CYBERBULLYING AND ASSOCIATED PSYCHOSOCIAL FACTORS AMONG HIGHER SECONDARY SCHOOL STUDENTS IN KERALA

Thesis submitted for the degree of

DOCTOR OF PHILOSOPHY IN EDUCATION

By

DILEESH K.

Supervised by

Dr. VASUMATHI T.
Assistant Professor

DEPARTMENT OF EDUCATION
UNIVERSITY OF CALICUT
2022

DECLARATION

I, DILEESH, K., do hereby declare that this thesis entitled **Cyberbullying and Associated Psychosocial Factors among Higher Secondary School Students in Kerala** is a bonafide record of research work done by me under the guidance and supervision of **Dr. VASUMATHI, T.,** Assistant Professor, Department of Education, University of Calicut, Kerala, for the award of the degree of Doctor of Philosophy in Education. I also declare that this thesis or any part of it has not been submitted by me for the award of any other Degree, Diploma, Title or Recognition before.

Calicut University **DILEESH, K.**
25.11.2022 (Research Scholar)

Dr. VASUMATHI, T.
Assistant Professor
Department of Education
University of Calicut

Certificate

I, **Dr. VASUMATHI, T.,** do hereby certify that this thesis entitled **Cyberbullying and Associated Psychosocial Factors among Higher Secondary School Students in Kerala** is a record of bonafide study and research carried out by DILEESH, K. under my direct guidance and supervision. The thesis has reached the standards and fulfilled the requirements of the rules and regulations relating to the nature of the degree. The contents embodied in the thesis have not been submitted for the award of any other Degree, Diploma, Title or Recognition before.

Calicut University
25.11.2022

Dr. VASUMATHI, T.
(Supervising Teacher)

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INTRODUCTION

> "If school officials fail to effectively respond to the situations when students are at the 'harmful speech' level, there is a risk that they will eventually have to respond at the 'school failure,' 'school violence,' or 'student suicide' level" (Willard, 2007, p. 1).

Schools are social institutions that reflect every aspect of the society. Therefore, all kinds of social issues have an impact on the school environment. Violence in schools is a social problem since it degrades educational standards. The Education 2030 Agenda, a new vision for education, aims to ensure inclusive and equitable quality education opportunities for all. This transformative agenda is part of a global movement to eradicate poverty through 17 Sustainable Development Goals (SDGs). The United Nations Educational, Scientific and Cultural Organization (UNESCO), as the United Nations agency for education, is entrusted to lead and coordinate the SDGs with a vision to transform lives through education. The 2030 Agenda includes a specific target to end abuse, exploitation, trafficking, and all forms of violence against children (UNESCO, 2017). A healthy learning environment is indispensable to achieve this target.

Education is a human right and the foundation on which to move for sustainable development. In the Indian context, education is not only a national agenda but also a fundamental right. The Ministry of Education strives to improve the quality of education and as a part of it works closely with various international agencies. The United Nations Convention on the Rights of the Child (1989) declared that children have the right to freedom from exploitation and abuse. School-related violence affects the character development of the next generation who are involved in it. All forms of violence in schools and unsafe learning environments reduce the quality of education. The state should be responsible for the safety of children and take action against exploitation. In India, the education system has established policies to address and combat serious offenses including ragging, child drug use, and alcohol possession. Ensuring students' safety is the most basic concern of educators, administrators, and parents. Beyond mere safety, it is the responsibility of parents and teachers to ensure that children are respected in school. Bullying is one of the most common forms of school violence and is found among children who do not have mutual respect.

Bullying is commonly defined as repeated behaviour intended to harm another that involves a disparity of power, that is, the aggressor is seen to have more power than the target. School bullying usually occurs in school or on the way to and from school. Children who are subjected to bullying become physically or verbally or emotionally harmed. Physical bullying involves punching, kicking, fighting and pushing. Verbal or emotional bullying involves passing negative remarks (on dress, on the body, on family members), undesirable gestures, mocking, provoking, and ignoring on purpose. The child feels a sense of power by bullying others. In the Indian academic scenario, instead of bullying, "ragging" is more officially recognised and pronounced. Undoubtedly, bullying can have a detrimental effect on the well-being of children and the quality of education.

Today, children spend more time on the internet and social media than ever before. With the increasing use of communication technology, the boundaries between the real world and the virtual world have blurred. Individuals across the world are connected through smartphones, messaging platforms, social networking sites, and online games. Besides, this technology supported to some extent overcoming the crisis of the COVID-19 pandemic. The Internet has become a platform for unlocated education. Although the internet is widely used for education, entertainment, and official purposes, it has some negative aspects. Cyberspace becomes a hub for planning and executing various anti-social activities. It facilitates the emergence of a new form of bullying. Consequently, women and children are being more victimised by social media. Many of the undesirable behaviours that one can experience in the real world have been turned into online forms. Cyber offences against children can be broadly categorised into six common heads; negative habit formation, cyberbullying, cyber extremism and radicalization, online sexual abuse, sexual exploitation and extortion, and online frauds and economic offences (Kumar, 2017). Online abuse is rampant and parents' restrictions and legal provisions cannot prevent it.

Every half second, a child goes online for the first time (United Nations Children's Fund [UNICEF], 2021). The Internet has the potential to offer limitless opportunities and menaces that are difficult to manage. Children face the risk of being bullied in cyberspace (cyberbullying) when the internet becomes a part of their lives with pros and cons. Both traditional bullying and cyberbullying are acting against the provision of a safe, non-violent, and inclusive learning environment for all children. Traumatic experiences online also have a detrimental effect on the mental health and well-being of children. Therefore, the psychosocial well-being of the children needs to be ensured and parents have a central role in this.

Making fun of each other is a common occurrence in friendships, but sometimes it's hard to convey if someone is just having fun or trying to hurt another. If a joke continues even after being asked to stop or expresses irritation, this is not a joke in the real sense, it's bullying. Cyberbullying is bullying with the use of digital technologies which can take place on social media, messaging platforms, and gaming platforms. It is repeated behaviour aimed at scaring, angering or shaming those who are targeted. And when the bullying takes place in a public online space, it can draw uninvited attention from a wide range of people, including strangers. Face-to-face bullying and cyberbullying can often happen in tandem with each other. But cyberbullying leaves a digital footprint, a record that can prove useful and provide evidence to help stop the abuse (UNICEF, 2021). Cyberbullying can have long term psychological, physical, and emotional consequences.

Cyberbullying is an emergent 21st century dilemma; that involves the use of communication technology to bully another person. As a part of increased online interaction, children in contemporary society have adopted new ways of the taunt. By having better online facilities, they are more exposed to deliberately provocative messages in cyberspace to cause general disruption and arguments to hurt others. Children and adolescents have taken schoolyard bullying to an entirely new level where they use chat rooms, smartphones, websites, blogs, and so on, to spread derogatory and ostracising comments about other students, teachers, and other individuals (Belsey, 2006; Campbell, 2007; Shariff, 2005; Willard, 2007). This is one of the fastest-growing issues faced by school authorities. Unlike traditional bullying cyberbullying can take place anywhere which is a major problem for schools.

The extensive use of the mobile phone has transformed the traditional learning atmosphere into a cyber-world in which learners experience many new feelings. Digital media is very useful for children to access content and acquire knowledge by keeping a physical distance. Cyberspace is not a safe place for children as long as there are hurtful messages, nasty jokes, mean comments or trolls, and deliberate exclusion. Cyberbullying is of major concern in the educational field, because it is significantly associated with psychological issues among young people such as depression, emotional distress, low self-esteem, and poor academic achievement. Educators, parents, policymakers and legal scholars are scrambling for resolutions to this modern pervasive problem currently referred to as cyberbullying (Belsey, 2006). Parents have an important role to prevent the risky behaviours of their children. When parents seek their children's expertise in technology use, children handle the roles of teachers. In such a situation, it is difficult for parents to control their children.

In India, all citizens should have the right to freedom of speech and expression. But, clause (2) of Article 19 prevents any person from making any statement that injures the reputation of another. Social media has become a platform for anyone to express their ideas. There, too, the standards envisioned by the Constitution and the law should be met. Policymaking without damaging the values of freedom of speech and expression is a challenge. In India, section 66A of the Information Technology Act prescribes punishment for sending annoying, offensive, and insulting communication through digital and information communication technology. The Supreme Court had struck down Section 66A of the IT Act and 118(d) of the Kerala Police Act in 2015 ruling that they violated freedom of speech. In 2020, the government of Kerala brought an amendment to the Kerala Police Act (Section 118A), which gives sweeping powers to the police to clamp down on defamatory or offensive posts on social media. But the government had to decide to withdraw the controversial amendment to the Kerala Police Act. Problems like cyberbullying cannot be easily tackled by making rules. Issues like cyberbullying can only be resolved with the collaborative effort of all stakeholders - policymakers, school officials, parents, and society.

To stop cyberbullying, it needs to be identified and reported. At the same time, the psychosocial background of the children who are being bullied or victimised should be addressed. Reporting can also help to alert the bully that their behaviour is unacceptable. Cyberbullying issues can be overcome with the help of trusted ones such as friends, parents, a close family member or another trusted adult, who can help to recover and to regain confidence. In school, students can seek the help of a psychosocial counsellor or their favourite teacher. Social media platforms offer different tools to block or mute others. Many of them allow the user to restrict comments or view posts, or connect automatically as a friend, and report cases of bullying. Stopping cyberbullying is about recognising that everyone deserves respect online and in real life. Several organisations have been established across the world to educate the public on preventative measures and to support cyberbullying victims. Such efforts can be intensified through better education.

Need and Significance of the Study

Schools operate within the context of wider social and structural factors. Physical, mental and sexual violence in society is also reflected in the school environment. When immoral habits in a society enter the school environment in the form of violence or bullying, it adversely affects children. Schools have the potential to create an environment where attitudes can be changed and non-violent behaviour can be learned. In addition to changing attitudes, education can provide a clear perspective on the exercise of power that often underpins violence. In bullying, an individual repeats certain actions in an attempt to force one's power and authority over another. Bullying and cyberbullying cause an imbalance of power that might be social or physical depending on the case. Most of the time, cyberbullying is a result of the inability of a person to cope with another person. A healthy educational environment with fruitful educational content can contribute to solving these relational issues among children. In schools, children are equipped with the skills they need to communicate, negotiate and resolve problems peacefully, inculcate values of tolerance and promote non-violence in the wider community.

Inseparable connection with communication technology is a feature of modern life. Its double-edged nature provides risks and opportunities to the users at the same time. The use of the internet is rapidly growing in society and as a part of it, they engage in several social media-based activities such as chatting, gaming and seeking information. Cyberbullying is an emerging social problem that has happened as a result of the misuse of communication technology. Here, people use communication facilities to express their hostile behaviour. With the advent of smartphones, pictures can be taken anywhere, including where privacy is expected, and easily distributed online. In fact, children spend a lot of time on social media as they can access the internet from anywhere at any time. While using the potential of the internet, it is important to understand and address the harm that it causes. The present study attempts to answer how many higher secondary school students are involved in cyberbullying.

In 2018, three teenage boys committed suicide within two months in a 10-kilometer radius in the Wayanad district of Kerala. All of them were known to each other and two of them were following #psychochekkan on Instagram. Psychockekkan, a popular picture-posting social media platform on Instagram, glorifies solitude and death through its posts. The investigation report indicated the influence of such groups on children. According to Dr. Vinod Bhattathirippad, a cyber and forensic expert, the incidents need not be centred on Wayanad only. If there was a hashtag trending like #psycochekkan, it would be followed by more children. Parents and teachers should be more alert and there should be more efforts from them to prevent further incidents (Mili, 2018).

Issues related to the misuse of social media among children have been discussed many times in the public sphere of India. The “Bois Locker Room” issues in Delhi and the “psychochekkan” incidents in Kerala are instances of the dangerous role of social media groups found among school children. Boys in the 11th and 12th grades were members of the Bois Locker Room, an Instagram group promoting rape culture. As per the news report in May 2020, through this group, Delhi schoolboys shared images of juvenile girls with conversations ranging from jokes about their private parts to planning a gang rape. The boys had casually discussed rape as well as gang-rape of a specific girl and shared photos of their female classmates (The Indian Express, 2020).

At least 66 children have committed suicide in Kerala after the school closed due to the COVID-19. Students experienced anxiety, mental stress and a lot of other issues during the period. Suicides among people under the age of 18 were on the rise in Kerala according to the data from the State Crime Records Bureau. The report attributed the high suicide rate among children to the monotonous lifestyle and over dependence on mobile phones and the internet (The New Indian Express, 2020). A higher secondary school student committed suicide after realising the consequences of their excessive use of social media. According to the victim's suicide note, she became addicted to her phone and was unable to concentrate on her academics. The student had a good academic record in the 10^{th} standard. After finishing tenth grade, the student began using her mother's phone and became addicted to YouTube videos (PTI, 2022).

Cyberbullying has been appearing as a new phenomenon for the past two decades as a byproduct of the vast communication possibilities. Thus, access to digital communication grows and methods of cyberbullying have become more sophisticated. It can be done by anyone, at any time, and from any location on the internet, and the matter that circulates on the internet will never disappear. There are mainly two kinds of cyberbullying attacks: direct attacks and cyberbullying by proxy. In direct attacks, messages are sent directly to the victim through a digital device, whereas in cyberbullying by proxy, messages are sent using others. When schools get involved by disciplining student for cyberbullying actions that took place off-campus, it is considered an excessive application of authority and an encroachment on the student's right to speech and expression. However, the school can be very effective in working with parents to stop and remedy cyberbullying situations.

The school can inform the students about cyber safety measures, cyber ethics and the law. The creative involvement of the school can help to curb the unwarranted rule of law in this sector. Even off-campus cyberbullying issues can be talked about to some extent if the schools are proactive. Cyberbullying by proxy is much more dangerous because it permits adults' involvement in the harassment. So children should be aware of how to react and cope with cyberbullying situations, where education plays an important role.

Adolescence is a unique stage for identity development. During this period, social interaction with peers largely influences the identity formation process. Undesirable experiences like cyberbullying adversely affect adolescent development. Unfulfilled desires, teasing by others, unfair or insulting treatment by others and repeated interference from parents are important anger arousing situations in the adolescent period. Some victims even carry bullying-induced psychological and sociological issues into adulthood (Albin, 2012). Cyberbullying victims face various academic and social problems ranging from withdrawal from school activities to suicidality (Klomek et al., 2011). Cyberbullying perpetration is associated with significant mental health difficulties in both male and female adolescents (Kaur, 2018). Therefore, the present study attempts to answer how cyberbullying is associated with certain psychosocial factors. Cyberbullying issues must be properly identified and effectively resisted.

Cyberbullying has proliferated over the last decade, particularly in its impact on adolescents. In certain cases, an important factor against revealing cyberbullying is that students feel reluctant to report cyberbullying incidents. Many of the victims choose not to tell others about the incident. In other words, victims' strategies to cope with cyberbullying are either to ignore it or to try to get away from it rather than informing others (Li, 2010). Previous research has indicated that both victims and perpetrators of cyberbullying are in trouble at home and at school. Moreover, these abusive students also exhibit poor performance in academics. For these reasons, cyberbullying has evolved as a major source of concern for today’s parents, researchers, and educators.

Telecom Regulatory Authority of India (TRAI) had reported that the total number of internet subscribers had increased to 825.30 million at the end of March 2021. The report also revealed that 96.77% of internet subscribers are using mobile devices for access to internet service. In Kerala, mobile phone penetration is close to cent percent (Sam, 2020). In 2017, as per the report of the National Crime Records Bureau (NCRB), the state of Kerala topped the chart with seven lakh cases. In the case of using children for pornography and storing obscene materials, Kerala came first. As per the NCRB report 2020, the rate of total crime against children in Kerala was 41.9; which is not a good sign for society. The statistics with the police department revealed that the rise in the number of cybercrimes is proportional to the rise in the use of the internet. The High Court of Kerala has directed (2009 November 5) the state government to constitute inspection squads at schools to ensure that the order banning the use of mobile phones in schools is enforced. By 2020, the mobile phone and the internet had become an integral part of school education and predators had perfectly exploited the situation.

Today, children have the opportunity to spend a part of their lives on "Cyber Island." Adolescent cell phone ownership and use have increased substantially since the COVID-19 pandemic. Mobile phones and social media have become part of children's learning activities. Parents, teachers and social organisations have taken the initiative to ensure the availability of mobile phones and the internet among students. During the COVID-19 pandemic period, social media usage and online gaming activity increased and affected the susceptibility to cyberbullying (Jain et al., 2020). There were significant increases in cyberbullying attitudes, and cyberbullying perpetration during the pandemic (Barlett et al., 2021). Cyberbullying is one of the issues that are so common in India, that half of the population don't even report it (Reddy et al., 2020). Relatively few studies have been conducted in India on cyberbullying. Still, it's not a matter of priority in academics of the state.

Comparitech (2021), a pro-consumer website, examined the findings of an Ipsos study of individuals in 28 countries, which showed that a rising number of parents had children who had been subjected to cyberbullying in one way or another. From 2011 to 2018, the proportion of Indian parents reported that their children were subjected to cyberbullying remained among the highest. In this way, international agencies and foreign studies indicate that the prevalence of cyberbullying is relatively high in India. Nevertheless, more research is required on cyberbullying in India to comprehend the veracity of such reports.

Cyberbullying undermines the full achievement of Sustainable Development Goal 4. The harm inflicted through cyberspace denies quality education and acts against the provision of safe, non-violent and inclusive learning environments for all children. For effective addressing of cyberbullying, everyone needs to be identified that bullying behaviour is unacceptable. Providing education and awareness programmes to adults, adolescents, and teens is the key to dealing with cyberbullying (Paullet, 2012). Cyberbullying can be tackled with a range of interventions. School practices and policies to prevent cyberbullying are indispensable. Stopping cyberbullying is about recognising that everyone deserves respect. Research findings reveal that parenting styles that include support, affection, and communication reduce school bullying and cyberbullying (Kaur, 2018). Therefore, the present study attempts to answer how cyberbullying is associated with parental control over social media use of higher secondary school students in Kerala. As the cyberbullying phenomenon is relatively recent, more research, experiments, and solutions are needed in this field.

Statement of the Problem

Cyberbullying is a form of bullying that uses digital technology to harm others. It is one of the most common cyber threats being faced by children. The consequences of cyberbullying not only affect academic performance but also daily life to a great extent. The study focused on cyberbullying behaviours among higher secondary school students with selected psychosocial factors. Therefore, the problem of the study stated as **Cyberbullying and Associated Psychosocial Factors among Higher Secondary School Students in Kerala.**

Definition of the Key Terms

The key terms used in the statement of the problem are defined below.

Cyberbullying

Cyberbullying is defined as “willful and repeated harm inflicted through the use of computers, cell phones and electronic devices” (Hinduja & Patchin, 2014). The study focused on cyberbullying perpetration as well as cyberbullying victimisation using mobile phones and social media.

Psychosocial Factors

Psychosocial factors include both psychological and social aspects as the very term indicates (Webster, 1996). In the present study, psychosocial factors include need satisfaction and parental control over social media use.

The variable, “need satisfaction” was developed on the theory of Maslow's (1970) hierarchy of needs for motivation. For the present study, need satisfaction covered physiological, safety-security, belongingness, and esteem needs (deficiency needs).

Parental control over social media use is a technique used by parents to prevent their children from accessing content that is inappropriate for them. The present study investigates parental involvement in their children's usage of social media and mobile devices, whether directly or through the use of parental control applications. The three dimensions of variable parental control over social media use are proactive parenting, restrictive parenting, and uninvolved parenting.

Higher Secondary School Students

The term denotes the pupils who are studying in classes XI and XII of schools recognised by the government of Kerala.

Variables of the Study

The following variables are included in the present study:

- Cyberbullying perpetration
- Cyberbullying victimisation
- Need satisfaction
- Parental control over social media use.

The categorical variables listed below were also included in the study:

- Gender
- Age
- Streams of study
- Types of management.

Objectives of the Study

Tackling cyberbullying is a matter of time to ensure quality education. The researcher finds a knowledge gap in the field of cyberbullying research in Kerala. To identify the nature of cyberbullying and its relationship to certain psychosocial factors, the following specific objectives were set.

1. To study the prevalence of cyberbullying among higher secondary school students in Kerala.
2. To identify cyber-bullies, cyber-victims, and cyber bully-victims among higher secondary school students in Kerala.
3. To compare cyberbullying among higher secondary school students in Kerala based on gender, age, streams of study, and types of management.
4. To compare need satisfaction of higher secondary school students in Kerala based on gender, age, streams of study, and types of management.

5. To compare parental control over social media use among higher secondary school students in Kerala based on gender and age.
6. To study the relationship between cyberbullying and the need satisfaction of higher secondary school students in Kerala.
7. To study the relationship between cyberbullying and parental control over social media use (proactive parenting, restrictive parenting, and uninvolved parenting) of higher secondary school students in Kerala.
8. To develop a regression equation that predicts cyberbullying among higher secondary school students based on their need satisfaction and parental control over social media use.

Hypotheses of the Study

Previous studies in the field of cyberbullying across the globe revealed the pervasiveness of cyberbullying and which had a significant association with demographic and psychosocial variables. Assuming the presence of such relations, the researcher formulated the following research hypotheses.

1. There is cyberbullying behaviour among higher secondary school students in Kerala.
2. There are different cyberbullying participant groups (cyber-bullies, cyber-victims, and cyber bully-victims) among higher secondary school students in Kerala.
3. There is no significant difference in the mean scores of cyberbullying among higher secondary school students in Kerala based on gender, age, streams of study, and types of management.
4. There is no significant difference in the mean scores of need satisfaction among higher secondary school students in Kerala based on gender, age, streams of study, and types of management.

5. There is no significant difference in mean scores of parental control over social media use among higher secondary school students in Kerala based on gender and age.

6. There is no significant correlation between need satisfaction and cyberbullying among higher secondary school students in Kerala.

7. There is no significant correlation between parental control over social media use and cyberbullying among higher secondary school students in Kerala.

Methodology

A descriptive-survey was conducted among selected higher secondary school students by administering rating scales. An interview schedule was devised to collect data from higher secondary school teachers.

Research Design

The correlational research design was mainly followed for the study. The explanatory correlational design explained the degree of association among cyberbullying, need satisfaction, and parental control over social media use.

Samples Selected for the Study

This study was conducted on a sample of 571 students selected from various higher secondary schools using stratified random sampling technique, giving due representation to age, gender, streams of study and types of management. Focused interviews were conducted with 41 higher secondary school teachers. In the preliminary stage of the study, a survey was carried out among 172 higher secondary school students.

Tools used for the Study

Four tools were used to collect data from higher secondary school students. An interview schedule was used to collect data from higher secondary school teachers.

- Scale of cyberbullying perpetration
- Cyber-victim scale
- Need satisfaction scale
- Scale for parental control over social media use
- Semi-structured interview schedule for higher secondary school teachers

Statistical Techniques used for the Study

The following statistical techniques were used to describe data, compare data sets, determine the relationship between variables, as well as to estimate population measures.

- Percentage Analysis
- Descriptive statistics
- Tests of normality and homogeneity
- Test of significance of difference between means
- Estimation of effect size (Cohen's *d*), Tukey's post hoc test
- Correlation
- Regression

Scope and Delimitations of the Study

The study reflected the status of cyberbullying and its association with need satisfaction and parental control over social media use among higher secondary school students in Kerala. The findings of this study help school authorities and other educational settings to take proactive measures to prevent cyberbullying from the initial stage, and to reduce the impact of cyberbullying incidents. The recommendations based on the findings of the study might pave the way to promoting responsible use of digital technology through school policies and interventions.

The study was delimited by the researcher due to some practical considerations. Sample of the study was limited to seven districts in the State of Kerala. Only regular higher secondary school students were included in the sample frame. The intensity of cyberbullying based on its repeated nature was not checked. Various communication devices and media are used to bully others, while the present study focused on mobile phones and social media. Although there are many psychosocial variables associated with cyberbullying, the present study only covers need satisfaction and parental control over social media use. The variable, need satisfaction covered only deficiency needs in Maslow's theory. Only three different parenting styles were included in the variable parental control over social media use; proactive parenting, restrictive parenting, and uninvolved parenting.

Organisation of the Research Report

The research report is organised into six chapters.

The first chapter, Introduction, presents the need and significance of the study, statement of the problem, the definition of the key terms, variables of the study, objectives of the study, the hypotheses of the study, methodology, scope and delimitations of the study.

The second chapter, Review of related literature, consists of two parts, a theoretical overview and studies related to cyberbullying.

The third chapter, Methodology, presents a detailed account of the methodology, including descriptions of the method of the study, design of the study, variables of the study, tools used for the study, description of tools, population profile, sample selected for the study, procedures for data collection and the statistical techniques used for analysis.

The fourth chapter, Analysis and interpretations, deals with the analysis of data in detail. This chapter includes preliminary analysis, percentage analysis, mean difference analysis, correlation analysis, regression analysis, and thematic analysis.

The fifth chapter, Summary of findings and conclusions, contains a summary of findings, tenability of hypotheses, the relationship of results to existing studies, limitations of the study, suggestions for further research, and conclusions.

The sixth chapter, Recommendations, covers educational implications of the study.

Chapter 2

REVIEW OF RELATED LITERATURE

- Theoretical Overview
- Studies Related to Cyberbullying

REVIEW OF RELATED LITERATURE

Theoretical Overview

School-related violence is a social problem since it affects the academic achievement and character development of the younger generation. The schools have established some version of zero tolerance policies in order to address and combat serious offenses including ragging, drug abuse, and use of alcohol in schools. Bullying is one of the most common forms of violence among children, is common in schools, playgrounds, neighborhoods, and family in all societies. Bullying is a form of abuse that involves the repetition of a specific conduct in order to apply one person's dominance and authority over another. It is usually the outcome of a person's incapacity to deal with the person who is being bullied. Bullying creates a power imbalance that might be social or physical, depending on the situation.

With the advancement of smartphones, social media, and other technologies, communication has become very easy for people of all walks of life. The new generation utilises digital tools to keep in touch with others and communicate various matters in different digital forms that the older generation could only imagine. Social networking sites like Instagram, Whatsapp, Facebook, YouTube, etc. are increasingly being used by adolescents to represent themselves. It is a fact that people especially children use these technologies not just to learn and communicate but to create risk or malign others. There is a new form of bullying performed through electronic forms of communication. Bullying with the use of digital technologies (cyberbullying) can take place on social media, messaging platforms and gaming platforms. Unlike bullying, cyberbullying mostly takes place outside of the school environment. According to William Glasser's Choice theory, cyberbullying behaviour is a person's inability to develop healthy and satisfying relationships (Tanrikulu, 2014).

Olweus (1983), a pioneer in the field of bullying prevention, paved the way for studies of school bullying. However, systematic studies of the prevalence of bullying, their nature and behaviours in schools began only in late 1970s. Subsequent research findings observed that bullying incidents are traditionally seen in schools. Bullying is any unwanted, aggressive behaviour or behaviours repeated over a period of time by a stronger individual or a group towards a weaker individual to malign interpersonal relationships. School bullying can be described as victimisation and intimidation of students by their fellow peers that occur anywhere anytime within the school environment. The bullying may be direct (e.g., physical, verbal) or indirect (e.g., spreading rumors, exclusion). The basic types of bullying are verbal, physical, social, and emotional. Individual, family, peer, school and community factors cause bullying and have a harmful impact on children's or adolescent's health and development. Researchers identified three groups of active participants in bullying as bullies, victims, and bully-victims.

The World Health Organisation (2010) describes bullying as a multifaceted form of mistreatment, mostly seen in schools and the workplace. It is characterised by the repeated exposure of one person to physical and/or emotional aggression including teasing, name-calling, mockery, threats, harassment, taunting, hazing, social exclusion, or rumors. Undoubtedly, the consequences of bullying are quite serious. Victims of bullying have lower levels of academic achievement than their counterparts (Grover, 2017). Some countries are serious about the issues related to school bullying and take remedial measures. For example, the Philippine government passed the Anti-Bullying Act in 2013 to ensure the protection of children against abuse from their peers as well as adults. Under this law, bullying is defined as any serious use by one or more students of a written, spoken, or electronic statement, or a physical act or gesture, or any combination thereof, aimed at another student that has the effect of really causing or placing the latter in reasonable fear of physical or emotional injury or damage to his property;

establishing a hostile environment at school for the other student; infringing on the other student's rights at school.

Bullying is regarded as a major issue in Western countries, but it is an accepted element of the culture in India. It's sometimes referred to as “Eve teasing” or “ragging”. As a result, few laws or regulations addressing bullying have been enacted. Tina (2015) provided examples of situations in India when school bullying morphed into ragging in higher education institutions, and subsequently into a major criminal offence. Bullying, however, cannot encompass all forms of violence or aggressive behaviour in schools. In India the Raghavan Committee Report (2007) discussed the matter of school bullying as the birth point of ragging. Over the last decade, newspapers, popular press, research community, as well as educators, and parents, have expressed concern about a relatively new and serious form of bullying among school children and youth, commonly referred to as cyberbullying. The research findings (Notar et al., 2013) showed that cyberbullying is an extension of traditional bullying and is a major concern in educational institutions.

When a child or adolescent is tormented, intimidated, harassed, humiliated, embarrassed, or otherwise targeted by another child or adolescent through the internet, interactive and digital technologies, or mobile phones, this is referred to as cyberbullying. There must be a minor on both sides, or at least, it must have been started by a minor against another minor. It's obvious and straightforward cyber-harassment once adults get involved. Adult internet harassment is never referred to as cyberbullying. Cyberbullying is defined as the use of information or technology for communication to aid in the hostile behaviour of a person or a group of people toward another person or group, which is repeatedly witnessed with the purpose of harming the other person or group. Cyberbullying can be very damaging to adolescents and teens. It can lead to anxiety, depression, and even suicide. Further, once things are posted on the internet, they may never disappear, resurfacing at later times to renew the pain of cyberbullying.

Cyberbullying can take many forms: nasty messages online or on the mobile phone, spreading rumours online or through texts, posting hurtful or threatening messages on social networking sites or web pages, stealing a person's account information to break into their account and send damaging messages, pretending to be someone else online to hurt another person, taking unflattering pictures of a person and spreading them through cell phones or the internet, circulating sexually suggestive pictures or messages about a person.

The term "cyberbullying" first appeared in the academic literature in 2003 following the launch of a website by Bill Belsey (Betts, 2016). Belsey created www.cyberbullying.ca, the world's first website for dealing with cyberbullying. In 2005, Belsey shared his work about bullying and cyberbullying collaboration with the United Nations International Research Study on Violence and Children. In India, Orkut, a social networking site, arrived in February 2006 with a goal statement claiming to help individuals develop a closer, more intimate network of friends and put them on the path to social bliss. The network was created to enable individuals to interact with each other throughout the globe by bridging geographical distances, as stated in the mission statement. In India, the first case of cyberbullying incident using Orkut was reported in 2006 (Tina, 2015). With the introduction of new social media platforms, cyberbullying has increased gradually.

The term "cybercrime" refers to a variety of crimes that can be carried out utilising the internet as a key tool. Hacking into accounts, fraud, theft, and the spread of computer viruses are only a few examples. On the other hand, cyberbullying refers to a specific type of cybercrime: bullying. The term cybercrime may be judicially interpreted in some judgments passed by courts in India; however cyberbullying is not defined in any act or statute passed by the Indian Legislature. Both cyberbullying and cybercrime are an uncontrollable evil having their basis in the misuse of growing dependence on the internet in modern life.

Cyberbullying is a new way of attacking people by sending electronic messages, including text, pictures, or videos, aimed at harassing, threatening, or targeting another person through a variety of digital communication media such as social media networks, chat rooms, blogs and other instant messaging platforms. It involves spreading rumours, posting false information, hurtful messages, embarrassing comments or photos. Cyberbullying involves not only insulting and harassing someone, but also re-sharing such messages and reproducing such situations. This information, through communication media, can promptly reach a large number of people.

Cyberbullying has the issue that, in many circumstances, it enables its perpetrators to attack someone at any moment of the day while remaining anonymous. The psychological and emotional impact of cyberbullying is a serious challenge for parents, school administrators, and society. It is an undeniable issue that is emerging on school campuses (Fegenbush & Olivier, 2009). It is difficult for schools to deal with cyberbullying when it occurs entirely off campus. From a school issue, the large-scale growth of communication platforms, cyberbullying has become a major concern for community health and wellness. Victimisation and perpetration have a significant detrimental impact on adolescents' health and well-being (Nixon, 2014).

Both bullying and cyberbullying are aggressive behaviours with the intention of harming others. Cyberbullying is an umbrella term that has been used to describe a range of activities, including online bullying, electronic bullying, and internet harassment (Tokunga, 2010). One of the issues surrounding the conceptualisation is whether it should be viewed as simply an extension of traditional bullying or a unique type of aggression. Due to the inability to standardise the conceptual basis of cyberbullying, there is a considerable variation with regard to how cyberbullying is defined in studies, which makes it unclear what is assessed. Conceptually, there are a few necessary elements that almost everyone can agree upon when specifying exactly what cyberbullying is (Patchin & Hinduja, 2012). The most important elements include the use of technology to bully another person, the intention to harm or insult the victim, and repeated use of power.

The repetitive nature of cyberbullying is more complex to operationalize when a website containing bullying materials is visited by numerous people. This fluctuation of concepts and definitions could also shed light on the fact that the research field of cyberbullying is young. Cyberbullying could be defined as an intentional act carried out by a group or individual, using digital communication technology, repeatedly against a known victim or unknown victim to cause insult or harm.

In the past, researchers defined cyberbullying in various ways. According to Belsey (2007), it involves the use of information and communication technologies to support deliberate, repeated, and hostile behaviour by an individual or group that is intended to harm others. Jaishankar (2009) further detailed it as abuse/harassment by teasing or insulting the victims' body shape, intellect, family background, dress sense, mother tongue, place of origin, attitude, race, caste, or class using modern telecommunication networks such as mobile phones and the internet. More specifically, Tokunaga (2010) explained it as any behaviour performed through electronic or digital media by individuals or groups that repeatedly communicates hostile or aggressive messages intended to inflict harm or discomfort on others. However according to Hinduja and Patchin (2014), it is willful and repeated harm inflicted through the use of computers, cell phones, and electronic devices. Whatever the definition and methods used to study cyberbullying, available evidence shows that cyberbullying is a serious problem that affects the wellbeing and self-esteem of a considerable number of children.

Specific Characteristics of Cyberbullying

Although bullying and cyberbullying share common features, some specific characteristics make cyberbullying distinct. They are; technological expertise, anonymity, the bully and the victim are physically distant, generally more indirect, the role of physical strength is minimal, substantially wider audience, and difficult to escape. There are numerous terminologies and unique conventions of communication used in cyberbullying, such as anonymity, pseudonyms, masquerading, flaming, harassment, denigration, outing, trickery, and social exclusion.

Anonymity is when a user places comments in a location that cannot be directly linked to that specific person that helps the user feel less vulnerable to disclosing something and engaging in harmful activities. Pseudonyms are common on social media which involves the use of an alternative name to mask the identity of the perpetrator. Masquerading allows users to misrepresent themselves when one pretends to be someone else and sends material to make that person defaming. Flaming involves online conversation with vulgar language. Outing and trickery often go together when tricking someone into revealing secrets, which are then shared online. Social exclusion may occur when intentionally excluding a person from an online group like a friend list or gaming environment. Harassment is a common form of cyberbullying which involves repeatedly sending offensive online messages to an individual or group. Denigration is a form of cyberbullying where posting derogatory comments or cruel gossip to insult others with the intention of damaging the victim's reputation or friendships.

Cyberbullying can take different forms and be perpetrated through a host of media. Nancy Willard (2007) has identified flaming, harassment, denigration, impersonation, outing and trickery, exclusion, and cyberstalking as different forms of cyberbullying behaviour. Nancy Willard further elaborated each activity to unfurl the complexities of these terms as follows.

Flaming is a heated, short-lived argument that occurs between two or more protagonists. Flaming typically includes insults, threats and offensive, rude, and vulgar language. A longer series of such messages is called a "flame war". Flaming generally occurs in public communication environments such as social media, chat rooms, or games. Flames erupt between individuals or a small group of protagonists who are arguing and insulting each other, with bystanders occasionally (Willard, 2007). Harassment is the repeated, ongoing sending off offensive messages to an individual target. These messages are generally sent through personal communication channels including social media, instant messaging, and text messaging (Willard, 2007). Denigration is speech about a target that is harmful, untrue, and cruel. This harmful speech may be posted online. The purpose of sending or posting the material is to damage the reputation of the target. In the case of denigration, the target is not generally the direct recipient of the material. The intended recipients of the materials are others. Insulting someone online by sending or posting derogatory remarks, cruel gossip, or rumours about the person in order to harm his or her reputation or friendships; creating a web page or web site dedicated to insulting another classmate or classmates (Willard, 2007).

Impersonation occurs when the cyber-bully gains the ability to impersonate the target and posts that something reflects badly on the target or interferes with the target's friendships. This may occur on the target's personal web page, profile, blog, or any form of communication. The exchange of passwords allows a cyber-bully to gain access to the target's account on a system and pose as the target. Once the cyber-bully gains the ability to impersonate the target, the speech could take the form of any of the other kinds of cyberbullying, or it could include making a cyber-threat. That is, a student cyber-bully could access a target's account and send a threatening message to a teacher, thus setting the stage for the target to be falsely accused (Willard, 2007). "Outing" is publicly posting, sending or forwarding personal communications or images, especially communications or images that contain intimate personal information or are potentially embarrassing. A common form of outing is when a cyber-bully receives a message from a target that contains intimate personal information and then forwards the message to others. Trickery is the act of deceiving someone into giving out personal information to you or publishing it. This is almost the same as an outing, except the person does not give out the information willingly (Willard, 2007).

