Girls generally have lesser chance to have a social media account and even lesser chance to have more than two social media accounts than the boys. This difference between boys and girls was quite evident **[Figures 5].**

84 percent of those children who had their own room at home and own mobile, had account on social media, while in the overall sample only 72.5 percent of the children had account on social media [Figure 6]. Thus, privacy at home and access to exclusive device may play a role in using Social Media considerably.

Table 22: Account on Social Media – Gender Differential

	Overall (N = 630)	Boys (N = 409)	Girls (N = 221)
Has Account on Social Media	72.5%	80.0%	58.8%
Has Account on more than two Social Media	31.3.7%	39.4	16.3

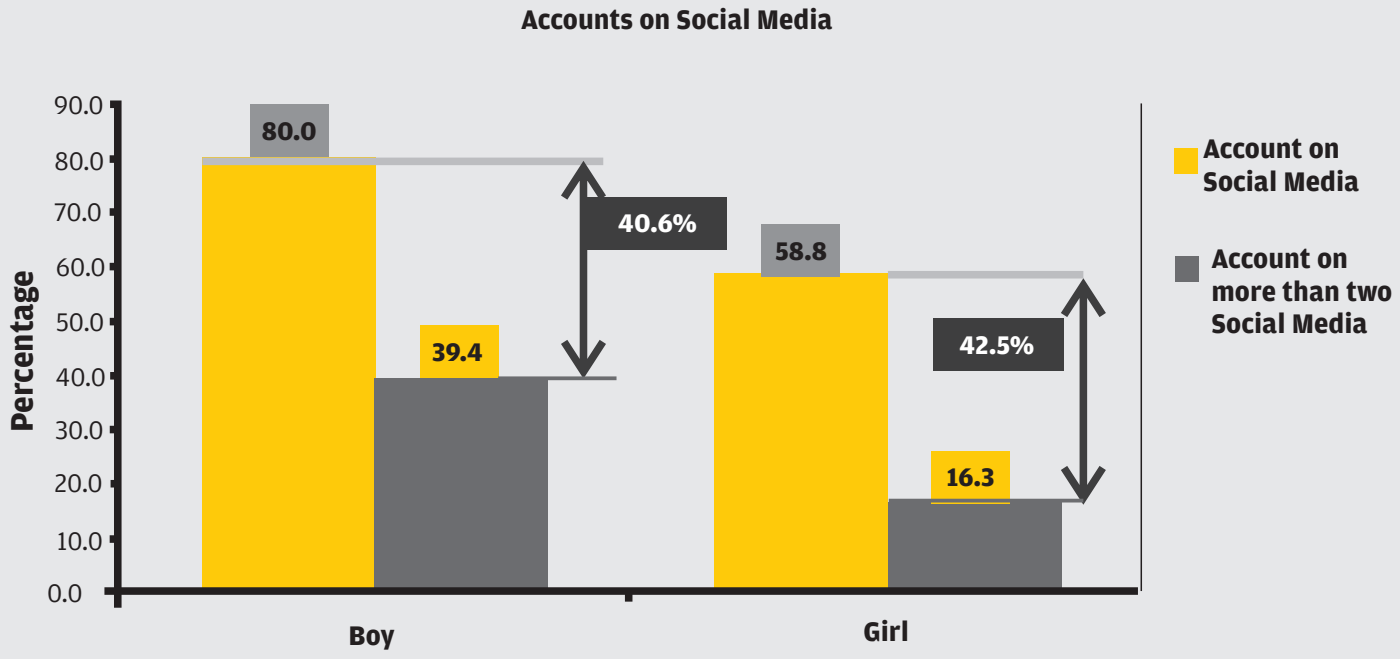

Figure 5: Accounts on Social Media- Gender Differential

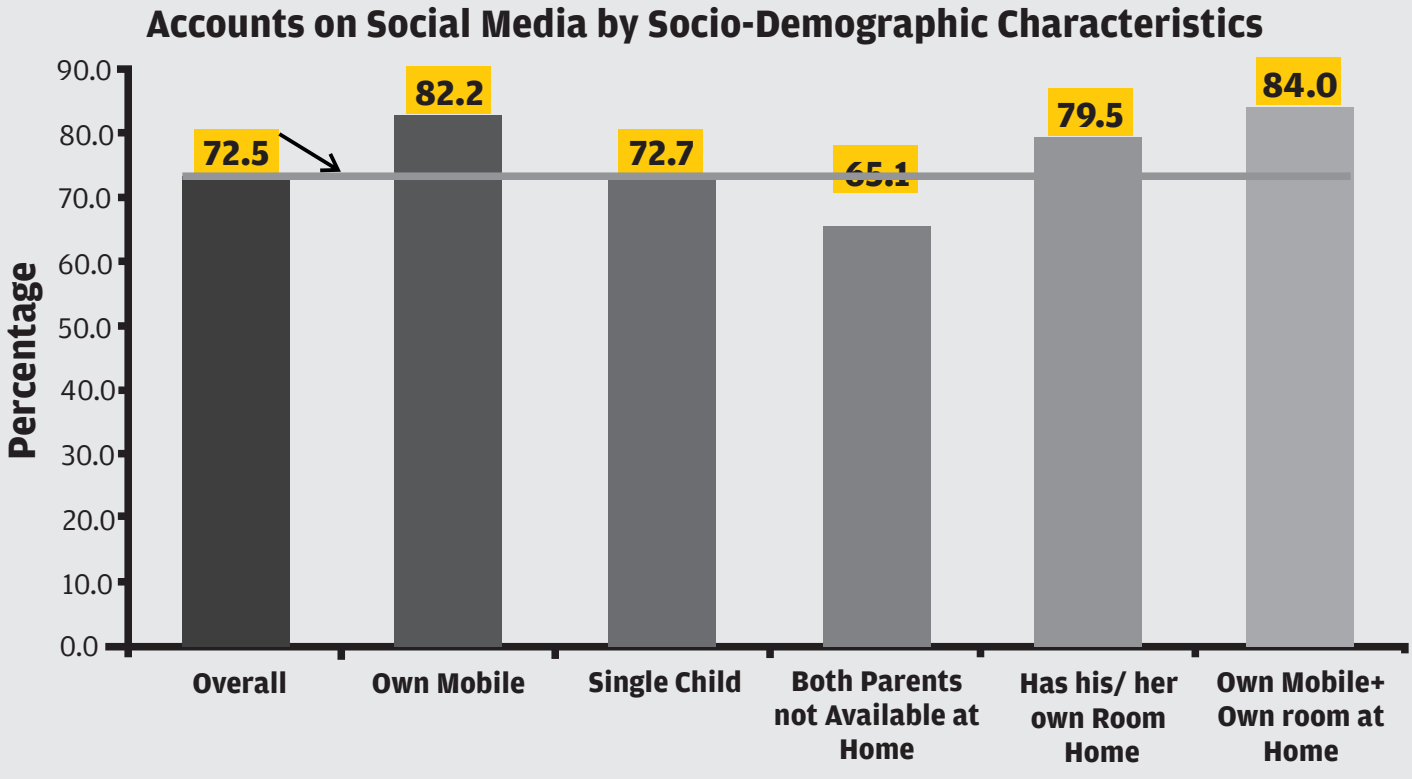

Figure 6: Account on Social Media by Socio-Demographic Characteristics

As stated in earlier section, Internet is used for various purposes. It is a medium of bringing global community together and is becoming a source of information as indicated through the use of social media platforms by the adolescents to make new friends and a sense of connectedness. Internet has both merits and demerits. In the next section, an attempt was made to understand the opportunities and benefits Internet provides to adolescents.

SECTION 1.2: OPPORTUNITIES AND BENEFITS OF INTERNET – HELP IN STUDIES AND EXTRA-CURRICULAR ACTIVITIES

Help of Internet in Studies

"The study found that children do take help of Internet in studies, but only 40 percent of them take such help in more than two ways and only 26.2 percent of them take such help in more than three ways".

Among the boys 44 percent of them take help of Internet for studies in more than two and 29.5 percent take such help in more than three ways. Among the girls the incidences of taking help of Internet in Studies is much lower and only 32.6 percent of them take help in more than two ways and only 19.9 percent in more than three ways **[Figure 7].**

Incidence of taking help of Internet in studies increases with increasing age of the children **[Table 23].**

Following were the options for help of Internet in studies –

a. Online search for words, information etc.

b. Online tutorials (like Byjus, Cue math, Extra marks etc.)

c. Group discussion among friends online

d. Connected to school online education programme

e. Online books/Apps for various Olympiads and other competitive tests accessed free of cost

f. Online Books/Apps for various Olympiads and other competitive tests accessed on payment

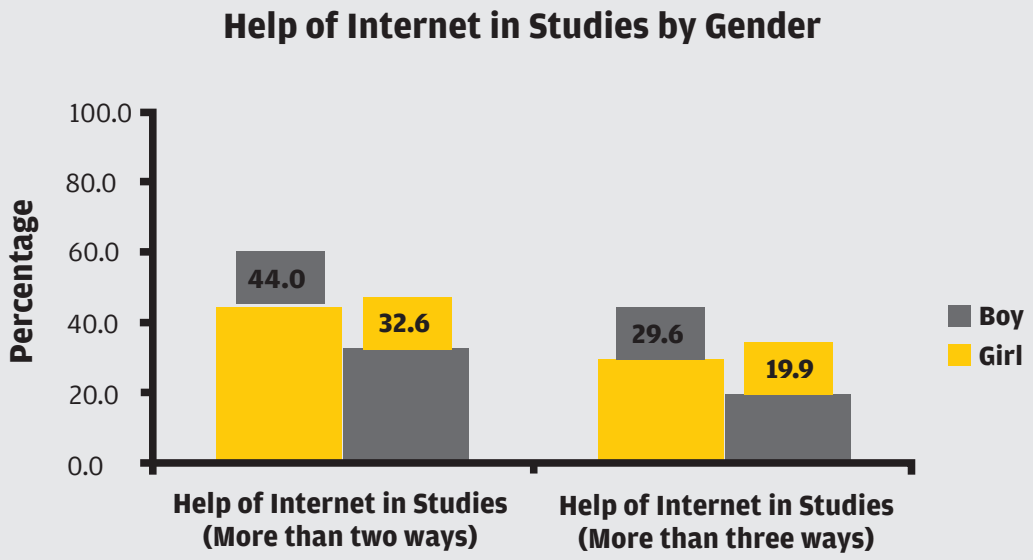

Figure 7: Help of Internet in Studies – Gender Differential

Table 23: Help of Internet in Studies – Age Wise Distribution

Social Media Use Maximum	Overall (N=630)	13 Years (N=58)	14 Years (N=139)	15 Years (N=128)	16 Years (N=175)	17 Years (N=102)	18 Years (N=28)
Help of Internet in Studies (In More than two ways	40.0%	39.7%	40.6%	42.7%	37.1%	44.4%	27.6%
Help of Internet in Studies (In More than three ways)	26.2%	24.1%	27.5%	26.7%	24.0%	31.3%	17.2%

Effect of Internet Usage Patterns and Socio-Demographic Factors on Children taking help of Internet in Studies

Study observed that the likelihood of children taking help of Internet in studies increase with the following factors –

i When the Internet usage is more 4 hours daily;

ii When the child has own room at home;

iii When the child has own mobile;

iv When the child has own mobile, has own room and uses Internet for more than 3 hours daily then in that sample 71.4 percent of the children take help of Internet in Studies [Figure 8].

v The likelihood of children taking help of Internet in studies reduces considerably when both parents are not available at home for monitoring and supervision (38.4%) and increasing to 40.3% when at least one parent is available at home **[Figure 8].**

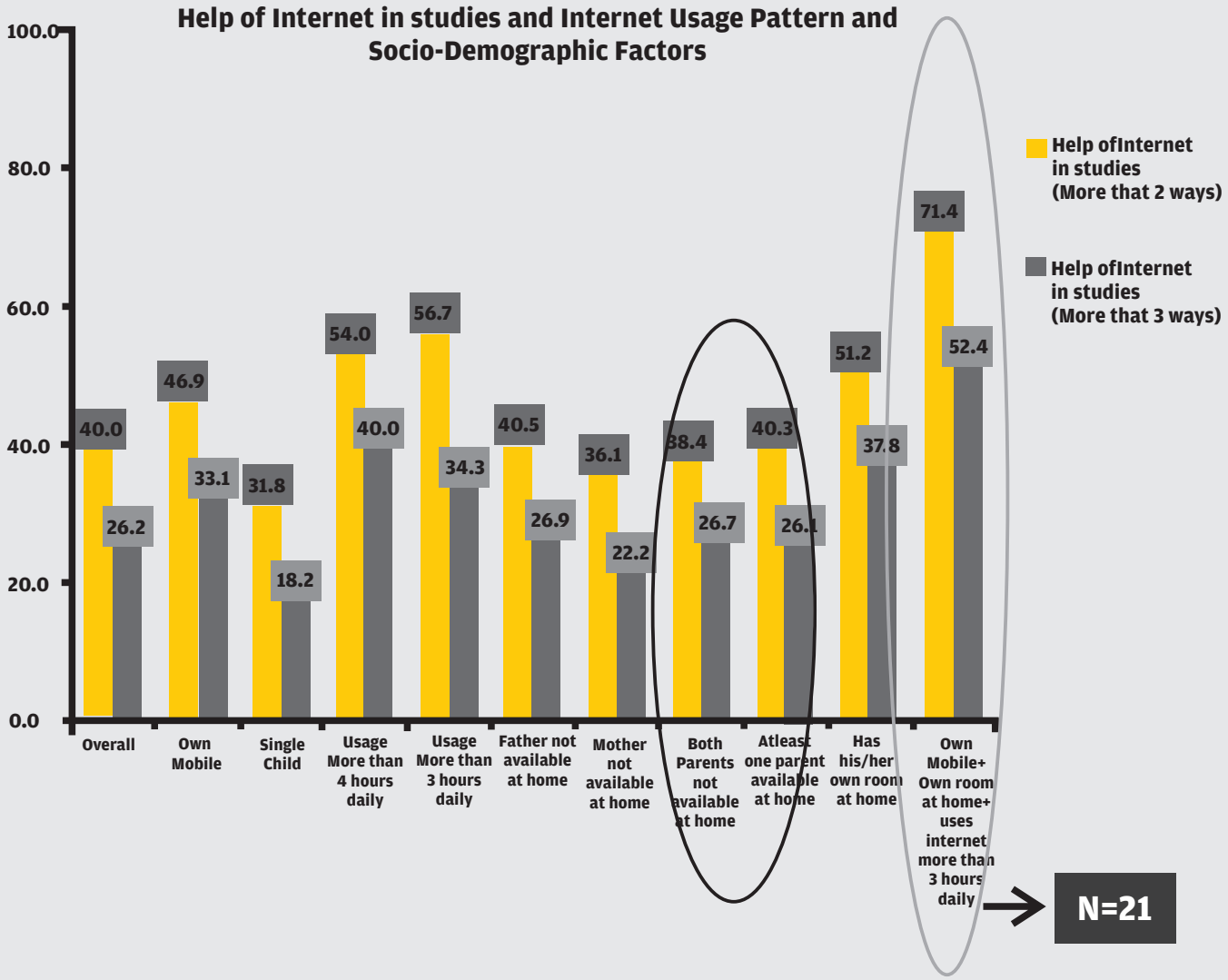

Figure 8: Help of Internet in Studies and Internet Usage Pattern and Socio-Demographic Factors

Help of Internet in Extra Curricular Activities

"Children do take help of Internet in extra-curricular activities in two or more ways, but the percentage is low"

Only 37.5 percent take such help in more than two ways and only 23.2 percent of them take such help in more than three ways.

