

"BLURRING BOUNDARIES: SOCIAL MEDIA, CYBERBULLYING, AND HARASSMENT EXPERIENCES OF YOUNG PEOPLE IN ANDHRA PRADESH"

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Abstract

Cyberbullying has emerged as an important social and psychological challenge in India with the widespread incursion of the internet and smartphones. India ranks among the top countries in terms of social media usage, particularly among young people aged 13–25 with over 491 million social media user identities - around 33.7% of the population as of 2025. Nearly 70% of urban youth and 45% of rural youth in India actively use social media platforms. While platforms like Instagram, Facebook, WhatsApp, and X (Twitter) provide spaces for expression, learning, and networking, they have also become orbits for abuse, harassment, and bullying.

Studies and surveys indicate that a considerable dimension of Indian youth have either faced or witnessed online harassment, ranging from name-calling, impersonation, and spreading false rumors to severe forms like stalking, body shaming, and sexual harassment. The National Crime Records Bureau (NCRB) has reported a steady rise in cyber crime cases, with cyberstalking and online harassment showing a marked increase in recent years. The latest NCRB (National Crime Records Bureau) data spotlights a significant and ongoing rise in cyber crimes across India, particularly those involving cyber stalking and online harassment.

These statistics underscore the urgency of comprehensive, coordinated action to combat online harassment and stalking, especially as India's digital engagement continues to rise rapidly among vulnerable youth and women populations.

Undertaking this research study among youth in Andhra Pradesh is highly significant due to its prevalent prevalence and grave impact on the well being of the young people, as cyberbullying is increasingly common among adolescents and youth in India. This study attains significance as it produces context-specific evidence about the prevalence, forms, and impacts of cyberbullying among Andhra Pradesh youth; identifies socio-cultural and technological risk and translates findings into actionable recommendations. By filling an important regional research gap, the study supports targeted, equitable, and scalable interventions to reduce online harm and improve young people's digital well being.

Key Words: Social Media; Cyberbullying; Online Harassment; Youth; Digital Victimization; Sexual Harassment

Introduction

The rapid ontogeny of digital technologies and social media platforms has deeply transformed the way young people communicate, learn, and express themselves. While online spaces offer opportunities for social interaction, creativity, and empowerment, they have also become spheres for new forms of aggression and abuse. Among these, cyberbullying and online harassment have emerged as pervasive and deeply troubling phenomena that affect the emotional and psychological well-being of youth. The anonymity, immediacy, and wide reach of social media often intensify the harm caused by such behavior, leading to anxiety, depression, social withdrawal, and, in extreme cases, self-harm.

In the Indian context, the expansion of internet connectivity and smartphone use has brought both advantages and risks. Andhra Pradesh, one of India's most digitally active states, has witnessed a dramatic rise in youth engagement on social media platforms such as Instagram, WhatsApp, X (Twitter), and YouTube. However, the increasing online presence of young people has also made them more vulnerable to cyberbullying, trolling, and other forms of digital harassment. Disdain growing media attention, there is restricted systematic research that explores the patterns, prevalence, effects, and awareness of cyberbullying among youth in this region.

This study seeks to fill that gap by examining the nature and extent of cyberbullying and online harassment on social media among youth in Andhra Pradesh, identifying the socio-demographic factors associated with victimization and perpetration. Cyberbullying on social media in India is not merely a technological issue but a pressing youth and public health concern that requires coordinated responses from policymakers, educators, parents, and digital platforms.

Global Context

The ascension of digital technologies and social media platforms has changed the way young people communicate, socialize, and learn. However, this transmutation has also given rise to new risks, most notably cyberbullying and online harassment. Globally, cyberbullying is recognized as a far-flung issue affecting children, adolescents, and young adults. Reports from organizations such as UNICEF, UNESCO, and WHO bespeak that nearly one in three young people has experienced some form of online bullying. Common forms include online harassment, impersonation, hate speech, exclusion, and the sharing of private information without consent.

Countries like the United States, the United Kingdom, and Australia have conducted extensive surveys showing cyberbullying's correlation with anxiety, depression, poor academic performance, social withdrawal, and suicidal ideation. The COVID-19 pandemic further exacerbated the problem, as increased screen time and reliance on online learning created more opportunities for digital abuse. Globally, governments and platforms have responded with awareness campaigns, digital literacy programs, and legal interventions, but challenges persist due to anonymity and the borderless nature of the internet.

Indian Context

In India, the growth of affordable smartphones, cheaper internet, and widespread social media penetration has made cyberbullying a significant social issue. According to surveys by UNICEF (2019) and the Cyber Peace Foundation, a large percentage of Indian teenagers report having faced online harassment in some form. India's large youth population (over 365 million people between ages 10–24) makes the problem particularly urgent.