Children and adolescents have a need for acceptance by their peers. Exposure of a child's private information or weaknesses exploits the developmental need of children to feel accepted and appreciated by their peers and feeds their psychological insecurities. Being ridiculed, expelled from the peer group or discriminated against deeply causes harmful effects on children (Willard, 2007). This is not unique to online social exclusion, especially in the context of widespread caste-based discrimination in the country.

Cyberstalking is another kind of bullying involving the repeated sending of messages that include threats of harm, are highly intimidating, or extremely offensive, or involve extortion. Cyberstalking may also try to denigrate their targets and destroy their friendships or reputations. The demarcation between harassment and cyberstalking is not clear, however, direct cyberstalking always occurs in personal communication environments (Willard, 2007). Sometimes, the cyberstalker will use anonymous vehicles for communication in an attempt to hide his or her identity. The cyberstalker may also enlist the involvement of other online contacts, including those who do not know the target.

Some of the unique features of cyberbullying are associated with the digital environment that it occurs in. The boundaries of socially acceptable behaviour change when individuals interact online. Betts (2016) shared such unique aspects of cyberbullying. In the digital world, there are potentially more avenues to target young people than in face-to-face bullying. A single act in cyberspace could be viewed by many audiences on repeated occasions, and this larger audience is also less likely to be constrained by geography. Specifically, a single act viewed by a potentially large audience may be regarded as having a greater impact than a few repeated acts limited to exchanges simply between the target and the perpetrator. Digital technology enables individuals to feel anonymous and the power imbalance in cyberbullying is also connected to technological knowledge and anonymity.

In India, the Ministry of Home Affairs issued general guidelines aimed at raising awareness about cyber-threats among residents, particularly schoolchildren. According to this cyberbullying is one of the most common cybercrimes. In order to handle the cyberbullying situation, the following proposals were made in cooperation with cyber-safety specialists.

- Immediately inform the entire issue clearly to parents, or elders, or teachers.
- Try to identify the bully and ask them to stop bullying.
- Block the bully; all major social media platforms provide the option to do so.
- Save the messages that can be used as evidence.
- Never retaliate aggressively against a bully.
- If the parents believe it is necessary, they can file a complaint against the bully with the local police station or the state cybercrime unit.

Cyberbullying can produce a number of negative and stressful feelings that intensely impact the well-being and behaviour of the victims. In an article, Veronica and Alena highlighted general coping strategies against cyberbullying as prevention, avoidance, defensiveness, social support, and enforcement (Kumar, 2017).

Smartphones and Social Media Role in Cyberbullying

Today, people are very much attracted to mobile phones as they offer a variety of functions like texting, gaming, purchasing, music, cameras, location detection, and banking on a single device. They are using highly advanced technologies and sophisticated methods for communicating with each other. Younger generations are increasingly using smartphones to keep in touch with others and share many aspects of their lives. Any children can now afford to use mobile phones and the internet irrespective of their age and can be accessible to various social networking sites and gaming platforms on smartphones.

Social media platforms are widely used today to create and maintain relationships. Websites such as Facebook, Instagram, and Whatsapp are the major online communities where individuals create their accounts to connect with other users of the network. Thus people with similar interests become friends with each other and become a part of a larger communication network. Individuals express their talents on social media and thereby create a group of followers. Being on social media platforms, which are perceived as a type of socialization, can give individuals a feeling of belongingness (Yildirim & Icellioglu, 2014).

Instant messaging can take place in chat rooms or on social networking sites in which conversations happen in real time. People can meet and chat online with one another in the same way as if they were face-to-face. Social networking sites facilitate the control of the individuals who can or cannot see and comment on a post. It is a space, not a thing that allows people to connect with friends and other people at any time. Though the social networking sites require a minimum age to use their service, websites are prohibited from collecting information on children under the age of 13 without parental consent. Nevertheless, faking one's age has become a common practice among children, with several websites targeting children of all ages (Chadwick, 2014). This result in children uses these sites and technology widely, therefore paving the way for cyberbullying at an early stage itself.

The online communication is persistent, and can be recovered at any time. Therefore, thoughts or ideas expressed that one may want to be taken back. As individual identities are stored and recorded, anyone has the capability to search for anyone. Searches for people with similar tastes, friends, or profiles might expose a person's profile to the rest of the world. This exposes users to people who may not always have their best interests at heart. Moving someone's remarks from one site to another is as simple as copying and pasting. When this is done, it is difficult to tell the difference between the original and the duplicated text. This leaves the potential for someone else to exploit a person's words or thoughts against them or in ways they weren't intended. In contrast to face-to-face encounters, online users have no way of knowing who is with them. Users have no way of knowing who is looking at them online. For today's teenagers, the consequences are the most alarming. They never know who is monitoring them or why they are being watched.

According to the Telecom Regulatory Authority of India (TRAI), total wireless subscribers climbed to 1,201.20 million at the end of March 2021, a gain of 2.3 percent. At the end of March 21, the total number of Internet customers had risen to 825.30 million, representing a quarterly growth rate of 3.8 percent. In the same year, the Kerala service region had the highest rural tele-density of 199.49. The ease with which new technologies can be accessed at a low cost is another important element in the current growth of social media users. Some of the social needs that cannot be met in everyday life, such as social connectedness and general belonging, can be met in the virtual environment via social media platforms, and this may influence the frequency of social media use (Kircaburun et al., 2018). Year after year, due to the increasing access to technology, cheap internet access and almost worldwide presence of internet facilities, the risk of cyberbullying increases, and hence assessment of its risks becomes more imperative (Baldry et al., 2016).

Parents' Role in Cyberbullying Prevention

Parenting is the care-giving, nurturing and protection of the child by a natural or substitute parent. It emphasises the responsibilities and qualities of exemplary behaviour of the parent. Parents have an important role to play in preventing the risky behaviours of their children. In a family with adolescents, parents often negotiate the degree of independence and control at all levels. Adolescents claim freedom in certain areas that were previously under their parents' control, and conflicts between parents and children are often merely a consequence associated with the degree of control that parents have on certain aspects of adolescents' lives.

Smartphones and the internet have become an integral part of our daily lives. Younger generation enjoys spending hours together on smartphones accessing various applications. The young generations are proficient in technology; they often adopt a "teaching" role for their parents who want to develop their own skills and digital literacy. Intergenerational conversations about technology help the older generation avoid the digital divide to some extent. Parents who have limited understanding of technology-related areas hinder the proper management of children. Not all parents know where to get reliable information and where to find information about online safety. They are often unaware of how to support their children with the complex issue of cyber-safety and are less familiar with the various platforms and sites young people use. Parents need to be prepared to respond in the appropriate manner to technological issues (Navarro et al., 2015). A responsible parent must understand cyber security issues and cyber-safety messages need to be taught just as they teach children how to cross the road safely. Just like in the offline world, parents have an important role to play with children in the online world. Children need to set appropriate boundaries and limits. Parents also have a vital role in preventing and responding to cyberbullying, monitoring and teaching safe internet use and communicating with their children.

The proactive parenting concept proposed social media as a great tool for business and adult communication but not meant for children. A proactive parent balances the usage of technology at home and avoids being sidetracked by trends or peer pressure as parents are well aware digital mistakes can last a lifetime. Parents understand that social media is not suitable for children or teenagers, and that it should be avoided or at least limited in their child's digital diet. Social media's "benefits" do not balance its risks. Parents know their children will develop socially, physically, emotionally, and academically in a timely and suitable manner by delaying social media use.

Restrictive parents set some restrictions directly or indirectly (using Parental Control Applications) on social media use based on time, content, and activities. Uninvolved parents rarely place demands on their children and are frequently uncaring, dismissive, or even completely neglectful. Little emotional commitment is made by these parents to their children. They provide their children with what they need on a fundamental level (food and shelter) but they don't actively participate in their lives. The level of involvement could differ greatly. Even though they are not actively involved with their children, some detached parents may nevertheless set some fundamental boundaries. Some parents may be openly uncaring or even openly hostile toward their children.

There are a number of convenient options for parents to control their children when they use a smartphone for internet access. Parental Control Applications can be used to control the overall online activities of children. Monitoring internet usage is proven to be a successful strategy for parents to adopt, and it should start at a young age. Excessive monitoring by parents can also be detrimental to young people by limiting their ability to learn experientially and to become independent. However, finding the balance between monitoring and fostering independence is a challenge for many parents (Chadwick, 2014).

According to the research literature, parenting styles are an important factor in both traditional and cyberbullying. A synergy of parents and schools is needed for preventing cyberbullying. Policies need to be in place at school, and the school should involve parents when cyberbullying issues arise (Kraft & Wang, 2009).

Alvarez-Garcia et al. (2019) analysed parental control of internet use by adolescents and revealed girls are more restricted and monitored for internet use by parents than that of boys. Parental mediation or internet safety measures are also reported to be effective for reducing cyberbullying (Perren et al., 2012).

Cyberbullying and Self-esteem

Adolescence is a period of transition when the individual changes physically and psychologically from child to an adult. An adolescent is a traveller who has left one place and has not reached the next. During this period, adolescents must deal with changes in many of their social relationships and develop their personal and social identities. The process of identity formation is largely dependent upon cues from the social environment. Self-esteem was suggested to be a fundamental human need or motive.

Abraham Maslow, an American psychologist, included self-esteem in the theory of hierarchy of needs for motivation. The theory described two types of "esteem": the need for external respect in the form of recognition, success, and admiration, and the need for self-respect in the form of self-love, self-confidence, skill, or ability. Others' respect was thought to be more fragile and susceptible to loss than one's own self-esteem. According to modern theory, self-esteem emerged as a means of determining one's social position and approval. According to Terror Management Theory, self-esteem plays a protective role by lowering worry about life and death. Carl Rogers, a proponent of humanistic psychology, theorized that the origin of many people's problems may be that they despise themselves and consider themselves worthless and incapable of being loved.

Self-esteem is the individual's evaluation of the discrepancy between their self-image and their ideal self. Self-esteem can be either global or specific, and there is a relationship between these two facets of self-esteem. Global self-esteem refers to an all-round feeling of self-worth and confidence. Specific self-esteem refers to a feeling of self-worth and confidence with regard to a specific activity or behaviour (Lawrence, 2006). People with high self-esteem have loving and respectful relationships. They see the world in realistic terms, accepting other people the way they are while pushing them toward greater confidence and a more positive direction.

Extensive use of mobile phones and social media has transformed the traditional environment to a digital world in which users experience many new things. The research consistently correlated bullying with low self-esteem. In contrast, some studies associated low self-esteem with less involvement in bullying, while few studies found that they are not related at all (Gendron et al., 2011). Lower self-esteem in victims of bullying is believed to be exerted by two mechanisms; antecedent and consequence. Those who are victimised are often perceived by their peers as weak. This perception is thought to be an antecedent, preceding the bullying, and contributing to individuals being targeted. Furthermore, those who are victimised are viewed as weak by their peers, as a consequence of being bullied. Similar associations have also been reported for cyberbullying and self-esteem. Both perpetrators and targets of cyberbullying are found to have lower levels of self-esteem compared to those who were not involved in cyberbullying (Patchin & Hinduja, 2010). Hinduja and Patchin (2018) associated cyberbullying with significantly lower levels of self-esteem, even after controlling for demographic differences. Alsawalqa (2021) linked cyberbullying with low self-esteem.

Gender Differences in Cyberbullying

UNICEF (2016) reported that 25% of people had been bullied because of their gender or sexual orientation. Therefore, gender-specific cyberbullying also needs to be assessed. However, research findings associated with gender differences in cyberbullying are contradictory. According to the available research findings, both males and females are engaged in cyberbullying, and both genders are found to be aggressors or victims. Navarro (2016) reviewed studies related to gender differences in cyberbullying and presented six different result categories. The first category of studies showed that there are no gender differences in victimisation and perpetration in cyberbullying. In the second category, boys are more aggressors and girls are victims. Boys are more involved as both victims and aggressors in the third category. In the fourth category, boys are more aggressive than girls, but there are no gender differences in victimisation. The fifth category, no gender differences appeared in perpetration, but stated that more girls are victims. In the final category, more girls are aggressors and victims than boys.

Boys do not usually reveal their victimisation, thinking that they will be considered cowards because they want to be regarded as fearless. On the contrary, girls are usually considered to be more demonstrative and more sensitive, having no problem reporting their victimisation and discussing it (Makri-Botsari & Karagianni, 2014). Studies have shown that females are more emotionally affected by cyberbullying than males (Netzley, 2014). Significant differences are found between male and female cyberbullying perpetrators (Kaur, 2018).

Many transgender people in Kerala claimed that bullying started in school. They talked about how they had a bad time at school because of things like bullying, name-calling, isolation, and prejudice. They were harmed by their classmates and teachers. Transgender individuals were described as victims ‘kind of everywhere’ by parents, teachers, relatives, police etc. Bullying occurs most frequently in the family, school, workplace and media (Dileesh et al., 2019). Thus it is clear that cyberbullying is never a gender-specific behavior. However, detailed analysis is required to uncover the degree of gender specificity in cyberbullying behavior.

Anti-bullying Measures in India for Schools

A universal terminology of various forms of online abuse and exploitation of children is important for effective intervention and addressing the issue. In the

Indian academic context, “ragging” is more officially acknowledged and pronounced than bullying. They may merely differ in intensity and vary in degree. Senior students in Indian academic settings ‘rag’ juniors, while bullying can be perpetrated by anyone against anyone.

With the introduction of new social media platforms, cyberbullying has increased gradually, but there are no clear regulations or programmes in place to address cyberbullying. Even if cyberbullying is a behavioural issue, there is still a need to consider the progress of legal mechanisms to deal with it. In India, there is no separate legislation to deal effectively with incidents of cyberbullying. Due to a lack of proper legislation to address issues related to cyberbullying, children are bullied and sometimes abetted to suicide (Tolia, 2014). Disagreements and a dearth of proper definitions of the term “cyberbullying” have created confusion for the interpretation and application of laws and policies. Nevertheless, many factors related to cyberbullying are legally defined in provisions like articles 66, 67 and 72 of IT Act 2000, which partially deal with such matters.

Computer-related offences are dealt under Article 66 of the IT Act. Section 66A defines the punishment for sending “offensive” messages through a computer or any other communication device. The word “offensive” is subjective and has a very broad connotation. The police prima facie did not accept the accused person’s view under section 66A. In a landmark judgement upholding freedom of expression, in March 2015, the Supreme Court struck down a provision in the cyber law which provides power to arrest a person for posting allegedly “offensive” content on websites. Mehta and Jaiswal (2013) felt the need to define cyberbullying from an Indian perspective and make specific regulations against it.

The Information Technology Act, 2000 is silent about the definition of a child except when the child is a victim of sexual exploitation. Certain shortcomings in Indian laws need to be recognised and addressed, notwithstanding the fact that the legal framework is by and large fairly enabling and can be invoked to address several cyber offences against children (UNICEF, 2016). In India, the Raghavan Committee Report (2007) discussed the matter of ragging and bullying. The committee suggested certain measures for preventing ragging in educational institutions. Ragging is recognised as a penal offence in India. The Honourable Supreme Court of India has given a more comprehensive meaning of ragging as under:

> Ragging is any disorderly conduct whether by words spoken or written or by an act which the effect of teasing, treating or handling with rudeness any other student, indulging in rowdy or undisciplined activities which causes or is likely to cause annoyance, hardship or psychological harm or to raise fear or apprehension thereof in a fresher or a junior student or asking the students to do any act or perform something which such student will not do in the ordinary course and which has the effect of causing or generating a sense of shame or embarrassment so as to adversely affect the physique or psyche of a fresher or a junior student (Raghavan Committee Report, 2007, p. 3.19).

In 2009, the Honourable Supreme Court ordered immediate implementation of a number of recommendations made by the Raghavan Committee. The report made it clear that the teachers and the principal were held liable for the acts of bullying of students. However, since the Raghavan Committee Report and the Supreme Court decision would not explicitly mention cyberbullying, it remained a major concern in education. The Protection of Children from Sexual Offences Act, 2012 protects children from sexual assault, sexual harassment, and pornography.

Cyberbullying has become a menace in today's society and has hence become a threat to adolescents' health and well-being, physically, psychologically, and psychosocially (Navarro et al., 2016). It is not a technological problem, but a behavioural issue in the digital world. Initiatives and programmes which focus on the enhancement of positive relationships are essential to prevent cyberbullying behaviour. Providing education and awareness programmes to adults, adolescents and teens is the key to dealing with cyberbullying (Paullet & Chawdhry, 2012). An outdated school curriculum could not address the negative behaviours in cyberspace. Therefore cyber-safety measures need to be embedded into the curriculum to support students to navigate their social and emotional needs when they are engaged online. Similarly, the ethical and responsible use of technology needs to be encouraged. Teaching professionals have a significant role in handling cyberbullying issues but are still learning how to fulfill their role appropriately (Johnson, 2012). The need to recognise that cyberbullying is a relational problem and include contents that contributes to developing behavioural skills in the classroom is essential in the changing scenario of education.

Studies Related to Cyberbullying

Various studies were conducted on cyberbullying over the past two decades and their findings were reviewed. The review focused on findings from the area of cyberbullying, its nature, effects, and relationships to certain psychosocial factors with respect to demographic variables. The studies reviewed are reported in the chronological order of their publication.

The Canadian Teachers Federation (2008) reported that 34% of Canadians had knowledge of elementary and secondary students being cyberbullied. They seek the support of the Federal Ministry of Justice in recognizing the extreme impact of the misuse of technology, manifested in cyber misconduct and cyberbullying, by supporting public awareness campaigns that focus on appropriate cyber conduct and the prevention of cyberbullying, and helping to enact new information and communication technology/cyber misconduct and cyberbullying legislation that protects teachers, students and others from harm. An investigation aimed to elucidate the relation between traditional and cyber bullying and being bullied with multidimensional facets of self-concept (Griezel et al., 2008) conducted among 803 Australian secondary school students revealed a significant negative correlation between multidimensional facets of self-concept and traditional bullying, similar relation was found in the case of cyber bullying also.

Likewise, a survey (Vandebosch & Cleemput, 2009) among 2052 students (636 primary and 1416 secondary school children) to know the profile of cyber-bullies using the Likert scale was conducted to assess the parental monitoring of the child's internet usage. The results revealed that students whose parents are less involved with their children's internet use have a higher chance of becoming cyber-bullies. The study revealed the fact that knowledge of complex internet applications is not required for cyberbullying. The study also indicated the existence of counter or chain reactions in cyberbullying, whereby perpetrators become victims and vice versa, ultimately leading to a culture of cyberbullying.

An analysis (Fegenbush & Olivier, 2009) of research on cyberbullying and various issues that surround it to develop future researchable hypotheses in the area of cyberbullying as it relates to school policy and protocol specified that common disciplinary actions against cyberbullying may not be effective and also observed that the issues cannot be truly addressed unless they are approached both proactively and reactively. The study concluded that no research specifically addressed the viewpoints of children and how they understand traditional bullying and cyberbullying. It is observed that the policy for cyberbullying is no longer an option but a necessity of the school system. The study recommended the children's voices need to be heard, and their perceptions of the problem may shed new light on adult understanding of the issue.

Rates of cyberbullying and characteristics of cyber-victim and cross-sectional associations between cyber-bully, cyber-victim, and cyber bully-victim status were studied (Sourander et al., 2010). The study examined psychosocial and psychiatric risk factors associated with cyberbullying and concluded that both cyberbullying and cyber victimisation are associated with psychiatric and psychosomatic problems. The results also showed that among 2215 adolescents, 7.4% have cyberbullied others but have not been targets of cyber aggression, while 4.8% have been targets only and another 5.4% have been both cyberbullies and cyber-victims. Similarly, Patchin and Hinduja (2010) explored the extent to which cyberbullying is associated with low self-esteem among 1963 middle school students in the USA and find about 30% of the sample had been the victim of cyberbullying, and the most commonly reported form of cyberbullying was posting something online about another person to make others laugh (23.1%). This study used Rosenberg's measure of self-esteem and found that students who experienced cyberbullying had significantly lower self-esteem than those who had little or no experience with cyberbullying.

Perren et al. (2012) concluded after reviewing thirty-six relevant studies summarized that current knowledge on successful responses to cyberbullying can be divided into three domains; reducing risks, combating the problem, and buffering negative impact. As specified by this review, most of the reported coping strategies are general problem-solving strategies such as looking for social support, trying to ignore or avoid the problem, and some strategies are specifically related to cyberbullying, such as the use of technological strategies. The study also suggested parental supervision, general anti-bullying or social skills development strategies, and education in cyber safety to reduce possible risk factors and to prevent cyberbullying.

Cyberbullying issues in school settings from the perspective of teaching professionals were also explored (Johnson, 2012) through semi-structured interviews and collected views of teaching professionals. The thematic analysis indicated that teaching professionals have a significant role in handling cyberbullying issues but are still learning how to fulfill their role appropriately. Cyberbullying involving school children occurred outside of school settings, and therefore, the schools felt the need to react to parental requests to become involved in incidents. The study suggested proactive measures and reactive approaches to manage the difficulties related to cyberbullying. Proactive measures have included practical steps such as implementing new policies and procedures as well as the introduction of specific areas of teaching focusing on cyberbullying issues. A reactive approach was required because of the dynamic nature of cyberbullying, and hence required constant updating their policies and procedures in the light of technological modifications.

A study was conducted on how information literacy, parenting styles, and internet activities can predict internet risks using the data gathered from 718 Hong Kong adolescents and teenagers aged 9-19, using face-to-face structured questionnaire interviews (Leung & Lee, 2012). The study observed that children and adolescents whose parents exercise strict rules and provide guidance and mediation are less targeted for harassment, suffer fewer privacy risks, and are less likely to be exposed to pornographic or violent content. Also, literate adolescents tended to report being the target of less frequent harassment and having been solicited less for private information. Older boys and the less educated are reported to use more pornographic and violent online content in their bedrooms. A similar study was conducted on the prevalence of cyberbullying among 450 students (201 female and 249 male) from different secondary schools in KwaZulu-Natal in South Africa (Pillay, 2012). The researcher found cyberbullying among males and females between the ages of 12 and 18 years old, irrespective of whether they were rich or poor, from rural or urban and of all racial and ethnic backgrounds. The most prevalent form of cyberbullying was “denigration”.

A representative overview of the instruments designed to assess cyberbullying (Berne et al. 2012) using 61 publications made prior to 2010 showed self-report as the most commonly used instrument to gather information about cyberbullying. This systematic review also revealed that there are several ways of measuring and, thereby, getting varied information about the phenomenon. However, it is unclear what is to be assessed due to a lack of consensus on the concept and definition, which made it impossible to standardise the conceptual basis of cyberbullying.

The nature and extent of various forms of cyberbullying among 600 college students in Indian cosmopolitan cities has been examined (Sivakumar, 2013). The results revealed that 41.8% of the perpetrators used social networking sites like Orkut or Facebook to victimise others by bullying and only 19.8% of the respondents felt that they were victimized by bullying through mobile phones. However, 27.8% of the respondents felt that they were victimised by people taking photos using their mobile cameras. Based on the past three months of experience, 70.5% of the respondents felt that they were victimised by online bullying at least 1-3 times.

Clarke (2013) conducted a survey on parents' or caregivers' perceptions and awareness of cyberbullying in quantitative and qualitative methods. Of these, 91.9% were parents, 4.0% were grandparents, and 4.0% were other primary caregivers, and they self-reported that they were the primary caregivers for their children. More than 75% of caregivers agreed that cyberbullying is a problem, and they believe that greater involvement by schools and the government can be the most helpful in curbing cyberbullying. The findings of the study suggest education for caregivers of all ages and backgrounds.

Mehta and Jaiswal (2013) intended to discuss international laws prevailing and provisions on cyberbullying in other countries while highlighting the need for defining cyberbullying from an Indian perspective and making specific regulations against it. They pointed out that cyberbullying is one of the offences that can take an ugly shape in the future and needs to be addressed soon. They also emphasised the need to make cyberbullying laws and lawmakers to take the opinion of a psychiatrist since such offences affect the psyche of a child very much and believe that if laws are not made, many cyber-bullies will be left open and victims will have to suffer the consequences and defeat the concept of justice. An analysis of the lacunae in the Indian legal framework related to the protection of children in social networks (Kesavamoorthy, 2013) reported that there is no certainty among various statutes in India regarding the age of a child. The study goes through the common offences against children in social networks, such as cyberbullying, cyberstalking, sexting, etc., and points out that the conventional laws are not adequate to tackle the frequently changing cyber offences. The study found that the Information Technology Act in India itself has many lacunas, so it demands the need for totally different approaches and new policies on social networking.

A review of literature (Nixon, 2014) related to the effects of cyberbullying on adolescents across multiple studies worldwide suggests that cyberbullying is an emerging international public health concern related to serious mental health concerns, with significant impact resulting from depression, anxiety, self-esteem, emotional distress, substance use, and suicidal behaviour among adolescents. Moreover, cyberbullying victimisation and perpetration showed a significant detrimental impact on adolescents' physical health. The review suggests longitudinal work to increase understanding of the effects of cyberbullying on adolescents' health over time. Likewise, Carson (2014) examined cyberbullying behaviours in adolescents and their relationship with parenting styles. The study found that 98% of adolescents engaged in one or more cyberbullying behaviours, with an average frequency of 17 times per month. Written or verbal forms of cyberbullying were found to be the most common type, and flaming was the most common specific cyberbullying behaviour. The study also revealed parenting styles are predictive of cyberbullying. Authoritative parenting style was the only significant predictor associated with lower levels of cyberbullying.

An assessment was made on whether and to what extent parenting practises create a suitable ground and enhance Greek adolescents' involvement in cyberbullying, either as cyber-bullies or cyber-victims (Makri-Botsari & Karagianni, 2014) with a sample of 396 secondary school students. The result revealed that students brought up by authoritarian or neglecting parents showed higher levels of victimisation from cyberbullying compared with those brought up by permissive or authentic parents. It seems that teenagers who have experienced parental rejection and lack of communication are more likely to cyberbully others in an attempt to gain the freedom, attention and recognition that they lack in their relationship with their parents. Research findings also indicated that there is no significant gender difference in cyberbullying behavior. A study (Black, 2014) on cyberbullying and bullying rates and victimisation rates among middle school and early high school students showed that over half of the students involved in bullying and about one third are cyberbullying. However, the study showed a lack of correlation between parenting and bullying.

The prevalence of cyberbullying and its relationship with self-esteem within a convenience sample of 164 Australian young people (Caltabiano, 2014) based on the Revised Cyberbullying Inventory scores, categorising participants into cyber-bullies, victims, bully-victims, and non-involved was examined. The study identified cyber bully-victims (62%) as the largest group, followed by individuals not involved (17%), cyber-bullies (11%), and cyber-victims (10%). The cyber bully-victim group is exhibited low self-esteem and the group of non-involved individuals showed the highest level of self-esteem. However, there were no significant differences between these groups, and interestingly, those individuals not involved in cyberbullying behaviour demonstrated similar levels of self-esteem to those of cyber-bullies or cyber-victims.

A pilot study (Bruno et al., 2014) was conducted to increase the knowledge base of cyberbullying, explore the relationship between traditional bullying and cyberbullying, and solicit information on the prevalence rates of technology used by students in grades 5-8. Of the 352 participants, 257 (76.7%) owned their own cell phones, 142 (40.3 %) had a Facebook account. The most common type of traditional bullying was verbal bullying. Cyberbullying was also found to be prevalent among middle school students and the most common forms of cyberbullying occurred with the students (targets) being called names through text messaging (19%). The second most frequent behaviour was sending nasty jokes (17.9%) via instant chat, followed by sending a text to hurt someone's feelings (13.2%). Dordolo (2014) argued that there is a greater power imbalance between the bully and the victim in cyberbullying than in traditional bullying. The specific features of the internet like anonymity, constant possibility of threat, and a potentially larger audience, contribute to a greater power imbalance in cyberbullying.

The distinctiveness of children involved in cyberbullying: cyber-victims, cyber-bullies, and cyber bully-victims in terms of gender, age, self-control, aggression, self-esteem, peer rejection, and parental attachment were assessed (Bayraktar et al., 2015) among 2,092 Czech adolescents aged between 12 and 18. All the three participant groups in cyberbullying were found to be distinct from each other, and they differed substantially in their levels of self-control and offline aggression. They also showed significant differences in gender, the quality of relationships with parents and peers, and self-esteem. The results showed that cyber-bully-victims are more vulnerable than cyber-bullies and cyber-victims. This specific group showed the highest level of aggression, lowest self-control, poor parental attachment, lowest self-esteem, and highest scores on peer rejection. Results also revealed that cyber-victimisation is distinctly predicted by gender, as girls are more among the victims. An investigation on the prevalence of cyberbullying using mobile phones by Manjula (2015) with 90 undergraduate students (79 of them had their own smartphone), 9.8% of the respondents accepted to have been cyberbullied, while 18.2% indicated that they experienced various types of cyberbullying. The use of abusive language was the predominant form of cyberbullying (81.8%), followed by hurtful messages (36.4%).

Navarro et al. (2015) conducted a study that involved 1058 children aged 10-12 years with the goal of assessing the relationship between cyberbullying, social bullying and associated risk factors. The procedure resulted in 31(2.9%) children being categorised as victims of cyberbullying and 14 (1.2%) children as perpetrators of cyberbullying. The results also showed that cyber-victim children are more likely to experience less closeness to friends than other youths. Youths who lacked self-efficacy and social support were more likely to be cyber-victims than those not involved. The research proposed examining age differences by considering more representative samples ranging from mid-childhood to adolescence.

A study on the phenomena of cyberbullying from the perspective of secondary school students IX and X was conducted (Negi, 2016) using a stratified random sampling technique with a sample of 120 students. The information was gathered using both quantitative (questionnaire) and qualitative (focus group discussion and interviews) methods. The findings showed that two-thirds of the participants [n = 81] understood the term "cyberbullying" in its true context. The results also showed that most of the participants were targeted through social networking sites. Cyberbullying affects the victims' mental health. About 80% (N = 96) of respondents were confident that there was no policy formed by the school for the safety of students. Besides, Vohra and Donovan (2016) conducted a survey across 11 cities in India. The study was carried out among 132 youth aged between 13 and 25 years and found that 19.2% of the respondents experienced cyberbullying. The study presented a powerful way to mitigate cyberbullying through an impartial mathematical system that would comprise two engines; a cyberbullying detection engine and an alert escalation engine. The study also showed a hierarchical structure for alerting authorities, starting from parent or teacher to local media.

Baldry and Sorrentino (2016) investigated the overlap between school bullying and cyberbullying among 5058 Italian middle and high school students and found a high prevalence rate and a significant overlap between bullying at school and bullying online. The results indicated that lack of information about web risks, poor parental or teacher supervision, isolation, and moral disengagement might all be factors contributing to the rise of cyberbullying. In their study, Buelga et al. (2016) underlined that the influence that parental monitoring has on cyberbullying must be stronger than the impact on other violent behaviours like verbal and relational bullying, because most cyberbullying occurs when children are at home alone in their own rooms. The study ends with a part on preventing cyberbullying in the family itself. Similarly, Kokkinos et al. (2016) examined the association between perceived parenting styles, cyberbullying, cyber-victimisation, and online dis-inhibition among Greek pre-adolescents and found that safe internet use may be affected by parent's specific internet practises, in view of the fact that children of democratic parents had higher scores in specific internet practices regarding parenting communication about internet use. However, children of neglectful parents had lower specific internet practises scores when considering their parents' reaction to excessive internet use.

Lee and Kim (2016) examined the association between bullying and mental health outcomes among 1347 Korean adolescents, including 681 male students (50.6 %), 653 female students (48.5 %), and 13 non-specified individuals. The results indicated that more frequent social victimisation was associated with higher levels of depression and lower levels of self-esteem while physical and cyber victimisation had no significant relationships with mental health outcomes. Cyberbullying (4.7%) and victimisation (7.3 %) were found to happen less frequently than social and physical bullying and victimisation. Self-esteem of adolescents may decrease when being bullied, but may not decrease when bullying others. The study found more victimisation than bullying experience, which again may indicate that bullies do not see their behaviours as bullying.

Tackling the psychosocial risk factors associated with cyberbullying is an important aspect of study in that area. An article by Vassilis et al. (2016) assessed school-based preventive interventions that targeted moral disengagement, empathy and social cognitive predictors of cyberbullying. A total of 355 (the control group consisted of 143 students and the experimental group consisted of 212 students) participants aged between 12 and 17 years responded to the survey. The study included assessments on the effects of school-based pre-intervention and follow-up immediately after the intervention. The intervention included awareness-raising and interactive discussions on different psychosocial risk factors that have been associated with cyberbullying. The findings showed that the school based intervention against cyberbullying is effective in moral disengagement and actor prototype favorability among students, but not in change in the levels of social cognitive variable and empathy.

A study on (Palermiti et al., 2017) cyberbullying and self-esteem among 438 students from four public schools in Italy found that 11% of students were perpetrators of cyberbullying and 15.4% were victims. The study on self-esteem and parental control in cyberbullying indicated lower level self-esteem is a good predictor of cyber victimisation and high parental control helped to reduce cyberbullying risk. Snidal (2017) investigated guidance counsellors' multifaceted experiences and perceptions of cyberbullying within the contemporary context of social media usage. The study revealed the current isolated teacher model is ineffective and, thus, the government, law enforcement, the school division, educators, students, and parents must cooperate to deal with cyberbullying. The study also assessed the role of parents and found them to have a significant role as key players in helping their kids deal with cyberbullying.

The research findings on gender-specific cyberbullying behavior were contradictory. Brody and Vangelisti (2017) aimed to explore sex differences in victimisation on Facebook. The relative frequency suggested that men and women have similar experience of cyberbullying, but women were more likely than men to be targeted by sex-related topics. The study also aimed to understand the nature of cyberbullying and found that public comments and private comments were the most frequently reported strategies for cyberbullying among undergraduate students. The most frequently reported cyberbullying issues or events were related to their romantic relationships. Relationships between two specific online behaviours (cyberbullying perpetration and problematic social media use) and their relationships with social connectedness, belongingness, depression, and self-esteem among high school and university students were studied (Kircaburun et al., 2018). Data collected from 804 high school students (48% female) and 760 university students (60% female) indicated that problematic social media use and cyberbullying perpetration were directly associated with each other. Furthermore, cyberbullying perpetration is indirectly associated with social connectedness, belongingness, and depression and directly with lower self-esteem. Students who were feeling more rejected and isolated from their surroundings used social media more excessively and perpetrated more cyberbullying.

Alvarez-Garcia et al. (2018) analysed the relationship between two types of parental control (restriction and supervision) and engagement in high-risk internet behaviours in a sample of 946 Spanish adolescents. The result showed that the family has significant but limited impudence over the prevention of adolescent high-risk behaviours. The results supported the hypothesised of a stronger negative relationship with supervision than with restriction. A cyber victimisation scale was developed and administered by Divya (2018) for the purpose of identifying and distinguishing the cyber victims from non-cyber victims. A sample of 1010 students was selected from various schools in Delhi/NCR and asked them to recall incidents of cyber victimisation which had occurred to them in the last six months. The result indicated that 12.7% (N = 127) of students had faced cyber victimisation. The study also reported that the victims scored significantly higher than non-victims for capable guardianship and its three dimensions (parental supervision, parental knowledge of social networking sites, and virtual guardianship), significant difference was observed for only one dimension of virtual guardianship.

A comparative summary of the literature on the risk and preventive factors related to school bullying and cyberbullying (Tzani-Pepelasi et al., 2018) found that factors like self-esteem, parenting style and monitoring are related to school bullying as well as to cyberbullying. Literature shows that parenting style, that includes support, affection, and communication reduce school bullying and cyberbullying. Cyberbullying perpetration is negatively correlated with parents' trust and parents' communication in adolescents (Sandhu & Kaur, 2019). Self-esteem can be viewed as both an antecedent and a consequence of school bullying and cyberbullying. The studies revealed that both victims and perpetrators of cyberbullying have significantly lower self-esteem than those who have little or no experience with cyberbullying, and other studies found no association between self-esteem and cyberbullying. Cyberbullying crosses all geographical boundaries.

Patchin and Hinduja (2018) conducted a study among 5,700 middle and high school students and reported that cyberbullying happened on social media, video sharing sites (YouTube), portable gaming devices, and social gaming sites. The study found that cyberbullying is a much easier form of harassment because of the physical distance separating the offender and the victim, and the fact that personal and social norms, rules, morals, and the law are rendered less relevant when engaging in electronic communications. The study suggests that parents must educate their kids about appropriate online behaviors just as they convey appropriate offline behaviors.

Iranzo et al. (2019) analysed the relationship between cyberbullying victimisation and suicide ideation in Spanish adolescents. The study provided new observations to clarify the direct role that cyber-victimisation plays in suicide ideation, as well as indirectly through some variables indicating difficulties in psychosocial adjustment. The results showed that cyber-victimisation has a direct effect on suicide ideation. Also, cyber-victimisation has an indirect effect on suicide ideation through perceived stress, loneliness, depressive symptomatology, and psychological distress. Regarding gender differences, data indicated that there are statistically significant differences in all the variables except verbal bullying, victimisation and loneliness. Martinez et al. (2019) analysed the parenting styles that could act as risk or protective factors for bullying and cyberbullying victimisation among 1109 adolescents in Spain. The results confirmed that adolescents with a high predisposition to aggression have the lowest levels of academic, social, emotional, and family self-esteem. The study also found indulgent parenting is associated with the lowest levels of traditional bullying and cyberbullying victimisation and authoritarian parenting, characterised by strictness and imposition, is associated with the highest levels of traditional bullying and cyberbullying victimisation. Handono et al. (2019) found the relationships between cyberbullying behaviour and psychosocial factors. The strongest were social support from friends, followed by self-esteem, social support from family, attitude toward cyberbullying, and problematic Internet use.