Among the boys 42.1 percent of them take help of Internet for extra-curricular activities in more than two and 26.9 percent take such help in more than three ways. Among the girls the incidences of taking help of Internet was much lower and only 29 percent of them take help in more than two ways and only 16.3 percent in more than three ways [Figure 9]. Incidence of taking help of Internet in extra-curricular activities is not much dependent on the age of children **[Table 24].**

Following options were given to record the help of Internet for extra-curricular activities –

a. Online search for words, information etc. for music, painting, sports etc.

b. Online tutorials/courses for music, painting, sports etc.

c. Group discussion among friends online for extracurricular activities

d. Connected to school or music school, sports center online Programme

e. Online books/Apps for various activities like music, painting, sports etc. accessed free of cost

f. Online books/Apps for various activities like music, painting, sports etc. accessed on payment

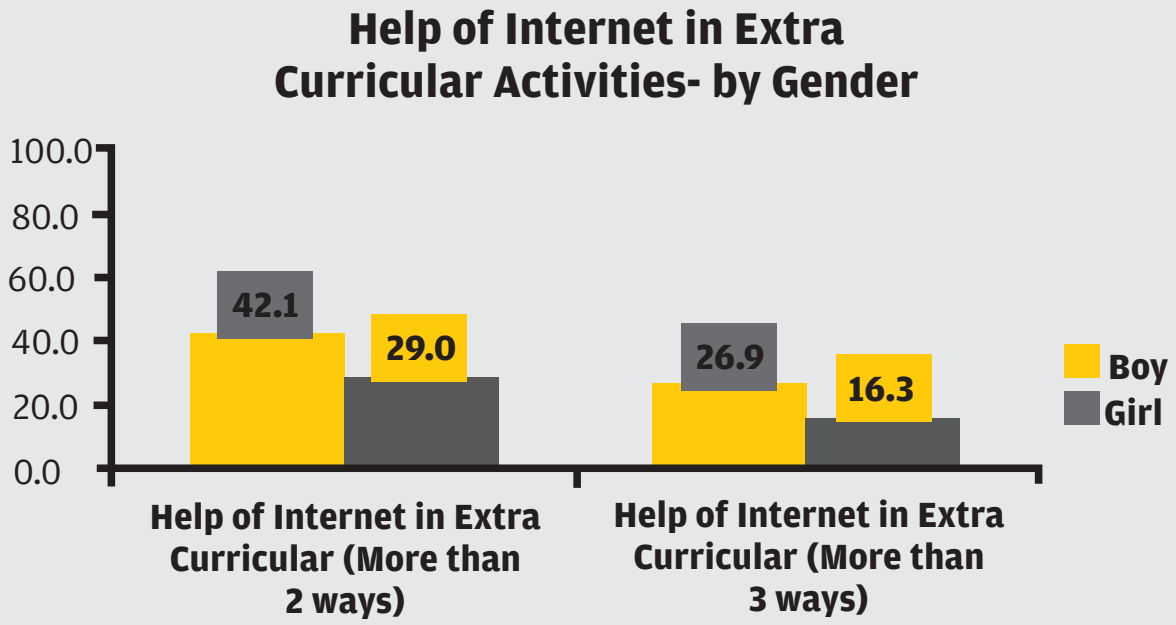

Figure 9: Help of Internet in Extra Curricular Activities – Gender Differential

Table 24: Help of Internet in Extra Curricular Activities – Age Wise Distribution							
Social Media Use Maximum	**Overall (N=630)**	**13 Years (N=58)**	**14 Years (N=139)**	**15 Years (N=128)**	**16 Years (N=175)**	**17 Years (N=102)**	**18 Years (N=28)**
Help of Internet in extra curricular (In More than two ways	37.5%	41.4%	37.0%	41.2%	34.3%	40.4%	24.1%
Help of Internet in extra curricular (In More than three ways	23.2%	20.7%	23.9%	26.7%	20.0%	25.3%	20.7%

Effect of Internet Usage Patterns and Socio-Demographic Factors on Children taking help of Internet in Extra Curricular Activities

i The study found that the likelihood of children taking help of Internet in studies increases with the When the Internet usage is more 4 hours daily;

ii When the child has own room at home;

iii When the child has own mobile;

iv When the child has own mobile, has own room and uses Internet for more than 3 hours daily then in that population 57.1 percent of the children take help of Internet in extra-curricular activities **[Figure 10].**

v The likelihood of children taking help of Internet in extra-curricular activities does not have significant effect of the factor of both parents not being available at home for monitoring and supervision, as it is in the case of children taking help of Internet in Studies **[Figures 10 and Figure 9]**

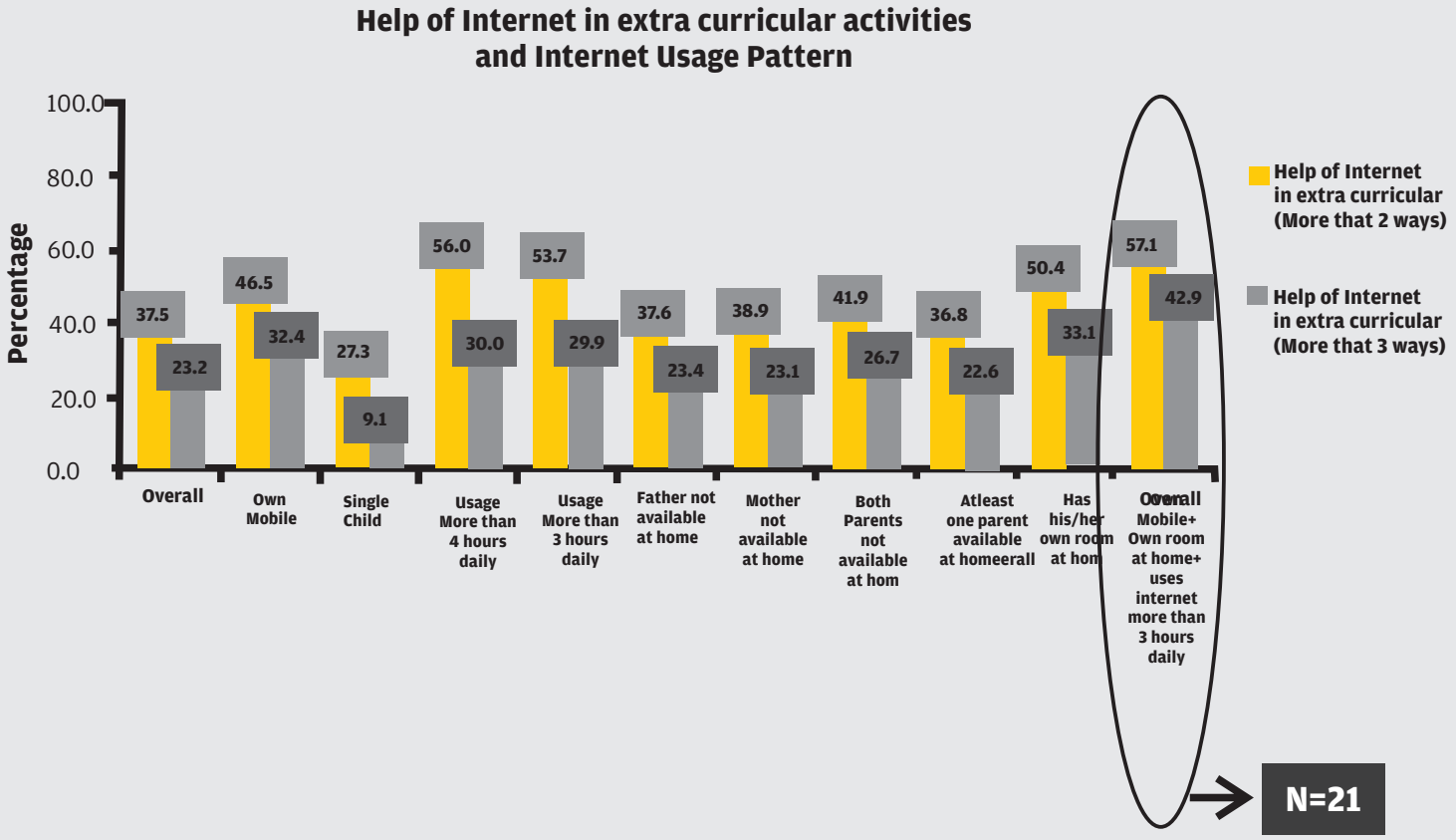

Figure 10: Help of Internet in Extra Curricular Activities and Internet Usage Pattern

Co-Occurrence of help of Internet in studies and in Extra Curricular Activities

"The study found that one in every second child is taking help of Internet for both - studies as well as extra-curricular activities".

This was also in accordance with the general understanding and perception, but to observe that 26 percent of the children take help of Internet only for studies and 25 percent only for extra-curricular activities is a revelation **[Figure 11].**

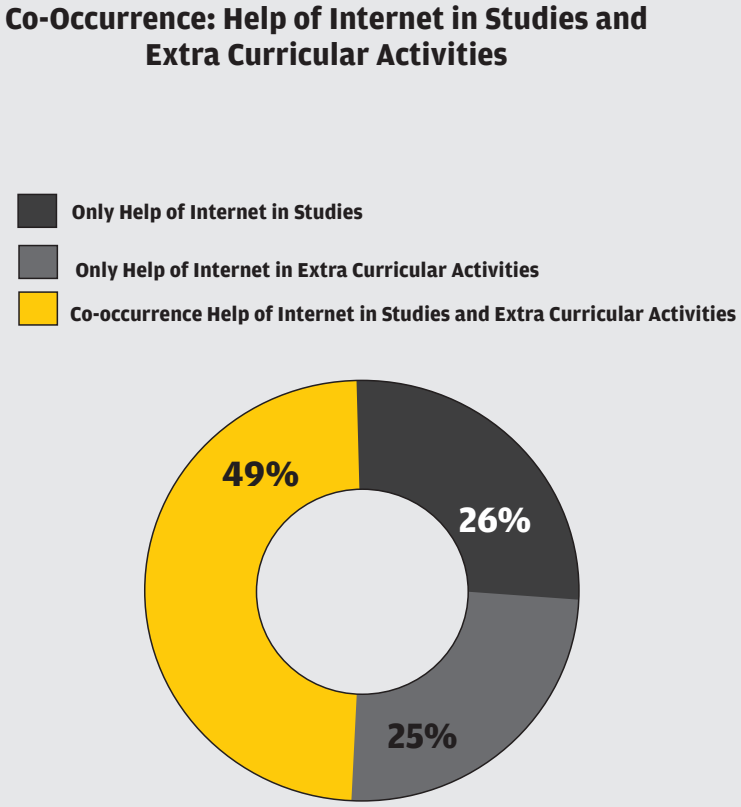

Figure 11: Co-Occurrence of Help of Internet for Studies and Extra-Curricular Activities

SECTION 1.3: RISKS AND HARMS OF INTERNET

Internet has both merits and demerits. Demerits of Internet use are mainly associated with excessive and unsupervised use of Internet. This may affect psychological wellbeing and also a threat to an individual due to various associated cyber-crimes. Adolescents at times, are not able to make informed choices in absences of information and knowledge and easily fall prey to various risks and harms associated with Internet use. In the scope of this study, an attempt was made to document these risks and harms of Internet.

Cyber bulling: - Cyber bullying is the harassment or bullying in the virtual world using various means (Mobile, computers, laptops, tablets etc.) and at various platforms (social media, chat rooms, and gaming platforms) where others can view and participate in the sharing of content. Cyber bullying involves hateful comments on online platforms/apps, or through SMS or messaging. It may cause humiliation and psychological stress to one who is bullied.

Hacking / Misuse of profile: - Hacking or logging into someone else's email account/ social media account and posting an embarrassing status message and/or hatred message is a serious crime.

Fake online friendship: - Developing online friendship over social media (with no real-life familiarity and using the emotional connect to trick others) can also lead to someone major risk in real life.

Morphed Image: - Morphing the image of someone with or without his/her knowledge to malign their image may also lead to serious psychological stress to someone, whose image is morphed.

Experience and Reporting of Cyber Bullying

"One in every ten children had experienced cyber bulling and only half of them had reported this to anyone"

Around 9.2 percent of the children from the total sample had experienced Cyber Bullying and amongst those who experienced it only 50 percent reported it to teachers or guardians or the Social Media Company on whose platform they faced bullying.

Among the boys those who faced Cyber bullying the percentage was slightly higher at 9.5 percent and 53.8 percent of those reported such incidence. The percentage was lower among the girls **[Table 25 and 26].**

IDI with selected adolescents reported that mocking of photos posted on social media platforms were the most common form of cyber bullying.

As the children grow older the incidences of experiencing Cyber Bullying increases, but they tend to report the incidences lesser, as they grow older except the 17 year olds **[Figures 12 and 13].**

Table 25: Experience of Cyber Bullying – Gender Differential			
	Overall (N = 630)	Boys (N = 409)	Girls (N = 221)
Has experienced Cyber Bullying	9.2%	9.5%	8.6%

Table 26: Reporting of Cyber Bullying – Gender Differential			
	Overall (N = 630)	Boys (N = 409)	Girls (N = 221)
Reported incidence of Cyber Bullying	50.0%	53.8%	42.1%

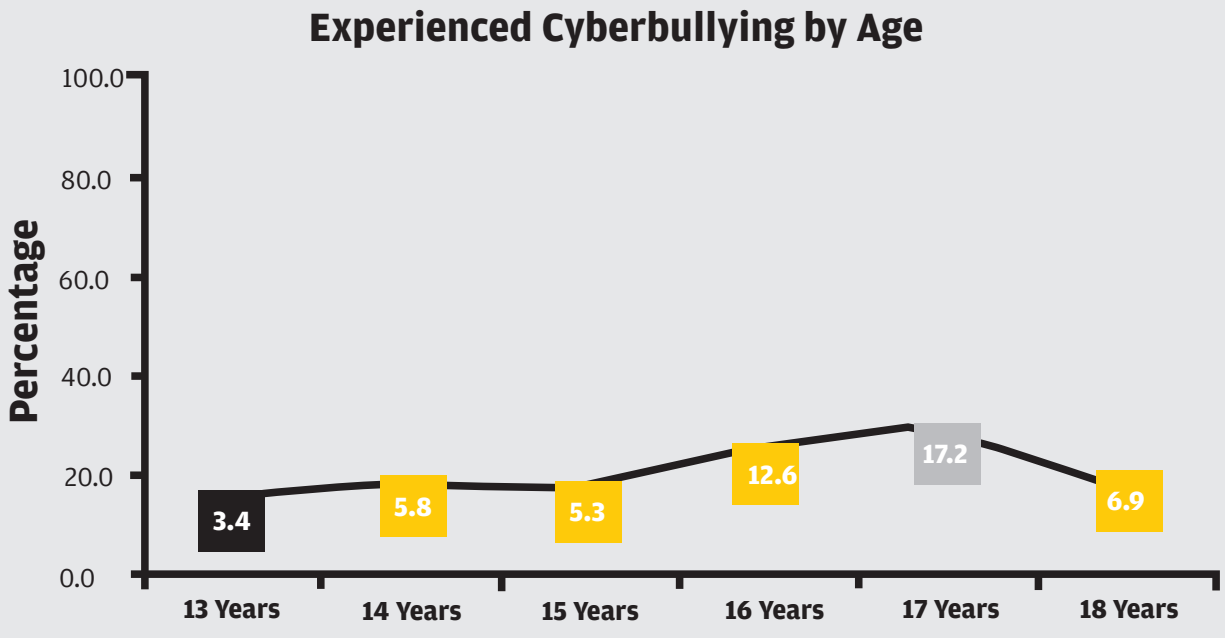

Figure 12: Experience of Cyber Bullying – Age Wise Distribution

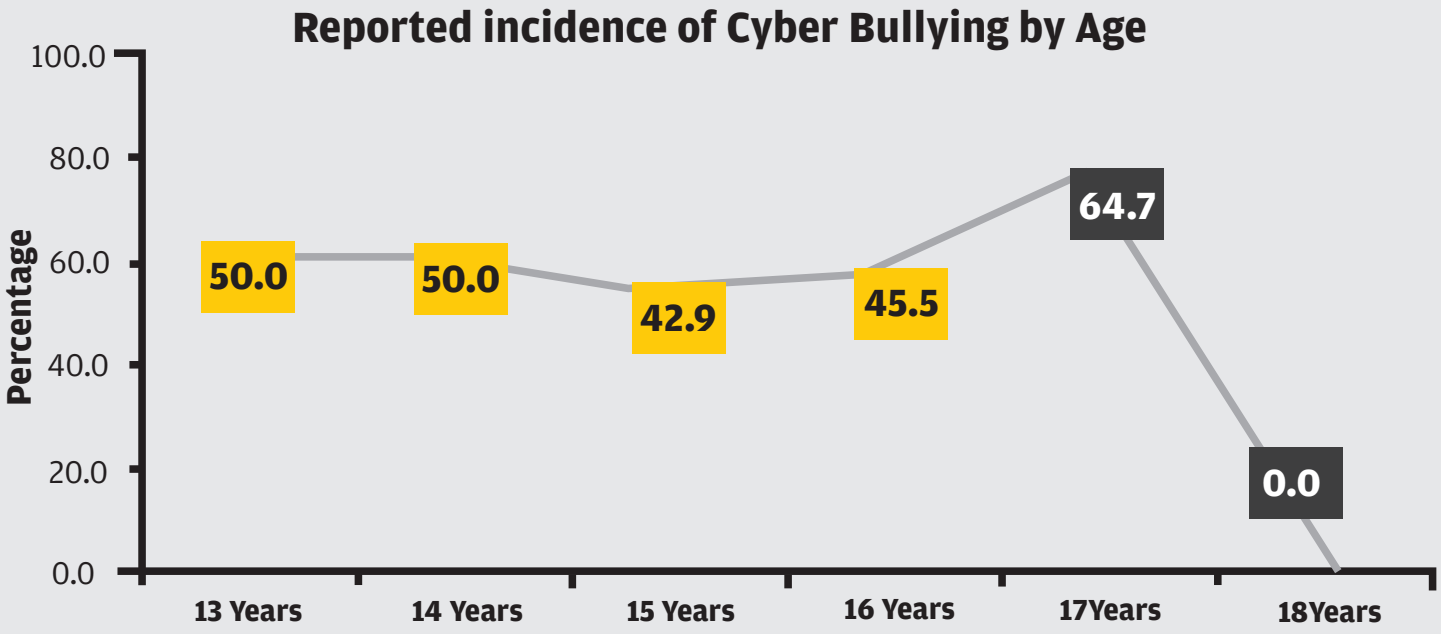

Figure 13: Reporting of Cyber Bullying – Age Wise Distribution

Effects of Internet Usage Pattern and Socio-Demographic Factors on experience of Cyber Bullying by Children