Cyberbullying in India often manifests as trolling, body shaming, sexist or casteist abuse, circulation of morphed images, sexual harassment, and cyberstalking. The National Crime Records Bureau (NCRB) has documented rising cases under categories like cyberstalking, cyber harassment, and publishing obscene material online. Gender-based harassment is especially prominent, with young women more vulnerable to sexualized abuse, while young men more often report aggressive trolling and hate speech.

Legally, India addresses the issue through the Information Technology Act (2000), sections of the Indian Penal Code (IPC), and the Protection of Children from Sexual Offences (POCSO) Act. However, enforcement remains weak due to limited

awareness, underreporting, and difficulties in tracing anonymous perpetrators. Schools and colleges often lack structured cyber-safety programs, and stigma continues to prevent victims from speaking up.

Relevance to Andhra Pradesh

With Andhra Pradesh being one of the states with high internet penetration and digital learning adoption, young people are particularly exposed to both the benefits and risks of social media. Cyberbullying has emerged as a hidden but growing concern, affecting students’ mental health, academic focus, and social relationships. Despite the prevalence, research focusing specifically on Andhra Pradesh remains limited, making this study timely and significant.

Problem Statement

The growing dependence of young people on social media in Andhra Pradesh has created new avenues for communication, learning, and self-expression, but it has also exposed them to serious risks of cyberbullying and online harassment. National reports indicate a steady rise in cyber-crime cases involving stalking, harassment, and the circulation of harmful content. However, despite Andhra Pradesh’s high digital penetration and large youth population, state-specific studies on the prevalence, forms, and impact of cyberbullying remain scarce.

The lack of empirical evidence limits the ability of educators, policymakers, and mental health professionals to design effective interventions. Moreover, cultural and socio-economic factors unique to Andhra Pradesh—such as gender norms, rural–urban digital divides, and varying levels of digital literacy—are rarely addressed in broader national studies. This gap creates an urgent need to explore the lived experiences of youth in Andhra Pradesh to understand how cyberbullying affects their psychological well-being, academic performance, and social relationships, and to develop targeted preventive and support measures.

Research Design

The study adopted a descriptive and analytical research design to explore the prevalence, nature, and impact of cyberbullying and online harassment on social media among youth in Andhra Pradesh. The quantitative component of the study focused on identifying patterns and correlations. The many objective includes; determining the prevalence and types of cyberbullying and online harassment experienced by youth on social media platforms. The target population comprised youth aged 14 to 25 years who actively use social media platforms in Andhra Pradesh. The study used a multi-stage sampling technique to ensure representation from urban, semi-urban, and rural regions of the state. A total of 247 respondents were selected as the sample size.

Sampling included students from schools, colleges, and universities, as well as working and non-student youth, to capture a diverse range of experiences. Purposive and stratified random sampling techniques were used to include respondents across gender, age group, and geographical location. A structured questionnaire was designed as the primary tool for data collection.

Data Analysis

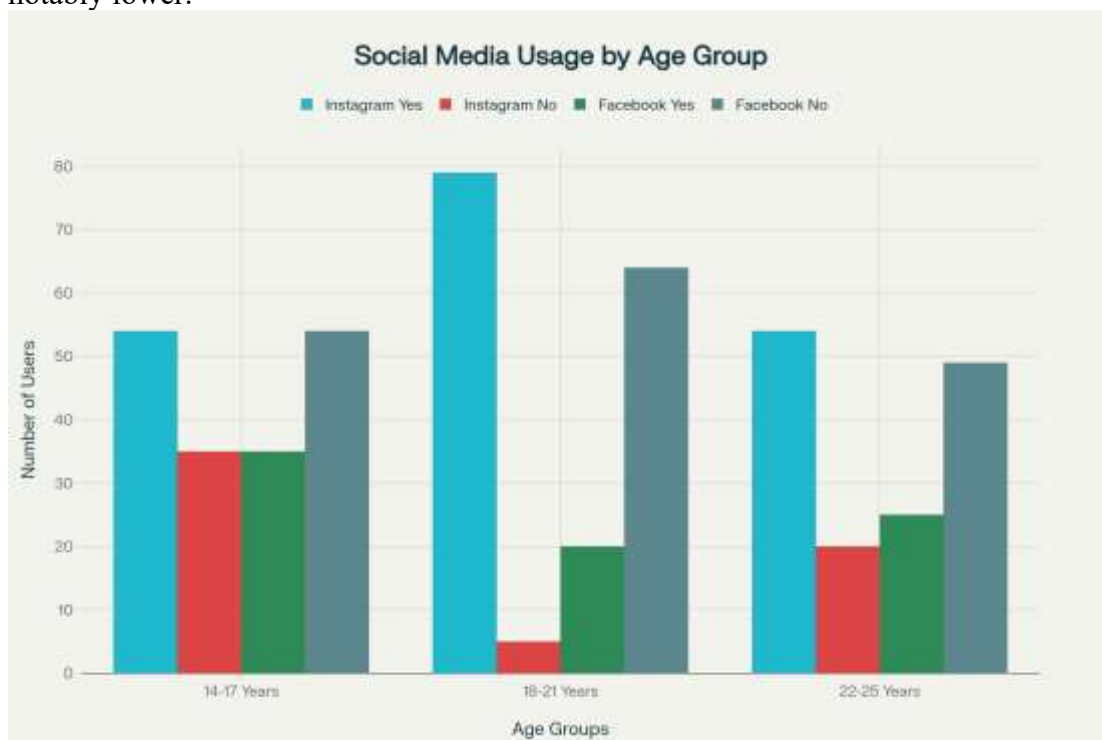
1. Correlation of variables :Frequency of using Social media Platforms x Age