India is one of the top 3 countries to report cyberbullying cases. One in 10 Indian adolescents faces cyberbullying, half of them don't even report it (Reddy et al., 2020). In their study, Jain et al. (2020) addressed cyberbullying susceptibility among students in Mumbai Region in India. The results showed that ages 17-18 were highly susceptible to cyberbullying as almost 80% of this age group were cyberbullied in the COVID-19 pandemic period. The study also revealed that the most prominent form of cyberbullying is stalking (71.2%), followed by posting derogatory comments (64.4%), leaking pictures or videos online (41.7%), and harassing (21.9%).

Comparitech (2021), a pro-consumer website, uncovered widespread cyber security vulnerabilities that affected hundreds of millions of individuals globally. They examined the findings of an Ipsos study of individuals in 28 countries, which showed that a rising number of parents had children who had been subjected to cyberbullying in one way or another. From 2011 to 2018, the proportion of Indian parents reporting that their children were occasionally subjected to cyberbullying remained among the highest. In a survey of more than 1,000 young students older than 5 years, Comparitech revealed that 59.9% of parents with children between the ages of 14 and 18 said their children had experienced bullying. Despite the fact that the majority of parents said their children were bullied in school, 19.2% said that bullying also happened on social media sites. The findings of Alsawalqa (2021) revealed that men were more likely to be cyberbullies than women, and cyberbullying contributed to low self-esteem in students of East and Southeast Asian descent who were victims of bullying.

Conclusions

The theoretical overview section is based on some of the most notable books and studies on cyberbullying from around the world. The study specifically considers the theory of parental role to prevent cyberbullying, the theory of need satisfaction, gender differences in cyberbullying, and anti-bullying measures in India. The study included reviews of more than 50 related reports from all over the world. More than a dozen of these studies have been conducted in the United States of America, and this chapter also includes studies from Finland, South Africa, Australia, the United Kingdom, Italy, Spain, Canada, Greece, Hong Kong, and South Korea. Only a small number of studies on cyberbullying have been conducted in India, and of those, several have addressed the legal implications of this harmful behaviour. Majority of studies have used questionnaires and interview schedules as tools and have a primary focus on adolescence.

This review of the literature indicates that cyberbullying is a common event that mainly takes place on social networking sites as hurtful messages, offensive jokes, and the use of abusive language. Understanding the prevalence and nature of cyberbullying is the first step in dealing with it. It has been found that cyberbullying has social and psychological consequences that could be detrimental to a child's development, growth, and academic achievement. Parental monitoring of their children's online activities has been shown to be a protective factor in studies. And there was a constant link between cyberbullying and low self-esteem in the studies. The conclusions of the studies on gender-specific cyberbullying behaviour were inconsistent. International agencies reported that India had a comparatively higher rate of cyberbullying. Still, cyberbullying research in the country as well as in the state of Kerala is not well organized and focused. Existing studies on cyberbullying may not be suitable for Kerala, as the socio-cultural settings of the state are entirely different. Therefore, an investigation related to cyberbullying in the state is very essential.

Chapter 3

METHODOLOGY

- Objectives of the Study
- Hypotheses of the Study
- Method of the Study
- Design of the Study
- Variables of the Study
- Tools used for the Study
- Description of the Tools
- Population Profile
- Sample Selected for the Study
- Procedure for Data Collection and Analysis

METHODOLOGY

The present chapter is devoted to the methodology of the study, which covers information on the objectives, hypotheses, method, population, sample, variables, description of the tools, procedures of data collection, and statistical techniques. Quantitative data was mainly used in the study. The study also employed a qualitative approach.

Objectives of the Study

Cyberbullying behaviours among children adversely affect their personality development and academic achievement. Equitable and quality education is realized only through respecting the rights of every student. Tackling cyberbullying is needed to ensure quality education. The researcher finds a knowledge gap in the field of cyberbullying research in Kerala, the most literate state in India. Against this background, the study seeks to identify the nature of cyberbullying and its relation to certain psychosocial factors. To meet this main objective, the following specific objectives were set.

1. To study the prevalence of cyberbullying among higher secondary school students in Kerala.
2. To identify cyber-bullies, cyber-victims, and cyber bully-victims among higher secondary school students in Kerala.
3. To compare cyberbullying among higher secondary school students in Kerala based on gender, age, streams of study, and types of management.
4. To compare need satisfaction of higher secondary school students in Kerala based on gender, age, streams of study, and types of management.
5. To compare parental control over social media use among higher secondary school students in Kerala based on gender and age.

6. To study the relationship between cyberbullying and the need satisfaction among higher secondary school students in Kerala.
7. To study the relationship between cyberbullying and parental control on social media use (proactive parenting, restrictive parenting, and uninvolved parenting) of higher secondary school students in Kerala.
8. To develop a regression equation that predicts cyberbullying among higher secondary school students based on their need satisfaction and parental control over social media use.

Hypotheses of the Study

Previous studies on cyberbullying across the world revealed its pervasiveness and its significant association with demographic and psychosocial variables. Assuming the presence of such relations, the researcher formulated the following research hypotheses.

1. There is cyberbullying behaviour among higher secondary school students in Kerala.
2. There are different cyberbullying participant groups (cyber-bullies, cyber-victims, and cyber bully-victims) among higher secondary school students in Kerala.
3. There is no significant difference in mean scores of cyberbullying among higher secondary school students in Kerala based on gender, age, streams of study, and types of management.
4. There is no significant difference in mean scores of need satisfaction among higher secondary school students in Kerala based on gender, age, streams of study, and types of management.

5. There is no significant difference in mean scores of parental control on social media use among higher secondary school students in Kerala based on gender and age.

6. There is no significant correlation between need satisfaction and cyberbullying among higher secondary school students in Kerala.

7. There is no significant correlation between parental control over social media use and cyberbullying among higher secondary school students in Kerala.

Method of the Study

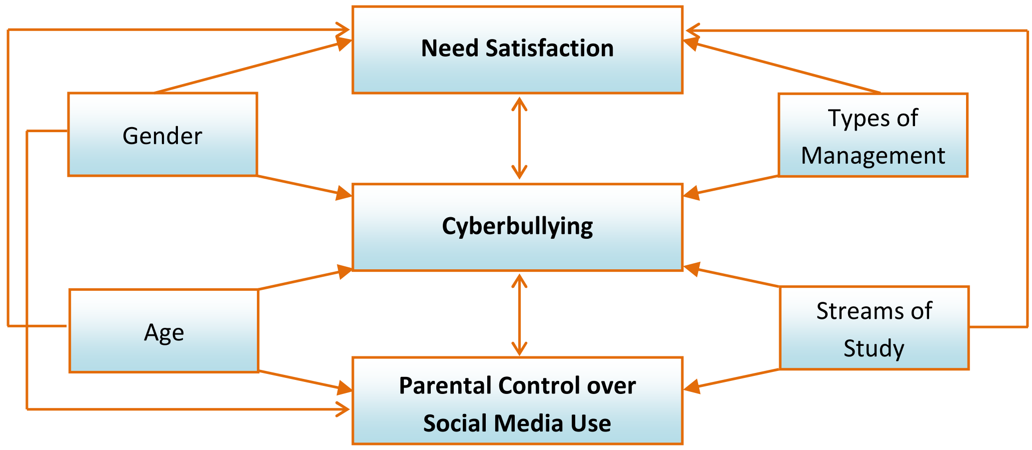
To understand the prevalence of cyberbullying and its relation to certain psychosocial factors, a descriptive survey was conducted among higher secondary school students and higher secondary school teachers. The purpose of a descriptive survey study is to collect secure evidence concerning an existing situation to determine the next step (Good, 1972).

Design of the Study

A correlational research design was mainly followed for the study. The explanatory correlational design explained the degree of association among cyberbullying, need satisfaction and parental control over social media use. Instead of simply relating variables, a prediction design was also used to anticipate outcomes by using certain variables as predictors. The following conceptual model helps to understand the variables and structure of the study.

Figure 1

Cyberbullying and Associated Psychosocial Factors



Variables of the Study

The study focused on cyberbullying among higher secondary school students and how it is associated with the level of need satisfaction (physiological needs, safety needs, belongingness needs, and esteem needs) and parental control over social media use. Therefore, the following variables are included in this study.

Cyberbullying

Cyberbullying is a type of bullying done with the help of electronic communication devices.

In cyberbullying misusing the internet or mobile phone to purposefully and repeatedly harm or harass another person. The study focused on two cyberbullying participants' roles; cyberbullying perpetration and cyberbullying victimisation. A child who is involved in cyberbullying activity may be either a victim or a bully. Those who indicated victimisation experience were labeled as cyber-victims, and those who indicated bullying someone were labeled as cyber-bullies or cyberbullying perpetrators. A child who has been victimised in a certain situation or within certain groups may become a bully at another time or in another situation. The cyberbullying perpetration behaviour among higher secondary school students was measured by administering the tool cyberbullying scale. Students who have been victimised at certain times or in certain situations were measured by administering the cyber-victim scale.

Need Satisfaction

The variable need satisfaction was based on Maslow's theorised hierarchy of motivational needs (physiological, safety-security, belongingness, esteem, and self-actualization). With regard to the needs hierarchy in Maslow's theory, an increase in the satisfaction of the former needs should be associated with an increase in the satisfaction of the later needs. The need satisfaction scale was used to measure the deficiency needs (physiological, safety-security, belongingness, and esteem need) satisfaction of higher secondary school students.

The Physiological Needs

The basic needs for maintaining a human life: food, water, warmth, shelter, and sleep (Maslow, 1968).

The Safety Needs

The need to have not a fear of danger and to have not an apprehension of loss of shelter, of loss of possession, of food shortages, or loss of employment (Maslow, 1968).

The Belongingness and Love Needs

Belongingness refers to a human emotional need for interpersonal relationships, affiliation, connectedness, and being a part of a group (Maslow, 1968).

The Esteem Needs

Need or desire for a stable, firmly based, usually high evaluation of themselves, for self-respect, and for the esteem of others (Maslow, 1968).

Parental Control over Social Media Use

Parents/guardians may play a key role in addressing cyberbullying. An important component of parenting is controlling children. Control involves setting and enforcing boundaries to ensure children's and others' safety in ever-widening areas of activity. Parents should take steps to reduce cyberbullying, including setting appropriate rules for technology use, understanding privacy settings, negotiating with young people how much parents can know about their online activities, and discussing appropriate behaviour online and the consequences of actions. Therefore, parental control over social media use was selected as a variable in the study. Proactive parenting, restrictive parenting, and uninvolved parenting are the three dimensions that would be the basis for framing statements of the scale for parental control over social media use.

Proactive Parents

Proactive parents recognize social media isnot for children; by delaying its use, their children will blossom emotionally, socially, physically, and academically. They know that loving children often means saying 'no'.

Restrictive Parents

Restrictive Parents are advised to exercise some control over their children and families should set limits or restrictions on social media use (time, content and activities), either by establishing rules or using specific software.

Uninvolved Parents

Uninvolved parents are emotionally unsupportive but still provide basic needs (food, clothing and housing) for their children.

In this study, the gender categories used were male and female. Students in the age groups of 16, 17, and 18 were included in this study. Science, commerce, and the humanities were the three study streams. The three management types in the schools covered by this study were government, aided, and unaided schools.

Tools used for the Study

This study used quantitative data, for which four tools were constructed and standardised by the researcher with the help of the supervising teacher. An interview schedule was devised in the qualitative phase. All tools are provided in appendices.

- Scale of cyberbullying perpetration (Dileesh & Vasumathi, 2019)
- Cyber-victim scale (Dileesh & Vasumathi, 2019)
- Need satisfaction scale (Dileesh & Vasumathi, 2019)
- Scale for parental control over social media use (Dileesh & Vasumathi, 2019)
- Semi-structured interview schedule for higher secondary school teachers

Description of the Tools

The researcher developed four tools to meet the objectives of the study. The Likert-type statements were made on each scale to encourage children to answer diligently and to reduce their cognitive burden. The cyberbullying perpetration scale, cyber-victim scale, scale for parental control over social media use, and need satisfaction scale were the tools developed to meet the objectives of the study. The two extreme responses, strongly agree and strongly disagree, are scored as 1 or 5, depending on whether an item is positively or negatively framed.

Construction of the scale of Cyberbullying Perpetration

From the review of related literature discussed in chapter two, the researcher could find that most of the studies related to cyberbullying were conducted abroad. Due to the unavailability of a suitable tool to assess cyberbullying among students with the socio-cultural background of Kerala, the researcher took the initiative to develop and validate a cyberbullying scale. After a detailed literature review, the scale was developed based on Nancy Willard's (2007) theory of cyberbullying. Willard identified seven forms of cyberbullying and the same set of dimensions for the tool. The tool provided items related to flaming, harassment, denigration, impersonation, outing and trickery, exclusion, and cyberstalking.

Flaming was measured by six items that comprised short-lived online arguments, use of rude language, insulting messages, and a series of private angry messages. The six statements in the dimension of harassment related to one side's multiple offensive messages. Denigration was measured by five items that included spreading gossip, public posting of altered digital images, and trying to damage the reputation of the target. The four statements included in the impersonation are meant to impersonate the target, that is, interfere with the target's relationship and exchange of passwords to facilitate others operating an account. Outing and trickery were measured by four items that included publicly forwarding personal communication, sexting, and private details used as a threat. Password-protected communication environment, excluding from the list of online groups and excluding from online gaming environments involved in the dimension of exclusion. Cyberstalking was measured by four items that comprised extremely offensive messages, threats, and the initial stage of grooming. Sample items used in the study for measuring the variable preparation of cyberbullying are given below.

- I don't use any rude language on social media to hurt others.
- I write offensive comments on the other profile page.
- I spread gossip or rumors about others to damage their reputation.
- I operate others' social media accounts without permission.
- I publicize others' confidential conversations through social media.
- I initiated excluding some students from our social media group on purpose.
- I use secretly collected private details to threaten others.

Table 1

Dimension-wise Distribution of the Statement of Cyberbullying Perpetration Scale

Dimensions	Number of statements		Total number of statements
	Positive Polarity	Negative Polarity	
Flaming	4	2	6
Harassment	5	1	6
Denigration	3	2	5
Impersonation	4	0	4
Outing and trickery	3	1	4
Exclusion or ostracism	3	1	4
Cyberstalking	3	1	4
Total	25	8	33

An initial pool of twenty-five statements was prepared by the researcher. On the suggestions of experts, nine more statements were added, and a total of 34 items were prepared under seven dimensions. The items were developed with five-point response structures to ascertain the degree of agreeability, from strongly agree to strongly disagree. After item analysis, the final draft of the cyberbullying perpetration scale contains 33 items.

Table 2

Item Analysis Results of the Cyberbullying Perpetration Scale

Sl. No.	Items Selected	t value	Sl. No.	Items Selected	t value
1	1	5.25	18	18	5.75
2	2	6.09	19	19	3.73
3	3	7.32	20	20	4.11
4	4	2.81	21	21	3.12
5	5	3.97	22	22	3.52
6	6	7.48	23	23	3.43
7	7	5.57	24	24	3.03
8	8	7.37	25	25	3.50
9	9	7.32	26	26	7.07
10	10	5.38	27	27	5.17
11	11	3.52	28	28	4.58
12	12	5.41	29	29	3.31
13	13	5.53	30	30	3.36
14	14	5.00	31	31	2.03
15	15	5.38	32	32	2.90
16	16	5.32	33	33	4.67
17	17	6.21			

Validity

The researcher has established the Face Validity and Content Validity of the tools used for the study. Before constructing the cyberbullying perpetration scale, the researcher reviewed the literature. While constructing the tools; suggestions provided by the experts were also incorporated. Thus, the face validity of the scale was established. The constructed tools were given to the experts for their valuable suggestions for ensuring the content coverage concerning the components of the scale. Their feedback and suggestions were considered and incorporated into the final construction of the tool. Thus, the content validity of the cyberbullying perpetration scale was established.

Reliability

For the present study, Cronbach's Alpha was computed to ensure the internal consistency of the items included in the scale. The value of Cronbach's Alpha Coefficient is closer to 1; the greater is the internal consistency. The Cronbach's alpha of 33 items on cyberbullying perpetration scale is .88 which shows that the scale is a highly reliable tool for assessing the cyberbullying perpetration of higher secondary school students in Kerala.

Construction of the Cyber-victim scale

This scale was also developed by the researcher based on Nancy Willard's (2007) theory of cyberbullying. It has 36 items focusing on seven dimensions: Flaming, Harassment, Denigration, Impersonation, Outing and Trickery, Exclusion, and Cyberstalking. Flaming was measured by seven items that included short-lived online arguments, the use of rude language, insulting messages, and a series of private angry messages. Harassment involves five statements, including one-sided offensive messages. The five statements included in the denigration related to spreading gossip, public posting of altered digital images, and trying to damage the reputation of the target. Impersonation was measured by five items related to impersonating the target, that is, interfering with the target's relationship. Outing and trickery were measured by five items that included publicly forwarding personal communication, sexting, and private details used as a threat. Five statements comprised Exclusion that related to password protected communication environment, excluding from the list of the online group, and excluding from online gaming environment. Cyberstalking comprised four items that related to extremely offensive messages, threats, and the initial stage of grooming. Sample items used in the study for measuring the variable cyber-victim are given below.

- I get messages on social media in an indecent manner.
- Nobody used my name or photos to troll.
- Nobody celebrates my birthday on social media in an insulting manner.
- Through social media, other students spread lies about me.
- Others spread my secretly recorded photos/videos on social media without permission.
- Friends deliberately exclude me from social media groups.
- Through social media, others send me messages to threaten me.

Table 3

Dimension-wise Distribution of the Statement of the Cyber-victim Scale

Dimensions	Number of statements		Total Number of statements
	Positive Polarity	Negative polarity	
Flaming	6	1	7
Harassment	3	2	5
Denigration	3	2	5
Impersonation	4	1	5
Outing and trickery	4	1	5
Exclusion or ostracism	4	1	5
Cyberstalking	3	1	4
Total	27	9	36

The preliminary draft contained 38 items with a five-point response structure to ascertain the degree of agreeability, from strongly agree to strongly disagree. Based on the discriminating index, 36 items were retained in the cyber-victim scale.

Table 4

Item Analysis Results of the Cyber-victim Scale

Sl. No.	Items Selected	t value	Sl. No.	Items Selected	t value
1	1	7.31	18	19	5.32
2	2	7.21	19	20	5.57
3	3	4.33	20	21	4.67
4	4	5.39	21	22	3.03
5	5	8.13	22	24	4.00
6	6	6.63	23	25	5.81
7	7	3.06	24	26	2.64
8	8	5.29	25	27	2.94
9	9	3.15	26	28	4.62
10	10	5.57	27	29	7.33
11	11	6.39	28	30	5.05
12	12	4.54	29	31	7.43
13	13	3.09	30	32	3.41
14	14	2.35	31	33	5.47
15	16	4.29	32	34	4.01
16	17	3.49	33	35	2.76
17	18	5.08			

Validity

The researcher has established the Face Validity and Content Validity of the tools used for the study. Before the construction of the tool, the researcher reviewed the literature. While constructing the Cyber-victim scale; suggestions provided by the experts were also incorporated. Thus, the face validity of the scale was established. The constructed tools were given to the experts for their valuable suggestions for ensuring the content coverage concerning the components of the scale. Their feedback and suggestions were considered and incorporated into the final construction of the tool. Thus, the content validity of the Cyber-victim scale was established.

Reliability

For the present study, Cronbach's Alpha was computed to ensure the internal consistency of the items included in the scale. The value of Cronbach's Alpha Coefficient is closer to 1; the greater is the internal consistency. The Cronbach's alpha of 36 items on the cyber-victim scale is .88 which shows that the scale is a highly reliable tool for assessing the cyberbullying victimisation of higher secondary school students in Kerala.

Construction of the Need Satisfaction Scale

From the literature review, it is clear that studies have focused on the relationship between psychosocial factors and cyberbullying. The relationship between cyberbullying and self-esteem has become a matter of special concern. The present study reflects the satisfaction of basic needs before examining the relationship between self-esteem and cyberbullying. All the items for the need satisfaction scale were developed from Maslow's (1954) theory of human motivation, which was examined for conceptual explanations and examples, yielding 36 items.

Maslow's humanistic psychology was focused on the development of healthy individuals. The satisfaction with the physiological needs included items specifically mentioned by Maslow (1954), namely the need for sleep, food, water, and physical health. Maslow (1954) specified that one's home environment and neighborhood be secured. This concept included the form of statements to assess satisfaction of the safety-security needs. Support from family and friends were examined through the satisfaction of belongingness and love needs. Social support from family and friends was measured by eight statements. The esteem needs are classified into two subsidiary sets, self-esteem and esteem from other people. The association between cyberbullying and self-esteem has been established in previous research. The desire for strength, achievements, adequacy, mastery, and competence are included in the first category. There were 11 items used to measure self-esteem.

The desire for reputation, status, fame, dignity, glory, and appreciation are included in the second category. These were all included in the 18 statements used for measuring the esteem needs satisfaction. As mentioned by Maslow only two percentages of people reach the stage of self-actualization and it is extremely difficult to find them. Therefore, the statements related to self-actualization (growth needs) were not included in this study. Sample items used in the study for measuring the variable need satisfaction are given below.

- I am not in a position to play and exercise every day.
- My family has the power to protect me.
- My loved ones are treating me nicely.
- I don't get any kind of acceptance from others.
- I am completely satisfied with the position that I have in different groups.

Table 5

Dimension-wise Distribution of the Statement of Need Satisfaction Scale

Dimensions	Number of Statements		Total Number of Statements
	Positive Polarity	Negative Polarity	
Physiological Needs	0	4	4
Safety-security Needs	3	3	6
Belongingness Needs	6	2	8
Self-esteem	7	4	11
Esteem from others	4	3	7
Total	20	16	36

The preliminary draft contained 51 items across four dimensions. The responses were measured on a 5-point Likert-type scale ranging from 1 to 5, depending on whether an item was stated positively or negatively. After item analysis, the final draft of the Need Satisfaction scale contains 36 items. An online version of the Need Satisfaction Scale was also prepared to complete the data collection on time.

Table 6

Item Analysis Results of the Need Satisfaction Scale

Sl. No.	Items Selected	t value	Sl. No.	Items Selected	t value
1	2	4.70	19	31	3.52
2	3	3.44	20	32	4.59
3	4	3.91	21	34	4.62
4	7	3.07	22	35	5.71
5	11	3.76	23	36	4.62
6	12	4.71	24	37	4.98
7	13	4.33	25	38	3.35
8	16	2.40	26	39	4.93
9	17	2.53	27	40	3.20
10	20	5.46	28	41	6.85
11	21	6.32	29	42	6.04
12	22	5.83	30	43	4.88
13	24	3.83	31	46	5.05
14	26	2.63	32	47	4.37
15	27	6.50	33	48	6.50
16	28	5.66	34	49	2.93
17	29	5.68	35	50	4.63
18	30	4.52	36	51	3.01

Validity

The researcher has established the Face Validity and Content Validity of the Need Satisfaction Scale. Before the construction of the tools, the researcher reviewed the literature. While constructing the tools, suggestions provided by the experts were also incorporated. Thus, the face validity of the Need Satisfaction Scale was established. The constructed tools were given to the experts for their valuable suggestions for ensuring the content coverage concerning the components of the scale. Their feedback and suggestions were considered and incorporated into the final construction of the tool. Thus, the content validity of the Need Satisfaction scale was established.

Reliability

For the present study, Cronbach's Alpha was computed to ensure the internal consistency of the items included in the scale. The value of Cronbach's Alpha Coefficient is closer to 1; the greater is the internal consistency. The Need Satisfaction Scale also had high reliability, Cronbach's $\alpha = .87$ which shows that the scale is a highly reliable tool for assessing the need satisfaction of higher secondary school students in Kerala.

Construction of Scale for Parental Control over Social Media Use

Parents play a vital role in controlling the use of new technologies and defining the limits of going too far in negotiation terms. Protecting children's safety is a universally accepted core value of parenting. Therefore, parental control in cyberspace is the hottest topic of today's discussion. When the researcher reviewed the literature and tried to identify components for parental control, it was observed that all the studies had their own set of components. There was not a single set of standardised components upon which all the research studies were based. So after exploring studies, the researcher concluded that Proactive Parenting, Restrictive Parenting, and Uninvolved Parenting are the three dimensions that would be the base for framing statements of the scale for parental control on social media use.

Out of 20 items in the tool, seven items were developed from the proactive parenting concept which proposed social media as a great tool for business and adult communication but not for children. Restrictive parenting included seven items based on the restrictions that parents place on their children. Parents set some restrictions directly or indirectly (using Parental Control Applications) on social media use based on time, content, and activities. The uninvolved parenting style is characterised by few demands, low responsiveness, and little communication; six items of the tool were developed from this concept. Neglectful parenting is also included in the uninvolved parents' category. All the statements in uninvolved parenting were negative with positive polarity. Therefore, only positive statements are included in the first two dimensions. Examples of positive items on the scale for parental control over social media use are given below.

- My parents support me with everything except social media use.
- My parents restrict me from accessing certain sites and applications.
- Parents don't care about my social media use.

The five-point response scale was used to measure students' level of agreement or disagreement with the statement. The preliminary draft contains 31 items in three dimensions and only 20 items were included in the final tool.

Table 7

Item Analysis Results of the Scale for Parental Control over Social Media Use

Sl. No.	Items Selected	t value	Sl. No.	Items Selected	t value
1	1	2.45	11	17	3.98
2	3	3.25	12	18	4.24
3	4	3.89	13	19	4.45
4	5	4.37	14	20	2.73
5	6	3.45	15	21	2.91
6	8	3.55	16	23	3.08
7	9	1.98	17	25	3.92
8	12	3.95	18	29	2.53
9	13	4.84	19	30	3.37
10	16	4.54	20	31	3.24

Validity

The researcher has established the Face Validity and Content Validity of the scale for parental control on social media use. Before the construction of the tools, the researcher reviewed the literature. While constructing the tools, suggestions provided by the experts were also incorporated. Thus, the face validity of the scale for parental control on social media use was established. The constructed tools were given to the experts for their valuable suggestions for ensuring the content coverage concerning the components of the scale. Their feedback and suggestions were considered and incorporated into the final construction of the tool. Thus, the content validity of the scale for parental control over social media use was established.

Reliability

For the present study, Cronbach's Alpha was computed to ensure the internal consistency of the items included in the scale.

Table 8

Dimension-wise Cronbach's Alpha Coefficient of Scale for Parental Control over Social Media Use

Dimensions	Cronbach's Alpha	No. of Items
Proactive parenting	.80	7
Restrictive parenting	.56	7
Uninvolved parenting	.62	6

For the present study, Cronbach's Alpha was computed to ensure the internal consistency of the items included in the scale. The value of Cronbach's Alpha Coefficient is closer to 1; the greater is the internal consistency. The Scale for Parental control on social media use had relatively low reliability, Cronbach's α = .67. The dimension, proactive parenting had high reliability, Cronbach's α = .80. However, restrictive parenting and uninvolved parenting had relatively low reliability.

The first try out was carried out on 100 higher secondary school students. After getting permission, the researcher established rapport to seek their attention. Then briefing the students about the purpose of the scale and giving instructions for administration. The questionnaires were distributed to students, who completed them within an average of 60 minutes. These were scored, and then the results were tabulated as 5 for strongly agree, 4 for agree, 3 for neutral, 2 for disagree, and 1 for strongly disagree. Item analysis was done to determine the degree to which each item is effective in discriminating between high and low groups in different aspects. To achieve the necessary sample size, the researcher intentionally oversampled and finally selected 100 participants. All the responses of 100 higher secondary school students were scored and the total scores were arranged in order from highest to lowest. The upper 27% of the total scores and the lower 27% of the scores were taken into consideration for measuring the significance of the difference in means for each item. Then t ratio was computed to find out the significance of the difference between the mean score of the high and low groups on that item to find the discriminating power of each item. Items with t = 1.96 to be significant at a .05 level. Based on the t value, those items were rejected as not significant.

Semi-structured Interview Schedule for Higher Secondary School Teachers

Teachers at higher secondary schools were interviewed to learn about the issues related to the social media use of their students. The data was collected using a semi-structured interview schedule that included 11 items. The interview questions focused on the school experience and observations of teachers regarding the role of social media among their students.

Preliminary Survey

Before preparing the items of the cyberbullying scale, a survey was conducted among higher secondary school students to know the general aspects of social media use. A questionnaire was devised to collect the data. The questionnaire had 10 multiple choice questions to measure their participation in social networking sites by asking whether they used social media. To get better insight into the social media habits of higher secondary school students, specific questions were included in the survey. These consisted of where they accessed social media, how much time they spent online, how many social media groups they engaged in, the most preferable space to use, the most preferable social media application, and to whom they reported when something bad happened. The questionnaire also had some qualitative items where they ranked social networking sites in order of preference and specified how much time they spent in cyber-safety classes. Ensuring that students have had some bad experiences as a part of their use of social media was also an early need of the study.

This preliminary survey was carried out on 172 (102 males and 70 females) higher secondary school students. All but six students were social media users. The questionnaire was filled out by166 students, consisting of 100 males and 66 females with an average age of 16.9 years (*SD* = 0.6). After getting permission from the school authorities, the researcher held a general interaction on the social media use of students. Then briefing the students about the purpose of the questionnaire and giving instructions for administration. The questionnaires were distributed to students, who completed them within an average time of 15 minutes. The preliminary survey questionnaire was filled out by higher secondary school students. These were scored, and then the results were tabulated for percentage analysis.

Table 9

General Aspects of Social Media use among Higher Secondary School Students

General Aspects	N	Frequency	Gender		Total Percent
			Male	Female	
Social media users	172	166	100 (58.1%)	66 (38.4%)	96.5
Using more than 2 hours in a day	166	55	47 (28.3%)	8 (4.8%)	33.1
Whatsapp users	166	158	96 (57.8%)	62 (37.4%)	95.2
Instagram users	166	103	85 (51.2%)	18 (10.8%)	62.1
Device used–own smartphone	166	86	81 (48.8%)	5 (3%)	51.8
Device used –Parent's phone	166	77	18 (10.8%)	59 (35.5%)	46.4
Member of more than 5 groups	166	67	59 (35.5%)	8 (4.8%)	40.4
Preferred place to use social media-Bedroom	166	52	31 (18.7%)	21 (12.7%)	31.4
Unpleasant experience- Report to friends	166	58	43 (25.9%)	15 (9.0%)	34.9
Unpleasant experience- Report to parents	166	9	6 (3.6%)	3 (1.8%)	5.4
Cyber-safety class attended	166	85	48 (28.9%)	37 (22.3%)	51.2

As shown in the table, 96.5% of higher secondary students were using social networking sites, and 33.1 percent of them daily spent more than two hours on social media. WhatsApp is the most popular social networking application among users (95.2%), followed by Instagram (62.1%) and Tiktok (37.9%). Furthermore, 64.5% of users gave first preference to WhatsApp and 21.7% gave first preference to Instagram. A large majority of respondents (91%) were active members of social media groups, of which 40.4% were active in more than five groups. More than fifty percent of students access social networking sites on their smartphones and 44.8% of respondents used their parents' mobile phones. Only 44% of social media users admit that they have experienced unpleasant incidents through social media. Of these students, 35% shared their unpleasant experiences with friends. Only a small proportion of students (5.4%) shared it with their parents and no one was willing to share it with teachers. It was noteworthy that about half of the students did not attend classes related to cyber-safety.

Gender-based differences in social media usage are evident among higher secondary school students. Around fifty percent of male students' access social media through their mobile phones, and only 3% of girls use social media through their own phones. A relatively small proportion (4.8%) of female students use social media for more than two hours compared to male students (28.3%). While all female students prefer to use social media indoors, 12% percent of male students prefer to use social media outside the home. Above 1/3rd of male students (35.5%) were active in more than 5 social media groups. A relatively small proportion of female students (4.8%) was active in more than five social media groups. More than 25% of male students shared their unpleasant experiences with friends, but only 9% of female students did the same. All this information obtained through the survey was very helpful in preparing the statements for the tools.

Population Profile

The population of this study is the higher secondary school students from government, aided, and unaided schools in Kerala. As specified in the Right to Information document, a total of 771307 students studied in the 2018-19 academic years. There were 839 government schools, 858 aided schools and 380 unaided schools functioning under the Directorate of Higher Secondary Education in Kerala.

Table 10

Gender wise Distribution of Higher Secondary School Students in Kerala

Types of Management	Gender		Total	Percentage
	Male	Female		
Government	159851	171557	331408	42.97
Aided	186225	201394	387619	50.25
Unaided	28793	23487	52280	6.78
Total	374869	396438	771307	100.00
Percentage	48.60	51.40	100.00	

(RTI No. ICT Cell/1900193/2019/HSE)

In Kerala, the sex ratio of the population is feminine, which is also reflected in the higher secondary schools. Of the total students, 51.4 % were female and 48.6 % were male. The majority of the students (50.3 %) were studying in aided higher secondary schools.

Sample Selected for the Study

A sample of 571 students was selected for the study using a stratified random sampling technique. The sampling units were higher secondary schools in the state of Kerala, India. Strata were established according to the type of management (government, aided, and unaided) and gender (male and female). The sample size was determined as per Morgan's table. To achieve the necessary sample size the researcher intentionally oversampled 688 students from more than 29 higher secondary schools. Participants were required to provide valid responses for all the statements. Of the 688 responses, 152 were collected online. The name of the school is not mentioned in the online version of tools. The data entry was completed by excluding 117 cases because some measures had missing data. The final sample included 571 perfectly completed responses (265 females and 306 males) aged between 16 and 18 years (M = 16.8, SD 0.7). As per Morgan's table, for a given population of 771307 higher secondary students (or up to 10,00,000 population), only a sample size of 384 will count as a representative sample, with a margin of error of 5% under the 95% confidence interval. By increasing the sample size to 571, the margin of error was found to be 4.1%.

Table 11

Sample Composition for the Study

Type of Management	Gender		Total
	Male	Female	
Government	157	105	262 (45.9%)
Aided	99	145	244 (42.7%)
Unaided	50	15	65 (11.4%)
Total	306 (53.6%)	265 (46.4%)	571 (100.0%)

List of Schools- GHSS Vellur, GHSS Muthuvellur, GHSS Koyyam, GMHSS Calicut, GHSS Malappattom, GHSS Kurumathur, GHSS Chuzhali, KKNPMGVHSS Pariyaram, GHSS Kottila, GHSS Chapparappadavu, Sarvajana GHSS SulthanBatheri, Rajas HSS Kottakkal, GHSS Peruvallur, GMHSS CU Campus, GHSS Kottapppuram, GHSS Edappal, NMHSS Chelembra, HIHS Kozhikode, Moothedath HSS Taliparamba, WMO HSS Muttil, EMEA HSS Malappuram, UHSS Chaliam, CBHSS Vallikkunnu, Chinmaya HSS Taliparamba, Sanjos Metropolitan School Thalassery, Marthoma HSS Thrissur, Holy Family HSS Thrissur, SNMHSS Porakkad and GMHSS Ambalapuzha.

Table 12

Stream of Study wise Sample Composition

Stream of Study	Gender		Total
	Male	Female	
Science	75	86	161 (28.2%)
Commerce	172	91	263 (46.1%)
Humanities	59	88	147(25.7%)
Total	306	265	571(100%)

Another sample of 41 higher secondary school teachers was drawn for conducting focused interviews based on their experience of cyberbullying-related issues in the school. These 41 participants (21 males and 20 females) were interviewed using a semi-structured interview schedule.

Table 13

Sample Distribution of Participants Based on Gender and Experience

Gender	Experience in years			Total
	1-5	6-10	More than 10	
Female	6	5	9	20
Male	7	5	9	21
Total	13	10	18	41

Procedure for Data Collection and Analysis

The data used for the study was collected through the direct administration of scales to higher secondary school students. In this stage, the researcher had the opportunity to explain the purpose of the research, highlight the instructions for completion, and immediately handle queries and uncertainties. Experts suggested the use of bilingual tools for both English and Malayalam medium students. However, the Malayalam version's tools were mainly used for the study.

The researcher personally visited the higher secondary schools located in Kannur, Wayanad, Kozhikode, and Malappuram districts and requested that the principals permit the collection of the data for research purposes. The school principals assured full cooperation for the study. The data collection was disrupted during the COVID-19 lockdown period; little data was collected from students using Google forms with the help of teachers. The online data collection was done by forwarding the online link through the hands of teachers, but only about 10% of the responses were received. Although the data received online cannot be separated based on geographical boundaries, it is largely from Kasaragod, Thrissur, and Alappuzha districts.

Data was collected by using self-reported tools filled out in the classroom and online settings. Initially, the students were asked to fill in their age, gender, stream of study, type of school management, and other related demographic information on the face sheets, including their names. They were asked to mark the most appropriate response based on their experiences and understanding. The researcher assured the respondents that the information so collected would be used only for research purposes.

The data for the first phase of the study was collected using a semi-structured interview schedule, which involves having a set of pre-prepared questions with prompts and further questions incorporated with the ideas that emerged during the interview. The interviews were conducted directly and by telephone with teachers working in different higher secondary schools in Kerala. After getting the consent of teachers through telephonic conversations, the researcher conducted interviews individually. The locations, dates, and times of the interview were selected according to the convenience of the teachers. Each interview took approximately 45 to 60 minutes. The data were collected over two months. Questions focused on the use of mobile phones and social media and their impact on students. The researcher prepared notes on the experiences described by the teachers.

Analysis of Data

The following techniques were employed for the analysis of the data:

1. Percentage analysis was used to explain the data collected through the questionnaire.
2. The mean and standard deviation were used to understand the nature of the data.
3. The Mean difference analysis used to compare different groups
4. Pearson product-moment correlation coefficients were computed to study the association of cyberbullying with various dimensions.
5. The Multiple Regression Analysis is used to anticipate outcomes by using certain variables as predictors.
6. Thematic analysis was used to interpret the interview data.

This methodology chapter was mainly concerned with the procedure of the study. It also indicated the statistical techniques employed for the analysis of the data. The next chapter will detail the result of the data analysis.