"Ownership of mobile, duration of use of Internet and account on social media has bearing on cyber-bullying"

The study found that among those children who have their own mobiles, have account on social media and use Internet for more than three hours daily (on an average) the percentage who have experienced Cyber Bullying was 33.3 percent as against 9.2 percent the overall sample **[Figure 14].**

Even those children who do not have account on Social Media have experienced Cyber Bullying (2.9%). It is because even those who do not have account on social media use social media platforms like Facebook through accounts of their elder siblings or parents **[Figure 14].**

"I use my elder brother's mobile for accessing Facebook. There is an app of Facebook on his smartphone and it is logged in with my brother's account. I also access Facebook through the same account and my friends know that it is me and not my brother when I chat I have even found friends among strangers while chatting on Facebook messenger from my brother's account and even had once gone to Jaipur to meet my Facebook friend. He had invited me for his marriage"

Md. Raghib (16 year old boy, Delhi, name changed)

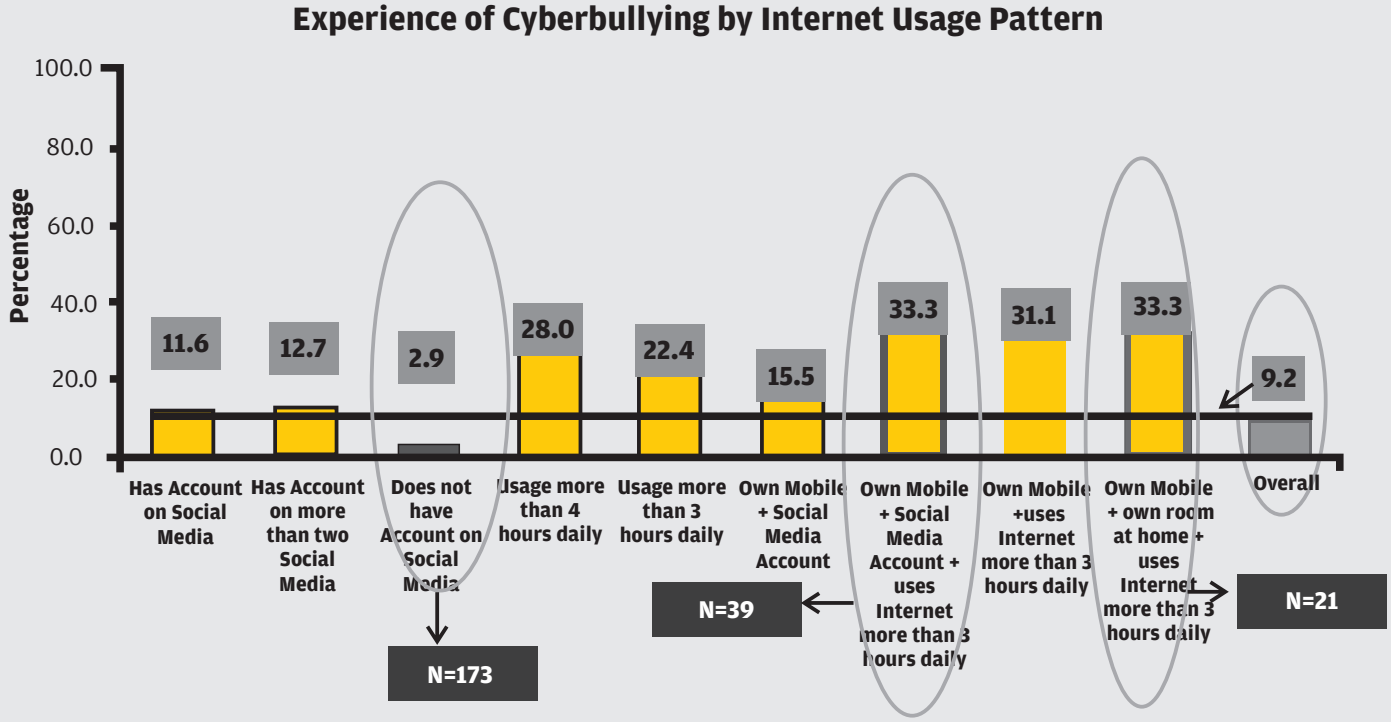

Figure 14: Experience of Cyber Bullying by Internet Usage pattern and Socio-Demographic Factors

Effect of Knowledge about Rules of Internet on Experience of Cyber Bullying and its reporting

Among those adolescents (89%) who have knowledge about correct age of buying a SIM card 8.8 percent have faced cyber-bullying. Likewise, among those who have correct knowledge about minimum age of making an account on social media (24%), 6.6 percent faced cyber-bullying, as against the overall sample, which was 9.2 percent. Also, among children who know about NCERT Internet Safety Guidelines (36%) the percentage who have experienced Cyber Bullying was 9.8 percent **[Figure 15].**

"We have not heard about any NCERT Book that is there on Internet Safety. Our daughter has not shown any such book, nor has she asked us to buy it. We understand that it is necessary to know the rules for using Internet but nobody teaches us. Our daughter was once showing some photocopied paper that she had brought home and was telling that it was about Internet Safety. But it is of not much help to us. We should be given some awareness and training through audio-visual media. Also it will be good to have the teachers discuss these issues regularly in class and make the children aware and skilled" .

-Sonali (Mother of a Class 11 Girl from Delhi, name changed)

The findings suggested that knowledge about Internet related rules did not result in higher reporting of incidences of Cyber Bullying. Among those children who had correct knowledge about minimum age for buying SIM Card the percentage who reported Cyber Bullying was 46.9 percent and among those children who had information of NCERT

Understanding of Internet Safety guidelines among the percentage who reported cyber bullying was 45.5 percent as against the reporting from the overall sample that was 50 percent **[Figure 16].** It shows that mere heard of NCERT safety guidelines is of not much use in protecting risks from Cyber Bullying unless it has been explained to the children through some classroom processes. The qualitative research information also pointed out that children had the information about the safety guidelines but had no idea about how it has to be used and applied when using the Internet **[Figure 15].**

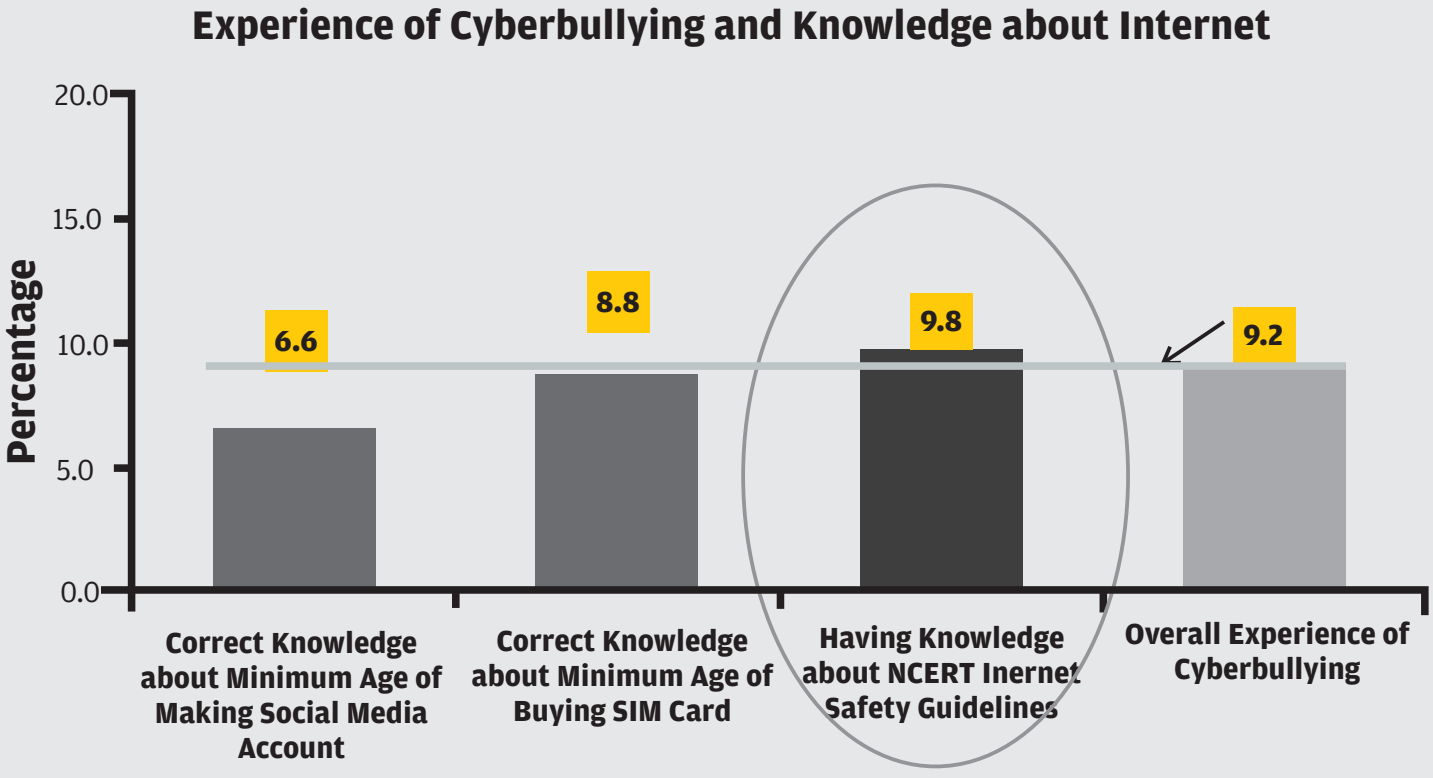

Figure 15: Effect of Knowledge about Internet Rules on Experience of Cyber Bullying

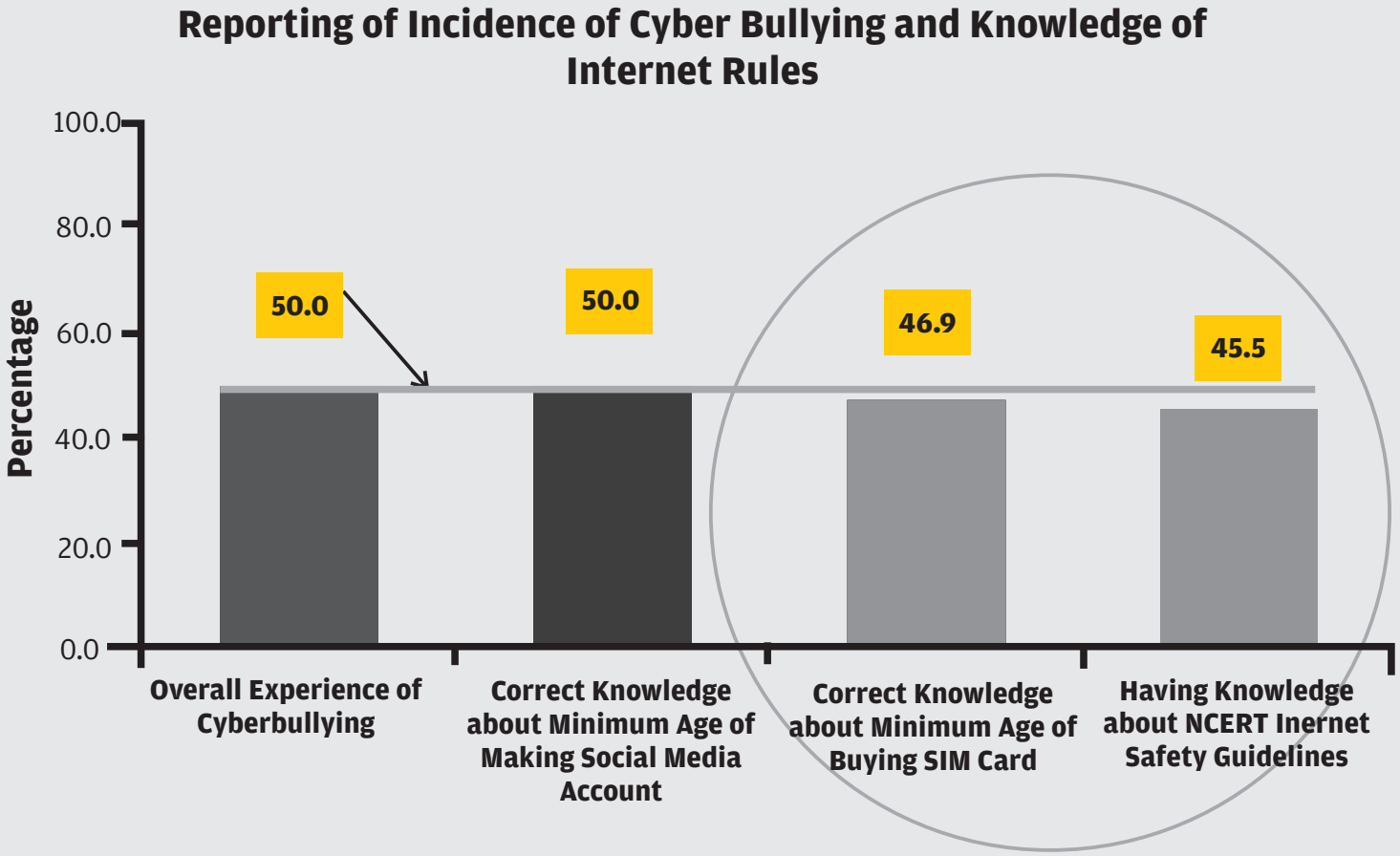

Figure 16: Effect of Knowledge about Internet Rules on Reporting of Cyber Bullying

Experience and Reporting of Profile Misuse or Hacking of Account

"One in every ten children has experienced profile misuse or hacking of account and only half of them have reported this to anyone"

Around 10.3 percent of the children from the total sample have experienced profile misuse or hacking of account and amongst those who experienced it only 49.2 percent reported it to teachers or guardian or the Social Media or Email Company on whose platform they faced this issue. Among the boys those who faced profile misuse or hacking of account the percentage was slightly higher at 12.2 percent and 46 percent of those reported the incidence. The percentage was lower among the girls for having experienced profile misuse or hacking of Account but there reporting percentage was higher at 60 percent **[Table 27 and 28].**

As the children grow older the incidences of experiencing profile misuse or hacking of account does not change much, and their tendency to report the incidences has no real trend. The reporting was very high among 13 year olds and low among other age group children. The incidence was reported at only 3.4 percent among 18 year old children and among them the reporting was 100 percent **[Figures 17 and 18].**

Table 27: Experience of Profile Misuse or Hacking of Account – Gender Differential

	Overall (N = 630)	Boys (N = 409)	Girls (N = 221)
Has experienced Profile misuse or hacking of account	10.3%	12.2%	6.8%

Table 28: Reporting of Profile Misuse or Hacking of Account – Gender Differential

	Overall (N = 630)	Boys (N = 409)	Girls (N = 221)
Reported incidence of Profile Misuse or Hacking of Account	49.2%	46.0%	60.0%

In-depth interviews with adolescents could not provide any conclusive instances of profile hacking or misuse of photos.