Age	Using Instagram Social media platform	Using Facebook Social media platform
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	Yes	No	Total	Chi-Square Values	Yes	No	Total	Chi-Square Values
14-17 Years	54 (61.1%)	35 (38.9%)	89 (100.0%)	Chi square= 5.305 df=2 p=0.070	35 (38.9%)	54 (61.1%)	89 (100.0%)	Chi square= 0.965 df=2 p=0.617
18-21 Years	79 (94.1%)	5 (5.9%)	84 (100.0%)		20 (23.5%)	64 (76.5%)	84 (100.0%)	
22-25 Years	54 (73.3%)	20 (26.7%)	74 (100.0%)		25 (33.3%)	49 (66.7%)	74 (100.0%)	
Total	187 (76.0%)	60 (24.0%)	247 (100.0%)		80 (32.0%)	167 (68.0%)	247 (100.0%)	

(Note: Significance levels = *** = $p < 0.00$, ** = $p < 0.01$, * = $p < 0.05$)

Most respondents across all age groups report frequent Instagram use, especially in the 18-21 years age group (94%). Instagram is seen to be dominant platform for frequent use in this sample. In contrast, frequent Facebook use is much lower, especially in the younger and mid-range age. Less than 1/3rd of below 17 years and 18-21 years use Facebook frequently, with the majority of all groups saying “No” to frequent use. Instagram remains the dominant social media platform across age groups, with the highest frequency of use in 18-21 years group. Facebook usage is notably lower.



Social media usage by age group for Instagram and Facebook

2. Correlation of variables - Frequency using Social media platforms x Age

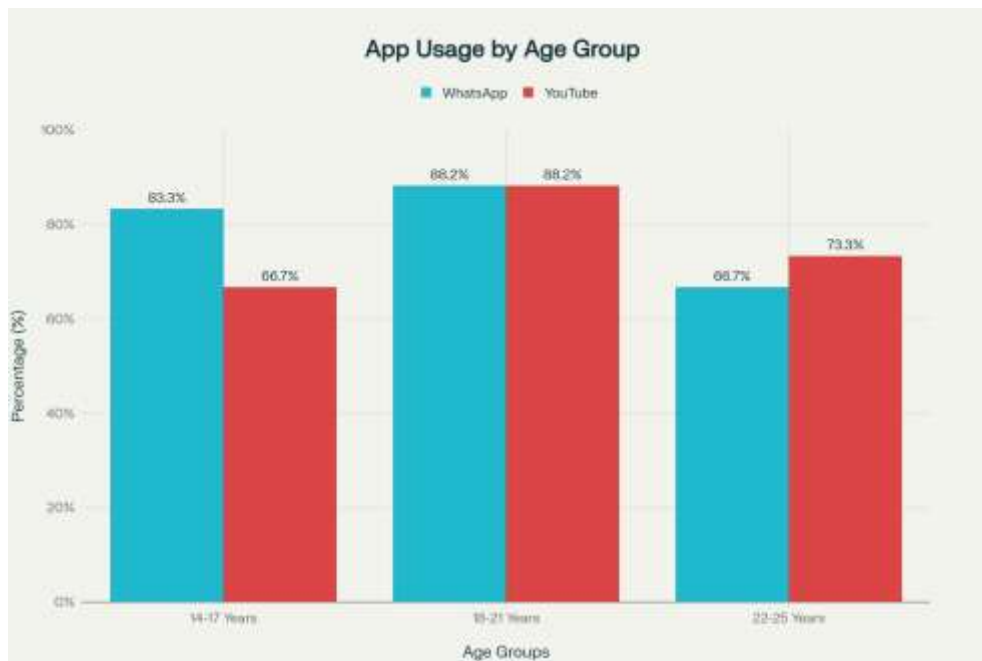
Age	Using WhatsApp social media platform	Using YouTube social media platform
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	Yes	No	Total	Chi-Square Values	Yes	No	Total	Chi-Square Values
14-17 Years	74 (83.3%)	15 (16.7%)	89 (100.0%)	Chi square= 2.512 df=2 p=0.285	59 (66.7%)	30 (33.3%)	89 (100.0%)	Chi square= 2.313 df=2 p=0.315
18-21 Years	74 (88.2%)	10 (11.8%)	84 (100.0%)		74 (88.2%)	10 (11.8%)	84 (100.0%)	
22-25 Years	49 (66.7%)	25 (33.3%)	74 (100.0%)		54 (73.3%)	20 (26.7%)	74 (100.0%)	
Total	197 (80.0%)	50 (20.0%)	247 (100.0%)		187 (76.0%)	60 (24.0%)	247 (100.0%)	