Chapter 4

ANALYSIS AND INTERPRETATIONS

- Preliminary Analysis
- Percentage Analysis
- Mean Difference Analysis
- Correlation Analysis
- RegressionAnalysis
- Thematic Analysis

ANALYSIS AND INTERPRETATIONS

The present chapter is mainly devoted to the statistical analysis of the data to find out the extent of cyberbullying activities in relation to selected psychosocial factors. The IBM-SPSS version 21 was used for computerised data analysis.

The data was collected from higher secondary school students and teachers. As mentioned in Chapter 3, the study has two phases. The quantitative phase covers the data collection from higher secondary school students, statistical analysis of the data, and interpretation of the results concerning each objective. In the qualitative phase, teachers were interviewed to understand the prevalence of mobile phone and social media use among their students. Accordingly, the quantitative phase of this chapter is divided into four parts, each discussing the findings in relation to the objectives.

The first part discussed results related to the different forms of cyberbullying activities among higher secondary school students and categorized the participants into three groups: Cyber-bullies, Cyber-victims, and Cyber bully-victims. The second part compared the mean scores of the variables of the study with respect to gender, age, stream of study, and type of management. The third part studied the relationship between cyberbullying with need satisfaction and parental control over social media use. The fourth part examined the combined relationship of need satisfaction and parental control over social media use with cyberbullying. The following statistical techniques were employed for the analysis of the data;

- Percentage Analysis
- Descriptive statistics
- Tests of normality and homogeneity
- Test of significance of difference between means
- Estimation of effect size (Cohen's *d*), Tukey's post hoc test
- Correlation
- Regression

Preliminary Analysis

The collected data were tabulated and subjected to various statistical procedures. As an initial step, the data were analysed to check the assumptions of normality and homogeneity of variance. The statistical constants of the variables; cyberbullying, need satisfaction, and parental control over social media use are presented in Table 14.

Table 14

Descriptive Statistics of Cyberbullying, Need Satisfaction and Parental Control over Social Media Use

Variable	N	Mean	Median	Mode	SD	Skewness	Kurtosis
Cyberbullying	571	128.8	125	125	34.4	0.72	0.44
Need Satisfaction	571	142.3	143	143	17.1	-0.57	0.20
Parental Control over social media use	571	54.8	54	53	10.2	0.06	0.45

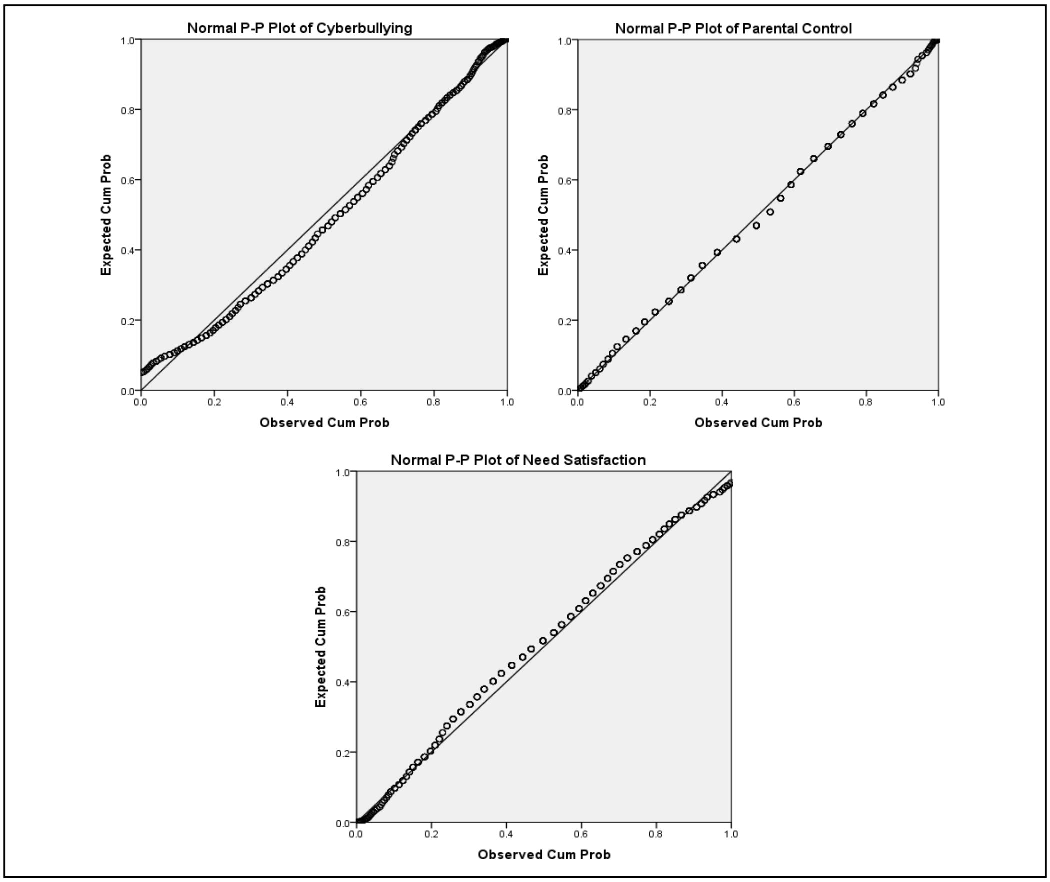
From Table 14, it can be seen that the measures of the central tendency of cyberbullying are almost equal (*M*= 128.8*,* Median = 125, Mode = 125). The distribution is positively skewed with a value of 0.72, which indicates a pile-up of scores on the left of the distribution. A positive value of kurtosis (0.44) indicated a slightly leptokurtic distribution. All the measures of central tendency and measures of shape indicated that the cyberbullying scores are approximately normal. For need satisfaction, the skew value is negative (-0.57), which indicates that the responses are more accumulated on the right side of the distribution. A positive value of kurtosis (0.20) indicated a slightly leptokurtic distribution. All the measures of central tendency (*M*= 142.3*,* Median = 143, Mode = 143), measure of variability (*SD*=17.1), and measures of shape indicated that the need satisfaction scores are approximately normal. The measures of the central tendency of parental control on social media use are almost equal (*M*= 54.8*,* Median = 54, Mode = 53). The distribution is positively skewed with a value of 0.06, which indicates the frequent scores are clustered at the lower end and the tail points towards the higher or more positive scores. A positive value of kurtosis

(0.45) indicated a pointy and heavy-tailed distribution. All the measures of central tendency and measures of shape indicated that the parental control on social media use scores indicated a small deviation from normality.

The distribution of variables was presented by plotting graphs.

Figure 2

The P-P plot of Cyberbullying, Need Satisfaction and Parental Control over Social Media Use



The nature of the distribution of the variables; cyberbullying, need satisfaction and parental control on social media was examined by plotting graphs. It can be seen in the P-P plots by the data values deviating from the diagonal. The scores were much more concentrated at the low and high ends of the scale.

The results of the quantitative phase have been organised into four sections;

- Percentage analysis
- Mean difference analysis

- Correlation analysis and
- Regression analysis

Percentage Analysis

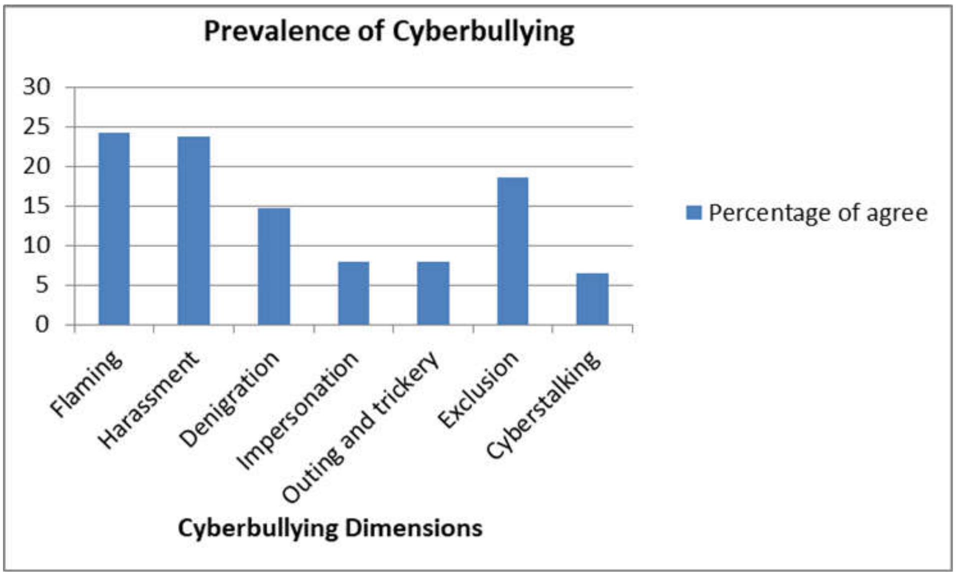
Dimension-wise percentage analysis of cyberbullying, need satisfaction, and parental control over social media use was presented in this section.

Prevalence of Cyberbullying

Cyberbullying involves different forms of activities; the present study includes flaming, harassment, denigration, impersonation, outing and trickery, exclusion, and cyberstalking as cyberbullying behaviours. If the child has become annoying to others or has been annoyed by others as a result of social media interaction, the first step was to identify the prevalence of their activity. The objective (Objective 1) was to study the prevalence of cyberbullying among higher secondary school students in Kerala.

Figure 3

Percentage of Students' Cyberbullying in Different Dimensions



When surveyed specifically about the forms of Cyberbullying, more than three-fourths of the students disagreed with the involvement of all forms of Cyberbullying. The most prevalent form of Cyberbullying was flaming (24.3%)

followed by harassment (23.8%). As per the data, 18.6% of the students were reported as being excluded from the online group platform. Out of 571 students, 14.7% have reported denigration. Less than 10% of the students were involved in outing and trickery (7.9) and impersonation (7.9). Only 6.4% were involved in cyberstalking.

Students have been involved in Cyberbullying as part of their use of social media. Thus, the hypothesis that there is Cyberbullying behavior among higher secondary school students in Kerala was not rejected.

The Most Prevalent Cyberbullying Incidents

Cyberbullying involves different forms of activity; each varies in nature and intensity. The item-wise percentage analysis was used to understand the most prevalent incidents of Cyberbullying.

Table 15

Percentage of Incident-wise Cyberbullying of Higher Secondary School Students (N=571)

Statements	Percentage of Agree
Celebrate my birthday in an insulting manner	55.3
I often share trolls/stickers that mock friends	42.1
I call the other student's bad names or nickname	39
I get mean comments or trolls or stickers to insult me	38.5
I get arguments/messages with rude language	29.6
I make tease my friends/others	28.8
We, a group of students, celebrate others' birthdays in an insulting manner	28.2
Other students make me angry by repeating something (pictures, comments, etc.)	27.9
Other students call my nickname	25.8
Used my name or photos to make troll	24.7
Shared details related to me without my permission	24
I am not informed about many matters that friends decide on through social media	21.2

From table 15, among different types of Cyberbullying victimisation incidents, “Celebrate my birthday in an insulting manner” was reported most frequently (55.3%), followed by “I get mean comments or trolls or stickers to insult me” (38.5%), “I get arguments or messages with rude language” (29.6%), “Other students make me angry by repeating something” (27.9%), “Other students call my nickname” (25.8%), “Used my name or photos to make troll” (24.7%), “Shared details related to me without my permission” (24%) and then “I am not informed many matters that friends decide on through social media” (21.2%). The statement wise analysis indicated that the most frequently experienced form of cyber-victimisation is denigration (i.e., “Celebrate my birthday in an insulting manner”).

Among different types of Cyberbullying perpetration incidents, “I often share trolls/stickers that mock friends” (42.1%) was reported most frequently, followed by “I call the other student’s bad name or nickname” (39%), “I make tease of my friends/others” (28.8%), and then “celebrate others birthdays in an insulting manner” (28.2%).

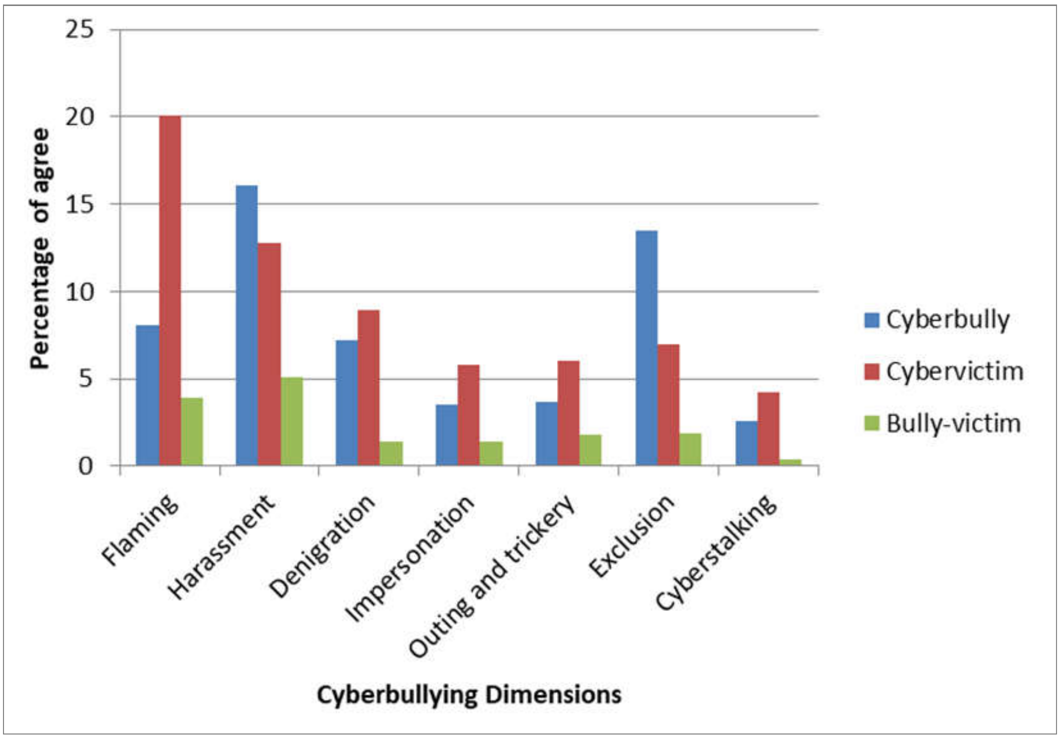
The most prominent incident of cyberbullying victimisation was denigration and the most frequently reported Cyberbullying perpetration event was harassment. Unlike the dimension-wise analysis of Cyberbullying, the results of the statement-wise analysis were more intense and prevalent (Table 15).

Cyberbullying Participant Groups

A child who is involved in Cyberbullying activity may be either a victim or a bully. A child who has been victimized in a certain situation or within certain groups may become a bully (perpetrator) at another time or in another situation. Thus, children who are victims and perpetrators are included in the category of cyberbully-victim. If the child is involved in cyberbullying as a part of social media interaction, the objective (Objective 2) was to identify whether the child is a victim or bully or a category that includes both.

Figure 4

Percentage of Students' Cyberbullying in Three Participant Groups (N=571)



As illustrated by the percentages in Table 15, little more than one-fifth (20.1%) of the students agreed that they were involved in flaming as victims. Of the sample, 16.1% agreed that they were involved in harassment (16.1%) as bullies. In total, 73 (12.8%) reported that they had been harassed. The student was also involved in denigration (8.9%), exclusion (7%), outing and trickery (6%), impersonation (5.8%) and cyberstalking (4.2%) as victims.

As per the data, 13.5% reported that they were excluding others from the online group platform. Less than 10 percent of the students were involved in flaming (8.1%) and denigration (7.2%) as bullies. In total, 3.7% were involved in outings and trickery, 3.5% were involved in impersonation and 2.6% were involved in cyberstalking as perpetrators. Only a very small proportion (5.1%) of the students was involved in harassment as both bullies and victims. Other forms of cyberbully-victims involvement were below two percent except for flaming (3.9%).

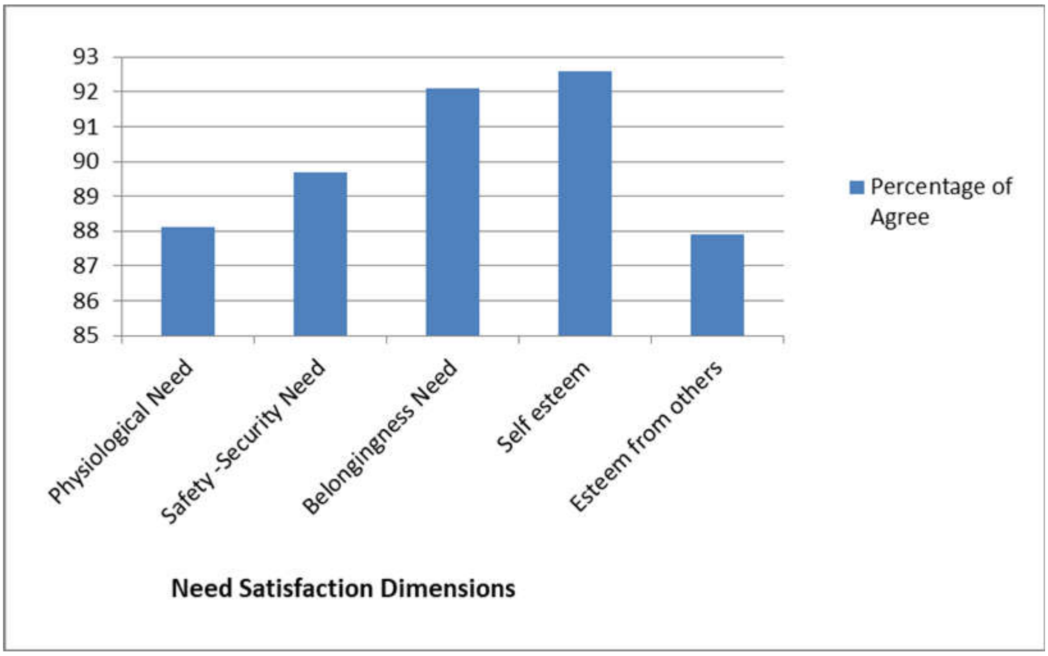
Cyber-victim was the most proportionate Cyberbullying participant group in five dimensions (flaming, denigration, impersonation, outing and trickery, and Cyberstalking) and cyber-bully was the most proportionate participant group in two dimensions (harassment and exclusion). Only a very small proportion of the students were involved in cyberbullying as both bullies and victims. Thus, the hypothesis that there are different Cyberbullying participant groups (Cyber-bullies, Cyber-victims, and Cyber bully-victims) among higher secondary school students in Kerala was not rejected. The existence of counter or chain reactions in Cyberbullying, whereby perpetrators become victims and victims become perpetrators, occurred rarely.

Need Satisfaction of Higher Secondary School Students

The present study reflects the satisfaction of Physiological, Safety-security, Belongingness, and Esteem needs. The percentage of dimension-wise need satisfaction among higher secondary school students was presented in Figure 5.

Figure 5

Percentage of Students' Need Satisfaction in Different Dimensions



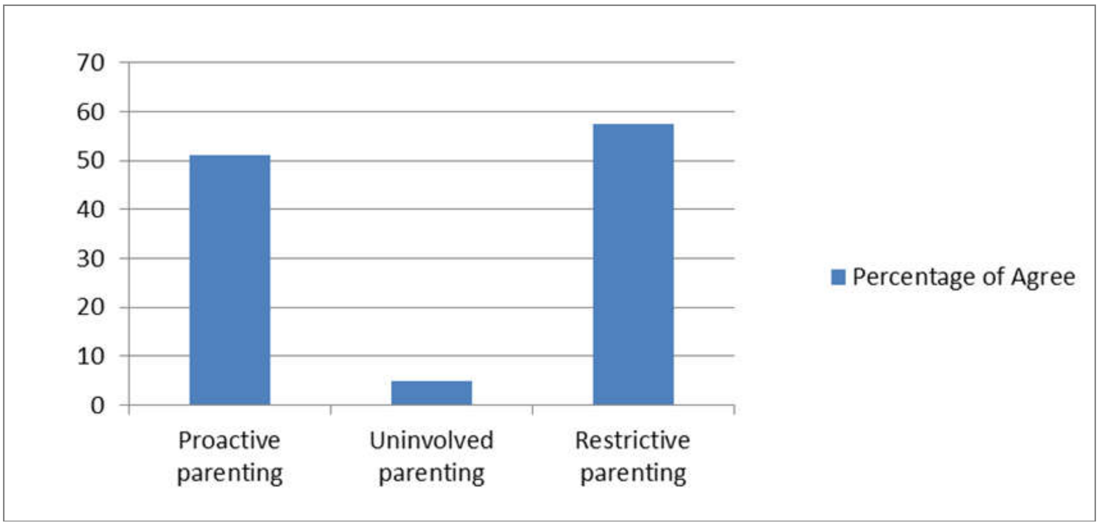
Out of 571 students 503 (88.1%) agreed with their satisfaction with the physiological needs. Most of the students (89.7%) agreed that safety-security needs satisfaction. Overall, 92% of students agreed that they were satisfied with belongingness needs. Surprisingly, 529 (92.6%) of the students were satisfied with self-esteem and 502 (87.9%) of them satisfied with esteem from others' needs.

Parental Control over Social Media Use

Parental Control involves setting and enforcing boundaries to ensure children safety in ever-widening areas of the activity. Proactive Parenting, Restrictive Parenting, and Uninvolved Parenting are the three dimensions of parental control over social media use. The percentage of dimension-wise parental control on social media use among higher secondary school students was presented in Figure 6.

Figure 6

Students' Perception of Parental Control Over Social Media Use



In total, more than half of the students 291 (51%) perceived that their parents were proactive. Only 4.9% of students feel that their parents are uninvolved. The majority (57.7%) of the students agreed with the restrictive nature of their parents.

Mean Difference Analysis

The second part compared the mean scores of the variables of the study with respect to gender, age, stream of study, and type of management.

Comparison of Mean Scores of Cyberbullying by Gender

The objective (Objective 3) was to compare the mean scores among cyberbullying of higher secondary school students in Kerala with respect to gender. The gender-wise difference between the mean scores of Cyberbullying was analysed using the *t*-ratio and the results are presented in table 16.

Table 16

Gender-wise Mean, Standard Deviation and t-value of Cyberbullying

Variable	Gender	N	M	SD	t value	Significance	Cohen's *d*
Cyberbullying	Male	306	138.1	35.2	7.32	.000	0.62
	Female	265	117.9	29.9			

From table 16, it can be seen that the *t* value is 7.32 which is significant. It indicates that there was a significant difference in mean scores of cyberbullying of male and female students, $t(569) = 7.32$, $p < .001$. A medium effect size ($d = 0.62$) in this analysis. Thus, the hypothesis that there is no significant difference in the mean scores of cyberbullying between male and female students was rejected.

These results suggest that gender does have a significant effect on cyberbullying. Specifically, male students were more involved in cyberbullying than female students.

Comparison of Mean Scores of Cyberbullying Perpetration and Cyberbullying Victimisation by Gender

While gender has a significant effect on cyberbullying, it is important to understand the gender-wise difference between cyberbullying perpetration and cyberbullying victimisation. The gender-wise difference in cyberbullying perpetration and cyberbullying victimisation was analysed using the *t*-ratio and the results are presented in Table 17.

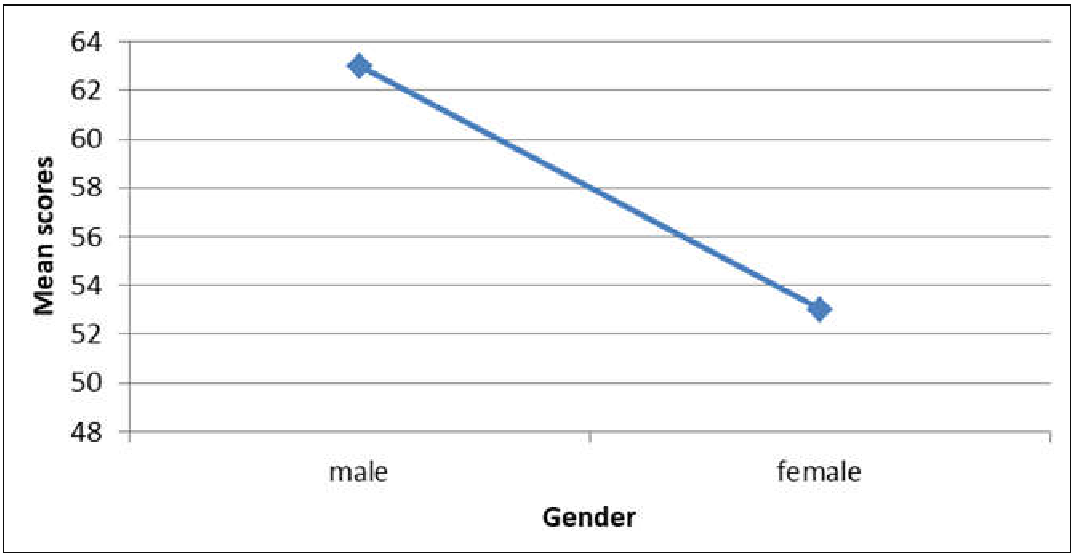
Table 17

Mean, Standard Deviation and t-value of Cyberbullying Perpetration and Cyberbullying Victimisation by Gender

Cyberbullying	Gender	N	M	SD	t value	Significance	Cohen's *d*
Perpetration	Male	306	63.0	18.0	7.13	.000	0.60
	Female	265	53.0	15.1			
Victimisation	Male	306	75.2	21.0	6.29	.000	0.53
	Female	265	65.0	17.2			

Figure 7

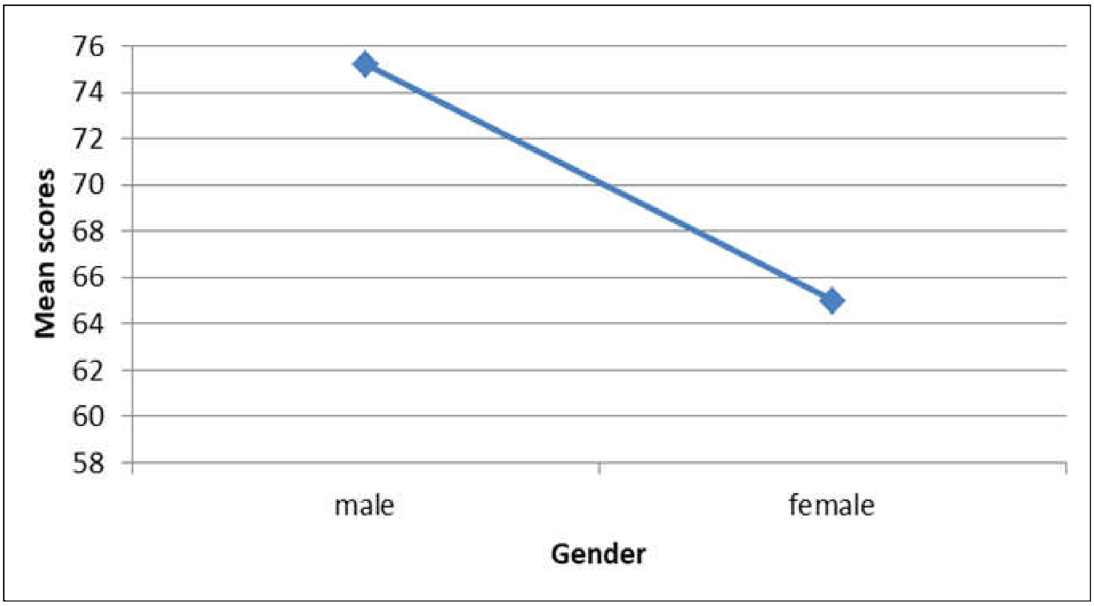
Gender Differences in Cyberbullying Perpetration



There was a significant difference in mean scores of cyberbullying perpetration of male and female students, $t(569) = 7.13$, $p < .001$. Medium effect size was found ($d = 0.60$) in cyberbullying perpetration. These results suggest that gender does have a significant effect on cyberbullying perpetration. Male students were more involved in cyberbullying as perpetrators than female students.

Figure 8

Gender Differences in Cyberbullying Victimisation



There was a significant difference in mean scores of cyberbullying victimisation of male and female students, $t(569) = 6.29$, $p < .001$. A medium effect size was found ($d = 0.53$). These results suggest that gender does have a significant effect on cyberbullying victimisation. Male students were more involved in cyberbullying as victims than female students.

Mean Scores Comparison of Dimensions of Cyberbullying by Gender

While gender has a significant effect on cyberbullying perpetration and cyberbullying victimisation, it is important to understand the gender-wise difference in cyberbullying dimensions. The gender differences in cyberbullying dimensions were analysed using the *t*-ratio and the results are presented in table 18.

Table 18

Gender-wise Mean, Standard Deviation, and t-values of Dimensions of Cyberbullying Perpetration and Victimisation (N=571; Male = 306, Female = 265)

Cyberbullying Dimensions	Cyberbullying Roles	Male		Female		t Value	Significance	*d*
		M	SD	M	SD			
Flaming	Bully	12.4	4.7	10.1	3.9	6.20	.000	0.52
	Victim	17.3	6.5	14.4	5.7	5.64	.000	0.48
Harassment	Bully	13.5	4.7	10.6	4.1	8.01	.000	0.68
	Victim	10.8	4.3	9.2	3.8	4.82	.000	0.41
Denigration	Bully	9.7	4.0	7.8	3.0	6.56	.000	0.56
	Victim	10.8	3.5	10.1	3.3	2.38	.018	0.20
Impersonation	Bully	6.1	3.0	5.3	2.1	3.96	.000	0.34
	Victim	9.3	4.3	7.8	3.0	4.90	.000	0.42
Outing and trickery	Bully	6.1	2.7	5.4	2.2	2.99	.003	0.25
	Victim	9.3	4.2	7.5	2.9	6.12	.000	0.52
Exclusion	Bully	8.7	3.0	8.5	3.1	0.97	.332	0.08
	Victim	10.9	3.8	9.7	3.3	3.91	.000	0.33
Cyberstalking	Bully	6.4	2.8	5.3	2.2	5.05	.000	0.43
	Victim	6.8	2.7	6.4	2.3	1.91	.057	0.16

From Table 18, it can be seen that male students had higher mean scores for cyberbullying compared to female students. The *t*-values indicate that there was significant difference in mean scores of gender with regard to all dimensions of cyberbullying perpetration such as flaming, $t(569) = 6.20$, $p < .001$, harassment, $t(569) = 8.01$, $p < .001$, denigration, $t(569) = 6.55$, $p < .001$, impersonation, $t\ (569) = 3.95$, $p < .001$, outing and trickery, $t(569) = 2.99$, $p = .003$, and Cyberstalking, $t(569) = 5.05$, $p < .001$ except in Exclusion. Although significant results were obtained, the effect was relatively small in impersonation (d = 0.34), outings and trickery (d = 0.25), and Cyberstalking (d = 0.43). Medium effect sizes was found in flaming (d = 0.52), harassment (d = 0.68), and denigration (d = 0.56).

As seen in the case of cyberbullying perpetration, *t* values indicate significant difference in mean scores of cyberbullying victimisation of male and female students in all dimensions such as flaming, $t(569) = 5.63$, $p < .001$, harassment, $t(569) = 4.82$, $p < .001$, denigration, $t(569) = 2.38$, $p = .018$, impersonation, $t(569) = 4.89$, $p < .001$, outing and trickery, $t(569) = 6.12$, $p < .001$ and Exclusion, $t(569) = 3.91$, $p < .001$ except in Cyberstalking. Although significant results were obtained, the effect was relatively small in flaming (d = 0.48), harassment (d = 0.41), denigration (d = 0.20), impersonation (d = 0.42), and exclusion (d = 0.33). Medium effect size was found in Outing and trickery (d = 0.52).

As per the results the victims scored higher than bullies, i.e., more cyberbullying victimisation than cyberbullying perpetration involvement among male and female higher secondary school students. Male students were more involved in all forms of cyberbullying as victims and bullies than female students.

Comparison of Mean Scores of Cyberbullying by Age

The objective (Objective 3) was to compare the mean scores among cyberbullying of higher secondary school students in Kerala with respect to age. The age-wise differences in cyberbullying measured were compared to the mean scores of the sampled students. For cyberbullying, the variances of the three age groups were homogeneous, $F(2, 568) = .49$, $p > .05$. A one-way ANOVA was conducted to analyse the data and the results are given in table 19.

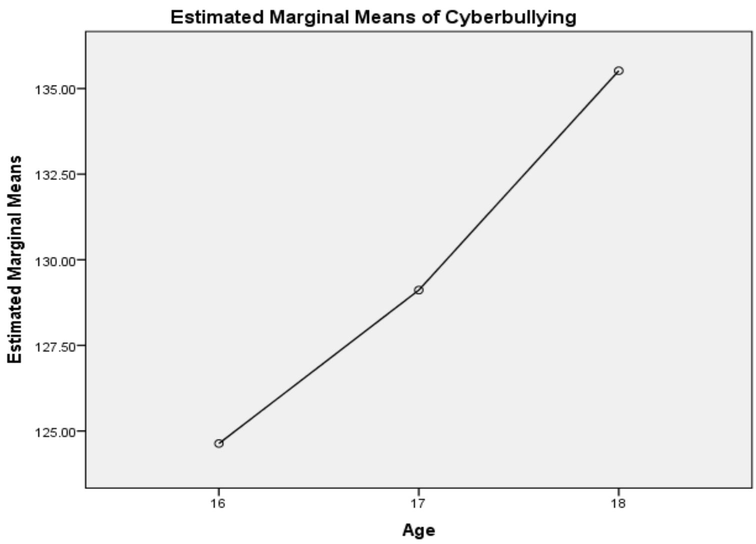
Table 19

Mean, Standard Deviation, and F value of Cyberbullying by Age

Age	N	M	SD	SE	F	Significance
16	191	124.6	35.7	2.6		
17	278	129.1	33.9	2.0	3.39	.035
18	102	135.5	32.4	3.2		

Figure 9

Estimated Marginal Means of Cyberbullying



There was a significant effect of age on cyberbullying, $F(2, 568) = 3.39$, $p = .035$, $\eta2 = .012$. Despite reaching statistical significance, the actual mean difference between age groups was quite small ($\eta2=.01$). Tukey's post hoc test revealed that the mean value of cyberbullying was significantly different between the age group of 16 and 18 ($p = .027$). There was no statistically significant difference between the other two age groups [17 and 18 ($p = .240$), 17 and 16 ($p = .346$)]. Thus the hypothesis that there is no significant difference in mean scores of cyberbullying among higher secondary school students in Kerala with respect to age was rejected.

As per the results, students belonging to the 18-year age group registered higher mean scores than other age groups, i.e., involvement in cyberbullying increased with age.

Comparison of Mean Scores of Cyberbullying by Stream of Study

The objective (Objective 3) was to compare Stream of study-wise mean scores of cyberbullying of higher secondary school students. For cyberbullying, the variances were equal for commerce, science, and humanities group students, F(2, 568) = 2.88, $p > .05$. The data were analysed with the help of ANOVA and the results are given in table 20.

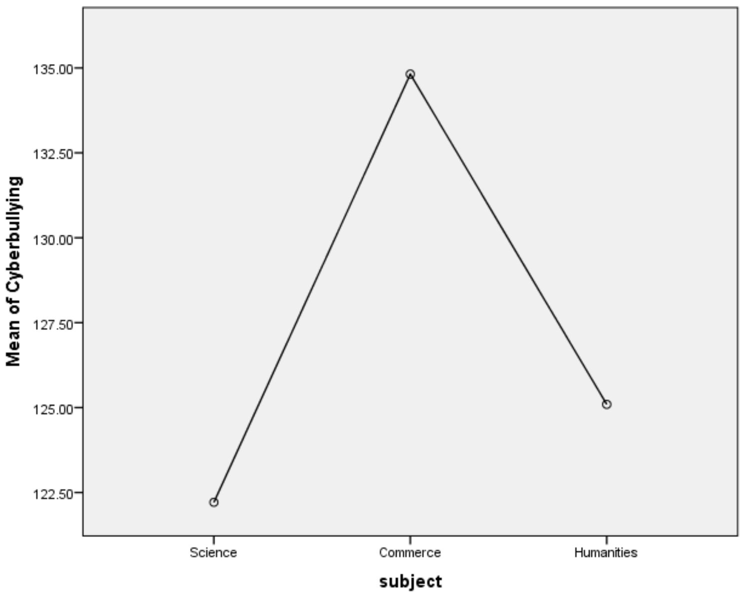
Table 20

Mean, Standard Deviation, and F value of Cyberbullying of Students by Stream of Study (N=571)

Stream of Study	N	M	SD	SE	F	Significance
Science	161	122.2	29.7	2.3		
Commerce	263	134.8	36.7	2.7	8.02	.000
Humanities	147	125.1	33.4	2.8		

Figure 10

Stream of Study-wise Comparison of Mean Scores of Cyberbullying



From table 20, it can be seen that the commerce group (M = 134.8, SD = 36.7) had higher scores in cyberbullying than students belonging to the humanities group (M = 125.1, SD = 33.4) and the science group (M = 122.2, SD = 29.7). This difference between commerce, humanities, and science was found to be significant, $F(2, 568)$= 8.02, $p < .001$, $\eta 2 = .027$, though the effect was small. Thus, the hypothesis that there is no significant difference in mean scores of cyberbullying among higher secondary school students in Kerala with respect to stream of study was rejected.

As per the results, students belonging to commerce groups are more involved in cyberbullying than those belonging to humanities and science groups.

Streams of Study-wise Comparison of Mean Scores of Cyberbullying Perpetration and Cyberbullying Victimisation

While streams of study have significant effects on cyberbullying, it is important to understand the stream wise difference between cyberbullying perpetration and cyberbullying victimisation. The streams of study-wise mean scores of cyberbullying perpetration and cyberbullying victimisation of students was analysed with the help of ANOVA and the results are given in table 21.