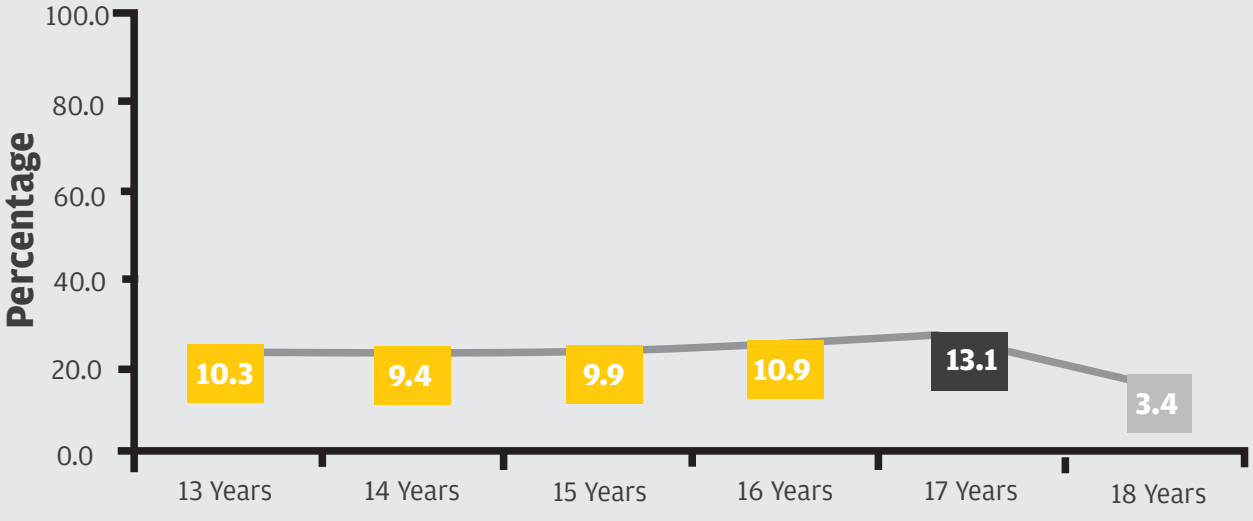

Figure 17: Experience of Profile Misuse or Hacking of Account – Age wise Distribution

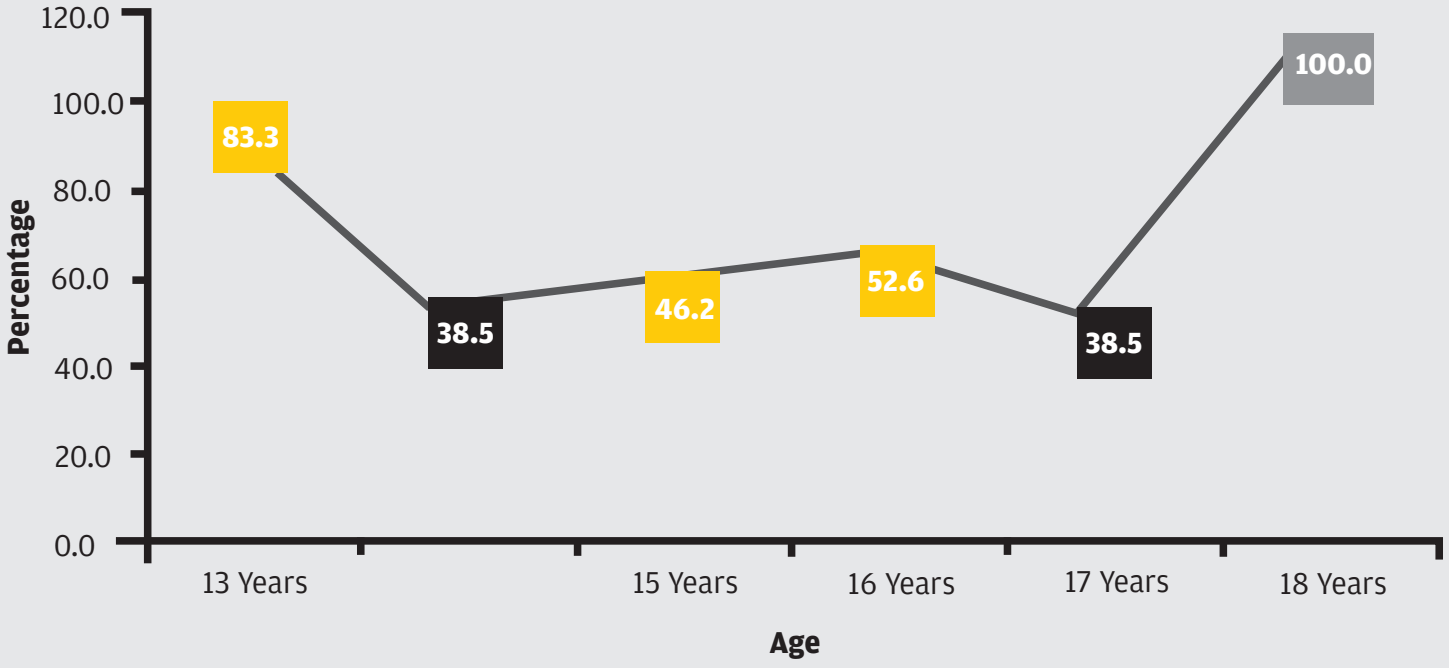

Figure 18: Reporting of Profile Misuse or Hacking of Account – Age wise Distribution

Effects of Internet Usage Pattern and Socio-Demographic Factors on experience of Profile Misuse and hacking of Account by Children

"Ownership of mobile, duration of use and privacy at home increase vulnerability of children to experience misuse and hacking of account"

Among those children who have their own mobiles, have their own room at home and use Internet for more than three hours daily (on an average) the percentage who have experienced profile misuse or hacking of account was 28.6 percent as against 10.3 percent the overall sample **[Figure 19].**

Even those who do not have account on social media have experienced profile misuse or hacking of account (6.9%). It is because these children use social media platforms like Facebook through accounts of their elder siblings or parents **[Figure 19].**

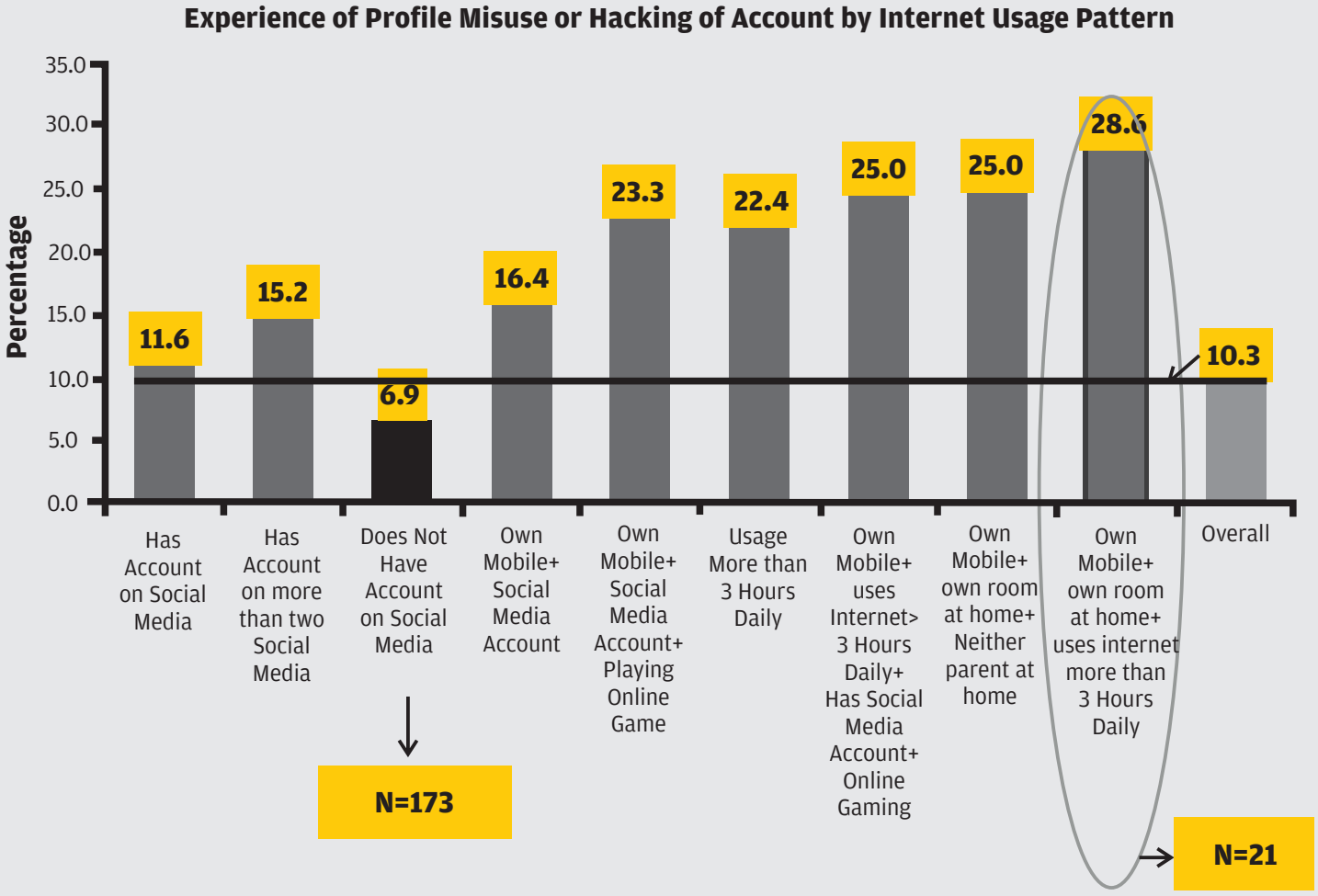

Figure 19: Experience of Profile Misuse or Hacking of Account by Internet Usage Pattern and Socio-Demographic Factors

Effect of Knowledge about Rules of Internet on Experience of Profile Misuse or Hacking of Account and its Reporting

Among those adolescents who have knowledge about correct age of buying a SIM card, the percentage who have faced profile misuse or hacking of account was 6.6 percent. Likewise, among those who have correct knowledge about minimum age of making an account on social media it was 10.2 percent as against the overall sample, which was 10.3 percent. Even, among adolescents who have knowledge about NCERT Internet Safety Guidelines the percentage who have experienced profile misuse or hacking of account was 11.2 percent **[Figure 20].**

However, correct knowledge about Internet related rules did not result in higher reporting of incidences of profile misuse or hacking of account. In fact, among those adolescents who had correct knowledge about minimum age for buying SIM card, the percentage who reported profile misuse or hacking of account was 43.9 percent and among those adolescents who had correct knowledge of minimum age for buying SIM card the percentage who reported profile misuse or hacking of account was 44.4 percent as against the reporting from the overall sample that was 49.2 percent **[Figure 21]**

Experience of Profile Misuse or Hacking of Account and Knowledge about Internet Rules

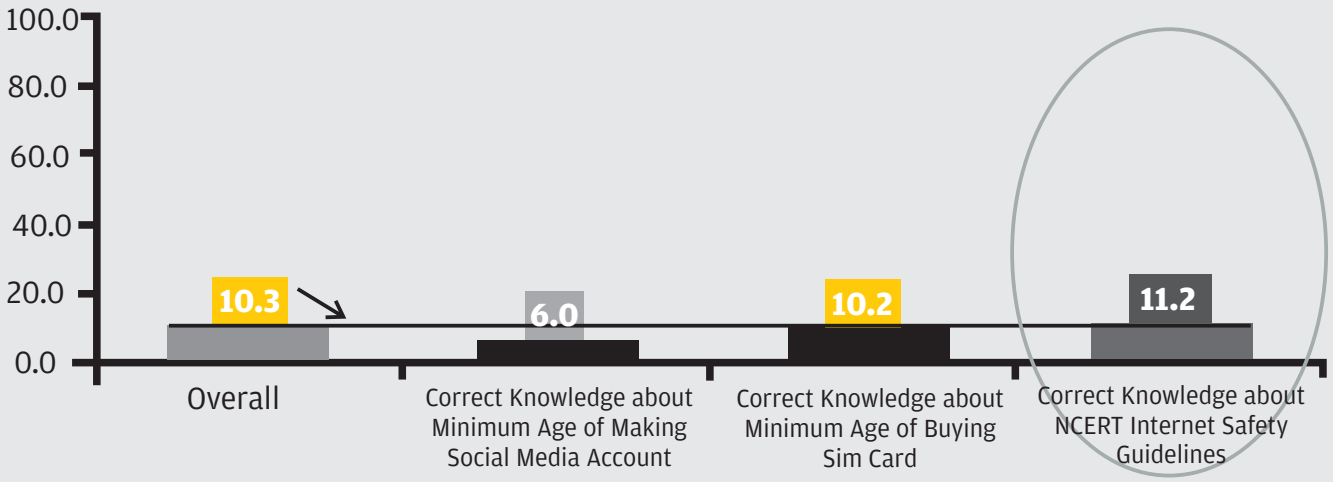

Figure 20: Effect of Knowledge about Internet Rules on Experience of Profile Misuse or Hacking of Account

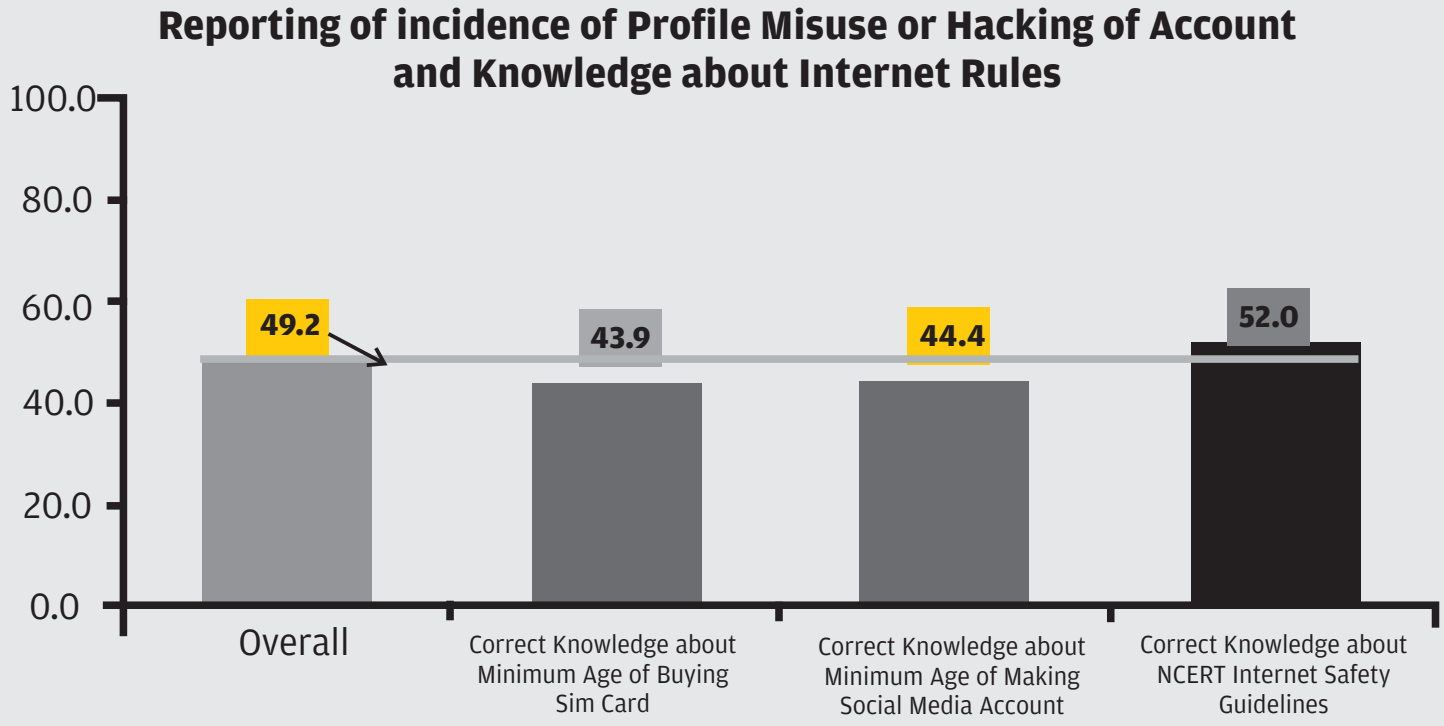

Figure 21: Effect of Knowledge about Internet Rules on Reporting of Profile Misuse or Hacking of Account

Experience and Reporting of Morphed Image or Video

"Every fifth child has experienced seeing morphed image or video and only half of them have reported this to anyone. Girls were more proactive in reporting the incidence of morphed image or video compared to boys"

Around 22.5 percent of the children from the total sample have experienced seeing morphed image or video of theirs or someone else and amongst those who experienced it; only 55.6 percent reported it to teachers or guardian or the Social Media or Email Company on whose platform they saw morphed image or video. Among the boys the percentage was slightly higher at 23 percent but only 43.6 percent reported the incidence. The percentage was lower among the girls for having seen Morphed Image or Video, but the reporting percentage was much higher at 79.2 percent **[Tables 29 and 30].**

As the children grow older the incidences of having seen morphed image or videos does not change much, and an inverse trend was observed between age and reporting the incidence. The reporting was very high among 13 and 14 year olds and low among 15, 16 and 17 year old and then high again among 18 year old children [Figures 22 and 23]. It is possible that older teens due to various reasons e.g. psychological pressure etc. are not reporting it. There is a need to explore this further.

Table 29: Experience of Morphed Image or Video – Gender Differential

	Overall (N = 630)	Boys (N = 409)	Girls (N = 221)
Has seen morphed image or video	22.5%	23.0%	21.7%

Table 30: Reporting of Morphed Image or Video – Gender Differential

	Overall (N = 630)	Boys (N = 409)	Girls (N = 221)
Has reported having seen morphed image or video (from amongst those who have seen morphed image or video)	55.6%	43.6%	79.2%

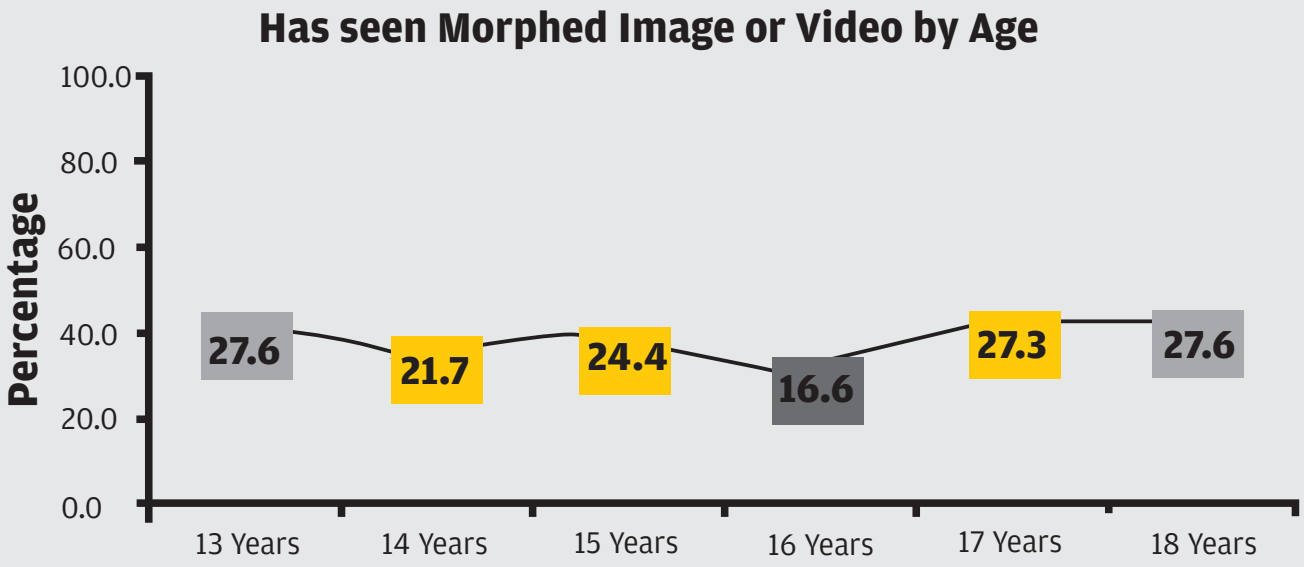

Figure 22: Experience of Morphed Image or Video – Age wise Distribution

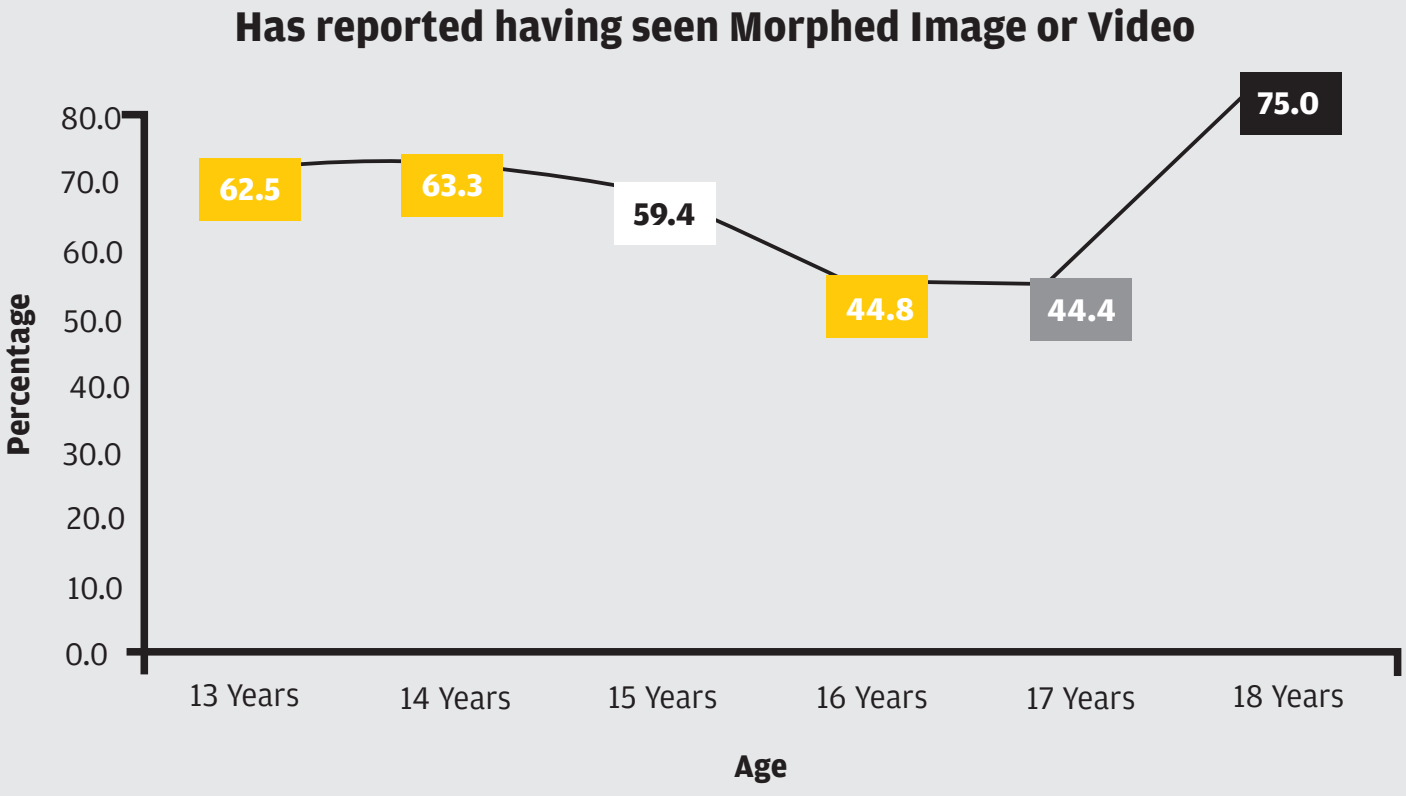

Figure 23: Reporting of Morphed Image or Video – Age wise Distribution

Effects of Internet Usage Pattern and Socio-Demographic Factors on experience of Morphed Image or Video by Children

Among those children who have their own mobiles, have their own room at home and use Internet for more than three hours daily (on an average), the percentage who have experienced morphed image or video was 57.1 percent as against 22.5 percent the overall sample **[Figure 24].**

Children, who do not have account on Social Media, have experienced morphed image or video (17.9%), primarily, due to accessing social media through their siblings' and/or parents' account. Furthermore, experiencing morphed image or video is not dependent on having an account on social media as such images and videos can be seen on YouTube or Digital Media platforms that do not require having an account **[Figure 24].**

Among the three risks and harms that have been discussed in this study, the risk of morphed image or video was the highest and a precursor to an important factor for other risks that children face online. The findings from qualitative research also validated that morphing of images or videos by even children is rampantly practiced without even actually realizing that it is an unlawful and harmful activity. There was almost negligible awareness among the children and their parents that such activities could bring any real harm. The qualitative findings also confirm through two case studies that depict, how dissemination of morphed image over digital media started off as an innocent activity but took an ugly turn when it was accessed and misused by stranger predators lurking online.

"I had made a meme of one of my friends (a boy junior to me). I had shown him wearing "Superman Undergarment" and had circulated it within our friends' WhatsApp group. It was an innocent playful activity and we had a good laugh at it. Even the boy whose meme I had made had a good laugh. Then someone posted it on Facebook and made it public by tagging that boy. Few days later that boy started getting comments and threatening messages that his meme had been posted on adult sites and he will have to do what the blackmailer was saying and send him his nude photos. We all got together and deleted all our accounts and were away from social media for two months. Thankfully everything ended on its own".

Anjani (a student on Class 11, Delhi, name change)

"This is about an incident that has happened in our neighborhood. An uncle had posted a seminude photograph of his daughter's childhood (4 years age) on Facebook. At the time of posting the photo the girl was 16 years of age. The girl also had a Facebook account and she was tagged and identified.

The girl started getting obscene messages from complete strangers and even from outside India. The girl was too shy and afraid to discuss this with anyone, but thankfully her mother had access to her Facebook account as she used to login from her mother's mobile. Her mother reported the matter to Facebook after learning how to do it. Facebook deleted and blocked the posts and messages. That girl still stays away from social media".

Idris (a student of class 9, Noida, name changed)

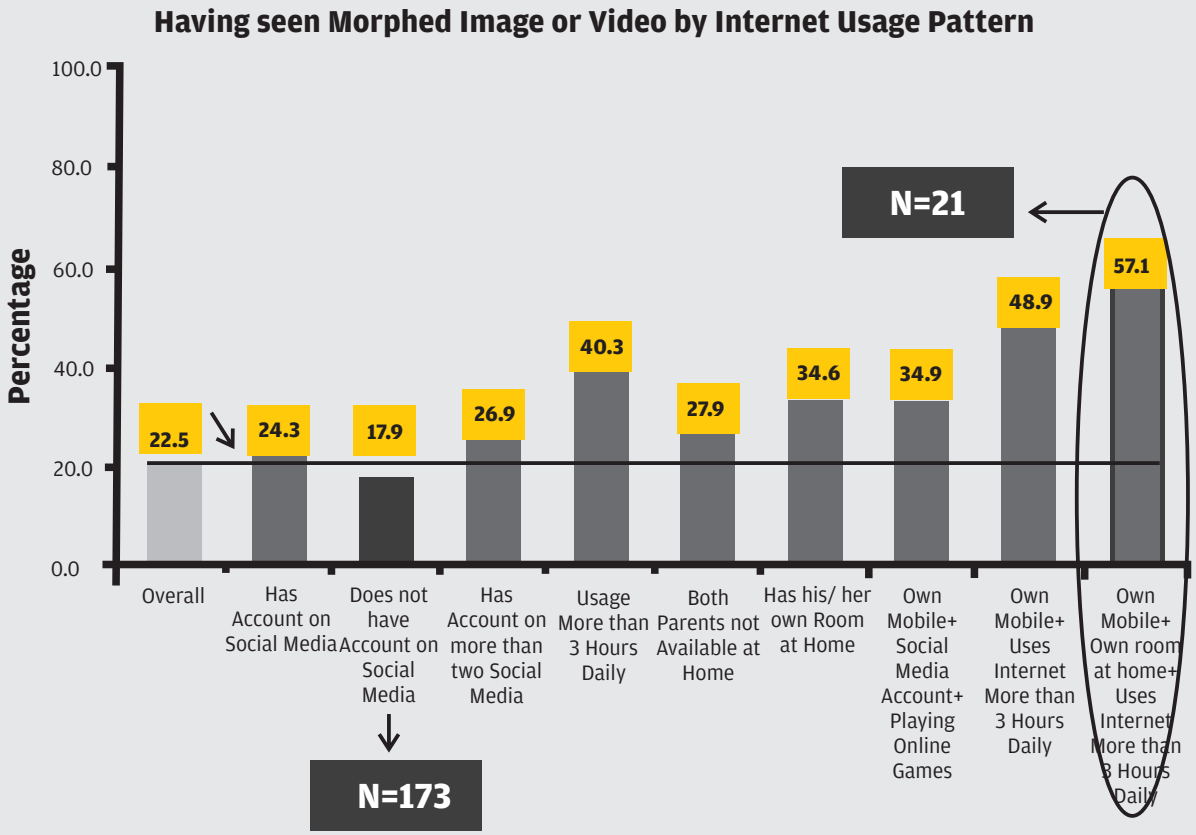

Figure 24: Experience of Morphed Image or Video by Internet Usage Pattern and Socio-Demographic Factors

Effect of Knowledge about Rules of Internet on Experience of Morphed Images or Videos and its Reporting

Children who have knowledge about correct age of buying a SIM card, 22.2 percent experienced morphed images or videos. This percentage was 21.2 percent among those who have correct knowledge about minimum age of making an account on social media. Similarly, among children who have knowledge about the NCERT Internet Safety Guidelines the percentage who have experienced morphed image or video was 25.9 percent **[Figure 25].**

However, despite the correct knowledge in above mentioned dimensions, the reporting of such incidence was lower **[Figure 26].**

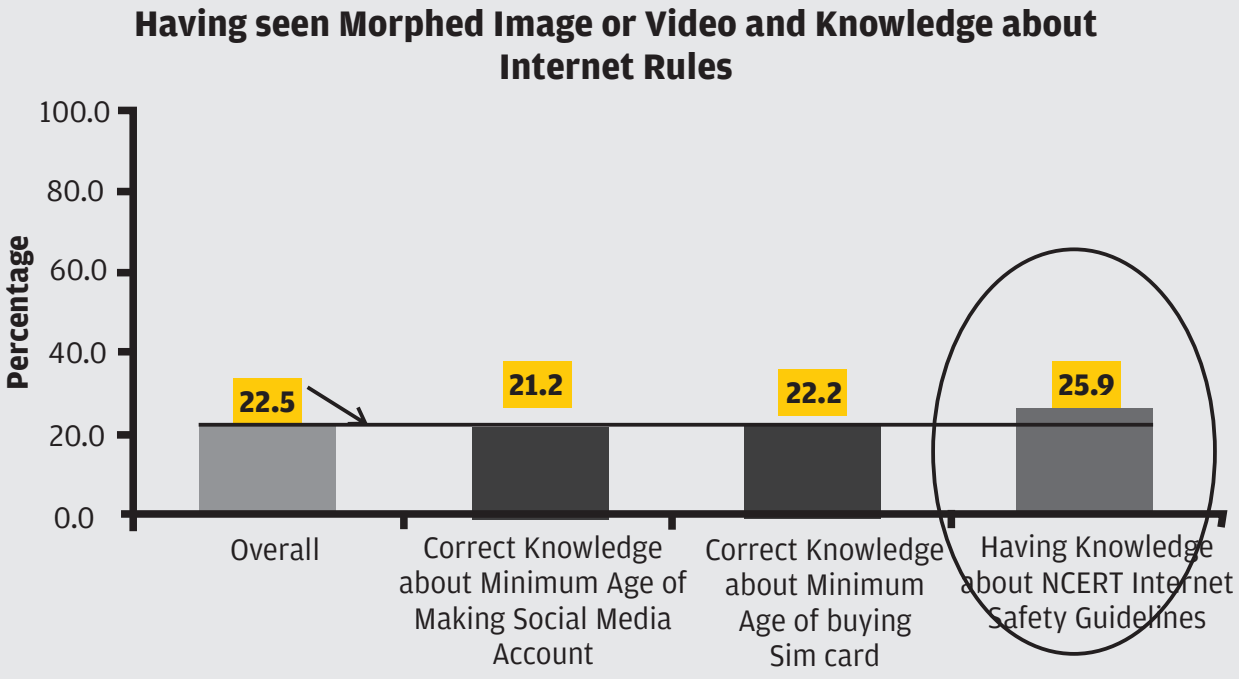

Figure 25: Effect of Knowledge about Internet Rules on Experience of Morphed Images or Videos