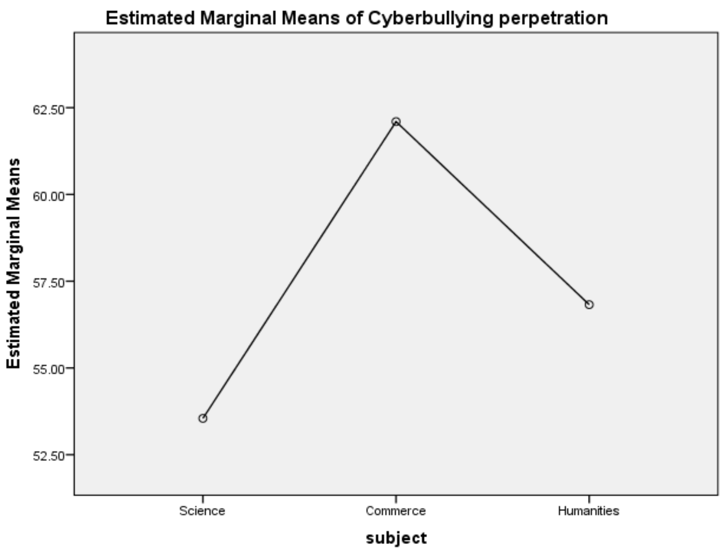
Table 21

Mean, Standard Deviation, and F value of Cyberbullying Perpetration and Cyberbullying Victimisation of Students by Stream of Study (N=571)

Variables	Stream of Study	N	M	SD	SE	F	Significance
Cyberbullying perpetration	Science	161	53.5	15.0	1.2	13.29	.000
	Commerce	263	62.1	18.6	1.1		
	Humanities	147	56.8	16.4	1.4		
Cyberbullying victimisation	Science	161	68.7	18.1	1.4	3.23	.040
	Commerce	263	72.7	21.0	1.3		
	Humanities	147	68.3	19.7	1.6		

Figure 11

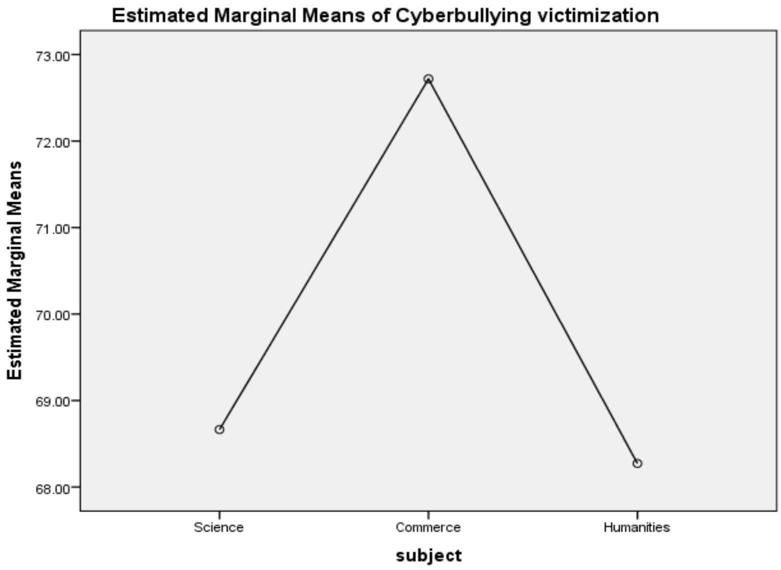
Comparison of Mean Scores of Cyberbullying Perpetration by Streams of Study



From table 21, it can be seen that the commerce group (M = 62.1, SD = 18.6) had higher scores in cyberbullying perpetration than students belonging to the humanities group (M = 56.8, SD = 16.4) and the science group (M = 53.5, SD = 15.0). This difference between commerce, humanities and science was found to be significant, $F(2, 568) = 13.29$, $p < .001$, $\eta 2 = .045$, though the effect was small.

Figure 12

Comparison of Mean Scores of Cyberbullying Victimisation by Streams of Study



From table 21, it can be seen that the commerce group (M = 72.7, SD=21.0) had higher scores in cyberbullying victimisation than students belonging to the humanities group (M = 68.3, SD = 19.7) and the science group (M = 68.7, SD = 18.1). This mean difference between commerce, humanities, and science groups was found to be significant, $F(2, 568) = 3.23$, $p < .05$, $\eta 2 = .011$. Despite reaching statistical significance, the actual mean difference between streams of study was quite small ($\eta 2$=.01).

As per the results, students belonging to commerce groups are more involved in cyberbullying perpetration and cyberbullying victimisation than students belonging to humanities and science groups.

Differences in Dimensions of Cyberbullying Perpetration by Streams of Study

While streams of study have significant effects on cyberbullying, it is important to understand the stream wise differences in cyberbullying perpetration dimensions. One-way ANOVA was conducted to analyse the stream of study-wise mean scores in the dimensions of cyberbullying perpetration by male and female students.

Table 22

Mean, Standard Deviation, and F value of Dimensions of Cyberbullying Perpetration of Male and Female Students by Stream of Study (N=571, Science=161, Commerce= 263, Humanities=147)

Cyberbullying perpetration Dimensions	Gender	Science		Commerce		Humanities		F Value	Significance
		M	SD	M	SD	M	SD		
Flaming	Male	10.5	3.6	13.7	5.0	10.9	4.1	16.30	.000
	Female	9.9	3.5	10.1	4.4	10.3	3.8	0.18	.838
Harassment	Male	11.1	3.8	14.6	4.7	13.7	4.9	15.18	.000
	Female	9.7	3.6	10.5	4.2	11.5	4.2	4.02	.019
Denigration	Male	8.5	4.0	10.4	4.0	9.3	3.5	6.44	.002
	Female	7.9	3.2	7.6	3.0	7.8	2.8	0.18	.838
Impersonation	Male	5.6	2.6	6.4	3.2	6.1	2.8	1.73	.179
	Female	5.0	1.6	5.4	2.4	5.4	2.1	1.04	.357
Outing	Male	5.7	2.5	6.2	2.7	6.0	2.8	0.94	.391
	Female	5.0	1.6	5.4	2.4	5.4	2.1	1.04	.357
Exclusion	Male	8.3	3.1	8.9	3.0	8.7	2.8	0.98	.377
	Female	8.6	3.3	8.8	3.3	8.0	2.6	1.49	.228
Cyberstalking	Male	6.0	2.8	6.6	2.7	6.5	3.3	1.06	.347
	Female	5.2	2.0	5.4	2.5	5.5	2.1	0.50	.604

From table 22, it can be seen that male students belonging to commerce group (*M* = 13.7, *SD* = 5.0) had higher scores in flaming than that of male students belonging to humanities group (*M* = 10.9, *SD* = 4.1) and science group (*M* = 10.5, *SD* = 3.6). This difference between commerce, humanities and science was found to be significant, F (2, 568) = 16.30, $p < .001$. As in flaming, male students belonging to the commerce group (*M* = 14.6, *SD* = 4.7) had higher scores in harassment than those of male students belonging to the humanities group (*M* = 13.7, *SD* = 4.9) and science group (*M* = 11.1, *SD* = 3.8). This difference between commerce, humanities and science was found to be significant, $F(2, 568) = 15.17$, $p < .001$. Male students belonging to the commerce group (*M* = 10.4, *SD* = 4.0) had higher scores in denigration than that of male students belonging to the humanities group (*M* = 9.3, *SD* = 3.5) and science group (*M* = 8.5, *SD* = 4.0). This difference between commerce, humanities, and science was found to be significant, $F(2, 568) = 6.44$, $p = .002$.

ANOVA revealed that female students belonging to science, humanities and commerce had no significant difference in their mean scores for the dimensions of cyberbullying except for harassment. Female students belonging to the humanities group (*M* = 11.5, *SD* = 11.5) had higher scores in harassment than female students belonging to the commerce group (*M* = 10.5, *SD* = 4.2) and science group (*M* = 9.7, *SD* = 3.6). This difference between humanities, commerce, and science was found to be significant, $F(2, 568) = 4.02$, $p < .05$.

Male students belonging to the commerce group (*M* = 6.4, *SD* = 3.2) had better scores in impersonation than that of male students belonging to the humanities group (*M* = 6.1, *SD* = 2.8) and science group (*M* = 5.6, *SD* = 2.6) although the difference was not statistically significant, $F(2, 568) = 1.73$, $p > .05$. As in impersonation, male students belonging to the commerce group had better scores in outing, $F(2, 568) = .94$, $p > .05$, exclusion, $F(2, 568) =.98$, $p > .05$, and cyberstalking, $F(2, 568) = 1.06$, $p > .05$, than that of humanities and science group but these differences were not statistically significant.

Differences in Dimensions of Cyberbullying Victimisation by Streams of Study

While streams of study have significant effects on cyberbullying perpetration, it is important to understand the stream wise differences in cyberbullying victimisation dimensions. One-way ANOVA was conducted to analyse the stream of study-wise mean scores in terms of the dimensions of cyberbullying victimisation of male and female students.

Table 23

Mean, Standard Deviation, and F value of Dimensions of Cyberbullying Victimisation of Male and Female Students by Streams of Study (N=571, Science=161, Commerce= 263, Humanities=147)

Cyberbullying victimisation Dimensions	Gender	Science		Commerce		Humanities		F Value	Significance
		M	SD	M	SD	M	SD		
Flaming	Male	16.4	5.8	18.5	6.7	14.9	5.8	8.16	.000
	Female	14.9	5.8	13.9	5.8	14.4	5.7	0.68	.509
Harassment	Male	10.5	3.9	11.2	4.4	10.2	4.2	1.51	.223
	Female	9.3	3.7	8.4	3.7	9.9	3.8	3.57	.030
Denigration	Male	10.4	2.9	10.8	3.8	11.2	3.2	0.88	.414
	Female	9.7	3.4	9.9	3.3	10.7	2.9	2.71	.068
Impersonation	Male	8.7	3.6	9.7	4.6	9.1	4.3	1.41	.245
	Female	8.1	3.0	7.5	2.8	7.8	3.3	0.78	.462
Outing	Male	8.8	3.9	9.8	4.4	8.5	3.9	2.84	.060
	Female	7.7	2.7	7.4	3.2	7.3	2.7	0.42	.656
Exclusion	Male	10.4	3.9	11.0	3.8	11.2	3.5	0.80	.450
	Female	9.7	3.3	9.7	3.4	9.7	3.4	0.01	.995
Cyberstalking	Male	6.6	2.5	6.9	2.8	6.6	2.6	0.43	.648
	Female	6.8	2.3	6.2	2.2	6.2	2.4	1.70	.184

Male students belonging to the commerce group (M = 18.5, SD = 6.7) had higher scores in flaming than that of male students belonging to the science group (M = 16.4, SD = 5.8) and the humanities group (M = 14.9, SD = 5.8). This difference between commerce, science, and the humanities was found to be significant, F(2,

568) = 8.16, $p < .001$. As in flaming, Male students belonging to the commerce group ($M = 11.2$, $SD = 4.4$) had higher scores in harassment than that of male students belonging to the science group ($M = 10.5$, $SD = 4.0$) and the humanities group ($M = 10.2$, $SD = 4.2$). This difference between commerce, the humanities, and science was not found to be significant, $F(2, 568) = 1.508$, $p > .05$. In every subsequent dimension of cyberbullying victimisation, the difference between commerce, the humanities, and science was not found to be significant.

Of these seven dimensions of cyber-victim, only one, harassment, was found to have a significant difference, $F(2, 568) = 3.57$, $p < .05$. Female students belonging to the humanities group ($M = 9.9$, $SD = 3.8$) had higher scores in harassment than female students belonging to the commerce group ($M = 8.4$, $SD = 3.7$) and science group ($M = 9.3$, $SD = 3.7$).

As per the results, students belonging to commerce groups are more involved in cyberbullying as bullies and victims than those of humanities and science groups. But these differences between commerce, humanities, and science were not found to be significant in all dimensions of cyberbullying.

The Effect of Gender and Streams of Study on Cyberbullying

A two-way ANOVA was conducted to examine the effect of gender and stream of study on cyberbullying.

Table 24

Mean and standard Deviation of Cyberbullying of Male and Female Students by Stream of Study

Gender	Stream of Study	Mean	SD	N
Male	Science	127.6	31.9	75
	Commerce	144.5	35.1	172
	Humanities	133.0	36.4	59
Female	Science	117.5	26.9	86
	Commerce	116.5	32.5	91
	Humanities	119.8	30.3	88

Table 25

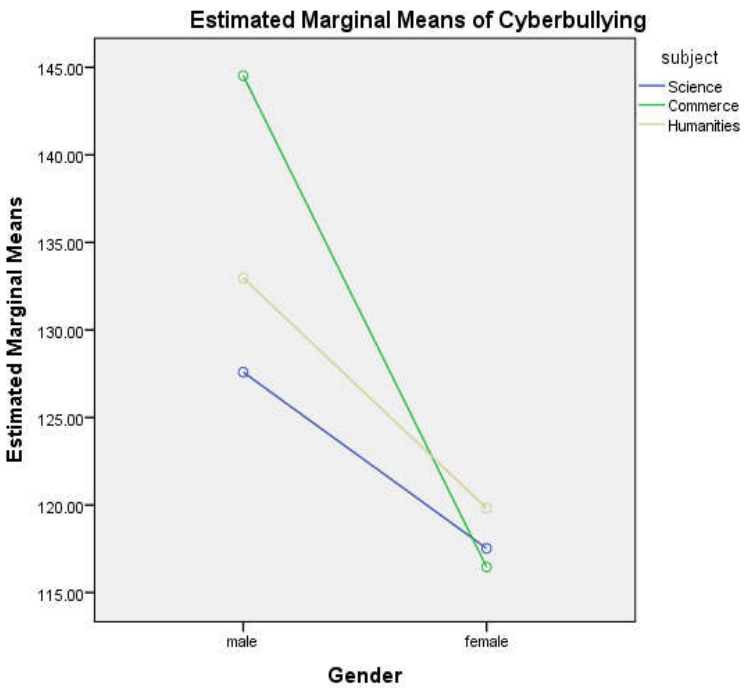
Gender and Streams of Study Scores of Degree of Freedom, Mean Square and F value of Cyberbullying

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Gender	37523.32	1	37523.32	35.39	.000
Stream of study	6124.65	2	3062.33	2.89	.056
Gender x Streams of Study	9297.59	2	4648.79	4.38	.013

The plot of the mean cyberbullying score for each combination of groups by gender and stream of study is plotted in a graph, as shown in Figure 13.

Figure 13

Interaction between Gender and Streams of Study for Cyberbullying



There was a statistically significant interaction between the effects of gender and stream of study on cyberbullying, $F(2, 565) = 4.38$, $p = .013$, $\eta 2 = .015$, though the effect was small. Male students belonging to the commerce group ($M = 144.5$, $SD = 35.1$) had higher scores in cyberbullying and female students belonging to the commerce group (M = 116.5, SD = 32.5) had lower scores in cyberbullying than that of other groups of students.

Figure 13 showed that males were more involved in cyberbullying than females when belonging to commerce groups, science groups, and humanities groups.

Mean scores Comparison of Cyberbullying by Types of Management

The objective (Objective 3) was to compare the mean scores of cyberbullying among higher secondary school students in Kerala with the type of management. The type of management-wise differences in cyberbullying was measured comparing the mean scores of the sampled students. A one-way ANOVA was conducted using SPSS (21) and the results are given in table 26.

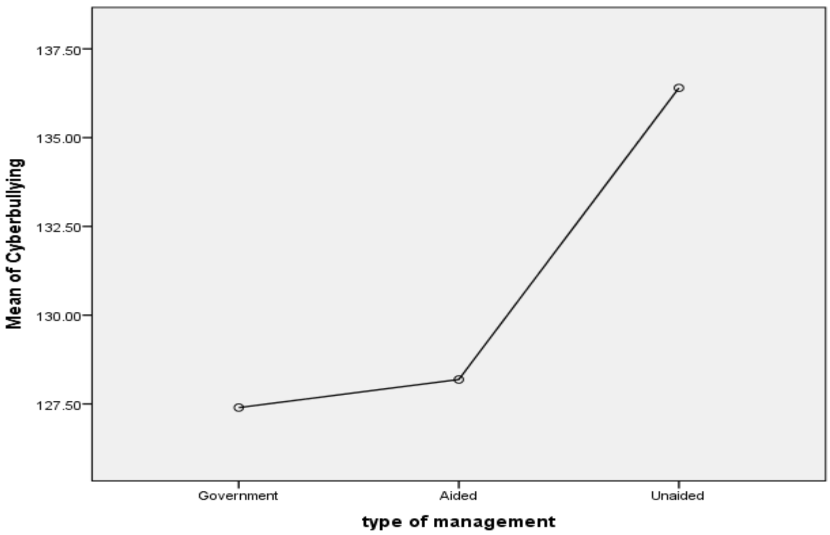
Table 26

Types of Management-wise Mean, Standard Deviation, and F values of Cyberbullying

Types of Management	N	M	SD	SE	F	Significance
Government	262	127.4	35.9	2.2		
Aided	244	128.2	34.3	2.2	1.85	.159
Unaided	65	136.4	27.6	3.4		

Figure 14

Mean Scores Comparison of Cyberbullying by Types of Management



From figure 14, it can be seen that Unaided school students had higher scores (*M* = 136.4, *SD* = 27.6) in cyberbullying than that of students belonging to Aided (*M* = 128.2, *SD* = 34.3) and Government schools (*M* = 127.4, *SD* = 35.9). This difference between Government, Aided, and Unaided was found to be not significant, $F(2, 568) = 1.85$ $p > .05$. Thus, the hypothesis that there is no significant difference in mean scores of cyberbullying among higher secondary school students in Kerala with respect to the type of management was not rejected. As per the results, students attending unaided schools are more involved in cyberbullying than those attending aided and government schools.

Table 27

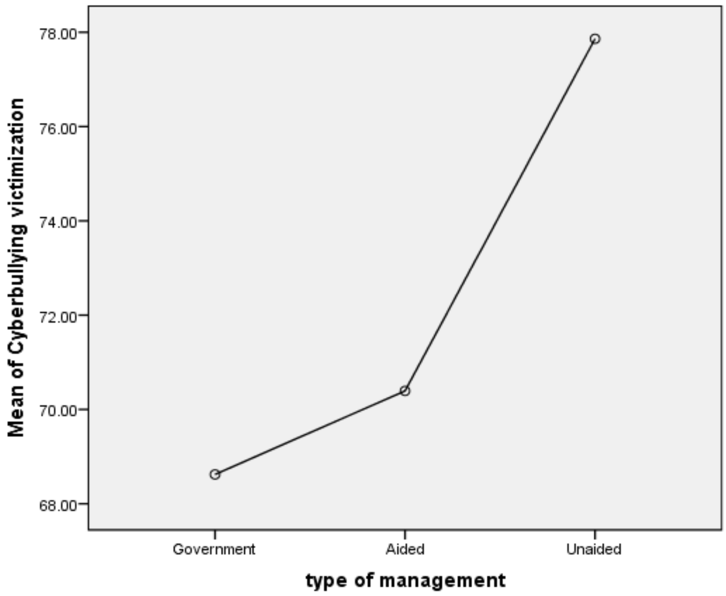
Types of Management-wise Mean, Standard Deviation and F value of Cyberbullying Perpetration and Cyberbullying Victimisation among Students (N=571, Government = 262, Aided=244, Unaided=65)

Cyberbullying	Govt.		Aided		Unaided		F value	Significance
	M	SD	M	SD	M	SD		
Perpetration	58.8	18.5	57.8	17.1	58.5	14.1	0.20	.816
Victimisation	68.6	19.9	70.4	19.9	77.9	19.1	5.65	.004

From table 27, it can be seen that government school students had slightly higher scores (*M* = 58.8, *SD* = 18.5) in cyberbullying perpetration than that of students belonging to Aided (*M* = 5708, *SD* = 17.1) and Unaided (*M* = 58.5, *SD* = 14.1). This difference between Government, Aided, and Unaided school was found to be not significant, $F(2, 568) = 0.20$, $p > .05$. But, there was a statistically significant difference in cyberbullying victimisation between at least two groups, $F(2, 568) = 5.65$, $p < .05$.

Figure 15

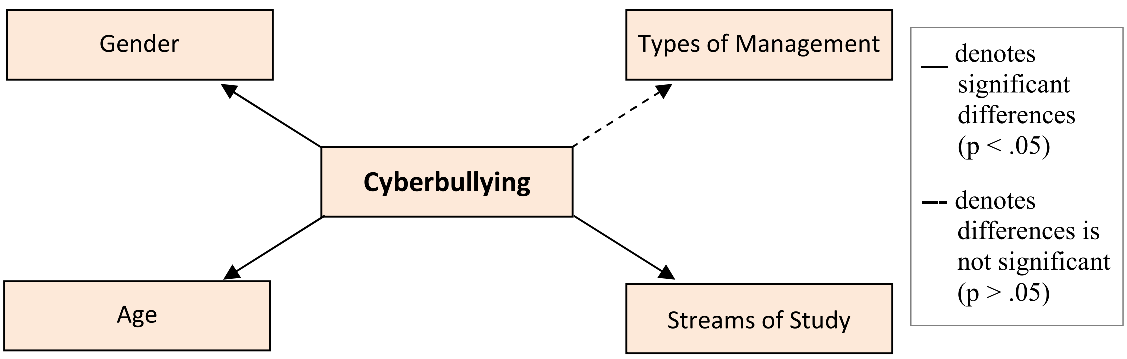
Estimated Mean Scores of Cyberbullying Victimisation



A Tukey's post hoc test revealed that the mean value of cyberbullying victimisation was significantly different between Unaided and government school students (p = .002) and Unaided and Aided school students (p = .020). There was no statistically significant difference between Government and Aided school students (p =.575).

Figure 16

Subsample-wise Differences of Cyberbullying



From the results (Figure 16) the categories of gender, age, and stream of study reported statistically significant differences in cyberbullying scores with an exception of type of management that professed no significant differences.

Comparison of Mean Scores of Need Satisfaction by Gender

The objective (Objective 4) was to compare the mean scores of Need Satisfaction (i.e., physiological needs, safety needs, belongingness needs and esteem needs) of higher secondary school students in Kerala with respect to gender. The gender-wise difference between the mean scores of Need Satisfaction of the sampled students was analysed using the *t*-ratio and the results are presented in Table 28.

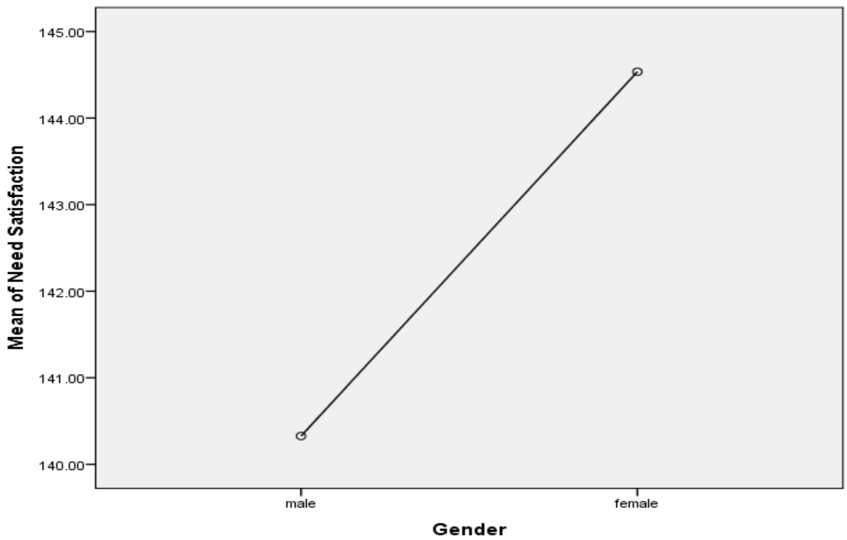
Table 28

Mean, Standard Deviation and t-value of Need Satisfaction by Gender

	Gender	N	M	SD	*t* value	Significance	Cohen's *d*
Need Satisfaction	Male	306	140.3	17.4	2.95	.003	0.25
	Female	265	144.5	16.6			

Figure 17

Comparison of Mean Scores of Need Satisfaction by Gender



From Table 28 it can be seen that female students had higher mean scores (M = 144.5, SD = 16.6) of need satisfaction compared to male students (M = 140.3, SD = 17.4). There is a significant difference in mean scores of need satisfaction between male and female students, $t(569) = 2.95$, $p < .05$. Thus, the hypothesis that there is no significant difference in mean scores of need satisfaction among higher secondary school students in Kerala with respect to gender was rejected. Although significant results were obtained, the effect was relatively small (*d* = 0.25).

Table 29

Mean, Standard Deviation and t-value of Need Satisfaction by Gender

Needs Satisfaction Dimensions	Male		Female		*t* Value	Significance	Cohen's *d*
	Mean	SD	Mean	SD			
Physiological Need	15.0	3.0	15.6	3.4	2.23	.026	0.19
Safety -Security Need	21.8	3.2	22.0	2.9	0.95	.342	0.08
Belongingness Need	32.6	5.3	34.0	4.9	3.16	.002	0.27
Self esteem	44.0	6.3	44.8	5.8	1.77	.077	0.15
Esteem from others	27.0	4.3	28.1	4.1	3.14	.002	0.26
Total	140.3	17.4	144.5	16.6	2.9	.003	0.25

As shown in table 29 the mean scores of female students are higher which shows that female students have more need satisfaction than males. There was a significant difference between the mean scores of males and females on physiological need ($p < .05$), belongingness need ($p < .05$), and esteem need from others ($p < .05$). But there was no significant difference between the mean scores of males and females on satisfaction of safety-security needs ($p >.05$) and self-esteem needs ($p >.05$).

Comparison of Mean Scores of Need Satisfaction by Age

The objective (Objective 4) was to compare the mean scores of Need Satisfaction (i.e., physiological needs, safety needs, belongingness needs and esteem needs) of higher secondary school students in Kerala with respect to age. For the need satisfaction, the variances of the three age groups were homogeneous, $F(2, 568) = .41$, $p>.05$. The age-wise mean scores of need satisfaction of students were analysed with the help of ANOVA and the results are given in Table 30.

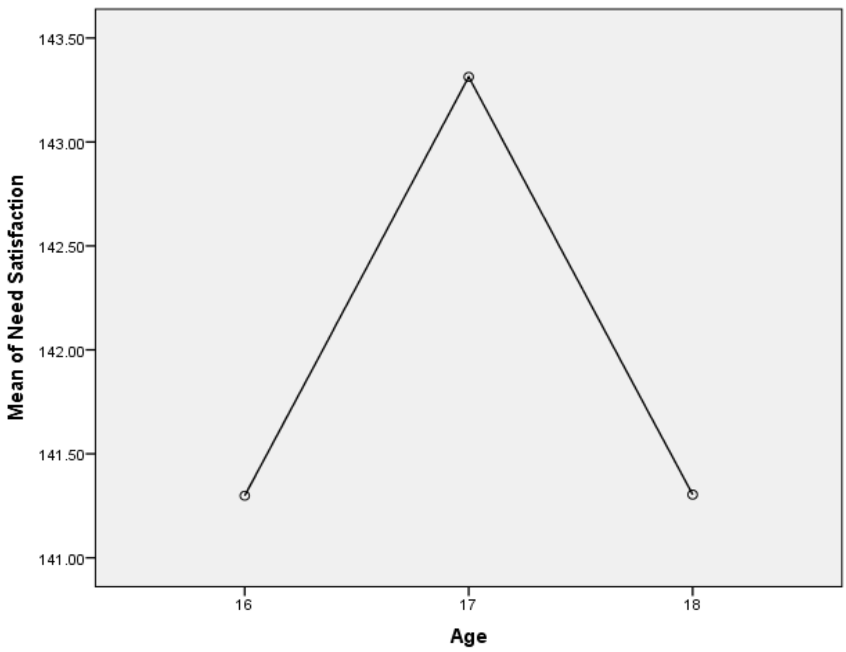
Table 30

Mean, Standard Deviation and F value of Need Satisfaction by Age

Age	N	M	SD	SE	F	Significance
16	191	141.3	17.0	1.2		
17	278	143.3	17.3	1.0	.98	.375
18	102	141.3	16.8	1.7		

Figure 18

Comparison of Mean Scores of Need Satisfaction by Age



There was no significant effect of age on need satisfaction, $F(2, 568) = 0.98$, $p = .375$. Thus, the hypothesis that there is no significant difference in mean scores of need satisfaction among higher secondary school students in Kerala with respect to age was not rejected.

Comparison of Mean scores of Need Satisfaction by Type of Management

For need satisfaction, the variances were equal for government, aided, and unaided school students, $F(2, 568) = 0.02$, $p > .05$. The type of management-wise difference between the mean scores of Need satisfaction of the sampled students was analysed using one-way ANOVA and the results are presented in Table 31.

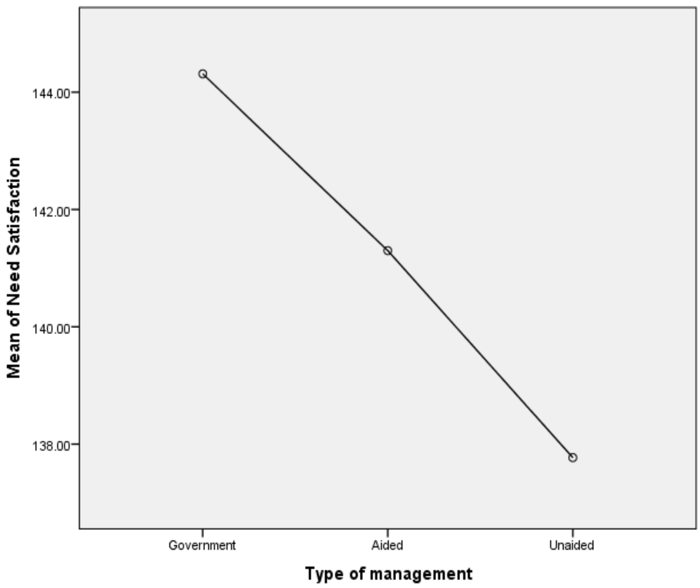
Table 31

Mean, Standard Deviation and F- Value of Need Satisfaction by Type of Management

Types of Management	N	M	SD	SE	F	Significance
Government	262	144.3	16.8	1.0		
Aided	244	141.3	17.2	1.1	4.55	.011
Unaided	65	137.8	17.5	2.2		

Figure 19

Comparison of Mean Scores of Need Satisfaction by Types of Management



From Table 31, it can be seen that Unaided school students had lower scores (*M* = 137.8, *SD* = 17.5) in need satisfaction than students belonging to Aided (*M* = 141.3, *SD* = 17.2) and Government schools (*M* = 144.3, *SD* = 16.8). This difference between Government, Aided, and Unaided school was found to be significant, $F(2, 568) = 4.55$, $p < .05$. Further, Tukey's post hoc test revealed that the mean value of need satisfaction was significantly different between Unaided and government school students ($p = .016$). There was no statistically significant difference between Government and Aided school students ($p = .116$), and Unaided and Aided school students ($p = .299$).

Comparison of Mean Scores of Need Satisfaction by Streams of Study

The objective (Objective 4) was to compare Stream-wise mean scores of need satisfaction among higher secondary school students. For need satisfaction, the variances were equal for commerce, science, and humanities group students, $F(2, 568) = 0.26$, $p > .05$. The data were analysed with the help of ANOVA and the results are given in Table 32.

Table 32

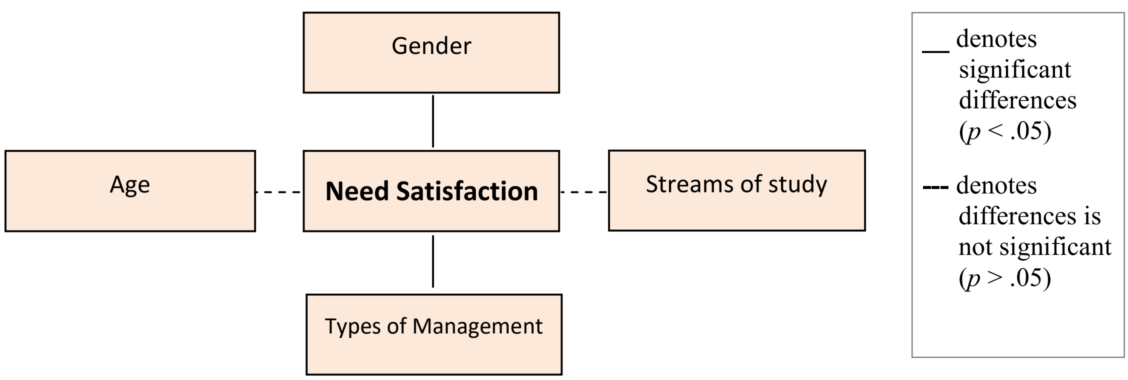
Mean, Standard Deviation, and F value of Need Satisfaction of Students by Streams of Study (N=571)

Streams of Study	N	M	SD	SE	F	Significance
Science	161	141.1	18.1	1.4		
Commerce	263	142.9	16.9	1.0	0.64	.528
Humanities	147	142.3	16.6	1.4		

From Table 32, it can be seen that the commerce group (M = 142.9, SD = 16.9) had higher scores in need satisfaction than that of students belonging to the humanities group (M = 142.3, SD = 16.6) and the science group (M = 141.1, SD = 18.1). This difference between commerce, humanities, and science was found to be not significant, $F(2, 568) = 0.64$, $p = .528$. Thus the hypothesis that there is no significant difference in mean scores of need satisfaction among higher secondary school students in Kerala with respect to stream of study was not rejected.

Figure 20

Subsample-wise Differences of Need Satisfaction



From the results (Figure 20) the categories of gender and type of management reported statistically significant differences in need satisfaction scores while differences between the categories of age, and stream of study reported were not significant.

Gender-wise Difference of Mean Scores of Parental Control Over Social Media Use

The objective (Objective 4) was to compare parental control on social media use among higher secondary school students in Kerala with respect to gender. The gender differences in mean scores of parental control on social media use were analysed using a *t*-ratio and the results are presented in table 33.

Table 33

Mean Scores of Dimensions of Parental Control over Social Media Use by Gender

Dimensions	Male		Female		t value	Significance	Cohen's d
	Mean	SD	Mean	SD			
Restrictive	20.9	6.0	25.5	5.6	9.43	.000	0.79
Uninvolved	10.4	3.9	9.6	3.8	2.62	.009	0.22
Proactive	21.7	5.8	21.6	6.2	0.09	.932	0.01

From Table 33, the mean score of female students is higher in restrictive parenting, which shows that female students experienced significantly more restriction than male students, $t(569)= 9.43$, $p < .001$. Medium effect size ($d = 0.79$) in restrictive parenting. The mean score of male students is higher in uninvolved parenting, which shows that male students feel more parental uninvolvement than females. Found a statistically significant main effect of gender on uninvolved parenting, $t(569) = 2.62$, $p < .05$. Although significant results were obtained, the effect was relatively small ($d = 0.22$). Thus, the hypothesis that there is no significant difference in mean scores of parental control on social media use among higher secondary school students in Kerala with respect to gender was rejected. There was no significant difference between the mean scores of males and females on proactive parenting, $t(569) = 0.09$, $p > .05$.

As per the results, the female students have experienced more parental control over social media use than male students and male students have felt more parental uninvolvement than female students.

Mean Score Comparison of Restrictive Parenting by Age

The objective (Objective 5) was to compare parental control on social media use of higher secondary school students in Kerala with respect to age. For the restrictive parenting, the variances of the three age groups were homogeneous, $F(2, 568) = .07$, $p > .05$. The age-wise Mean scores of restrictive parenting among students were analysed with the help of ANOVA and the results are given in Table 34

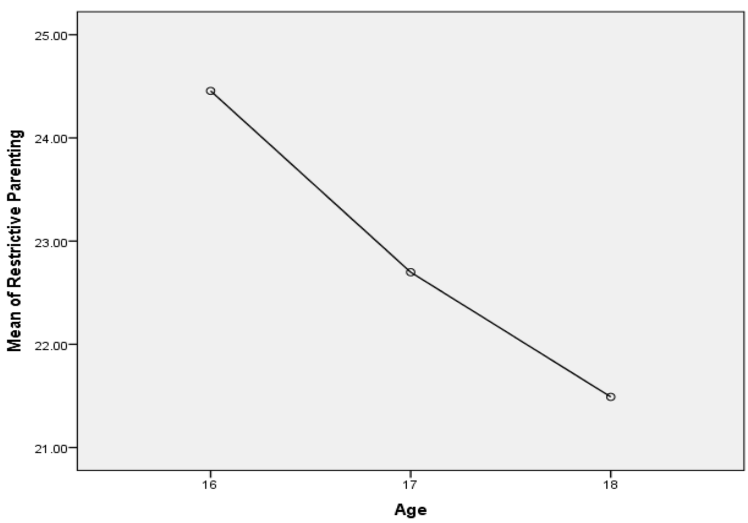
Table 34

Age-wise Mean, SD, SE and F value of Restrictive Parenting of Students

Age	N	M	SD	SE	F	Significance
16	191	24.5	6.2	0.4		
17	278	22.7	6.1	0.4	8.77	.000
18	102	21.5	6.2	0.6		

Figure 21

Mean Score Comparison of Restrictive Parenting by Age



There was a significant effect of age on restrictive parenting, $F(2, 568) = 8.77$, $p < .001$, $\eta2 = .030$. From the Tukey's post hoc test results, it can be seen that there was a statistically significant difference between two different age groups [16 and 17 ($p = .007$), 16 and 18 ($p < .001$)]. But there was no statistically significant difference between the age groups of 17 and 18 ($p =.206$). Thus, the hypothesis that there is no significant difference in mean scores of parental control over social media use among higher secondary school students in Kerala with respect to age was not rejected.