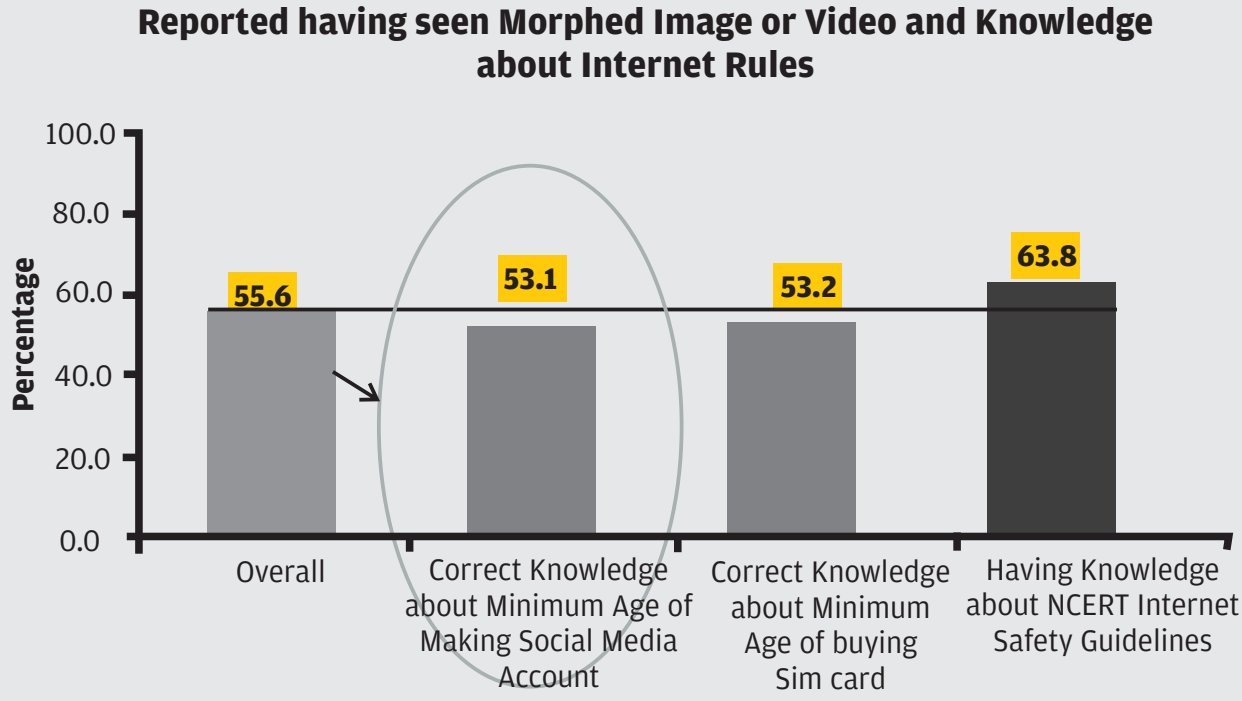

Figure 26: Effect of Knowledge about Internet Rules on Reporting of Morphed Images or Videos

Co-Occurrence of Harms on the Internet

"Co-occurrence of harms on the Internet multiplies vulnerability of a child considerably"

There is a likelihood of co-occurrence of harms to exist and when a child is affected by one risk and harm on the Internet then his/her susceptibility to be affected by another harm increases and thus, making a child more vulnerable to harms.

- Out of a sample of who were either affected by Cyber bullying or profile hacking/misuse of account, 18 percent had experienced only Cyber Bullying and 21 percent had experienced only profile hacking/misuse of account, and 61 percent had experienced both Cyber bullying and profile hacking/misuse of account [**Figure 27]**.

- Out of a sample of who were either affected by Cyber bullying or morphed image/video, 12 percent had experienced only Cyber bullying and 31 percent had experienced only morphed image/video, and 57 percent had experienced both Cyber bullying and morphed image/video **[Figure 28].**

- Out of a sample of who were either affected by profile hacking/misuse of account or morphed Image/Video, 13 percent had experienced only profile hacking/misuse of account and 27 percent had experienced only morphed image/video, and 60 percent had experienced both profiles hacking/misuse of account and morphed image/video **[Figure 29].**

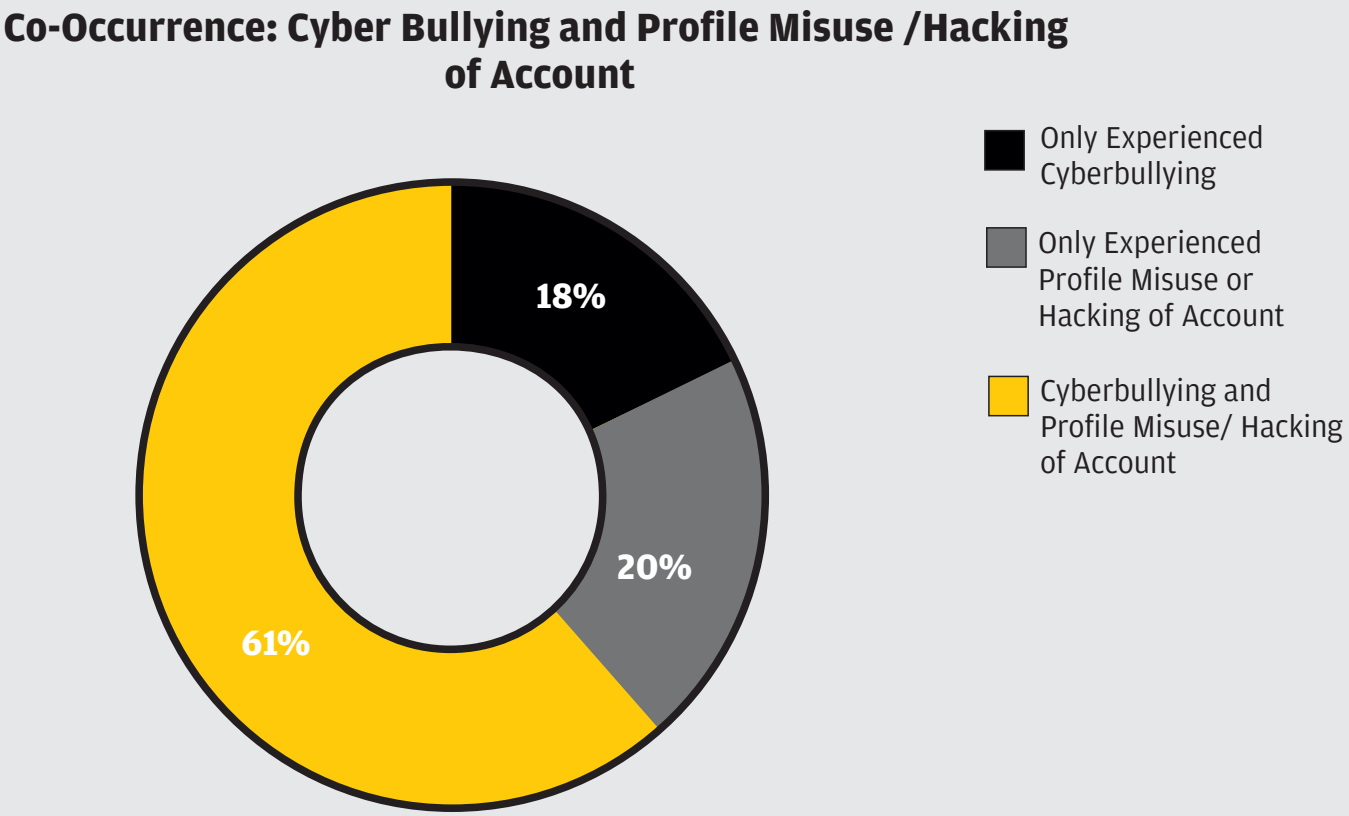

Figure 27: Co-Occurrence of Cyber Bullying and Profile/Hacking of Account

Co-Occurrence: Cyber Bullying and Morphed Image/ Video

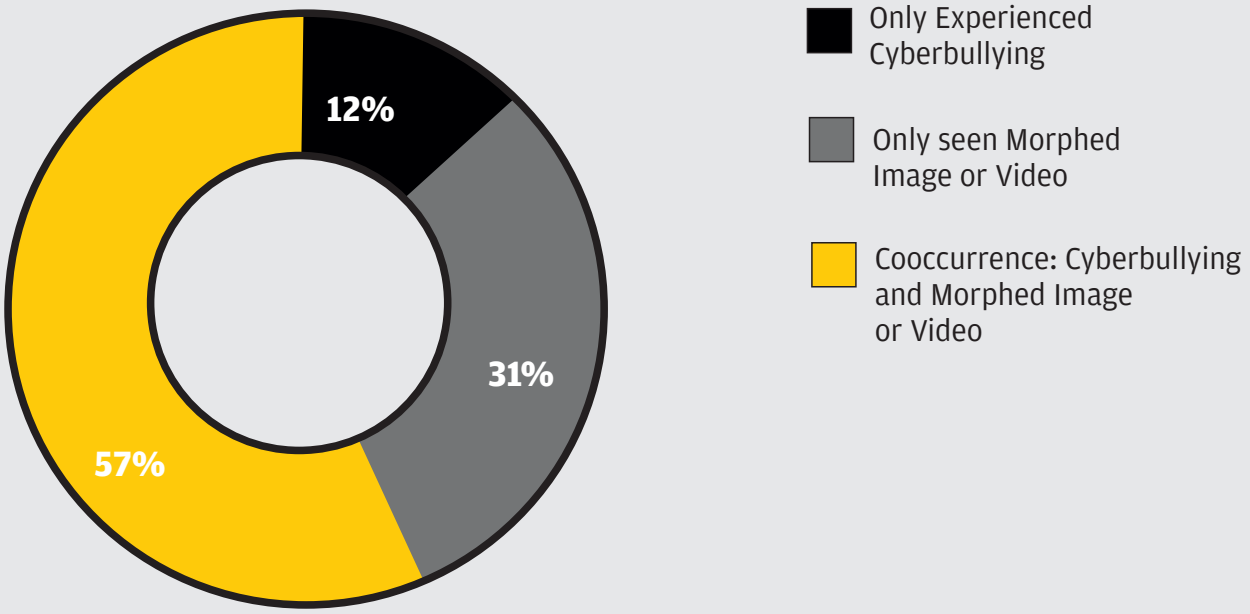

Figure 28: Co-Occurrence of Cyber Bullying and Morphed Image/Video

Co-occurrence: Profile Misuse/ Hacking and Morphed Image/ Video

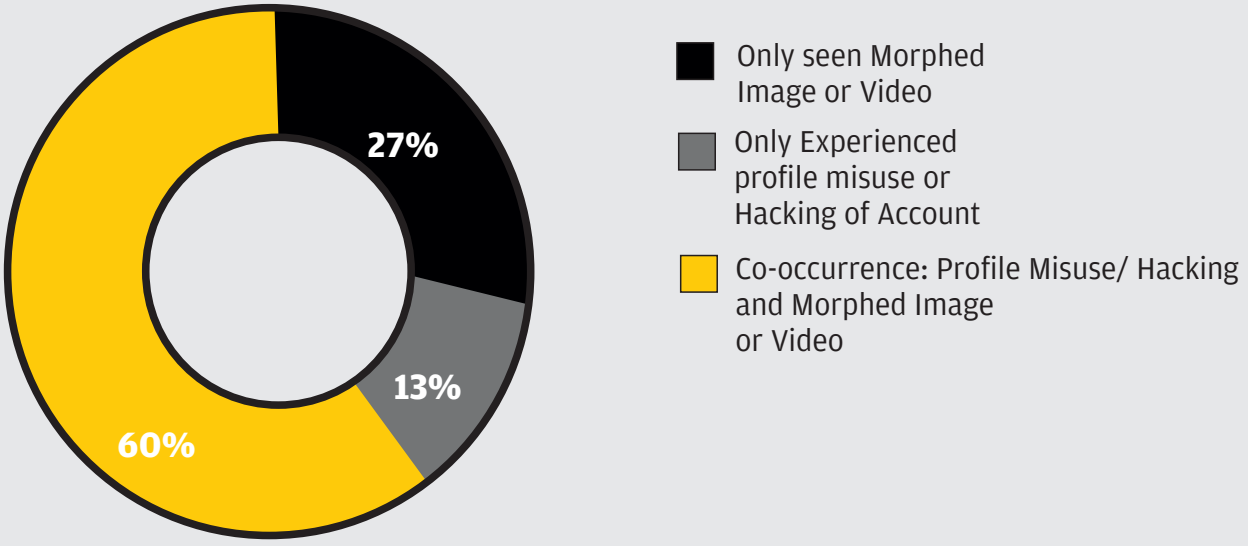

Figure 29: Co-Occurrence of Profile Misuse/Hacking and Morphed Image/Video

Incidences of Harms to Adolescents on the Internet and their Reporting – Gender Differential

"Compared to the girls, boys experience more threats and risks, however, the reporting of such incidences were more among the girls"

Cyber bullying was the least experienced Harm among the three that were discussed with the respondents and experience of morphed images or videos was the most experienced harm **[Figure 30].**

It was also observed that the boys had experienced these harms more than the girls, but the reporting of these harms was much higher among the girls **[Figure 31].**

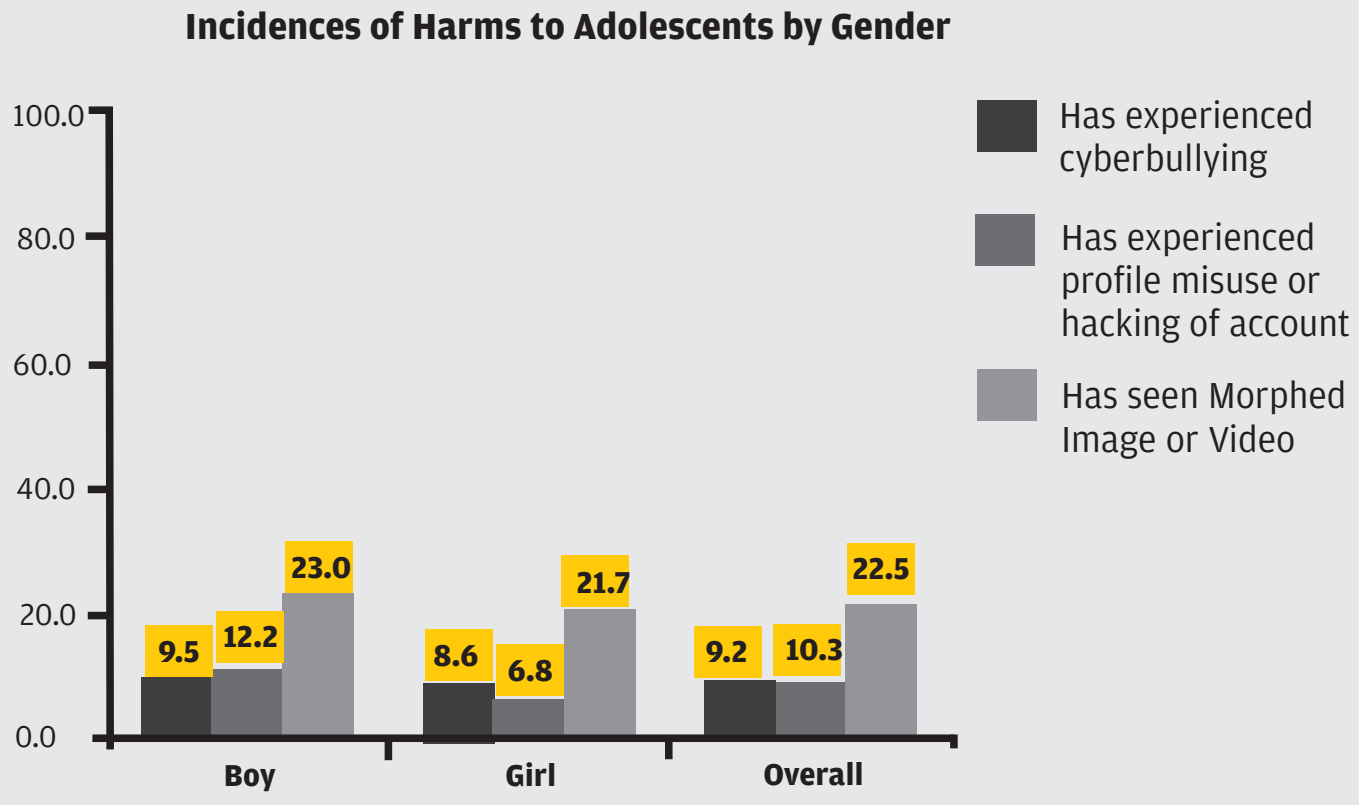

Figure 30: Incidences of Harms to Adolescents – Gender Differential

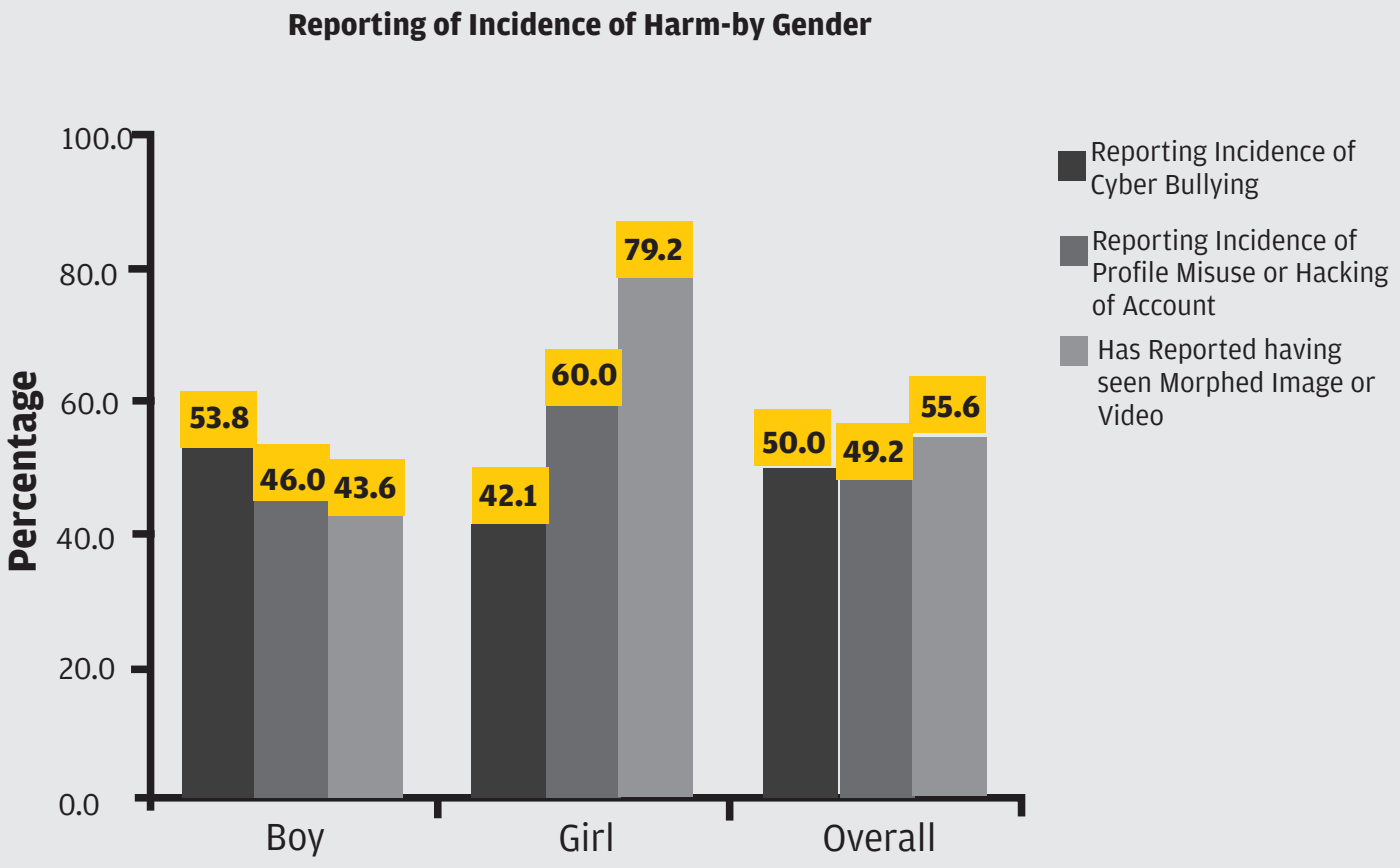

Figure 31: Reporting of Incidences of Harms to Adolescents – Gender Differential

SECTION 2.1: PREVALENCE OF INTERNET ADDICTION AMONG ADOLESCENTS

Internet Addiction

"Severe Internet addiction was observed in 1 percent of the respondents and it was mainly observed among boys"

The study used the Young's IAT to estimate the prevalence of Internet addiction, which showed a very good internal consistency with Cronbach's alpha of 0.908.

The instance of severe Internet addiction was higher among Boys (1.2%) than among Girls (0.0%). This was in accordance with other studies conducted[6] (Gedam S, Ghosh S, Modi L, Goyal A, Mansharamani H; 2017). In the sample, no girl was found showing signs of severe Internet addiction. Moderate Internet addiction was found among quite a higher percentage of the respondents – 13.8 percent among the total sample, 15.6 percent among the boys and 10.4 percent among the girls **[Table 31].**

Among the total sample – 51 percent showed no signs of Internet addiction, 34 percent showed signs of mild Internet addiction, 14 percent signs of moderate Internet addiction and 1 percent showed signs of severe Internet addiction **[Table 31].**

Girls were comparatively better off compared to the boys when it comes to Internet addiction **[Table 31].**

Table 31: Prevalence of Overall Internet Addiction – Gender Differential

	Overall (N = 630)	Boys (N = 409)	Girls (N = 221)
IAT Score 0-23 (Normal)	51.7%	50.9%	51.58%
IAT Score 24-42 (Mild)	33.7%	32.3%	36.2%
IAT Score 43-72 (Moderate)	13.8%	15.6%	10.4%
IAT Score 72-100 (Severe)	0.8%	1.2%	0.0%

[6]Gedam S, Ghosh S, Modi L, Goyal A, Mansharamani H. Study of Internet addiction: Prevalence, pattern, and psychopathology among healzth professional undergraduates. Indian Journal of Social Psychiatry. 2017; 33(4):305-11

With age, no clear trend was observed in Internet addiction (Table 32).

Table 32: Prevalence of Overall Internet Addiction – Age wise Distribution							
Most Use of Internets	**Overall (N=630)**	**13 Years (N=58)**	**14 Years (N=139)**	**15 Years (N=128)**	**16 Years (N=175)**	**17 Years (N=102)**	**18 Years (N=28)**
IAT Score 0-23 (Normal)	51.7%	62.1%	55.1%	44.3%	54.9%	46.5%	48.3%
IAT Score 24-42 (Mild)	33.7%	32.8%	29.0%	37.4%	35.4%	33.3%	31.0%
IAT Score 43-72 (Moderate)	13.8%	5.2%	14.5%	16.8%	9.7%	19.2%	20.7%
IAT Score 72-100 (Severe)	0.8%	0.0%	1.4%	1.5%	0.0%	1.0%	0.0%

Effect of Ownership of Mobile on Internet Addiction

"Personal phones have crucial role to play in Internet addiction"

It was found that likelihood of severity of Internet Addiction increases when the adolescents have and use their phones. Incidence of severe Internet addiction was seen among 1.1 percent of those who have their personal mobile phones compared to 0.6 percent of those who do not have their own mobile phones **[Table 33].**

Table 33: Internet Addiction by Mobile Ownership Status			
Internet Addiction	**Own Mobile**	**Not own mobile**	**All**
Normal	41.5%	59.7%	51.7%
Mild	38.9%	29.6%	33.7%
Moderate	18.5%	10.1%	13.8%
Severe	1.1%	0.6%	0.8%

Effect of Account on Social Media on Internet Addiction

Having an account on social media platform increases the possibilities of Internet addiction considerably. Incidence of severe Internet addiction was seen among 1.1 percent of those who have their account on any social media platform as against among 0 percent of those adolescent who do not have account on social media **[Table 34].**

Table 34: Internet Addiction by Account on Social Media

Internet Addiction	Has Account on Social Media	Does not have Account on Social Media	All
Normal	47.3%	63.6%	51.7%
Mild	36.8%	25.4%	33.7%
Moderate	14.9%	10.1%	13.8%
Severe	1.1%	0.6%	0.8%

Effect of Information about NCERT Internet Safety Guidelines among adolescents on Internet Addiction

Severe Internet addiction was seen among 1.3 percent of the respondents who have information about NCERT Internet safety guidelines and it should be seen as an anomalous phenomenon and interpreted in a manner that when adolescents have severe Internet addiction then information about NCERT Internet safety guidelines has no influence **[Table 35].**

Table 35: Effect of Information about NCERT Internet Safety Guidelines on Internet Addiction

Internet Addiction	Having Knowledge about NCERT Internet Safety Guidelines	NOT Having Knowledge about NCERT Internet Safety Guidelines	All
Normal	55.8%	49.5%	51.7%
Mild	32.1%	34.5%	33.7%
Moderate	10.7%	15.5%	13.8%
Severe	1.3%	0.5%	0.8%

Effect of having Own Room at Home on Internet Addiction

"Unsupervised use of Internet at home increases the propensity of severity of Internet addiction considerably"

Incidence of moderate Internet addiction was seen among 24.4 percent of those adolescent respondents who have their own room at their home as against among 11 percent of those adolescent respondents who did not have own room at their home **[Table 36].**

Table 36: Effect of having Own Room at Home on Internet Addiction

Internet Addiction	Has his/her own Room at Home	Does NOT Have his/ her own room at home	All
Normal	37.0%	55.5%	51.7%
Mild	37.8%	32.6%	33.7%
Moderate	24.4%	11.1%	13.8%
Severe	0.8%	0.8%	0.8%

Salience Internet Addiction

"Gender wise – boys were found to have higher instances of salience severe Internet addiction"

Salience-related items indicate that the respondent most likely feels preoccupied with the Internet, hides the behavior from others, and may display a loss of interest in other activities and/or relationships only to prefer more solitary time online.

Salience Internet addiction was found among 1.4 percent of the respondents. The instance of salience severe Internet addiction was higher among Boys (2.2%) than among Girls (0.0%). In the sample no girl was found showing signs of salience severe Internet addiction. Moderate salience Internet addiction was found among quite a high percentage of the respondents - 15.4 percent among the total sample, 16.1 percent among the boys and 14 percent among the girls **[Table 37].**

Moderate salience Internet addiction increased with increasing age **[Table 38].**

Table 37: Salience Internet Addiction – Gender Differential			
	Overall (N = 630)	Boys (N = 409)	Girls (N = 221)
Salience related IAT Score 0-5 (Normal)	50.0%	49.4%	51.1%
Salience related IAT Score 6-10 (Mild Addiction)	33.2%	32.3%	34.8%
Salience related IAT Score 11-18 (Moderate Addiction)	15.4%	16.1%	14.0%
Salience related IAT Score 19-25 (Severe Addiction)	1.4%	2.2%	0.0%

Table 38: Salience Internet Addiction – Age wise Distribution							
Most Use of Internets	Overall (N=630)	13 Years (N=58)	14 Years (N=139)	15 Years (N=128)	16 Years (N=175)	17 Years (N=102)	18 Years (N=28)
Salience related IAT Score 0-5 (Normal)	50.0%	63.8%	45.7%	45.0%	53.7%	49.5%	44.8%
Salience related IAT Score 6-10 (Mild Addiction)	33.2%	27.6%	36.2%	34.4%	34.9%	29.3%	27.6%
Salience related IAT Score 11-18 (Moderate Addiction)	15.4%	8.6%	15.9%	18.3%	10.9%	19.2%	27.6%
Salience related IAT Score 19-25 (Severe Addiction)	1.4%	0.0%	2.2%	2.3%	0.6%	2.0%	0.0%

Excessive Use

Excessive use indicates that the respondent engages in excessive online behavior and compulsive usage and is intermittently unable to control time online that he or she hides from others.

Excessive Use of Internet was a comparatively less prevalent among responding adolescent. One percent of the respondents showed signs of excessive use while using the Internet. The instance of severe excessive use was almost equal among boys (1.0%) and girls (0.9%). Moderate excessive use was found among quite a significant percentage of the respondents – 12.7 percent among the total sample, 13.2 percent among the boys and 11.8 percent among the girls **[Table 39].**

Severe excessive use of Internet showed no real trend with age but there was an increasing trend with age, except for 16 year old respondents, in case of moderate anticipation **[Table 40].**

Table 39: Excessive Use – Gender Differential			
	Overall (N = 630)	Boys (N = 409)	Girls (N = 221)
Excessive Use IAT Score 0-5 (Normal)	54.0%	53.5%	54.8%
Excessive Use IAT Score 6-10 (Mild Addiction)	32.4%	32.3%	32.6%
Excessive Use IAT Score 11-18 (Moderate Addiction)	12.7%	13.2%	11.8%
Excessive Use IAT Score 19-25 (Severe Addiction)	1.0%	1.0%	0.9%

Table 40: Excessive Use – Age wise Distribution							
	Overall (N=630)	13 Years (N=58)	14 Years (N=139)	15 Years (N=128)	16 Years (N=175)	17 Years (N=102)	18 Years (N=28)
Excessive Use IAT Score 0-5 (Normal)	54.0%	67.2%	54.3%	51.1%	56.6%	46.5%	48.3%
Excessive Use IAT Score 6-10 (Mild Addiction)	32.4%	25.9%	31.2%	34.4%	33.7%	37.4%	31.0%
Excessive Use IAT Score 11-18 (Moderate Addiction)	12.7%	6.9%	15.9%	16.0%	9.1%	15.2%	20.7%
Excessive Use IAT Score 19-25 (Severe Addiction)	1.0%	0.0%	2.2%	1.5%	0.6%	1.0%	0.0%

Neglect of Studies/Core Work

Neglect of studies/core work indicates the respondent may view the Internet as a necessary appliance akin to the television, microwave, or telephone. Job or school performance and productivity are most likely to be compromised due to the amount of time spent online

Only 0.5 percent of the respondents showed signs of severe neglect of studies/core work. The instance of severe neglect of studies/core work was higher among Boys (0.7%) than among Girls

(0.0%). In the sample, no girl was found showing signs of severe neglect of studies/core work. Moderate neglect of studies/core work was found in 7.8 percent of the total sample, 8.1 percent among the boys and 7.2 percent among the girls **[Table 41].**

Neglect of studies/core work had no real trend with increasing age in case of severe neglect of studies/core work and moderate neglect of studies/core work **[Table 42].**

Table 41: Neglect of Studies/Core Work – Gender Differential

	Overall (N = 630)	Boys (N = 409)	Girls (N = 221)
Neglect of Studies/Core Work IAT Score 0-3 (Normal)	62.4%	58.9%	68.8%
Neglect of Studies/Core Work IAT Score 4-6 (Mild Addiction)	29.4%	32.3%	24.0%
Neglect of Studies/Core Work IAT Score 7-11 (Moderate Addiction)	7.8%	8.1%	7.2%
Neglect IAT of Studies/Core Work Score 12-15 (Severe Addiction)	0.5%	0.7%	0.0%

Table 42: Neglect of Studies/Core Work – Age wise Distribution

	Overall (N=630)	13 Years (N=58)	14 Years (N=139)	15 Years (N=128)	16 Years (N=175)	17 Years (N=102)	18 Years (N=28)
Neglect of Studies/Core Work IAT Score 0-3 (Normal)	62.4%	7.8%	63.0%	56.5%	63.4%	55.6%	65.5%
Neglect of Studies/Core Work IAT Score 4-6 (Mild Addiction)	29.4%	13.8%	29.0%	32.1%	31.4%	31.3%	31.0%
Neglect of Studies/Core Work IAT Score 7-11 (Moderate Addiction)	7.8%	5.2%	7.2%	9.9%	5.1%	13.1%	3.4%
Neglect IAT of Studies/Core Work Score 12-15 (Severe Addiction)	0.5%	0.0%	0.7%	1.5%	0.6%	0.0%	0.0%

Lack of Control

Lack of control means the respondent has trouble managing his or her online time, frequently stays online longer than intended.