As per the results, students belonging to the 16 year age group perceived more parental restriction on social media use than the 17 and 18 year age group. The parental restriction over social media use decreased with age.

The Effect of Streams of Study and Gender on Restrictive Parenting

For the restrictive parenting, the variances were equal for commerce, science, and humanities group students, $F(2, 568) = 1.36$, $p >.05$. A two-way ANOVA was conducted using SPSS (21) to examine the effect of stream of study and gender on restrictive parenting.

Table 35

Gender and Streams of Study Scores for Degree of Freedom, Mean Square and F Value of Restrictive Parenting

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Gender	2112.0	1	2112.0	64.59	.000
Stream of study	212.4	2	106.2	3.25	.040
Gender x Streams of Study	329.6	2	164.8	5.04	.007

Table 36

Streams of Study-wise Mean and Standard Deviation of Restrictive Parenting of Male and Female Students

Gender	Streams of study	Mean	Std. Deviation	N
Male	Science	21.6	5.5	75
	Commerce	20.1	6.1	172
	Humanities	22.7	5.9	59
Female	Science	24.2	5.6	86
	Commerce	26.2	5.2	91
	Humanities	26.2	5.7	88

The plot of the mean restrictive parenting score for each combination of groups by gender and stream of study is plotted in a graph, as shown in Figure 22

Figure 22

Interaction between Gender and Streams of Study for Restrictive Parenting

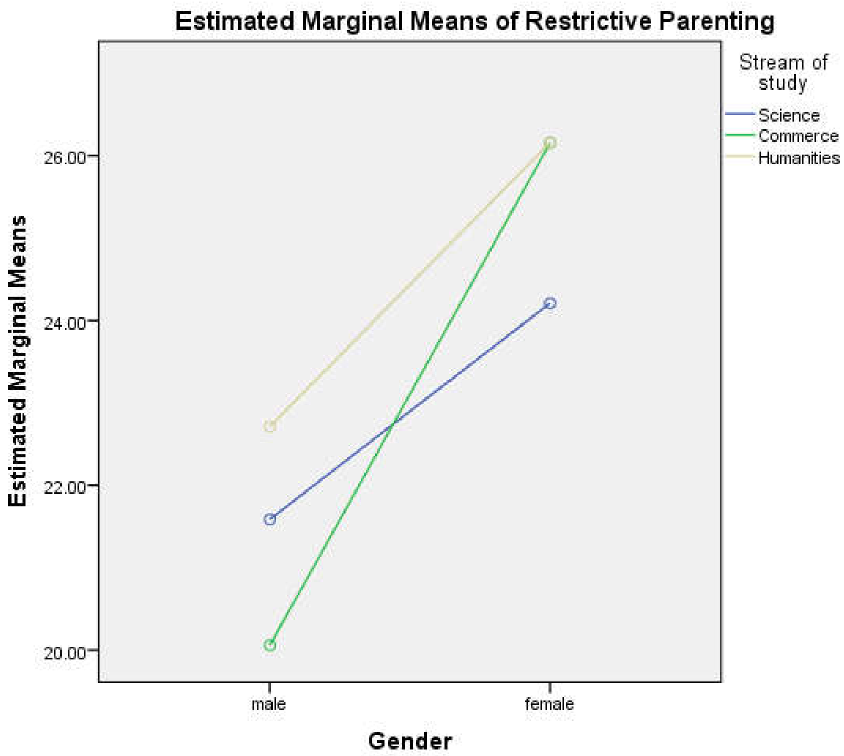
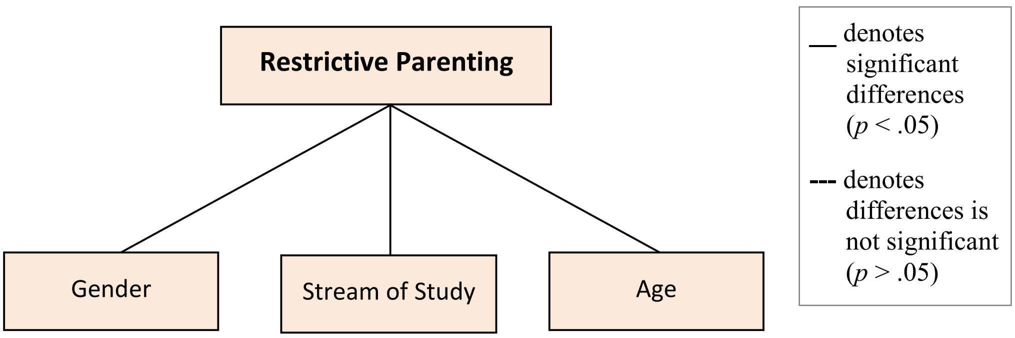


Figure 22 showed that there was a statistically significant interaction between the effects of gender and stream of study on restrictive parenting, $F(2, 565) = 5.04$, $p < .05$, $\eta 2 = .018$, though the effect was small. Male students belonging to the commerce group ($M = 20.1$, $SD = 6.1$) had lower scores in cyberbullying than other groups of students. The greater restrictive parenting scores found among female students belonged to the commerce group ($M = 56.2$, $SD = 5.2$) and humanities group ($M = 56.2$, $SD = 5.7$) compared to other groups of students.

As per the results, female students were perceived as having more parental restrictions on social media use than male students when belonging to the commerce, science, and humanities.

Figure 23

Subsample-wise Difference in Restrictive Parenting



From the results (Figure 23) the categories of gender, age, and streams of study reported statistically significant differences in restrictive parenting scores.

Correlation Analysis

In this part, the study analysed the relationship between cyberbullying, need satisfaction and parental control on social media use because the research consistently correlated cyberbullying with psychosocial factors, especially self-esteem.

The objective of the study (Objectives 6 & 7) was to study the relationship between cyberbullying, need satisfaction, and parental control on social media use among higher secondary school students in Kerala. The Pearson Product Moment Correlation coefficients of cyberbullying with need satisfaction, restrictive parenting, uninvolved parenting and proactive parenting were presented in Table 37.

Table 37

Descriptive Statistics and Correlation Coefficients for Study Variables

	M	SD	1	2	3	4
1. Cyberbullying	128.8	34.4				
2. Need Satisfaction	142.3	17.1	-.47**			
3. Restrictive Parenting	23.1	6.2	-.38**	.28**		
4. Uninvolved Parenting	10.0	3.9	.45**	-.46**	-.21**	
5. Proactive Parenting	21.7	5.9	.14**	-.08*	.23**	.19**

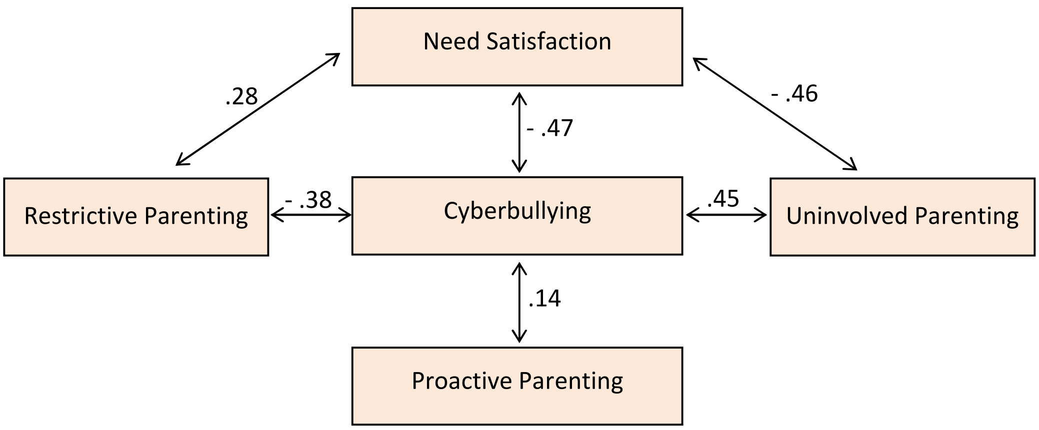
* $p < 0.05$ level (2-tailed), ** $p < .01$ level (2-tailed), N = 571

There was a moderate negative correlation between cyberbullying and need satisfaction, $r(569) = -.47$, $p < .001$. Cyberbullying and restrictive parenting were found to be moderately negatively correlated, $r(569) = -.38$, $p <.001$. In these results, the p-values for the correlation between cyberbullying and need satisfaction and between Cyberbullying and restrictive parenting were less than the significance level of .001, which indicates that the correlation coefficients were significant. Thus, the hypothesis that there is no significant correlation between need satisfaction and cyberbullying among higher secondary school students in Kerala was rejected. The relationship between these variables was negative, which indicates that as need satisfaction increases, cyberbullying decreases. The hypothesis that there is no significant correlation between parental control over social media use and cyberbullying among higher secondary school students in Kerala was also rejected. The relationship between restrictive parenting and cyberbullying was negative, which indicates that, as restrictive parenting increases, cyberbullying decreases.

The variables cyberbullying and uninvolved parenting were found to be moderately positively correlated, $r(569) = .45$, $p < .001$. In these results, the p-value for the correlation between cyberbullying and uninvolved parenting was less than .001, which indicates that the correlation coefficient was significant. The Pearson correlation between cyberbullying and proactive parenting is about .14. There was a weak positive correlation between the two variables; however the relationship was significant ($p < .001$). The relationship between these variables was positive, which indicates that, as proactive parenting and uninvolved parenting increase, cyberbullying increases. There was a moderate negative correlation between uninvolved parenting and need satisfaction, $r(569) = -.46$, $p < .001$. The p-value for the correlation between uninvolved parenting and need satisfaction was less than .001, which indicates that the correlation coefficient was significant. The relationship between uninvolved parenting and need satisfaction was negative, which indicates that, as uninvolved parenting increases, need satisfaction decreases.

Figure 24

Correlation Coefficient Chart for Study Variables



The Pearson Product Moment Correlation coefficients of need satisfaction with cyberbullying victimisation and cyberbullying perpetration were presented in Table 38.

Table 38

Descriptive Statistics and Correlation Coefficients of Need Satisfaction with Cyberbullying Victimisation and Cyberbullying Perpetration

	M	SD	1	2
1. Need Satisfaction	142.3	17.1		
2. Cyberbullying victimisation	70.4	20.0	-.49**	
3. Cyberbullying perpetration	58.3	17.4	-.38**	.69**

* p < 0.05 level (2-tailed),** p < .01 level (2-tailed), N= 571

In these results, the Pearson correlation between cyberbullying perpetration and need satisfaction is about -.38, which indicates that there was a moderate negative relationship between the variables (*p*<.001). There was a moderate negative correlation between the cyberbullying victimisation and need satisfaction, r = -.49, however the relationship was significant (*p* < .001). In these results, the p-values for the correlation between cyberbullying victimisation and need satisfaction and between Cyberbullying perpetration and need satisfaction were less than the significance level of .001, which indicates that the correlation coefficients were significant. The relationship between these variables was negative, which indicates that, as cyberbullying victimisation and cyberbullying perpetration increase, need satisfaction decreases.

Table 39

Descriptive Statistics and Correlation Coefficients of Cyberbullying with Dimensions of Need Satisfaction

Dimensions of Need Satisfaction	M	SD	1	2	3	4
1. Cyberbullying	128.8	34.4				
2. Physiological Needs	15.3	3.2	-.46**			
3. Safety Needs	21.9	3.1	-.36**	.39**		
4. Belongingness Needs	33.2	5.1	-.37**	.32**	.54**	
5. Esteem Needs	71.9	9.4	-.38**	.40**	.55**	.70**

* *p* < 0.05 level (2-tailed),** *p* < .01 level (2-tailed), N= 571

Among the students of higher secondary schools in Kerala, cyberbullying was moderately negatively correlated with various levels of need satisfaction such as physiological needs, $r(569) = -.46$, $p < .001$, safety needs, $r(569) = -.36$, $p < .001$, belongingness needs, $r(569) = -.37$, $p < .001$ and esteem needs $r(569) = -.38$, $p < .001$. In these results, the p-values for the correlation between cyberbullying and dimensions of need satisfaction were less than the significance level of .001, which indicates that the correlation coefficients were significant. The relationship between these variables was negative, which indicates that, as physiological need, safety need, belongingness need, and esteem need increase, cyberbullying decreases.

Table 40

Correlation of Cyberbullying Dimensions with Self-esteem and Need Satisfaction (N=571)

Cyberbullying Dimensions		Self-Esteem r	Sig. value	Need Satisfaction r	Sig. value
Flaming	Cyber-bully	-.19	.000	-.24	.000
	Cyber-victim	-.16	.000	-.29	.000
Harassment	Cyber-bully	-.17	.000	-.25	.000
	Cyber-victim	-.19	.000	-.30	.000
Denigration	Cyber-bully	-.24	.000	-.31	.000
	Cyber-victim	-.22	.000	-.32	.000
Impersonation	Cyber-bully	-.20	.000	-.28	.000
	Cyber-victim	-.30	.000	-.41	.000
Outing and trickery	Cyber-bully	-.26	.000	-.32	.000
	Cyber-victim	-.29	.000	-.38	.000
Exclusion	Cyber-bully	-.22	.000	-.27	.000
	Cyber-victim	-.38	.000	-.44	.000
Cyberstalking	Cyber-bully	-.21	.000	-.31	.000
	Cyber-victim	-.30	.000	-.40	.000
Cyberbullying perpetration		-.28	.000	-.38	.000
Cyberbullying victimisation		-.34	.000	-.49	.000

The variable need satisfaction was negatively correlated with cyberbullying dimensions such as, flaming, $r(569) = -.24$, $p < .001$, harassment, $r(569) = -.25$, $p < .001$, denigration, $r\ (569) = -.31$, $p < .001$, impersonation, $r(569) = -.28$, $p < .001$, outing and trickery, $r(569) = -.32$, $p < .001$, exclusion, $r(569) = -.27$, $p < .001$, and Cyberstalking, $r\ (569) = -.31$, $p < .001$. From the table, it can be seen that each dimension in cyberbullying perpetration had significant low correlation with need satisfaction. The variables cyberbullying perpetration and need satisfaction were found to be moderately correlated, $r(569) = -.38$, $p < .001$. The relationship between these variables indicates that as need satisfaction increases, cyberbullying perpetration decreases.

The cyberbullying perpetration and self-esteem were found to be negatively correlated, $r(569) = -.28$, $p < .001$. Self-esteem was significantly correlated with flaming, $r(569) = -.19$, $p < .001$, harassment, $r(569) = -.17$, $p < .001$, denigration, $r(569) = -.24$, $p < .001$, impersonation, $r(569) = -.20$, $p < .001$, outing and trickery, $r(569) = -.26$, $p < .001$, exclusion, $r(569) = -.22$, $p < .001$, and Cyberstalking, $r(569) = -.21$, $p < .001$. The relationship between these variables indicates that as self-esteem increases, cyberbullying perpetration decreases in all dimensions.

The variable need satisfaction was negatively correlated with cyber-victim dimensions such as, flaming, $r(569) = -.29$, $p < .001$, harassment, $r(569) = -.30$, $p < .001$ and denigration, $r(569) = -.32$, $p < .001$. There was a weak negative correlation between the variables. The variables impersonation, $r(569) = -.41$, $p < .001$, outing and trickery, $r(569) = -.38$, $p < .001$, exclusion, $r(569) = -.44$, $p < .001$, and Cyberstalking, $r(569) = -.40$, $p < .001$ moderately correlated with cyberbullying victimisation. The variables cyberbullying victimisation and need satisfaction were found to be moderately correlated, $r(569) = -.49$, $p < .001$. The relationship between these variables indicates that as need satisfaction increases, cyberbullying victimisation decreases.

The cyberbullying victimisation and self-esteem were found to be negatively low correlated, $r(569) = -.34$, $p < .001$. Self-esteem was significantly correlated with flaming, *r(*569) = -.16, *p* < .001, harassment, *r(*569) = -.18, *p* < .001, denigration, *r(*569) = -.22, *p* < .001, impersonation, *r(*569) = -.30, *p* < .001, outing and trickery, *r(*569) = -.29, *p* < .001, exclusion, *r(*569) = -.38, *p* < .001, and Cyberstalking, *r(*569) = -.30, *p* < .001. The relationship between these variables indicates that as self-esteem increases, cyberbullying victimisation decreases in all dimensions.

Cyberbullying and Parental Control over Social Media Use

The Pearson Product Moment Correlation coefficients of cyberbullying dimensions with restrictive parenting, uninvolved parenting and proactive parenting were presented in Table 41.

Table 41

Correlation of Cyberbullying Dimensions with Dimensions of Parental Control

Cyberbullying Dimensions		Proactive parenting	Sig. value	Uninvolved parenting	Sig. value	Restrictive parenting	Sig. value
		r		r		r	
Flaming	Cyber-bully	.13	.002	.30	.000	-.40	.000
	Cyber-victim	.10	.022	.30	.000	-.38	.000
Harassment	Cyber-bully	.16	.000	.31	.000	-.36	.000
	Cyber-victim	.03	.550	.30	.000	-.31	.000
Denigration	Cyber-bully	.07	.123	.23	.000	-.30	.000
	Cyber-victim	.02	.699	.24	.000	-.16	.000
Impersonation	Cyber-bully	.12	.003	.33	.000	-.18	.000
	Cyber-victim	.07	.116	.36	.000	-.25	.000
Outing and trickery	Cyber-bully	.04	.339	.34	.000	-.15	.000
	Cyber-victim	.09	.034	.33	.000	-.35	.000
Exclusion	Cyber-bully	.09	.033	.19	.000	-.11	.009
	Cyber-victim	.18	.000	.32	.000	-.06	.142
Cyberstalking	Cyber-bully	.14	.001	.36	.000	-.11	.009
	Cyber-victim	.07	.123	.40	.000	-.16	.000
Cyberbullying perpetration		.15	.000	.39	.000	-.35	.000
Cyberbullying victimisation		.11	.010	.44	.000	-.36	.000

In these results, the Pearson correlation between cyberbullying perpetration and proactive parenting is about .15. There was a weak positive correlation between the two variables; however, the relationship was significant ($p < .001$). The variables cyberbullying perpetration and uninvolved parenting were found to be moderately correlated, $r(569) = .39$, $p < .001$. As proactive parenting and uninvolved parenting increase, cyberbullying also increases. There was a weak negative correlation between the cyberbullying perpetration and restrictive parenting, $r(569) = -.35$, $p < .001$. As restrictive parenting increases cyberbullying decreases.

From Table 41, there was a weak positive correlation between cyberbullying victimisation and proactive parenting, $r(569) = .11$, $p = .010$. The correlation coefficient between cyberbullying victimisation and uninvolved parenting were found to be moderately positively correlated, $r(569) = .44$, $p < .001$. As proactive parenting and uninvolved parenting increase, cyber-victimisation also increases. The Pearson correlation between cyber-victim and restrictive parenting were significantly correlated, $r(569)= -.36$, $p < .001$. There was a moderately negative relationship, which indicates that as parental restriction increases, cyber-victimisation decreases.

Uninvolved parenting was significantly positively associated with all forms of cyberbullying perpetration and cyberbullying victimisation. Restrictive parenting was negatively and significantly associated with all forms of cyberbullying victimisation and cyberbullying perpetration. As uninvolved parenting increases, cyberbullying perpetration and cyberbullying victimisation also increase in all dimensions. Unlike uninvolved parenting, as restrictive parenting increases, cyberbullying decreases in all dimensions.

Multiple Regression Analysis

The objective was to establish a regression equation for predicting cyberbullying on the basis of need satisfaction and parental control on social media use among higher secondary school students in Kerala. Multiple Regression statistical procedure was used for examining the combined relationship of need satisfaction and parental control over social media use with cyberbullying.

Effect of Need Satisfaction, Proactive Parenting, Restrictive Parenting and Uninvolved Parenting on the Dependent Variable Cyberbullying among the Higher Secondary School Students

Here the Multiple Regression analysis for effect towards the dependent variable cyberbullying (Y) was performed with four independent variables of the higher secondary school students such as Need satisfaction, Proactive parenting, Uninvolved parenting, and Restrictive parenting.

Dependent Variable (Y) = Cyberbullying

Independent variables: need satisfaction, proactive parenting, restrictive parenting, and uninvolved parenting were denoted as X_1, X_2, X_3 and X_4. The regression model is

$$\mathbf{Y = a_0+b_1X_1+ b_2X_2+ b_3X_3+b_4X_4}$$

Where b's are the unstandardized beta coefficients of each variable and a_0 is a constant value. This Regression Equation can be used to predict cyberbullying among higher secondary school students on the basis of need satisfaction, proactive parenting, restrictive parenting, and uninvolved parenting.

Table 42

Multiple Regression Analysis - Model Summary

R	R Square
.61	.37

The model summary Table 42 shows the overall predictability of the regression model. Multiple Coefficient of Correlation is R=.61. The Squared Multiple Coefficient (R^2) of Correlation is .37 which states that all the four independent variables contribute to 37 percent of variance on the dependent variable cyberbullying. It is the proportion of variance in the dependent variable that is predictable from the predictors.

Table 43

ANOVA Table of the Regression Model

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	246706.24	4	61676.56	81.58	.000**
Residual	427933.89	566	756.07		
Total	674640.13	570			

** Statistically significant at .01 level of significance

The overall model is significantly useful in explaining cyberbullying score, $F(4, 566) = 81.58$, $p < .01$. ANOVA results reveal a p-value as .000 which is less than .01 and it indicates that the regression model is a statistically good fit at the 1% level of significance. It shows that a significant relationship exists between the variables tested in the hypothesis. Thus, it has been identified that the independent variables are closely associated and have an effect on the dependent variable, cyberbullying.

Table 44

Coefficients of Multiple Regression Analysis

Model	Unstandardized Coefficients	Std. Error	Standardized Coefficients	*t*	Sig.
	B		Beta		
(Constant)	204.70	13.35		15.34	.000**
Proactive parenting	0.78	.21	.14	3.79	.000**
Restrictive parenting	-1.59	.20	-.29	-7.87	.000**
Uninvolved parenting	2.12	.34	.24	6.19	.000**
Need satisfaction scale	-0.55	.08	-.27	-7.02	.000**

** Statistically significant at .01 level.

The effect on cyberbullying would increase by 0.78 for every unit increase in the Proactive parenting, cyberbullying increase by 2.12 with respect to Uninvolved parenting, cyberbullying decrease by 1.59 for every unit increase in the Restrictive parenting and cyberbullying would decrease by 0.55 for every unit increase in the Need satisfaction. The regression equation formed was:

Cyberbullying (Y) = 204.70 + (0.78 Proactive parenting) + (-1.59 Restrictive parenting) + (2.12 Uninvolved parenting) + (-0.55 Need satisfaction).

Discussion

The main aim of this research was to study cyberbullying among higher secondary school students in the context of various psychosocial factors, viz. need satisfaction and parental control on social media use. In addition, gender, age, stream of study, and type of management differences in variables were also studied. The results of the study discussed important correlates of cyberbullying behaviour and established a regression equation for predicting cyberbullying on the basis of need satisfaction and parental control on social media use of higher secondary school students.

The vast majority of higher secondary students in Kerala aged 16 to 18 years reported that they were not cyberbullied and did not cyberbullying others. Although, the higher secondary school students are involved in cyberbullying. The most prominent form of cyberbullying was flaming (24.3%) followed by harassment (23.8%), exclusion (18.6%) and denigration (14.7%). More victimisation experienced by higher secondary school students than bullying. These results supported earlier research in which Divya (2018) administered a cyber-victimisation scale to 1010 Delhi-based students and the result indicated that 12.7% students had faced cyber-victimisation. The present study found a significant difference in the mean scores of cyberbullying perpetration between male and female students. Specifically, male students were more involved in cyberbullying than female students. These findings also supported previous research by Alsawalqa (2021) that revealed males were more likely to be Cyber-bullies than females. Navarro (2016) reviewed studies related to the gender difference in cyberbullying and presented six different result categories. The result of this study falls into the third category; boys are more involved in cyberbullying as both victims and aggressors.

The study of Vandebosch and Cleemput (2009) indicated that the existence of counter or chain reactions in cyberbullying, whereby perpetrators become victims and victims become perpetrators, ultimately leads to a culture of cyberbullying. In the present study, more than 20% of students were involved in cyberbullying, but only about 5% of them became victims and bullies at the same time. As age increased, involvement in cyberbullying increased. Students in the 18-year-old age group registered higher mean scores than students in other age groups. Students belonging to commerce groups are more involved in cyberbullying as bullies and victims than those of humanities and science groups. In terms of type of management, students belonging to unaided schools are more involved in cyberbullying than those in aided and government schools, this difference was found to be not significant.

The students reported a relatively high average score on need satisfaction. Female students had more need satisfaction than male students. The results revealed that cyberbullying victimisation and cyberbullying perpetration were found to be significantly negatively correlated with self-esteem. The results, cyberbullying was significantly correlated with esteem need satisfaction, are in line with earlier studies on cyberbullying. Hinduja and Patchin, (2018) associate cyberbullying with significantly lower levels of self-esteem. Both perpetrators and targets of cyberbullying are expected to have lower levels of self-esteem compared to those who were not involved in cyberbullying (Patchin & Hinduja, 2010). Alsawalqa (2021) also linked cyberbullying with low self-esteem.

Compared to male students, female students have reported more parental supervision of their use of social media. Alvarez-Garcia, Garcia, Cueli, and Nunez

(2019) analysed parental control of internet use by adolescents and revealed girls are more restricted and monitored for internet use by parents than boys. When parental restriction on social media use decreased, the involvement in cyberbullying increased. Students belonging to the 16 year age group experienced more parental restriction on social media use and registered lesser mean scores in cyberbullying.

There was a moderately negative correlation between cyberbullying and need satisfaction. Cyberbullying and restrictive parenting were found to be moderately negatively correlated. Various need satisfaction levels have also been found to be significant correlates of cyberbullying thus suggesting that those students with greater need satisfaction level are less likely to engage in cyberbullying. The findings of this study also suggest that students with restrictive parenting, in comparison to those with uninvolved parenting and proactive parenting, are less involved in cyberbullying. Perren et al. (2012) reported that parental mediation or internet safety measures were effective in reducing cyberbullying. It has been identified that Needs satisfaction, Proactive parenting, Uninvolved parenting, and Restrictive parenting are closely associated and have an effect on cyberbullying. Overall, the results of this study gave new insights about various psychosocial issues underlying cyberbullying among higher secondary school students.

Thematic Analysis

In the context of widespread use of mobile phones and the internet, the objective was to study the prevalence of cyberbullying among higher secondary school students in Kerala. A detailed interview with higher secondary school teachers was conducted to understand more about the prevalence of mobile phone and social media use among their students. Questions focused on the use of mobile phones and social media and their impact on students. The data were transcribed and analysed based on the thematic analysis framework developed by Braun and Clarke (2006). Four major themes were derived from the interview data: the use or abuse of social media, the role of social media groups, teacher-student relationships, and cyber safety measures.

The Use or Abuse of Social Media

This theme refers to the teachers' perspective on social media use or abuse by higher secondary school students. In the experience of teachers, social media abuse was prevalent among students; very few of them use social media and the internet effectively for learning. Teachers have noticed that students shared messages through social media without seriousness. Casual comments made by students on political, religious, and sexual matters through social media often pose a problem. Teachers claimed that parents regularly criticise their children for spending too much time on mobile phones. A senior teacher said:

> Ninety percent of students misuse internet facilities. Children spend their time on their mobile phones and come to school without even doing their homework. The overnight use of mobile phones makes it difficult for them to wake up early in the morning and reach school on time…

The teacher mentioned that they had to deal with the issues of students who had become addicted to internet games and porn sites. The teacher shared:

> I am shocked to hear what children say. They talk about more serious matters than we expect. They are much more experienced than us in many ways. Even yet, I even wonder how many of them are real children…

The majority of the teachers indicated that students spend too much time on online activities. They also mention how using social media at night might lead to health problems including headaches. One teacher from Trivandrum claimed:

> A few students were misusing social media. […] Using social media groups, students from our school actively planned and took part in flood relief efforts.

All teachers agree that although technologies like social media make learning activities more convenient, they can never completely replace the traditional classroom setting.

Role of Social Media Group

Social media groups are active among students. In addition to class-based groups, which are administered by teachers, many social media-based groups are formed by students with similar interests. More than just a group to communicate with, its members function as a gang with a unique identity. Such gangs among school children have unique identities. For instance, a group of students wears the same model of white colour shoes. Teachers demonstrated the names and features of such groups focusing on specific topics or interests. Some of them are Adholokham, Hassakiyans, Chekuthan, Devil Venom, Vodkas, Dark Squad, Christopher, Ladan Groups, Athmas, Billadans, Dharavi, Villians-19, Izraeels, Varlocks and Kombans. Some group names and display pictures are associated with drugs and alcohol, for example, Kanchans, used cannabis plants as a symbol of their social media group and Vodkas used alcohol bottles as their display picture.

Social media-based gangs among students pose a severe disciplinary issue in higher secondary schools. On a group basis, children fight with each other at school. Teachers have realised that many of the school-related issues, provocations, and conspiracies are carried out through social media groups. These social media-centered gangs often engaged in conflict with each other by writing their names, signs, or symbols on the school's walls or tables. One incident reminded by a teacher:

> One day at school, the girls got into a fight over their WhatsApp status. After verbal arguments, they move on to physical violence. […] To resolve the issue, we had to put in a lot of effort.

Teachers used a variety of situations from their own experiences to illustrate how risky using social media groups may be. A teacher from Kannur described;

> […] Two students in our school started disputes with one another and then engaged in controversial social media behaviour. Some of these disagreements were spread to other politically oriented social media groups, and the subject was picked up by different political parties, provoking a major conflict. […] The dispute may have been avoided only by parents' and teachers' prompt action.

A teacher at a government school in the Malappuram district detailed how students fought because of a social media video.

> Only senior (Plus two) students at our school had the chance to compete in the mime competition during the school festival until the previous year. Junior students had the opportunity to take part in the mime with the assistance of a few senior teachers. Junior (plus one) students took part, and a student secretly recorded their performance, which was then shared online with derogatory remarks. […] Senior and junior students engaged into a fight when the video was shared in social media groups.

The majority of teachers draw attention to the fact that many social media groups among children encourage inappropriate behaviour, and some of them even promote drug and alcohol usage.

Teacher-student Relationship

The teacher-student connection is the focus of the theme, which examines how the teacher-student relationship has evolved as a result of the innovative communication facility. The introduction of new modes of communication has influenced teacher-student interaction in several ways. It has made it possible for teachers and students to communicate at any point in time. A teacher expressed concern regarding the teacher-student relationship:

> […] There are many new media to interact with, but the students' intimacy is fading year after year. [...]

Teachers can address the entire class and give instructions using social media. Through a social media site, students could interact with teachers directly and get their questions answered. Social media was praised by teachers for helping to overcome problems in studying for children during the Covid-19 pandemic. Social media use has helped in transform the connection between teacher and student from one of mutual respect to one of friendship. Along with academic ability and charisma, a teacher's ability to manage technology is now appreciated.

Students and teachers can connect secretly using social media, which leads to them discussing unnecessary topics and making undesirable contacts. According to an aided school teacher:

> Once, a group of girls came to the staff room and complained to the principal about a teacher. They claimed to the Principal that a teacher had misbehaved on social media, and the inquiry proved it. […] As a result, one of my colleagues was suspended from the service.

Another incident narrated by a government school teacher:

> One day a student came into the staff room with distress, and she publicly criticised the teacher for making disrespectful comments on social media...

Even private conversations between school officials were reaching out to students via social media. There were numerous occasions where students' social media interactions could be seen as disrespectful to their teachers. Students share trolls and stickers picturing the teacher as a comic character, including with their nicknames, photos, and conversations. The issue of students recording class activity on their phones and sharing it on social media has been raised in a number of institutions. Students have criticised teachers on social media, especially those who enforce strict rules to maintain classroom discipline.

Cyber-safety Measures

The theme of 'cyber-safety measures' is about the various safety precautions taken by schools to safeguard the students' safety. It has become clear that higher secondary schools do not consistently apply cyber safety measures. According to a language teacher:

> Only a few topics addressed the issue of cyberspace, but none addressed it directly. The self-control of smartphone usage helps to grasp the rhythm of nature. […] Messages of this nature are covered in an English lesson.

Although the need to becoming a true human being in the age of robots is stressed in class, teachers believe that they do not benefit in the real sense. Teachers claim that students' lives at the time are mostly focused on their smartphones. According to a school principle:

> If we want to know what their genuine emotional states are, we need to monitor students' social media accounts and status changes. […]

The right measures have been implemented by the authorities to restrict smartphone use in classrooms. Parents frequently went to teachers to request for the return of their children's seized cell phones. The teacher at Wayanad described an incident:

> A student took a costly mobile phone to school against the instructions of the administration, and the teachers confiscated it. Then the parent intervened and took the phone back to the child. One month after the phone was recovered, the student committed suicide and the police investigated the role of the mobile phone in the death. […]

The Kerala Police held classes in schools under the premise of the Souhrida Club every year, which were helpful in raising students' awareness of online safety. A teacher of computer science remarked:

> Children's interest levels have increased as a result of the classroom discussion about how technology might be misused, such as through hacking, which has led to more questions about it. […]

Children now routinely check their social media accounts to see what is going on. They can now update their social media status at several school events and field trips. Schools are implementing cyber-safety initiatives in response to the issue of children who are frequently online, but these initiatives have not yet been successful. Teachers demanded structured sessions on cyber-safety at the school.

Discussion

Social media provides wide opportunities for self-presentation and interaction. Due to the wide access and growing popularity of social media sites, identity on social media is a matter of pride for today's generation. But the potential of social networks is often misused.

Teachers made it clear that usage of social media was widespread among higher secondary school students. When teachers share their experiences, social media abuse is prevalent among children and very few students use social media and the internet effectively for learning purposes. Students made comments on political, religious, and sexual matters through social media without realising the truth. Parents regularly complained that their children are using their mobile phones too much at home. Teachers have noticed that students spend too much time in cyberspace; especially with the overnight use of mobile phones. School teachers have also revealed that they have to deal with the problems of students who have become addicted to online games and porn sites.

Students frequently use social media groups to communicate. Its members perform as a gang with a distinct identity rather than just as a group to converse with. These student groups have distinctive names and identities. With these groups, students post trolls and stickers that show the teacher as a comic book character, complete with their nicknames, photos, and discussions. The peaceful environment and school discipline are frequently hampered by these groups on the school property. Social media groups are used to spread many of these theories, provocations, and problems at school. When the remaining cyber-violence took place on the school grounds, teachers were unable to pinpoint its real causes.

The advent of new ways of communication has also transformed the teacher-student relationship. It has allowed teachers and students to communicate at any time. Teachers are able to address the class as a group and provide directions through social media. Social media platforms make it possible for children to communicate directly with teachers and resolve their doubts. There are disputes between teachers and students regarding the handling of mobile phones that children bring to school without permission. Mobile phones and social media have been of great help in alleviating the barriers associated with children's learning during the Covid-19 pandemic period. Today, a teacher is recognised not only for their academic excellence and personality but also for their ability to manage technology. Social media provides the opportunity for students and teachers to communicate privately, which leads them to discuss unnecessary topics and make unwanted contacts. Social media is the way to reach out to children, even for confidential discussions between teachers. Social media is also used against teachers to turn students' frustration into a general feeling of dislike.

Cyber security measures are not systematically included in Kerala's higher secondary school curriculum. Only a few themes directly addressed cyberspace and cyber ethics, but none directly addressed cyber security measures. Teachers are confused as to how to deal with student problems regarding cell phones and the internet. Through their awareness programme, the Kerala police played an important role in ensuring cyber-safety among students. Students' daily lives have become more dependent on their mobile phones. Students have made it a habit to keep up with everything by posting their own social media status updates. Many school functions and field trips have become opportunities for them to update their social media status. Given the importance of cyberspace in children's lives, various cyber-safety measures have been implemented at school, yet they fall short of the mark. According to comments made by school teachers regarding students' use of social media, cyberbullying is a problem among higher secondary school students.

Focusing on the important findings in the analysis, the fifth chapter tries to bring Summary and Conclusions of the study on cyberbullying and associated psychosocial factors among higher secondary school students in Kerala.

Chapter 5

SUMMARY, FINDINGS AND SUGGESTIONS

- Objectives of the Study
- Hypotheses of the Study
- Methodology
- Summary of Findings
- Tenability of Hypotheses
- Limitations of the Study
- Suggestions for Further Research
- Conclusions

SUMMARY OF FINDINGS AND CONCLUSIONS

As the world moves towards digitalization, social networking sites have become a part of our daily lives. The COVID-19 pandemic situation brought people closer to social media. The state of Kerala has been able to easily set up digital classrooms during the pandemic period as it is one of the leading states in literacy rate and mobile phone usage. The people of Kerala are at the forefront of making trolls and sharing criticism through social media. As a section of society, children cannot stay away from such trends through social media. Education has a significant role to play in ensuring that such social media interactions do not violate the boundaries of decency and the law. In this context, the present study examined cyberbullying as a part of social media interaction between students in higher secondary schools in Kerala. It also examined how need satisfaction and parental control over social media use were associated with cyberbullying.

Objectives of the Study

Cyberbullying harms children's personality development and academic achievement. The only way to create an equitable and quality education is to respect the rights of students. To promote an effective learning environment, cyberbullying should be addressed. In light of this, the study intended to determine the prevalence of cyberbullying and its association with need satisfaction and parental control over social media use. The following specific objectives were developed to achieve this primary objective.

1. To study the prevalence of cyberbullying among higher secondary school students in Kerala.
2. To identify cyberbullies, cyber-victims, and cyberbully-victims among higher secondary school students in Kerala.