Lack of Control phenomenon was very widely prevalent among the sample adolescent population. It was found that 4.5 percent of the respondents show signs of severe lack of control. Moderate lack of control was found among quite a significant percentage of the respondents - 24 percent among the total sample, 24.9 percent among the boys and 22.2 percent among the girls **[Table 43]**. No real trend was observed in case of lack of control with age **[Table 44].**

Table 43: Lack of Control – Gender Differential

	Overall (N = 630)	Boys (N = 409)	Girls (N = 221)
Lack of Control IAT Score 0-3 (Normal)	39.7%	39.1%	40.7%
Lack of Control IAT Score 4-6 (Mild Addiction)	31.7%	31.3%	32.6%
Lack of Control IAT Score 7-11 (Moderate Addiction)	24.0%	24.9%	22.2%
Lack of Control IAT Score 12-15 (Severe Addiction)	4.6%	4.6%	4.5%

Table 44: Lack of Control – Age wise Distribution

	Overall (N=630)	13 Years (N=58)	14 Years (N=139)	15 Years (N=128)	16 Years (N=175)	17 Years (N=102)	18 Years (N=28)
Lack of Control IAT Score 0-3 (Normal)	39.7%	50.0%	39.1%	35.1%	42.9%	38.4%	27.6%
Lack of Control IAT Score 4-6 (Mild Addiction)	29.4%	25.9%	34.1%	33.6%	33.1%	28.3%	27.6%
Lack of Control IAT Score 7-11 (Moderate Addiction	24.0%	24.1%	20.3%	26.7%	22.3%	23.2%	41.4%
Lack of Control IAT Score 12-15 (Severe Addiction)	4.6%	0.0%	6.5%	4.6%	1.7%	10.1%	3.4%

Anticipation

Anticipation-related items indicate that the respondent most likely thinks about being online when not at the computer and feels compelled to use the Internet when offline.

Anticipation phenomenon was widely prevalent among the sampled adolescent. It was found that 5.6 percent of the respondents showed signs of anticipation while using the Internet. Moderate anticipation was found among quite a significant percentage of the respondents – 20.5 percent among the total sample, 21.5 percent among the boys and 19 percent among the girls **[Table 45].**

No real trend with age was observed for anticipation **[Table 46].**

Table 45: Anticipation – Gender Differential

	Overall (N = 630)	Boys (N = 409)	Girls (N = 221)
Anticipation IAT Score 0-2 (Normal)	42.7%	41.1%	45.7%
Anticipation IAT Score 0-2 (Normal)	31.1%	31.8%	29.9%
Anticipation IAT Score 5-7 (Moderate Addiction)	20.6%	21.5%	19.0%
Anticipation IAT Score 8-10 (Severe Addiction)	5.6%	5.6%	5.4%

Table 46: Anticipation – Age wise Distribution

	Overall (N=630)	13 Years (N=58)	14 Years (N=139)	15 Years (N=128)	16 Years (N=175)	17 Years (N=102)	18 Years (N=28)
Anticipation IAT Score 0-2 (Normal)	42.7%	48.3%	41.3%	40.5%	44.6%	42.4%	37.9%
Anticipation IAT Score 3-4 (Mild Addiction)	31.1%	29.3%	31.9%	29.0%	33.1%	28.3%	37.9%
Anticipation IAT Score 5-7 (Moderate Addiction)	20.6%	15.5%	21.7%	23.7%	20.6%	19.2%	17.2%
Anticipation IAT Score 8-10 (Severe Addiction)	5.6%	6.9%	5.1%	6.9%	1.7%	10.1%	6.9%

Neglect of Social Life

Neglect of Social Life highlights that the respondent most likely utilises online relationships to cope with situational problems and/or to reduce mental tension and stress.

Neglect of social life phenomenon was quite prevalent among the respondents. It was found that 3 percent of the respondents showed signs of neglect of social life while using the Internet. The instance of severe neglect of social life was higher among Boys (3.9%) than among Girls (1.4%). Moderate neglect of social life was found among quite a significant percentage of the respondents – 13.8 percent among the total sample, 15.9 percent among the boys and 10 percent among the girls **[Table 47].**

With age no real trend was observed **[Table 48].**

Table 47: Neglect of Social Life – Gender Differential

	Overall (N = 630)	Boys (N = 409)	Girls (N = 221)
Neglect of Social Life IAT Score 0-2 (Normal)	56.0%	53.3	61.1%
Neglect of Social Life IAT Score 3-4 (Mild Addiction)	27.1%	26.9%	27.6%
Neglect of Social Life IAT Score 5-7 (Moderate Addiction)	13.8%	15.9%	10.0%
Neglect of Social Life IAT Score 5-7 (Moderate Addiction)	3.0%	3.9%	1.4%

Table 48: Neglect of Social Life – Age wise Distribution

	Overall (N=630)	13 Years (N=58)	14 Years (N=139)	15 Years (N=128)	16 Years (N=175)	17 Years (N=102)	18 Years (N=28)
Neglect of Social Life IAT Score 0-2 (Normal)	56.0%	63.8%	57.2%	55.0%	56.0%	54.5%	44.8%
Neglect of Social Life IAT Score 3-4 (Mild Addiction)	27.1%	22.4%	25.4%	25.2%	30.3%	30.3%	24.1%
Neglect of Social Life IAT Score 5-7 (Moderate Addiction)	13.8%	12.1%	15.2%	16.0%	11.4%	11.1%	24.1%
Neglect of Social Life IAT Score 8-10 (Severe Addiction)	3.0%	1.7%	2.2%	3.8%	2.3%	4.0%	6.9%

SECTION 2.2: ASSOCIATION OF INDIVIDUAL AND HOUSEHOLD CHARACTERISTICS WITH INTERNET ADDICTION

In this section of the report, Internet addiction was defined as a dichotomous variable. Adolescents those, who scored IAT score within normal range were categorised as 'No addiction' and those who got IAT score above the normal range were categorised as 'Addicted'.

Bi-variate analysis was carried out and Chi-square test was used for analyzing categorical variables. P-value < 0.05 was considered as significant. Internet addiction score was used as dependent variable and association with age, gender, hours of daily use, months since using Internet, having separate room at home, having a personal phone, both parents at home, single child, having social media account and awareness about NCERT Internet use guidelines were used as independent variables.

Internet Addiction and Socio-demographic characteristics

Table 49: Socio demographic charatceritics and association with Internet addiction

Characteristics	No Internet Addiction(N = 326)	Internet Addiction(N =304)	Total (n=630)	P value*
Gender				
Boys	63.8%	66.1%	64.9%	p=0.559
Girls	36.2%	33.9%	35.1%	
Age Categories				
Young Teens (13-14 years)	32.8%	29.3%	31.1%	p=0.345
Childescents (15-18 years)	67.2%	70.7%	68.9%	
Education				
8th Std	28.8%	20.7%	24.9%	**p=0.022**
9th Std	21.8%	29.3%	25.4%	
10th Std	27.6%	24.0%	25.9%	
11th Std	21.8%	26.0%	23.8%	
Locality				
Rural	46.6%	46.1%	46.3%	p=0.936
Urban	53.4%	53.9%	53.7%	
Have Social Media account				
Yes	67.2%	78.3%	72.5%	**p=0.002**
No	32.8%	21.7%	27.5%	
Duration of using Internet				
6-12 months	46.0%	37.8%	42.1%	**p=0.016**
12-18 months	21.8%	22.0%	21.9%	
18-24 months	10.7%	9.9%	10.3%	
24-36 months	8.9%	7.6%	8.3%	
More than 36 months	12.6%	22.7%	17.5%	

Device mostly used for Internet				
Own device	43.9%	48.0%	45.9	p=0.730
Others device	54.9%	49.7%	52.4%	
Awareness about NCERT Internet safety Guidelines				
Yes	32.2%	39.1%	35.6%	p=0.080
No	67.8%	60.9%	64.4%	
Separate room at home				
Yes	17.8%	22.7%	20.2%	p=0.136
No	82.2%	77.3%	79.8%	
Any sibling				
Having Siblings	96.0%	97.0%	96.5%	p=0.063
Single Child	4.0%	3.0%	3.5%	
City				
Delhi	48.5%	52.0%	50.2%	p=0.471
Noida	23.6%	24.3%	24.0%	
Faridabad	27.9%	23.7%	25.9%	
Both Parents at home				
Yes	12.0%	13.8%	12.9%	p=0.552
No	88.0%	86.2%	87.1%	
Average duration of use				
Less than 1 Hour	52.8%	33.2%	52.8%	**p=0.002**
Between 1 and 2 Hours	27.3%	77.3%	27.3%	
Between 2 and 3 Hours	12.6%	12.8%	12.6%	
Between 3 and 4 Hours	2.1%	3.3%	2.1%	
More than 4 Hours	5.2%	10.9%	5.2%	

*P<0.05 considered as statistically significant

Of the sampled adolescents [N = 630], almost half of the adolescents [48%, n = 304] were having 'any degree of Internet addiction' i.e. [mild, moderate and severe]. Majority of them were 'Childescents' [69%] i.e. in the age bracket of 15-18 years. Among Internet addicted, majority of them were Childescents [70%].

Among Internet addicted, considerably high proportions were in 9th Std. [29.3%] and 11th Std. [26%]. In 10th Std. the proportion was comparatively low; possibly, adolescents could sense the important of matriculation exams. Among, Internet addicted, majority of them had social media account [78%]. Among, Internet addicted adolescents, majority of them were either amateurs [38%] well versed in using Internet i.e. more than 36 months [22.7%]. Among Internet addicted adolescents, more than half were not aware about NCERT guidelines [60%]. One in every 10th Internet addicted adolescent was using Internet more than 4 hours [10.9%].

DISCUSSIONS AND RECOMMENDATIONS

DISCUSSIONS AND RECOMMENDATIONS FOR PRACTICE AND POLICY

Discussions

The aim of this study was to understand the nuances of usage patterns of Internet among the adolescents and suggest ways of usage so that the risks and harms due to Internet can be mitigated and opportunities and benefits are accentuated. The risks and harms to the adolescents on the Internet are cybercrimes like – cyber bullying, hacking and misuse of online profile, morphing of images or videos, and Internet addiction. The opportunities and benefits on the Internet are – help in studies and extracurricular activities, increased and better communication and networking. Internet itself is a value neutral thing. It is only a medium. What make it good or bad are the content and the algorithms that define the rules of communication and usage. What is also important is the way the Internet is used, how much it is used and for what it is used decides the balance between opportunities and benefits on the one side and risks and harms on the other. This balance is dependent on various individual, household and community factors and also on the Internet safety rules and practices along with how the information is disseminated to the children and adolescents.

Amidst all this, one needs to be aware of the fact that the Internet is a global network that comprises many voluntarily interconnected autonomous networks. It operates without a central governing body. Based on this reality and on the findings of this study the following suggestive recommendations are made –

Awareness and capacity building of children on keeping themselves safe online: As the adolescents use Internet from multiple devices and switch to another device when they face restrictions on that device, any technological solution that monitor and controls devices used by the adolescents for their content and screen-time will not deliver the desired results. Therefore, just developing privacy settings, parental controls etc. will not be sufficient. There will always be a need for other solutions that require building knowledge and skills of the adolescents to be safe and secure.

Convergence of Internet safety rules and curriculum: Developing and disseminating Internet safety rules will not deliver the desired results as shown in the findings of this study where the incidences and their reporting did not find the required direction even when the adolescents had information about the rules. Real knowledge and skills of using and practicing those rules need to be built among the adolescents with the help of teaching and learning

processes and classroom transactions. Therefore, these safety rules and practices need to be made part of the school curriculum as well as teacher training programmes.

Proactive engagement of parents and caregivers: Supervision and guidance of parents and caregivers at home was found to be of utmost importance in promoting opportunities and benefits and curbing risks and hams among the adolescents. Focus should be given on making them aware about Internet safety rules and some programmes should be developed to build their skills on safe Internet usage.

Effective supervision but no policing: It has been observed that younger adolescents when use the Internet alone (when they have their own rooms at home) are at a higher risk of causing harm to themselves. Clear guidelines should be developed and all the stakeholders should be made aware that younger adolescents does not use Internet without supervision and guidance. Mobile Internet is extremely difficult to control as it is cheap, portable, accessible. Children should be encouraged to use Internet on bigger screens in spaces which are not secluded. In addition to supervising 'how long 'children are online, it is important to see 'what' they are doing online?

Supervised usage: Lot of harm has been observed when adolescents use Internet for more than three hours daily (on an average). Also, when the adolescents cross the threshold of three hours of daily usage, they tend to overshoot the daily usage and are on the Internet for more than four hours daily (on an average). So, it is important to keep the supervised usage of Internet within two hours daily (on an average).

Further research: Lack of control and anticipation has been observed in severe form in considerable population among the adolescents.

Even though severe overall addiction was limited to around one percent of the sample, severe lack of control and severe anticipation was seen among a much larger adolescent population. This needs to be studied in greater detail and seen if it correlates with the content and algorithm of what the adolescents watch on the Internet – be it online games or applications like 'Tik Tok' or some forms of social media.

Boys have also shown tendency and signs of "Invulnerability", which is more of bravado. This needs to be factored when devising strategies for recognizing and reporting of harms and risks among boys.

Sensitize the parents/ guardians: Ownership of mobile has been the most crucial factor that expose the adolescents to harm. Legally mobile SIM cards are not allowed for children below the age of 18 years, therefore children and adolescents must not be given their own mobile phones. They should be using the Internet from a device with bigger screen in common spaces and with Internet connection from a Broadband connection or from their parents' Mobile hotspot.

Existing Cyber laws must be reviewed and revised so as to make them child-centric: This would have to include provisions for educating children and parents on actively protecting themselves from online abuse. The laws must also have clear accountability structures so as to ensure redressal of grievances

Strengthen existing child protection mechanism in the country to deal with cybercrimes against children: With increasing Internet access across India, investment would have to be made in building capacities of child protection mechanism from village level upwards on identifying and redress instances of child sexual abuse, cyber bullying etc. this would also help deal with out-of-school children who are subjected to / perpetrate online crimes

Strengthen school level child protection policies to include child online safety: School level child protection policies are a must give the increasing trend of crimes against children. A component on prevention, reporting and redressal of cybercrimes against children must also be included in these policies

Invest in smooth functioning of legislations related to child protection and online safety of children as well as cybercrime reporting portals: While budgetary allocations for child protection have been showing an increasing trend, there is a need to step up the investment in the direction of prevention of crimes, including cybercrimes against children as well as in rehabilitation of survivors of cybercrimes. Trained mental health professionals would be required to address issues relating to Internet addiction as well as those relating to online sexual abuse of children, all of which require adequate budgetary allocations.

Protect Privacy and Digital Footprints of Children: As per the Supreme Court judgment in the matter of KS Puttaswamy vs Union of India, the Right to Privacy is the fundamental right of every Indian citizen including children and the digital footprint created by children on social network websites should not be used against them or to hamper their future in anyway. Therefore, cyber laws must be cognizant of protecting children's privacy and develop mechanisms so as to not criminalize harmful online practices of children.

Strengthen mechanisms to monitor and remove online content on child sexual abuse and pornography: Since the study findings have also indicated unpleasant experiences of children in terms of seeing morphed images inappropriate for their age, there is a need to create processes for monitoring and removing such child sexual abuse material from the Internet. The existing laws and policies dealing with investigation and prosecution of sexual offences against children must be reviewed in light of the changing nature of online crimes against children.

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Yashoda Banduni

***The photographs of children used in the study are for representational purposes only. These children did not participate in the study in any capacity.**