3. To compare cyberbullying of among higher secondary school students in Kerala based on gender, age, streams of study, and types of management.
4. To compare need satisfaction of higher secondary school students in Kerala based on gender, age, streams of study and types of management.
5. To compare parental control on social media use among higher secondary school students in Kerala based on gender and age.
6. To study the relationship between cyberbullying and the need satisfaction among higher secondary school students in Kerala.
7. To study the relationship between cyberbullying and parental control on social media use (proactive parenting, restrictive parenting, and uninvolved parenting) among higher secondary school students in Kerala.
8. To establish a regression equation for predicting cyberbullying among higher secondary school students on the basis of their need satisfaction and parental control over social media use.

Hypotheses of the Study

Previous studies on cyberbullying across the world revealed the pervasiveness and its significant association with demographic and psychosocial variables. The researcher selected need satisfaction and parental control over social media use as variables and formulated the following research hypotheses assuming the existence of such relationships.

1. There is cyberbullying behaviour among higher secondary school students in Kerala.
2. There are different cyberbullying participant groups (cyberbullies, cyber-victims, and cyber bully-victims) among higher secondary school students in Kerala.

3. There is no significant difference in mean scores of cyberbullying among higher secondary school students in Kerala based on gender, age, streams of study, and types of management.
4. There is no significant difference in mean scores of need satisfaction among higher secondary school students in Kerala based on gender, age, streams of study, and types of management.
5. There is no significant difference in mean scores of parental control on social media use among higher secondary school students in Kerala based on gender and age.
6. There is no significant correlation between need satisfaction and cyberbullying among higher secondary school students in Kerala.
7. There is no significant correlation between parental control over social media use and cyberbullying among higher secondary school students in Kerala.

Methodology

To realise the objectives, a descriptive-survey was conducted among higher secondary school students and higher secondary school teachers. The explanatory correlational design used to explain the degree of association among cyberbullying, need satisfaction, and parental control over social media use. Both quantitative and qualitative approaches were used in this study.

Summary of Findings

The summary of findings discussed the prevalence of cyberbullying, subsample-wise differences in cyberbullying, and important correlates of cyberbullying among higher secondary school students in Kerala.

- Social media abuse was predominant among higher secondary school students. Social media groups were active among them. Students frequently took part in social media groups that functioned more as gangs with distinct identities than just a platform for communication. Through these groups, students share trolls and stickers that depict the teachers or peers as comic characters, along with their nicknames, images, and conversations. The school's discipline was frequently harmed by these gangs. The higher secondary school curriculum in Kerala does not yet cover cyber safety measures systematically.

- Students have been involved in cyberbullying as part of their social media use. The most prevalent form of cyberbullying was flaming (24.3%), followed by harassment (23.8%), exclusion (18.6%), and denigration (14.7%).
- Denigration, celebrating the birthdays in an insulting manner, was the most frequently reported cyberbullying victimization incident (55.3%). Harassment: sharing trolls/stickers that mock friends was the most frequently (42.1%) reported cyberbullying perpetration event.
- Cyber-victimisation is more prevalent than cyberbullying perpetration among male and female higher secondary school students. Flaming (20.1%) was the most prevalent form of cyberbullying victimization. Harassment (16.1%) was the most prevalent form of cyberbullying perpetration. The existence of counter or chain reactions in cyberbullying, whereby perpetrators become victims and victims become perpetrators, occurs rarely.
- Male students were more involved in cyberbullying than female students, $t(569) = 7.32$, $p < .001$, $d = 0.62$. Male students were more involved in cyberbullying as perpetrators, $t(569) = 7.13$, $p < .001$, $d = 0.60$ and victims, $t(569) = 6.29$, $p < .001$, $d = 0.53$ than their female counterparts. Males were more involved in cyberbullying than females when they belonged to commerce group, science group, and humanities group, $F(2, 565) = 4.38$, $p = .013$, $\eta 2 = .015$.

- There was a significant effect of age on cyberbullying, $F(2, 568) = 3.39$, $p = .035$, $\eta 2 = .012$. Students belonging to the 18 year age group registered higher mean scores than other age groups, i.e., involvement in cyberbullying increased with age.
- Students belonging to the commerce group were involved more in cyberbullying than the humanities and science group, $F(2, 568) = 8.02$, $p < .001$, $\eta 2 = .027$.
- Students belonging to unaided schools are more involved in cyberbullying than aided and government schools. This difference between Government, Aided, and Unaided was found to be not significant, $F(2, 568) = 1.85$ $p > .05$.
- Overall, 92% of students agreed that they are satisfied with their belongingness needs, and 92.6% of them are satisfied with their self-esteem.
- The students reported high mean scores on need satisfaction. Female students reported relatively high average score on need satisfaction than males, $t(569) = 2.95$, $p < .05$, $d = 0.25$.
- The difference in mean scores of need satisfaction of higher secondary school students in Kerala with respect to stream of study (commerce, humanities, and science) was found to be not significant, $F(2, 568) = 0.64$, $p = .528$.
- Government school students had more need satisfaction than aided and unaided school students. Need satisfaction was significantly different between Unaided and government school students ($p = .016$). There was no statistically significant difference between Government and Aided school students ($p =.116$), and Unaided and Aided school students ($p = .299$) in need satisfaction.

- There was no significant effect of age on need satisfaction, $F(2, 568) = 0.98$, $p = .375$.
- Majority (57.7%) of the students perceived the restrictive nature of their parents. Only 4.9% of students feel that their parents are uninvolved.
- The female students have experienced more parental control on social media use than male students, $t(569) = 9.43$, $p < .001$, $d = 0.79$ and male students have feel more parental un-involvement than female students, $t(569) = 2.62$, $p < .05$, 0.22. Female students experienced more parental restriction on social media use than male students when belonging to commerce group, science group, and humanities group, $F(2, 565) = 5.04$, $p < .05$, $\eta 2 = .018$. There was no significant difference between the mean scores of males and females on proactive parenting, $t(569) = 0.09$, $p > .05$.
- Students belonging to the 16 year age group faced more parental restriction on social media use than the 17 and 18 year age group, $F(2, 568) = 8.77$, $p < .001$, $\eta 2 = .030$.
- There was a moderate negative correlation between cyberbullying and need satisfaction, $r(569) = -.47$, $p < .001$. The relationship between these variables was negative, which indicates that, as need satisfaction increases, cyberbullying decreases.
- Cyberbullying and restrictive parenting were found to be moderately negatively correlated, $r(569) = -.38$, $p < .001$. The relationship between these variables was negative, which indicates that, as restrictive parenting increases, cyberbullying decreases.
- The variables cyberbullying and uninvolved parenting were found to be moderately positively correlated, $r(569) = .45$, $p < .001$. The relationship

between these variables was positive, which indicates that, as uninvolved parenting increases, cyberbullying also increases.

- There was a moderate negative correlation between uninvolved parenting and need satisfaction, $r(569) = -.46$, $p < .001$. The relationship between uninvolved parenting and need satisfaction was negative, which indicates that, as uninvolved parenting increases, need satisfaction decreases.
- All four independent variables, i.e., need satisfaction, proactive parenting, uninvolved parenting, and restrictive parenting contribute to 37 percent of the variance in the dependent variable cyberbullying.

Relationship of Results to Existing Studies

In the sample, 96.5% were using social networking sites. This is similar to the overall rate (97%) of mobile phone use by families in Kerala reported by Sam (2020) in their study on family communication. The results of this study revealed that cyber-victims were the most prevalence cyberbullying participant group. In total, 12.8% reported that they had been harassed. These findings supported earlier studies in which a cyber-victimization scale was administered by Divya (2018) among 1010 students in Delhi and the result indicated that 12.7% (N=127) students had faced cyber-victimization. Kaur (2018) observed significant differences among male and female cyberbullying perpetrators. The present study found a significant difference in the mean scores of cyberbullying perpetration between male and female students. Specifically, male students were more involved in cyberbullying than female students. These findings also supported previous research by Alsawalqa (2021) that revealed males were more likely to be cyber-bullies than females. Navarro (2016) reviewed studies related to the gender difference in cyberbullying and presented six different result categories. The result of this study falls into the third category; boys are more involved in cyberbullying as both victims and aggressors.

The study of Vandebosch and Cleemput (2009) indicated that the existence of counter or chain reactions in cyberbullying, whereby perpetrators become victims and victims become perpetrators, ultimately leads to a culture of cyberbullying. In the present study, more than 20% of students were involved in cyberbullying, but only about 5% of them became victims and bullies at the same time. A study by Fousiani et al. (2016) established a positive direct relationship between perceived parental psychological control and cyberbullying. In addition, the findings revealed an indirect relation between perceived parental autonomy support and cyberbullying. The current findings manifest a moderately negative correlation between cyberbullying and restrictive parenting. In their study, Vandebosch and Cleemput (2009) revealed that students whose parents are less involved with their children's internet users have a higher chance of becoming cyber-bullies. Teenagers who have experienced parental rejection and lack of communication are more likely to cyber-bully others (Makri-Botsari & Karagianni, 2014). The results of this study also revealed that cyberbullying and uninvolved parenting were moderately positively correlated.

The results revealed that cyberbullying victimization and cyberbullying perpetration were found to be significantly negatively correlated with self-esteem. These results are in line with earlier studies on cyberbullying. Hinduja and Patchin, (2018) associate cyberbullying with significantly lower levels of self-esteem. Both perpetrators and targets of cyberbullying are expected to have lower levels of self-esteem compared to those who were not involved in cyberbullying (Patchin & Hinduja, 2010). Alsawalqa (2021) also linked cyberbullying with low self-esteem.

In the results, cyberbullying was significantly correlated with physiological need satisfaction, safety need satisfaction, belongingness need satisfaction and esteem need satisfaction. Children's need satisfaction can only be met with the support of friends and family. Also, a study on cyberbullying and psychosocial factors by Handono et al. (2019) elicited a similar response. There were significant relationships between cyberbullying behavior and psychosocial factors. The strongest was social support from friends, followed by self-esteem and social support from family.

The female students have experienced more parental control over social media use than the male students. Alvarez-Garcia et al. (2019) analyzed parental control of internet use by adolescents and revealed girls are more restricted and monitored for internet use by parents than boys. The present study highlighted the role of parental control on social media use, and the results indicated that as restrictive parenting increases, cyberbullying decreases. Perren et al. (2012) reported that parental mediation or internet safety measures were effective in reducing cyberbullying. Many of the victims choose not to tell others about the incident, in other words, victims' strategies to cope with cyberbullying are either to ignore it or to try getting away from it rather than informing others (Li, 2010). The preliminary survey results also revealed that only a small proportion of students (5.4%) shared their unpleasant incidents with parents, and no one was willing to share them with teachers. Overall, the characteristics of cyberbullying of higher secondary school students in Kerala showed similarities with cyberbullying found in the other part of the world.

Tenability of Hypotheses

The formulated hypothesis and details regarding the tenability of hypotheses are depicted as follows:

1. There is cyberbullying behaviour among higher secondary school students in Kerala.

   Students have been involved in cyberbullying as part of their social media use. The most prevalent form of cyberbullying was flaming (24.3%)

followed by harassment (23.8%), exclusion (18.6%), and denigration (14.7%). Thus, the hypothesis that there is cyberbullying behaviour among higher secondary school students in Kerala was not rejected.

2. There are different cyberbullying participant groups (cyber-bullies, cyber-victims, and cyber bully-victims) among higher secondary school students in Kerala.

   Cyber-victim was the most proportionate cyberbullying participant group in five dimensions (flaming, denigration, impersonation, outing and trickery, and cyberstalking) and cyberbully was the most proportionate participant group in two dimensions (harassment and exclusion). Only a very small proportion of the students were involved in cyberbullying as both bullies and victims. Thus, the hypothesis that there are different cyberbullying participant groups (Cyber-bullies, Cyber-victims, and Cyber bully-victims) among higher secondary school students in Kerala was not rejected.

3. There is no significant difference in mean scores of cyberbullying among higher secondary school students in Kerala based on gender, age, streams of study, and types of management.

   There was a significant difference in mean scores of cyberbullying based on gender, $t(569) = 7.32$, $p < .001$; age, $F(2, 568) = 3.39$, $p = .035$; and stream of study, $F(2, 568) = 8.02$, $p < .001$. Thus, the hypothesis that there is no significant difference in mean scores of cyberbullying among higher secondary school students in Kerala based on gender, age, and stream of study was rejected. It can be seen that Unaided school students had higher scores (M = 136.4, SD = 27.6) in cyberbullying than students belonging to Aided (M = 128.2, SD = 34.3) and Government schools (M = 127.4, SD = 35.9). This difference between Government, Aided, and Unaided was found to be not significant, $F(2, 568) = 1.85$ $p > .05$. Thus the hypothesis that there is no significant difference in mean scores of cyberbullying of higher secondary school students in Kerala based on types of management was not rejected.

4. There is no significant difference in mean scores of need satisfaction among higher secondary school students in Kerala based on gender, age, streams of study, and types of management.

   There is significant difference in mean scores of need satisfaction of male and female students, $t(569) = 2.95$, $p < .05$. The difference between Government, Aided, and Unaided school was found to be significant, $F(2, 568) = 4.55$, $p < .05$. Thus, the hypothesis that there is no significant difference in mean scores of need satisfaction among higher secondary school students in Kerala based on gender and types of management was rejected.

   There was no significant effect of age on need satisfaction, $F(2, 568) = 0.983$, $p = .375$. The difference between commerce, humanities, and science was found to be not significant, $F(2, 568) = 0.64$, $p = .528$. Thus the hypothesis that there is no significant difference in mean scores of need satisfaction among higher secondary school students in Kerala based on age and streams of study was not rejected.

5. There is no significant difference in mean scores of parental control on social media use among higher secondary school students in Kerala based on gender and age.

   Female students experienced significantly more restriction than male students, $t(569) = 9.43$, $p < .001$. There was a significant effect of age on restrictive parenting, $F(2, 568) = 8.77$, $p < .001$. Thus, the hypothesis that there is no significant difference in mean scores of parental control on social media use among higher secondary school students in Kerala based on gender and age was rejected.

6. There is no significant correlation between need satisfaction and cyberbullying among higher secondary school students in Kerala.

    There was a moderate negative correlation between cyberbullying and need satisfaction, $r(569) = -.47$, $p < .001$. Thus hypothesis that there is no significant correlation between need satisfaction and cyberbullying among higher secondary school students in Kerala was rejected.

7. There is no significant correlation between parental control over social media use and cyberbullying among higher secondary school students in Kerala.

    Cyberbullying and restrictive parenting were found to be significantly negatively correlated, $r(569) = -.38$, $p < .001$. The variables cyberbullying and uninvolved parenting were found to be significantly positively correlated, $r(569) = .45$, $p < .001$. Thus hypothesis that there is no significant correlation between parental control over social media use and cyberbullying among higher secondary school students in Kerala was also rejected.

Limitations of the Study

Before suggestions the limitations of the study needed to be mentioned:

1. The study mainly depended on sensitive data collected through the self-report method. Students may deny reporting cyberbullying due to social desirability. Cyberbullying perpetrators may deny being bullied due to the guilt elicited by admitting to such behaviours. Cyberbullying victims may also deny being victimised out of shame from feeling powerless and submissive.

2. Teachers were interviewed to collect additional information on cyberbullying among higher secondary school students, but only a few indications about cyberbullying were obtained.

3. Collecting perfect data from students using four different tools with 125 statements was difficult, especially during the tight schedule of higher secondary school.
4. The nature of cyberbullying changes rapidly with changing media, user choice, and technology. The present study focused only on social media interactions that may influence the outcome of the study.
5. The generalisation of the findings was limited to higher secondary students in the state of Kerala, India.
6. A few statements in the tool, parental control over social media use, became irrelevant when students were forced to use social media for learning during the COVID-19 pandemic.
7. The study failed to present the combined percentage value of cyberbullying.
8. The study failed to include psychosocial factors that are highly correlated with cyberbullying.

Despite the above limitations, the present study contributes to the existing body of literature on the understanding of cyberbullying among adolescents in relation to certain psychosocial factors.

Suggestions for Further Research

Even though the present study associated certain psychosocial factors with cyberbullying among higher secondary school students, there are a few concerns that should be addressed in subsequent studies.

- Compared to other cyberbullying studies, the present study is far less sophisticated in its design and execution. So future studies in Kerala can try to explore the intensity and repeated nature of cyberbullying.

- Research can be undertaken to find out more about the psychosocial correlates of cyberbullying and to predict the high-risk factors associated with it.
- The study needs to be done to understand the extent of cyberbullying through a qualitative approach by interviewing the victims, teachers, parents, and bystanders.
- Research will need to develop appropriate preventive measures and coping strategies related to cyberbullying in the socio-cultural background of Kerala.
- Research will expand on more specific areas of cyberbullying, like sexting and happy slapping.

Conclusions

A large section of higher secondary school students has become social media users. Social media has so many benefits; the skills and knowledge that students have acquired as a result of technological advancement are being used not only for good purposes. Social media has become a platform where human beings are attacked by other human beings, irrespective of age or gender. Bullying through cyberspace to harm someone else is called cyberbullying. Social media abuse was prevalent among higher secondary school students, including cyberbullying. Social media gang activity among students has become a problem in schools. Students faced cyber-victimisation more commonly than cyberbullying. Even during celebrations among students, cyberbullying happened.

The male students were more involved in cyberbullying than the female students. Female students' use of social media was more closely observed by parents than that of male students. Students aged 16 had more parental restrictions and, in comparison, less involvement in cyberbullying. However, there was no significant effect of age on need satisfaction. Cyberbullying was more prevalent among students in the commerce group than in the humanities and sciences group. Compared to students from aided and government schools, those from unaided schools engaged in cyberbullying more commonly, but there was no significant difference between government-aided and unaided students. Likewise, there was no statistically significant difference in need satisfaction between Government and Aided school students or between Unaided and Aided school students. Students who had stricter parenting and higher need satisfaction rates were less engaged in cyberbullying. Furthermore, a positive association between cyberbullying and uninvolved parenting also existed, suggesting that as detached parenting increases, cyberbullying also increases. The higher secondary school curriculum in Kerala does not yet cover cyber safety measures. Sincere efforts need to be made to minimise the chances that anyone will have to experience emotional damage from cyberbullying.

Usually, the cyber-bully is somebody from the target's social circle. In our school settings, students were victimised for being too smart and creative. To ensure a quality learning environment, behavioural issues like cyberbullying need to be talked about. By encouraging students to develop effective communication skills and maintain positive relationships, education can flourish. Since psychological and social factors are associated with student cyberbullying, schools should consider developing an age-appropriate programme. The proper use of social media would be ensured by school-based programmes focused on cyberbullying, which would avoid invasions of privacy and individual freedom. Initiatives need to be taken to ensure the need satisfaction of children are met at different levels and to enhance positive relationships between them. It is necessary to provide curriculum and learning resources that provide students with the information, abilities, and attitudes they need to use technology effectively. All aspects of a child's education should be the result of a collaborative effort of parents, teachers, and all other stakeholders, including the child. Overall, the results of this study gave new insights into various psychosocial issues underlying cyberbullying among higher secondary school students.

Focusing on the important findings the sixth chapter tries to bring recommendations of the study on cyberbullying and associated psychosocial factors among higher secondary school students in Kerala.

Chapter 6

RECOMMENDATIONS

- Educational Implications

RECOMMENDATIONS

Globally, cyberbullying has been a focus of research for two decades and has presented a lot of recommendations for dealing with cyberbullying. The recommendations given as part of the research were general; they also considered the unique social and educational characteristics of the places where each of the studies took place. Although the government can intervene to control cyberbullying by improving the legal mechanism and regulating technology, education can make a big change by making individuals responsible. To deal with ‘digital native children’ appropriate digital education curricula and learning materials need to be developed that give children the knowledge, skills, and attitudes to effectively use technology. All aspects of a child’s education should be the result of a collaborative effort between parents, teachers, and all other stakeholders including the researchers.

The overall results of the study confirmed that there was a prevalence of cyberbullying among higher secondary school students in Kerala. The students’ self-report on variables indicated that there was a relationship between cyberbullying, need satisfaction, and parental control over social media use. Cyberbullying is also related to age, gender, the steams of study, and types of management. Effectively addressing cyberbullying means making sure that cyberbullying is not acceptable behaviour and knowing how to take action against cyberbullying. The results of the study have practical implications at the individual, school, and family levels. This chapter focused on the recommendations of the study as they related to its educational implications.

Educational Implications

The present study on cyberbullying among higher secondary school students in Kerala found that the phenomenon of cyberbullying was widespread among students. Flaming was the most common form of cyberbullying, followed by harassment, exclusion, and denigration. Student cyber-victimization is more prevalent than cyberbullying perpetration.

The following recommendations have been made for the children, parents, teachers, school, government, and curriculum committee in light of the study's findings.

- To ensure cyber safety, develop an age-appropriate 'Digital Citizenship Curriculum' to be integrated and mainstreamed in the school curriculum across subjects.

Research findings regarding the role of social media in cyberbullying revealed that social media groups were active among higher secondary school students. As part of a social media group, students involved in cyberbullying share trolls and stickers that depict their peers or teachers as comic characters, along with their nicknames, images, and conversations. The school's discipline was frequently harmed by these gangs.

- Schools should develop an 'acceptable policy' on cyberbullying that is suitable for each age group, gender, and culture in order to protect the interests of both students, teachers and other stake holders.
- Before implementing and testing a school policy on cyberbullying, consult educators, parents, students, psychosocial counsellors, administrative experts in education, and experts in cyber safety.
- A government-initiated monitoring mechanism has to be put in place to assure cyber safety at the schools.
- Special preference should be given to observing the social media-based gangs among children.

The study on the association between need satisfaction and cyberbullying among higher secondary school students in Kerala showed a negative correlation between the two variables, indicating that cyberbullying decreases as need satisfaction increases.

- The concern for values in education policy should be reflected in the classroom. Schools should encourage respect for diversity and take the responsibility for developing positive relationships among students. In the classroom, every student should be treated with respect.
- Schools should set up a monitoring system to make sure that children's physiological, safety, belongingness, and esteem needs are addressed. Students with low levels of need satisfaction should be given special attention.

The association between cyberbullying and parental control over social media use among higher secondary school students in Kerala showed a negative correlation between cyberbullying and restrictive parenting, indicating that as restrictive parenting becomes more prevalent, cyberbullying declines. Both direct and indirect (using Parental Control Applications) parental restrictions on social media use based on time, content, and activities have been found to be effective in controlling cyberbullying. Furthermore, there was a positive correlation between cyberbullying and uninvolved parenting, indicating that as uninvolved parenting increased (few demands and low responsiveness), cyberbullying also increased.

- Schools should take the initiative to ensure parental intervention to minimize cyberbullying. As part of it, schools must organize campaigns to educate parents and students about cyberbullying.
- Higher secondary schools should use services like the Souhrida Club, psychosocial counselling, and the complaint box to report cyberbullying.
- Students should be enabled to effectively use the mechanisms provided by the school for reporting of their complaints.

The present research showed disparities in cyberbullying participation by age and gender. Compared to 17 and 18-year-old students, 16-year-old students reported stricter parental restrictions on social media use. More male students than female students engage in cyberbullying. Female students' use of social media was more closely watched by parents than that of male students.

- Parents and teachers should be more vigilant as a child gets older to address issues like cyberbullying.
- Parents and teachers should take extra care to restrict the boys' use of social media to prevent cyberbullying.
- To eliminate gender prejudice, education initiatives must be stepped up.

Children need to understand that their teachers and parents have imposed restrictions on them for their safety and well-being. Teachers and Parents need to convince the children to use familiar analogies from everyday life. For instance, use helpful analogies such as driving a car: no matter how skilled one is behind the wheel of a vehicle, one must still follow the "rules of the road" to stay safe from the dangers posed by others who use the same roads. In addition, cars are equipped with safety features such as seat belts, airbags, and warning sensors. The message is, "I trust my student or child, but I am afraid others will hurt them."

These recommendations are based on the ideas developed from the study's findings and are customized to Kerala's local educational context. Therefore, its relevance to a wider spectrum needs to be evaluated throughout time and in light of various sociocultural contexts. Cyberbullying is a communication problem rather than a technical one. Some students were harassed in our educational institutions for being smart and creative. Bullies frequently belong to the target's social circle. More research and sincere efforts should be made to reduce the possibility that anyone may suffer emotional damage as a result of cyberbullying.

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APPENDICES

Appendix A

DEPARTMENT OF EDUCATION
UNIVERSITY OF CALICUT

GENERAL DATA SHEET FOR STUDENTS

Dr. VASUMATHI T.	**DILEESH K.**
Assistant Professor	Research Scholar
Department of Education	Department of Education
University of Calicut	University of Calicut

Dear student,

This questionnaire has been prepared as part of my research work. I request you to spare a little time to respond to this questionnaire. I assure you that the responses will be kept confidential and used for research purpose only.

1. Name :
2. Age :

Please choose the appropriate using tick mark

3. School : Govt./Aided/ Unaided
4. Gender : Male / Female
5. Stream of study : Science/ Commerce / Humanities
6. Living with : Parents/ father/ mother/ others
7. Do you use social media : Yes/No

If yes,

8. Social media more access from
   - ☐ Own smart phone
   - ☐ Parent's smart phone
   - ☐ Others' smart phone
   - ☐ Other source
9. On average, how much time do you spent on social media per day?
   - ☐ Less than 1 hour
   - ☐ 1- 2 hours
   - ☐ 2- 3 hours
   - ☐ More than 3 hours

10. You have engaged in how many social media groups?
    - ☐ 1-5
    - ☐ 6-10
    - ☐ More than 10
    - ☐ Not engaged
11. Which is the most preferable place to use social media?
    - ☐ Bedroom
    - ☐ Home
    - ☐ School
    - ☐ Other (please specify) ________________________
12. Have you attended any 'cyber-safety' related classes?
    - ☐ Yes
    - ☐ No
13. To whom report when something bad that happened to you on social media (harassment, threaten etc.)?
    - ☐ Friends
    - ☐ Teacher
    - ☐ Others (specify)……………………………………
    - ☐ None
    - ☐ Don't have such experience

Select the top 3 items, 1 being your most preferred option

14. Select the social media in order of preference.
    - ☐ Whats app
    - ☐ Instagram
    - ☐ Youtube
    - ☐ Others (Specify) ………………….

Appendix B

DEPARTMENT OF EDUCATION
UNIVERSITY OF CALICUT

SCALE OF CYBERBULLYING PERPETRATION

Dr. VASUMATHI T.
Assistant Professor
Department of Education
University of Calicut

DILEESH K.
Research Scholar
Department of Education
University of Calicut

നിർദ്ദേശങ്ങൾ

താങ്കളുടെ സോഷ്യൽ മീഡിയ ഉപയോഗത്തെ അടിസ്ഥാനപ്പെടുത്തി താഴെ തന്നിട്ടുള്ള പ്രസ്താവനകൾക്ക് ഏറ്റവും അനുയോജ്യമായ പ്രതികരണം ശരി (✓) ചിഹ്നം ഉപയോഗിച്ച് അടയാളപ്പെടുത്തുക. ഇതിലൂടെ ലഭിക്കുന്ന വിവരങ്ങൾ വളരെ രഹസ്യമായി സൂക്ഷിക്കാമെന്നും ഗവേഷണാവശ്യത്തിനുമാത്രമേ ഉപയോഗിക്കുക യുള്ളൂ എന്നും ഉറപ്പു നൽകുന്നു.

ക്രമ നമ്പർ	പ്രസ്താവന	പ്രതികരണങ്ങൾ				
		പൂർണ്ണമായി യോജിക്കുന്നു	യോജിക്കുന്നു	അഭിപ്രായമില്ല	വിയോജിക്കുന്നു	പൂർണ്ണമായി വിയോജിക്കുന്നു
1.	സോഷ്യൽ മീഡിയയിലൂടെ മറ്റുള്ളവരെ വേദനിപ്പിക്കുന്ന തരത്തിലുള്ള ഭാഷ ഞാൻ ഉപയോഗിക്കാറില്ല					
2.	സോഷ്യൽ മീഡിയയിലൂടെ ഞാൻ മറ്റുള്ളവരെ കളിയാക്കാറുണ്ട്					
3.	സോഷ്യൽ മീഡിയ വഴി മാന്യതയില്ലാത്ത ഭാഷ ഉപയോഗിച്ചുകൊണ്ട് സന്ദേശങ്ങൾ അയക്കാറുണ്ട്					
4.	സോഷ്യൽ മീഡിയ വഴി സന്ദേശങ്ങൾ അയക്കുമ്പോൾ മറ്റുള്ളവരുടെ ഇഷ്ടങ്ങളും താൽപര്യങ്ങളും പരിഗണിക്കാറുണ്ട്					
5.	വ്യക്തിപരമായ സവിശേഷതകൾ (നിറം, വണ്ണം, പ്രാദേശികത്വം, ഭാഷാപ്രയോഗരീതി തുടങ്ങിയവ) വിഷയമാക്കി സോഷ്യൽ മീഡിയയിലൂടെ മറ്റുള്ളവരെ പരിഹസിക്കാറുണ്ട്					
6.	ഏതെങ്കിലും വിഷയവുമായി ബന്ധപ്പെട്ട് സോഷ്യൽ മീഡിയയിലൂടെ തർക്കങ്ങളിൽ ഏർപ്പെടുന്നത് എന്റെ ഒരു ശീലമാണ്					

ക്രമ നമ്പർ	പ്രസ്താവന	പ്രതികരണങ്ങൾ				
		പൂർണ്ണമായി യോജിക്കുന്നു	യോജിക്കുന്നു	അഭിപ്രായമില്ല	വിയോജിക്കുന്നു	പൂർണ്ണമായി വിയോജിക്കുന്നു
7.	കൂട്ടുകാരുടെ ഇഷ്ടതാരങ്ങളെ (സിനിമ, സ്പോർട്സ്, രാഷ്ട്രീയം തുടങ്ങിയ മേഖലയിലുള്ള) പരിഹസിക്കുന്ന ട്രോളുകൾ സോഷ്യൽ മീഡിയ വഴി പങ്കുവയ്ക്കാറുണ്ട്					
8.	സോഷ്യൽ മീഡിയ വഴി ഇരട്ടപ്പേരുവിളിച്ച് ഞാൻ മറ്റുള്ളവരെ ദേഷ്യം പിടിപ്പിക്കാറുണ്ട്					
9.	മറ്റൊരാൾക്ക് പ്രയാസമുണ്ടാക്കുന്ന തരത്തിലുള്ള അഭിപ്രായങ്ങൾ സോഷ്യൽ മീഡിയ വഴി പ്രകടിപ്പിക്കാറില്ല					
10.	മറ്റുള്ളവരുടെ പ്രൊഫൈൽ പേജിൽ പ്രവേശിച്ച് അവരെ അപമാനിക്കുന്ന തരത്തിലുള്ള 'കമന്റ്' രേഖപ്പെടുത്താറുണ്ട്					
11.	എന്റെ ജാതി/മത/രാഷ്ട്രീയ താല്പര്യങ്ങൾക്ക് വിരുദ്ധമായി സോഷ്യൽ മീഡിയയിലൂടെ ആശയപ്രചാരണം നടത്തുന്നവരെ അപമാനിക്കുന്നതിനുവേണ്ടി സന്ദേശങ്ങൾ അയക്കാറുണ്ട്					
12.	എനിക്കിഷ്ടമല്ലാത്തവരെ ഉപദ്രവിക്കുന്നതിനുവേണ്ടി സോഷ്യൽ മീഡിയ വഴി തുടർച്ചയായി സന്ദേശങ്ങൾ അയക്കാറുണ്ട്					
13.	ചിലയാളുകളെ ഞാൻ സോഷ്യൽ മീഡിയ ഗ്രൂപ്പുകളിൽ നിന്നും അകറ്റി നിർത്താറുണ്ട്					
14.	സോഷ്യൽ മീഡിയ വഴി നുണകൾ പ്രചരിപ്പിച്ച് മറ്റൊരാളെ വേദനിപ്പിക്കാറില്ല					
15.	ഒരാളെ വിലകുറച്ച് കാണിക്കുന്നതിനുവേണ്ടി അയാളുടെ വികൃതമാക്കിയ ചിത്രങ്ങൾ ഞാൻ സോഷ്യൽ മീഡിയയിലൂടെ പങ്കുവയ്ക്കാറില്ല					
16.	മറ്റുള്ളവരെക്കുറിച്ചുള്ള കെട്ടുകഥകളും തെറ്റായ വിവരങ്ങളും ഞാൻ സോഷ്യൽ മീഡിയ വഴി പങ്കുവെയ്ക്കാറുണ്ട്					
17.	സോഷ്യൽ മീഡിയ വഴി ഞങ്ങൾ, ഒരു കൂട്ടം വിദ്യാർത്ഥികൾ മറ്റുള്ളവരെ കളിയാക്കുന്ന തരത്തിൽ അവരുടെ ജന്മദിനാഘോഷം (മറ്റു ആഘോഷങ്ങൾ) നടത്താറുണ്ട്					
18.	മറ്റുള്ളവരെ അപമാനിക്കുന്ന തരത്തിലുള്ള ചില സംഭവങ്ങൾ സോഷ്യൽ മീഡിയ വഴി പ്രചരിപ്പിക്കാറുണ്ട്.					
19.	ഞങ്ങളുടെ ഗ്രൂപ്പിൽ അംഗമായിട്ടുള്ള ചിലർ പങ്കുവയ്ക്കുന്ന കാര്യങ്ങളോട് ഞങ്ങൾ, ഒരു കൂട്ടം വിദ്യാർത്ഥികൾ പ്രതികരിക്കാറില്ല					

ക്രമ നമ്പർ	പ്രസ്താവന	പ്രതികരണങ്ങൾ				
		പൂർണ്ണമായി യോജിക്കുന്നു	യോജിക്കുന്നു	അഭിപ്രായമില്ല	വിയോജിക്കുന്നു	പൂർണ്ണമായി വിയോജിക്കുന്നു
20.	മറ്റുള്ളവരുടെ സോഷ്യൽ മീഡിയ എക്കൗണ്ടുകൾ അവരറിയാതെ ഞാൻ ഉപയോഗിക്കാറുണ്ട്					
21.	സൗഹൃദത്തിന്റെ പേരിൽ കൈമാറിയ പാസ്സ്‌വേഡുപയോഗിച്ച് മറ്റൊരാളെന്ന വ്യാജേന ഞാൻ സന്ദേശങ്ങൾ അയക്കാറുണ്ട്					
22.	ചിലയാളുകളെ സോഷ്യൽമീഡിയ ഗ്രൂപ്പിൽനിന്ന് മാറ്റിനിർത്തുന്നതിനുവേണ്ടി പാസ്സ്‌വേഡ് പോലുള്ള സംവിധാനങ്ങൾ ഉപയോഗിക്കാറുണ്ട്					
23.	രഹസ്യമായി പകർത്തിയ ഫോട്ടോയും, വീഡിയോയും ഞാൻ സോഷ്യൽ മീഡിയ വഴി പ്രചരിപ്പിക്കാറുണ്ട്					
24.	സൗഹൃദ സംഭാഷണത്തിനിടെ പങ്കുവെച്ച കാര്യങ്ങൾ പരസ്യപ്പെടുത്തുമെന്ന് പറഞ്ഞ് ഞാൻ മറ്റുള്ളവരെ ഭീഷണിപ്പെടുത്താറുണ്ട്					
25.	ചാറ്റിങ്ങിനിടെ രഹസ്യമായി പങ്കുവെച്ച വിവരങ്ങൾ ഞാൻ സോഷ്യൽ മീഡിയ വഴി പ്രചരിപ്പിക്കാറുണ്ട്					
26.	ഒരാളെ ഭീഷണിപ്പെടുത്തുന്ന തരത്തിലുള്ള സന്ദേശങ്ങൾ സോഷ്യൽ മീഡിയ വഴി അയക്കാറില്ല					
27.	സോഷ്യൽ മീഡിയ വഴി ചില അജ്ഞാത സംഘങ്ങളുമായി ആശയവിനിമയം നടത്താൻ കൂട്ടുകാരെ ക്ഷണിക്കാറുണ്ട്					
28.	രഹസ്യമായി സംഘടിപ്പിച്ച വിവരങ്ങൾ ഉപയോഗപ്പെടുത്തി സോഷ്യൽ മീഡിയ വഴി ഭീഷണിസന്ദേശം അയക്കാറുണ്ട്					
29.	ഓൺലൈൻ പ്രവർത്തനങ്ങളിൽ നിന്നും ഞങ്ങൾ ആരെയും മനഃപൂർവ്വം ഒഴിവാക്കാറില്ല					
30.	അപകടകരമായ ഓൺലൈൻ ഗെയിമുകൾ കളിക്കുന്നതിനുവേണ്ടി സോഷ്യൽ മീഡിയ വഴി സുഹൃത്തുക്കളെ ക്ഷണിക്കാറുണ്ട്					
31.	സോഷ്യൽ മീഡിയയിലൂടെ മറ്റുള്ളവരെ അപകീർത്തിപ്പെടുത്തുന്ന വാർത്തകൾ പ്രചരിപ്പിക്കാറുണ്ട്					
32.	അനാവശ്യ സന്ദേശങ്ങൾ/ഫോട്ടോകൾ കൈമാറുന്നതിനായി സോഷ്യൽ മീഡിയ ഉപയോഗിക്കാറില്ല					
33.	സോഷ്യൽ മീഡിയയിൽ അംഗമാകുന്നതിനുവേണ്ടി സുഹൃത്തുക്കളുടെ/പരിചയക്കാരുടെ പേരും, ഫോട്ടോയും ഉപയോഗിക്കാറുണ്ട്					

Appendix C

DEPARTMENT OF EDUCATION
UNIVERSITY OF CALICUT

SCALE OF CYBERBULLYING PERPETRATION

Dr. VASUMATHI T.
Assistant Professor
Department of Education
University of Calicut

DILEESH K.
Research Scholar
Department of Education
University of Calicut

Dear student,

The following statements are related to social media experiences. Each statement has five responses, i.e. 'Strongly agree, Agree, No opinion, Disagree, and Strongly disagree'. Please select the most appropriate response for each statement and mark it with a tick (✓) mark. I assure you that the responses will be kept confidential and used only for research purposes.

Sl. No.	Statements	Responses				
		Strongly agree	**Agree**	**No opinion**	**Disagree**	**Strongly disagree**
1.	I don't use any rude language on social media to hurt others					
2.	Through social media I tease my friends/ others					
3.	I send messages through social media in an indecent manner					
4.	I consider the comforts of others when sending out messages through social media					
5.	I use social media to mock others based on their local dialect, location, or physical characteristics (body shape, colour, etc.)					
6.	I get involved in disputes on different matters through social media					
7.	I often share trolls and stickers through social media that mock friends					

Sl. No.	Statements	Responses				
		Strongly agree	Agree	No opinion	Disagree	Strongly disagree
8.	I call the other students bad names or nicknames on social media					
9.	I do not share opinions on social media that offend anyone					
10.	I write offensive comments on the others' profile pages					
11.	I send out derogatory messages to those who spread ideas against my interest (political, religious, personal, etc.)					
12.	Through social media I send private angry messages to others repeatedly					
13.	I initiated excluding some students from our social media group on purpose					
14.	Through social media I don't spread lies about others to hurt them					
15.	I don't post others' altered digital images to make them look bad/inferior					
16.	I spread gossip or rumors about others to damage their reputation					
17.	We, a group of students, celebrate others' birthdays on social media in an insulting manner					
18.	Through social media I mock others by sharing certain events in their lives					
19.	We, a group of students, do not respond to someone's message in our social media group					
20.	I operate others' social media accounts without permission					
21.	I use other's identities on social media to damage their relationships (pretending to be someone and sending or posting something)					

Sl. No.	Statements	Responses				
		Strongly agree	Agree	No opinion	Disagree	Strongly disagree
22.	We, as a group of students, restrict someone from social media groups with the help of safety measures (password protection)					
23.	Through social media I share others secret pictures/videos without getting their permission					
24.	Through social media I use friendly messages to intimidate others					
25.	I publicize others' confidential conversations through social media					
26.	Through social media I don't send threatening messages to others					
27.	Through social media I send links to connect my friends with an unknown group					
28.	I use secretly collected private details to threaten others					
29.	We, a group of students, don't purposely ignore someone from the online platform					
30.	I invite friends to play dangerous online games					
31.	I spread derogatory news via social media					
32.	I don't use social media to forward unwanted messages or photos					
33.	I create a social media account using the other person's name or photo					

Appendix D

DEPARTMENT OF EDUCATION
UNIVERSITY OF CALICUT

CYBER-VICTIM SCALE

Dr. VASUMATHI T.
Assistant Professor
Department of Education
University of Calicut

DILEESH K.
Research Scholar
Department of Education
University of Calicut

നിർദ്ദേശങ്ങൾ

താങ്കളുടെ സോഷ്യൽ മീഡിയ ഉപയോഗത്തെ അടിസ്ഥാനപ്പെടുത്തി താഴെ തന്നിട്ടുള്ള പ്രസ്താവനകൾക്ക് ഏറ്റവും അനുയോജ്യമായ പ്രതികരണം ശരി (✓) ചിഹ്നം ഉപയോഗിച്ച് അടയാളപ്പെടുത്തുക. ഇതിലൂടെ ലഭിക്കുന്ന വിവരങ്ങൾ വളരെ രഹസ്യമായി സൂക്ഷിക്കാമെന്നും ഗവേഷണാവശ്യത്തിനുമാത്രമേ ഉപയോഗിക്കുകയുള്ളൂ എന്നും ഉറപ്പു നൽകുന്നു.

ക്രമ നമ്പർ	പ്രസ്താവന	പ്രതികരണങ്ങൾ				
		പൂർണ്ണമായി യോജിക്കുന്നു	യോജിക്കുന്നു	അഭിപ്രായമില്ല	വിയോജിക്കുന്നു	പൂർണ്ണമായി വിയോജിക്കുന്നു
1.	സോഷ്യൽ മീഡിയയിലൂടെ സഭ്യമല്ലാത്ത ഭാഷയിലുള്ള സന്ദേശങ്ങൾ എനിക്ക് ലഭിക്കാറുണ്ട്					
2.	ഇഷ്ടമില്ലാത്ത കാര്യങ്ങൾ സോഷ്യൽ മീഡിയ വഴി അയച്ചുതന്ന് ചിലയാളുകൾ എന്നെ വേദനിപ്പിക്കാറുണ്ട്					
3.	വിലകുറഞ്ഞ തമാശകളും അനാവശ്യ സന്ദേശങ്ങളും അയച്ച് ആരും എന്നെ ബുദ്ധിമുട്ടിക്കാറില്ല					
4.	എന്നെ കളിയാക്കുന്ന സന്ദേശങ്ങൾ/ട്രോളുകൾ എനിക്ക് ലഭിക്കാറുണ്ട്					
5.	സോഷ്യൽ മീഡിയ വഴി മറ്റുള്ളവർ എന്നോട് മാന്യമല്ലാത്ത രീതിയിൽ പെരുമാറാറുണ്ട്					
6.	സോഷ്യൽ മീഡിയ വഴി തുടർച്ചയായി സന്ദേശങ്ങൾ അയച്ച് ചിലർ എന്നെ ദേഷ്യം പിടിപ്പിക്കാറുണ്ട്					
7.	എന്നെ അപകീർത്തിപ്പെടുത്തുന്ന തരത്തിലുള്ള പിറന്നാളാഘോഷം സോഷ്യൽ മീഡിയ വഴി ആരും നടത്താറില്ല					

ക്രമ നമ്പർ	പ്രസ്താവന	പ്രതികരണങ്ങൾ				
		പൂർണ്ണമായി യോജിക്കുന്നു	യോജിക്കുന്നു	അഭിപ്രായമില്ല	വിയോജിക്കുന്നു	പൂർണ്ണമായി വിയോജിക്കുന്നു
8.	സോഷ്യൽ മീഡിയ വഴി എനിക്ക് ഭീഷണി സന്ദേശങ്ങൾ ലഭിക്കാറുണ്ട്					
9.	എനിക്കിഷ്ടമല്ലാത്ത എന്റെ ഇരട്ടപ്പേര് സോഷ്യൽ മീഡിയയിൽ ആരും ഉപയോഗിക്കാറില്ല					
10.	ട്രോളുണ്ടാക്കുന്നതിനായി ആരും എന്റെ ഫോട്ടോയോ പേരോ ഉപയോഗിക്കാറില്ല					
11.	സോഷ്യൽ മീഡിയ വഴി ഞാനെന്തുചെയ്താലും അതിനെ കളിയാക്കുന്ന കുറെയാളുകൾ ഉണ്ട്					
12.	സോഷ്യൽ മീഡിയവഴി എന്നെ ഒന്നിനും കൊള്ളാത്ത ഒരാളായി (ഒരു പരാജയമായി) ചിത്രീകരിക്കാറുണ്ട്					
13.	എന്നെ ഭീഷണിപ്പെടുത്തുന്ന അജ്ഞാത സന്ദേശങ്ങൾ സോഷ്യൽ മീഡിയ വഴി ലഭിക്കാറുണ്ട്					
14.	ചാറ്റിങ്ങിനിടെ വ്യക്തിപരമായി പങ്കുവെച്ച ചിലകാര്യങ്ങൾ മറ്റുള്ളവർ സോഷ്യൽ മീഡിയ വഴി പരസ്യപ്പെടുത്തിയിട്ടുണ്ട്					
15.	രഹസ്യമായി പകർത്തിയ എന്റെ ഫോട്ടോ/വീഡിയോ അനുവാദമില്ലാതെ സോഷ്യൽ മീഡിയ വഴി പ്രചരിപ്പിച്ച അനുഭവം എനിക്കുണ്ട്					
16.	മറ്റുള്ളവർ എന്റെ എക്കൗണ്ടുപയോഗിച്ച് സന്ദേശങ്ങൾ അയച്ച് പ്രശ്നങ്ങൾ സൃഷ്ടിച്ച അനുഭവം എനിക്കുണ്ട്					
17.	എന്റെ അനുവാദമില്ലാതെ ഞാനുമായി ബന്ധപ്പെട്ട ഒരു കാര്യവും സോഷ്യൽ മീഡിയയിൽ വന്നിട്ടില്ല					
18.	സോഷ്യൽ മീഡിയ വഴി എന്റെ പേരിൽ തെറ്റായ വാർത്തകൾ പ്രചരിക്കാറുണ്ട്					
19.	സോഷ്യൽ മീഡിയ വഴി എന്നെക്കുറിച്ചുള്ള നുണക്കഥകൾ പ്രചരിച്ചിട്ടുണ്ട്					
20.	എനിക്കുപറ്റിയ അബദ്ധങ്ങൾ സോഷ്യൽ മീഡിയ വഴി പ്രചരിപ്പിച്ച് മറ്റുള്ളവർ എന്നെ അപമാനിക്കാറുണ്ട്					
21.	എന്റെ 'ഇമേജ്' അല്ലെങ്കിൽ സൽപേര് ഇല്ലാതാക്കുന്ന ഒരനുഭവവും സോഷ്യൽ മീഡിയ വഴി എനിക്കുണ്ടായിട്ടില്ല					

ക്രമ നമ്പർ	പ്രസ്താവന	പ്രതികരണങ്ങൾ				
		പൂർണ്ണമായി യോജിക്കുന്നു	യോജിക്കുന്നു	അഭിപ്രായമില്ല	വിയോജിക്കുന്നു	പൂർണ്ണമായി വിയോജിക്കുന്നു
22.	സോഷ്യൽ മീഡിയ വഴി വരുന്ന വിമർശനങ്ങൾ എന്നെ തളർത്താറുണ്ട്					
23.	എന്റെ സോഷ്യൽ മീഡിയ എക്കൗണ്ട് മറ്റൊരാൾ ദുരുപയോഗം ചെയ്ത അനുഭവം എനിക്കില്ല					
24.	സോഷ്യൽ മീഡിയ ഗ്രൂപ്പിൽനിന്ന് കൂട്ടുകാർ എന്നെ മനഃപൂർവ്വം ഒഴിവാക്കാറുണ്ട്					
25.	ഗ്രൂപ്പിൽ എന്റെ അഭിപ്രായങ്ങൾ ആരും പരിഗണിക്കാറില്ല					
26.	കൂട്ടുകാരുൾപ്പെടുന്ന സോഷ്യൽ മീഡിയ ഗ്രൂപ്പിൽ ഞാനൊരു സജീവ സാന്നിധ്യമാണ്					
27.	പാസ്‌വേഡ് പോലുള്ള സംവിധാനങ്ങൾ ഉപയോഗിച്ച് കൂട്ടുകാർ നടത്തുന്ന ഓൺലൈൻ പ്രവർത്തനങ്ങളിൽ നിന്ന് എന്നെ ഒഴിവാക്കാറുണ്ട്.					
28.	കൂട്ടുകാർ സോഷ്യൽ മീഡിയ വഴി ചർച്ചചെയ്ത് തീരുമാനിക്കുന്ന പല കാര്യങ്ങളും ഞാനറിയാറില്ല					
29.	സോഷ്യൽ മീഡിയ വഴി ഞാൻ പങ്കുവയ്ക്കുന്ന ഫോട്ടോകൾക്കും, ആശയങ്ങൾക്കും വളരെമോശം കമന്റുകൾ ലഭിക്കാറുണ്ട്					
30.	എന്റെ പേരും, ഫോട്ടോയും ഉപയോഗിച്ച് മറ്റൊരാൾ സോഷ്യൽ മീഡിയ എക്കൗണ്ട് (Fake Account) ഉണ്ടാക്കിയതായി എനിക്കറിവില്ല					
31.	എന്റെ ശ്രദ്ധക്കുറവുമൂലം ഞാനുപയോഗിക്കുന്ന ഫോണും, പാസ്‌വേഡും മറ്റുള്ളവർ ദുരുപയോഗം ചെയ്തിട്ടുണ്ട്					
32.	എന്റെ വ്യക്തിപരമായ വിവരങ്ങൾ തന്ത്രപൂർവ്വം ചോദിച്ച് മനസ്സിലാക്കി അത് സോഷ്യൽ മീഡിയ വഴി പ്രചരിപ്പിച്ചിട്ടുണ്ട്					
33.	എന്റെ പല രഹസ്യങ്ങളും സോഷ്യൽ മീഡിയ വഴി പരസ്യപ്പെടുത്തിയിട്ടുണ്ട്					
34.	എന്റെ വ്യക്തിപരമായ കാര്യങ്ങൾ സോഷ്യൽ മീഡിയയിൽ ഒരു ചർച്ചാവിഷയമാക്കുന്നത് എന്നെ വേദനിപ്പിക്കാറുണ്ട്					

ക്രമ നമ്പർ	പ്രസ്താവന	പ്രതികരണങ്ങൾ				
		പൂർണ്ണമായി യോജിക്കുന്നു	യോജിക്കുന്നു	അഭിപ്രായമില്ല	വിയോജിക്കുന്നു	പൂർണ്ണമായി വിയോജിക്കുന്നു
35.	സോഷ്യൽ മീഡിയ വഴി പങ്കുവെച്ച കാര്യങ്ങൾ സുരക്ഷിത ജീവിതത്തിന് ഭീഷണിയാകും എന്നു ഞാൻ ഭയപ്പെടുന്നുണ്ട്					
36.	കരുതലോടെ സോഷ്യൽ മീഡിയ ഉപയോഗിക്കുന്നതു കൊണ്ട് ഭീഷണികളൊന്നും ഇതുവരെ ഉണ്ടായിട്ടില്ല					

Appendix E

DEPARTMENT OF EDUCATION
UNIVERSITY OF CALICUT

CYBER-VICTIM SCALE

Dr. VASUMATHI T.
Assistant Professor
Department of Education
University of Calicut

DILEESH K.
Research Scholar
Department of Education
University of Calicut

Dear student,

The following statements are related to social media experiences. Each statement has five responses, i.e. 'Strongly agree, Agree, No opinion, Disagree, and Strongly disagree'. Please select the most appropriate response for each statement and mark it with a tick (✓) mark. I assure you that the responses will be kept confidential and used only for research purposes.

Sl. No.	Statements	Responses				
		Strongly agree	Agree	No opinion	Disagree	Strongly disagree
1.	Through social media I get arguments/messages with rude language					
2.	Others send hurtful messages to me through social media					
3.	Nobody sends me unpleasant messages or nasty jokes to disturb me					
4.	I get mean comments or trolls or stickers to insult me					
5.	I get messages on social media in an indecent manner					
6.	Other students make me angry by repeating something (pictures, comments etc.)					
7.	Nobody celebrates my birthdays on social media in an insulting manner					
8.	Through social media others send me messages to threaten me					

Sl. No.	Statements	Responses				
		Strongly agree	Agree	No opinion	Disagree	Strongly disagree
9.	Other students never refer to me by a nickname on social media					
10.	Nobody used my name or photos to make troll					
11.	Some people criticize me for everything on social media					
12.	I get messages that brand me as a worthless person					
13.	I get anonymous messages through social media that make me afraid for my safety					
14.	Other students forward my confidential communication on social media to upset me					
15.	Others spread my secretly recorded photos and videos on social media without permission					
16.	Others used my identity (name, photos, etc.) on social media to damage my relationship					
17.	Others do not share any details related to me without my permission					
18.	Through social media others spread rumors and allegations about me to damage my reputation					
19.	Through social media other students spread lies about me					
20.	Others mock me by sharing certain incidents in my life					
21.	I have never had any experiences that put me down					
22.	Others make me upset through social media criticism					
23.	No one misuses my social media account					
24.	Friends deliberately exclude me from social media groups					
25.	In the social media group, a group of students purposely left me out of their interaction					

Sl. No.	Statements	Responses				
		Strongly agree	Agree	No opinion	Disagree	Strongly disagree
26.	I am an active participant in the social media groups					
27.	A group of students restricts me in a communication environment with the help of safety measures (password protection)					
28.	I am not informed about many matters that friends decide on through social media					
29.	The photos and messages I share on social media get negative comments					
30.	Nobody used my name or photos to make an account on social media (fake account)					
31.	Others misused my social media account and password without my permission					
32.	Others shared my private details on social media					
33.	Other students share my secrets on social media without permission					
34.	Discussing my matters on social media has been a humiliation for me					
35.	I fear that what is shared through social media can be a threat to my future					
36.	I have no threats via social media as it is used carefully					

Appendix F

DEPARTMENT OF EDUCATION
UNIVERSITY OF CALICUT

SCALE FOR PARENTAL CONTROL OVER SOCIAL MEDIA USE

Dr. VASUMATHI T.
Assistant Professor
Department of Education
University of Calicut

DILEESH K.
Research Scholar
Department of Education
University of Calicut

നിർദ്ദേശങ്ങൾ

കുട്ടികളുടെ സോഷ്യൽ മീഡിയ/മൊബൈൽ ഫോൺ ഉപയോഗത്തിൽ രക്ഷിതാക്കൾ എത്രത്തോളം ഇടപെടുന്നു എന്നറിയാനുള്ള പ്രസ്താവനകളാണ് താഴെ കൊടുത്തിരിക്കുന്നത്. അനുയോജ്യമായ പ്രതികരണം ശരി (✓) ചിഹ്നം ഉപയോഗിച്ച് അടയാളപ്പെടുത്തുക. ഇതിലൂടെ ലഭിക്കുന്ന വിവരങ്ങൾ വളരെ രഹസ്യമായി സൂക്ഷിക്കാമെന്നും ഗവേഷണാവശ്യത്തിനുമാത്രമേ ഉപയോഗിക്കുകയുള്ളൂ എന്നും ഉറപ്പു നൽകുന്നു.

ക്രമ നമ്പർ	പ്രസ്താവന	പ്രതികരണങ്ങൾ				
		പൂർണ്ണമായി യോജിക്കുന്നു	യോജിക്കുന്നു	അഭിപ്രായമില്ല	വിയോജിക്കുന്നു	പൂർണ്ണമായി വിയോജിക്കുന്നു
1.	എന്റെ രക്ഷിതാക്കളുടെ കാഴ്ചപ്പാടിൽ സ്മാർട്ഫോണും സോഷ്യൽ മീഡിയയും കുട്ടികൾക്ക് വേണ്ടിയുള്ളതല്ല					
2.	എന്റെ അഭിപ്രായങ്ങൾക്ക് രക്ഷിതാക്കൾ വില കല്പിക്കാറില്ല					
3.	എന്റെ സോഷ്യൽ മീഡിയ ഉപയോഗത്തിനെതിരായി രക്ഷിതാക്കൾ ശക്തമായ നിലപാടെടുക്കാറുണ്ട്					
4.	കുട്ടികളെ സോഷ്യൽ മീഡിയ ഉപയോഗത്തിൽനിന്നും അകറ്റി നിർത്തണമെന്നാണ് എന്റെ രക്ഷിതാക്കളുടെ അഭിപ്രായം					
5.	എല്ലാ കാര്യങ്ങൾക്കും രക്ഷിതാക്കൾ എനിക്ക് നല്ല പിന്തുണ നൽകാറുണ്ടെങ്കിലും സോഷ്യൽ മീഡിയ/സ്മാർട്ഫോൺ ഉപയോഗത്തിന്റെ കാര്യത്തിൽ അതില്ല					
6.	എന്റെ മൊബൈൽഫോൺ സോഷ്യൽ മീഡിയ ഉപയോഗത്തിന് അനുയോജ്യമല്ല					

ക്രമ നമ്പർ	പ്രസ്താവന	പ്രതികരണങ്ങൾ				
		പൂർണ്ണമായി യോജിക്കുന്നു	യോജിക്കുന്നു	അഭിപ്രായമില്ല	വിയോജിക്കുന്നു	പൂർണ്ണമായി വിയോജിക്കുന്നു
7.	എന്റെ സോഷ്യൽ മീഡിയ ഉപയോഗം രക്ഷിതാക്കൾ ശ്രദ്ധിക്കാറില്ല					
8.	കുട്ടികളുടെ ശാരീരികവും, മാനസികവും, സാമൂഹിക വുമായ വളർച്ചയ്ക്കും വികാസത്തിനും അവരെ സോഷ്യൽ മീഡിയയിൽനിന്നും അകറ്റി നിൽത്തേണ്ട തുണ്ട് എന്നതാണ് എന്റെ രക്ഷിതാക്കളുടെ കാഴ്ചപ്പാട്					
9.	സോഷ്യൽ മീഡിയ ശരിയായി ഉപയോഗിക്കാനുള്ള പക്വത എനിക്കില്ല എന്നതാണ് എന്റെ രക്ഷിതാക്കളുടെ അഭിപ്രായം					
10.	രക്ഷിതാക്കളുമായി എനിക്ക് യാതൊരു അടുപ്പവുമില്ല					
11.	രക്ഷിതാക്കൾക്ക് എന്റെ കാര്യത്തിൽ യാതൊരു ശ്രദ്ധയുമില്ല					
12.	ചില പ്രത്യേക സമയങ്ങളിൽ മാത്രമേ വീട്ടിൽ ഫോൺ ഉപയോഗിക്കാൻ അനുവാദമുള്ളൂ					
13.	മാതാപിതാക്കൾ അനുവദിച്ചിട്ടുള്ള സൈറ്റുകളും, ആപ്പുകളും മാത്രമേ എനിക്ക് ഉപയോഗിക്കാൻ അനു വാദമുള്ളൂ					
14.	രക്ഷിതാക്കൾ എന്നോട് വളരെ അപൂർവമായി മാത്രമേ സംസാരിക്കാറുള്ളൂ					
15.	സോഷ്യൽ മീഡിയ ഉപയോഗിക്കുമ്പോൾ എന്തൊക്കെ കാര്യങ്ങൾ ശ്രദ്ധിക്കണമെന്ന് രക്ഷിതാക്കൾ എന്നെ അറിയിക്കാറുണ്ട്					
16.	സ്മാർട്ട് ഫോണിലൂടെ ഞാൻ ചെയ്യുന്ന കാര്യങ്ങളെ ക്കുറിച്ച് രക്ഷിതാക്കൾക്ക് വ്യക്തമായ ധാരണയുണ്ട്					
17.	ഇന്റർനെറ്റിലും, മൊബൈൽ ഫോണിലും ഞാൻ ഉപ യോഗിക്കുന്ന പേരും, പാസ്സ്‌വേഡും മാതാപിതാക്കളെ അറിയിക്കേണ്ടതുണ്ട്					
18.	രക്ഷിതാക്കളുടെ അനുവാദത്തോടുകൂടി മാത്രമേ ഞാൻ സ്മാർട്ട്ഫോൺ ഉപയോഗിക്കാറുള്ളൂ					
19.	രക്ഷിതാക്കൾ ഇടയ്ക്കിടെ എന്റെ ഫോൺ പരിശോധി ക്കാറുണ്ട്					
20.	എന്റെ ഇഷ്ടങ്ങളും ആഗ്രഹങ്ങളും രക്ഷിതാക്കൾ പരി ഗണിക്കാറില്ല					

Appendix G

DEPARTMENT OF EDUCATION
UNIVERSITY OF CALICUT

SCALE FOR PARENTAL CONTROL OVER SOCIAL MEDIA USE

Dr. VASUMATHI T.
Assistant Professor
Department of Education
University of Calicut

DILEESH K.
Research Scholar
Department of Education
University of Calicut

Dear student,

The following statements are related to parental control on social media use. Each statement has five responses, i.e. Strongly Agree, Agree, No opinion/ Undecided, Disagree, and 'Strongly disagree. Please select the most appropriate response for each statement and mark it with a tick (✓) mark. I assure you that the responses will be kept confidential and used only for research purposes.

Sl. No.	Statements	Responses				
		Strongly agree	Agree	No opinion	Disagree	Strongly disagree
1.	In my parents' opinion smartphones and social media are not necessary for children					
2.	Parents don't care about my opinions					
3.	My parents stay strong and say no to social media use by children					
4.	My parents think that children should refrain from using social media					
5.	My parents support me with everything except social media use					
6.	My mobile phone is not suitable for social media use (not a smartphone)					
7.	Parents don't care about my social media use					
8.	From the perspective of my parents, for the proper growth of children, it is essential to keep them away from social media					

Sl. No.	Statements	Responses				
		Strongly agree	Agree	No opinion	Disagree	Strongly disagree
9.	In my parent's opinion I am not mature enough to use social media properly					
10.	My parents and I had an emotional breakdown					
11.	I feel that my parents are treating me irresponsibly					
12.	My parents restrict the amount of time spent on smartphone					
13.	My parents restrict my access to certain sites and applications					
14.	My parents rarely talk to me					
15.	My parents give tips on how to use social media properly					
16.	Parents have a clear idea of what I do on social media					
17.	Parents need to be informed of the username and password I use on social media and on my smartphone					
18.	I use social media only with the consent of my parents					
19.	Parents frequently check my mobile phone					
20.	My parents don't care about my likes and dislikes					

Appendix H

DEPARTMENT OF EDUCATION
UNIVERSITY OF CALICUT

NEED SATISFACTION SCALE

Dr. VASUMATHI T.
Assistant Professor
Department of Education
University of Calicut

DILEESH K.
Research Scholar
Department of Education
University of Calicut

നിർദ്ദേശങ്ങൾ

ഒരു വ്യക്തിയുടെ വിവിധ തലത്തിലുള്ള ആവശ്യങ്ങളുമായി ബന്ധപ്പെട്ട പ്രസ്താവനകളാണ് താഴെ കൊടുത്തിരിക്കുന്നത്. നിങ്ങളുടെ പ്രതികരണം അനുയോജ്യമായ കോളത്തിൽ ശരി (✓) എന്ന് രേഖപ്പെടുത്തുക. അടയാളപ്പെടുത്തുക. ഇതിലൂടെ ലഭിക്കുന്ന വിവരങ്ങൾ വളരെ രഹസ്യമായി സൂക്ഷിക്കാമെന്നും ഗവേഷണാവശ്യത്തിനുമാത്രമേ ഉപയോഗിക്കുകയുള്ളൂ എന്നും ഉറപ്പു നൽകുന്നു.

ക്രമ നമ്പർ	പ്രസ്താവന	പ്രതികരണങ്ങൾ				
		പൂർണ്ണമായി യോജിക്കുന്നു	യോജിക്കുന്നു	അഭിപ്രായമില്ല	വിയോജിക്കുന്നു	പൂർണ്ണമായി വിയോജിക്കുന്നു
1.	ഒരു വ്യക്തി എന്ന നിലയിൽ എനിക്ക് സമൂഹത്തിൽനിന്നും അർഹമായ പരിഗണന ലഭിക്കുന്നുണ്ട്.					
2.	എല്ലാ ദിവസവും കളിക്കാൻ/വ്യായാമം ചെയ്യാൻ ആവശ്യമായ ജീവിതസാഹചര്യം എനിക്കില്ല					
3.	ദിവസവും നന്നായി ഉറങ്ങാൻ കഴിയാത്തത് എന്റെ പ്രവർത്തനങ്ങളെ സാരമായി ബാധിക്കാറുണ്ട്					
4.	ആരോഗ്യപ്രശ്നങ്ങൾ എന്നെ നിരന്തരം ബുദ്ധിമുട്ടിക്കാറുണ്ട്					
5.	വീട്ടിലായാലും, കൂട്ടുകാർക്കിടയിലായാലും കാര്യങ്ങൾ തീരുമാനിക്കുന്നതിനും, നടപ്പിലാക്കുന്നതിനും എനിക്ക് പ്രധാനപ്പെട്ട റോൾ ഉണ്ട്.					
6.	എന്നെയും എന്റെ കഴിവുകളെയും തിരിച്ചറിയാനും അംഗീകരിക്കാനും ആരുമില്ല.					
7.	ഞാൻ പണം കണ്ടെത്തുന്നതും ഉപയോഗിക്കുന്നതും പ്രധാനമായും ഭക്ഷണത്തിനു വേണ്ടിയാണ്					

ക്രമ നമ്പർ	പ്രസ്താവന	പ്രതികരണങ്ങൾ				
		പൂർണ്ണമായി യോജിക്കുന്നു	യോജിക്കുന്നു	അഭിപ്രായമില്ല	വിയോജിക്കുന്നു	പൂർണ്ണമായി വിയോജിക്കുന്നു
8.	മറ്റുള്ളവർ ശ്രദ്ധിക്കുന്ന/ആകർഷിക്കുന്ന ഒരു പ്രത്യേകതയും എനിക്കില്ല.					
9.	സമൂഹത്തിനിടയിൽ എന്റെ അഭിമാനം നഷ്ടപ്പെടുത്തുന്ന കാര്യങ്ങൾ ഞാൻ ചെയ്യാറില്ല.					
10.	ഒരു വിദ്യാർത്ഥി എന്ന നിലയിൽ അർഹിക്കുന്ന ബഹുമാനം എനിക്ക് ലഭിക്കാറില്ല.					
11.	എന്റെ കുടുംബം എന്നെ ഏത് ആപത്തിൽനിന്നും രക്ഷപ്പെടുത്തുമെന്ന് ഞാൻ വിശ്വസിക്കുന്നു					
12.	അകാരണമായ ഭയം എന്നെ വേട്ടയാടാറുണ്ട്					
13.	വീട്ടിൽ ഞാൻ എപ്പോഴും സുരക്ഷിതമാണെന്ന് എനിക്ക് തോന്നിയിട്ടില്ല					
14.	മറ്റുള്ളവർ എന്നെ നല്ല ഒരു വ്യക്തിയായിട്ടാണ് കാണുന്നത് എന്നതാണ് എന്റെ വിശ്വാസം					
15.	തീരുമാനമെടുക്കാനും കാര്യങ്ങൾ ചെയ്യാനും ഉള്ള എന്റെ കഴിവിൽ എനിക്ക് വിശ്വാസമുണ്ട്					
16.	ദീർഘകാലം ചെയ്യാൻ പറ്റുന്ന സുരക്ഷിതമായ ഒരു ജോലിയാണ് ഞാൻ ആഗ്രഹിക്കുന്നത്					
17.	അനാവശ്യമായ ആകാംക്ഷയും, ഉൽകണ്ഠയും ഇല്ലാത്ത പ്രകൃതമാണ് എന്റേത്					
18.	വിജയം നേടാനുള്ള കഴിവ് എനിക്കുണ്ട്					
19.	ഈ ലോകത്തിൽ എനിക്ക് എന്റേതായ സ്ഥാനം ഉണ്ട്					
20.	എനിക്ക് വേണ്ടി ചോദിക്കാനും പറയാനും ഈ സമൂഹത്തിൽ ആളുകളുണ്ട്					
21.	എനിക്ക് പ്രിയപ്പെട്ട ആൾക്കാർ എന്നെ പരിഗണിക്കുന്ന രീതിയിൽ ഞാൻ സംതൃപ്തനാണ്/യാണ്					
22.	സ്നേഹം പങ്കുവയ്ക്കുന്നതിനായി സുഹൃത്തുക്കളും, ബന്ധുക്കളും ഉൾപ്പെടുന്ന ഒരു നല്ല സാമൂഹികാന്തരീക്ഷം എനിക്കുണ്ട്					
23.	സംശയങ്ങൾ ചോദിക്കുന്നതിനും, ആശയങ്ങൾ പങ്കുവയ്ക്കുന്നതിനും എനിക്ക് പേടിയില്ല					

ക്രമ നമ്പർ	പ്രസ്താവന	പ്രതികരണങ്ങൾ				
		പൂർണ്ണമായി യോജിക്കുന്നു	യോജിക്കുന്നു	അഭിപ്രായമില്ല	വിയോജിക്കുന്നു	പൂർണ്ണമായി വിയോജിക്കുന്നു
24.	പുതിയ ബന്ധങ്ങൾ ഉണ്ടാക്കുന്നതിനുവേണ്ടി ഞാൻ പരിശ്രമിക്കാറുണ്ട്					
25.	ഞാൻ മറ്റുള്ളവരെ വിലമതിക്കുകയും അവരെ (കഴിവുകളും, കുറവുകളും ഉൾപ്പടെ) അംഗീകരിക്കുകയും ചെയ്യാറുണ്ട്					
26.	വീട്ടുകാരിൽനിന്നും, കൂട്ടുകാരിൽനിന്നും അകന്ന് ജീവിക്കുന്ന കാര്യം സങ്കല്പിക്കാൻ പോലും എനിക്ക് കഴിയില്ല					
27.	വീട്ടുകാരുടെയും സുഹൃത്തുക്കളുടെയും പിന്തുണ എനിക്ക് ലഭിക്കാറുണ്ട്					
28.	എന്നെ ഇഷ്ടപ്പെടുന്ന ആരും ഈ ലോകത്തില്ല എന്ന് എനിക്ക് തോന്നാറുണ്ട്					
29.	ആൾക്കൂട്ടത്തിൽനിന്നും (ബന്ധുക്കൾ, സഹപാഠികൾ തുടങ്ങിയവരുടെ) പൊതുവെ മാറിനിൽക്കുന്ന പ്രകൃതമാണ് എന്റേത്					
30.	എന്നെ മനസ്സിലാക്കുന്നവർ എനിക്കുചുറ്റുമുണ്ട് എന്നതാണ് എന്റെ ആശ്വാസം					
31.	എന്റെ അഭിപ്രായങ്ങളും, ആഗ്രഹങ്ങളും ഞാൻ മറ്റുള്ളവരോട് തുറന്നു പറയാറുണ്ട്					
32.	സ്വതന്ത്രമായി പ്രവർത്തിക്കുവാനും കഴിവുതെളിയിക്കുവാനുമുള്ള ഒരു സാഹചര്യവും എനിക്കില്ല					
33.	റിസ്ക്കുള്ള കാര്യങ്ങൾ ഏറ്റെടുത്തു ചെയ്യുന്നതിന് എനിക്ക് ഭയമാണ്					
34.	സ്നേഹിക്കാനും സ്നേഹിക്കപ്പെടാനും കഴിയാത്ത ഒരു വ്യക്തിത്വമാണ് എന്റേത് എന്ന് എനിക്ക് തോന്നാറുണ്ട്					
35.	മറ്റു പലരുടെയും സഹായത്തോടുകൂടി മാത്രമേ ഞാൻ തീരുമാനങ്ങൾ എടുക്കാറുള്ളൂ					
36.	വിവിധ ഗ്രൂപ്പുകളിൽ (കുടുംബം, കൂട്ടുകാർ തുടങ്ങിയ) എനിക്ക് അർഹമായ സ്ഥാനം ലഭിക്കുന്നുണ്ട്					

Appendix I

DEPARTMENT OF EDUCATION
UNIVERSITY OF CALICUT

NEED SATISFACTION SCALE

Dr. VASUMATHI T.	**DILEESH K.**
Assistant Professor	Research Scholar
Department of Education	Department of Education
University of Calicut	University of Calicut

Dear student,

The following statements are related to the need satisfaction. Each statement has five responses, i.e. Strongly agree, Agree, No opinion, Disagree, and Strongly disagree. Please select the most appropriate response for each statement and mark it with a tick (✓) mark. I assure you that the responses will be kept confidential and used only for research purposes.

Sl. No.	Statements	Response				
		Strongly agree	Agree	No opinion	Disagree	Strongly disagree
1.	As a child, I got a lot of respect from others					
2.	I am not in a position to play and exercise every day					
3.	I am not in a position to sleep well					
4.	Health problems often bother me					
5.	I am an important person among family and friends					
6.	I don’t get any kind of acceptance from others					
7.	The money I get is mainly used for food					
8.	I don’t have the personality or ability to impress others					
9.	I do not engage in any activities that damage self-esteem					
10.	As a student, I am not treated fairly					

Sl. No.	Statements	Response				
		Strongly agree	Agree	No opinion	Disagree	Strongly disagree
11.	My family has the power to protect me from any harm					
12.	I have some kind of fear					
13.	My home does not have a safe environment					
14.	I consider myself to be a good person to others					
15.	I have the confidence to take decisions and do things					
16.	I wish to get a safe job					
17.	I don't care for unnecessary things					
18.	I am confident about my ability to succeed					
19.	I have a role to play in this world					
20.	Family members and society are close to me					
21.	My loved ones are treating me nicely					
22.	I have a lot of good friends and relatives					
23.	I am hesitant to ask questions and not share ideas in the classroom					
24.	I try to make new friendships					
25.	I accept others for who they are flaws and all					
26.	I have a good feeling among relatives and friends					
27.	I enjoy the support of family and relatives					
28.	I often feel loneliness					
29.	My nature is to stand out from the crowd					
30.	My comfort is that those who recognize me are with me					
31.	I openly express my thoughts and wishes					
32.	I am not in a position to work independently					

Sl. No.	Statements	Response				
		Strongly agree	Agree	No opinion	Disagree	Strongly disagree
33.	I don’t dare to take risks					
34.	I am not such a lovable child					
35.	I expect the involvement of others in my decision-making process					
36.	I am completely satisfied with the position that I have in different groups					

Appendix J

DEPARTMENT OF EDUCATION
UNIVERSITY OF CALICUT

SEMI-STRUCTURED INTERVIEW SCHEDULE FOR HSS TEACHERS

Dr. VASUMATHI T.	**DILEESH K.**
Assistant Professor	Research Scholar
Department of Education	Department of Education
University of Calicut	University of Calicut

Time of Interview :

Date :

Place :

Interviewer :

Interviewee :

Experience (in years):

School : Govt. / Aided/Unaided

Questions

1. Have you noticed the widespread use of mobile phones and social media among students?
2. What is your opinion about their use or misuse?
3. Have you noticed the workings of any social media gangs (groups) among the students?
4. Do they use any special names or symbols?
5. Do you receive any complaints from parents?
6. Please explain any incidents related to misuse?
7. What are the major changes that you have noticed in a teacher-student relationship since the widespread use of social media?
8. Have you provided any necessary instructions to students on how to use cyberspace?
9. Instructions that are part of the syllabus?
10. Can children's responses and outcomes be assessed?
11. What measures are being taken to prevent the use/misuse of mobile phones and social media in school?