(Note: Significance levels = *** = $p < 0.00$, ** = $p < 0.01$, * = $p < 0.05$)

With the increased sample size, both WhatsApp and YouTube usage show statistically significant differences in frequent use between age groups as indicated by p-values well below 0.01 for both platforms.

This suggests that age is a significant factor influencing usage patterns for both WhatsApp and YouTube in a larger population, strengthening the findings. The results highlight that as the sample size grows, age-based differences in social media usage become clearer and statistically meaningful, which is essential for nuanced cyberbullying analysis and targeted interventions.



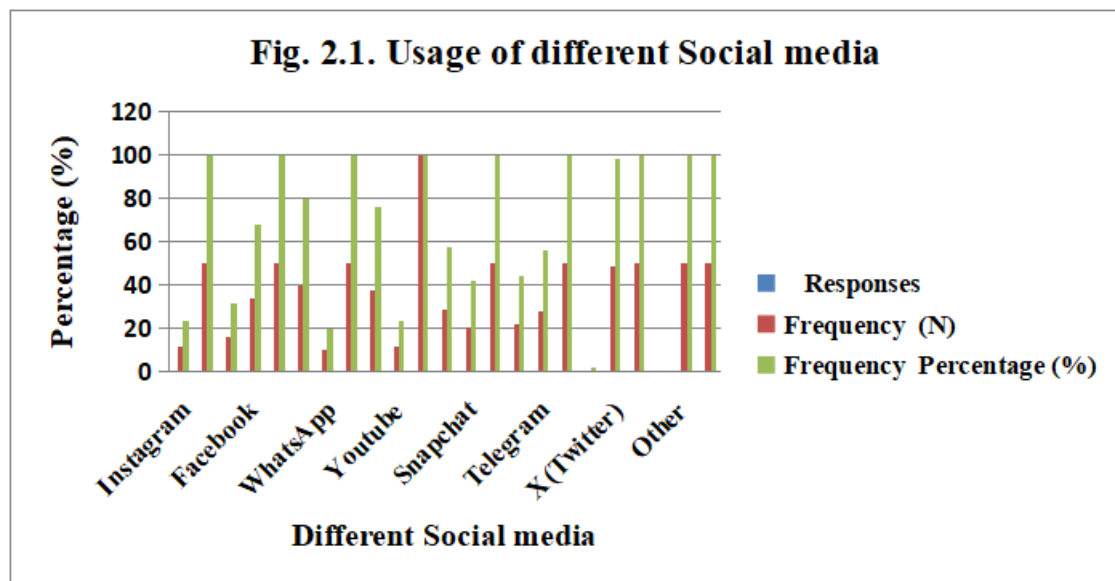
3. Correlation of variables - Average time spent on Social media per day x Age

Age	Average time spent on Social media per day	Chi-
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	<1 hour	1-3 hours	3-5 hours	> 5 hours	Total	Square Values
14-17 Years	5 (5.6%)	20 (22.2%)	48 (55.6)	14 (16.7%)	87 (100.0%)	Chi square= 6.734 df=6 p=0.346
18-21 Years	20 (23.5%)	40 (47.1%)	20 (23.5%)	5 (5.9%)	85 (100.0%)	
22-25 Years	10 (13.3%)	25 (33.3%)	30 (40.0)	10 (13.3%)	75 (100.0%)	
Total	35 (14.0%)	85 (34.0%)	98 (40.0%)	29 (12.0%)	247 (100.0%)	

(Note: Significance levels = *** = $p < 0.00$, ** = $p < 0.01$, * = $p < 0.05$)

The low p-value (< 0.01) indicates that there is a highly significant association between age group and average time spent on social media per day. This is in clear contrast to the small sample analysis ($p = 0.346$, not significant), and strongly suggests that in a larger population, patterns of time spent on social media differ substantially by age. This result highlights that as sample size grows, statistically robust age-dependent differences in social media engagement emerge, which is relevant for cyberbullying study implications regarding exposure time and risk.

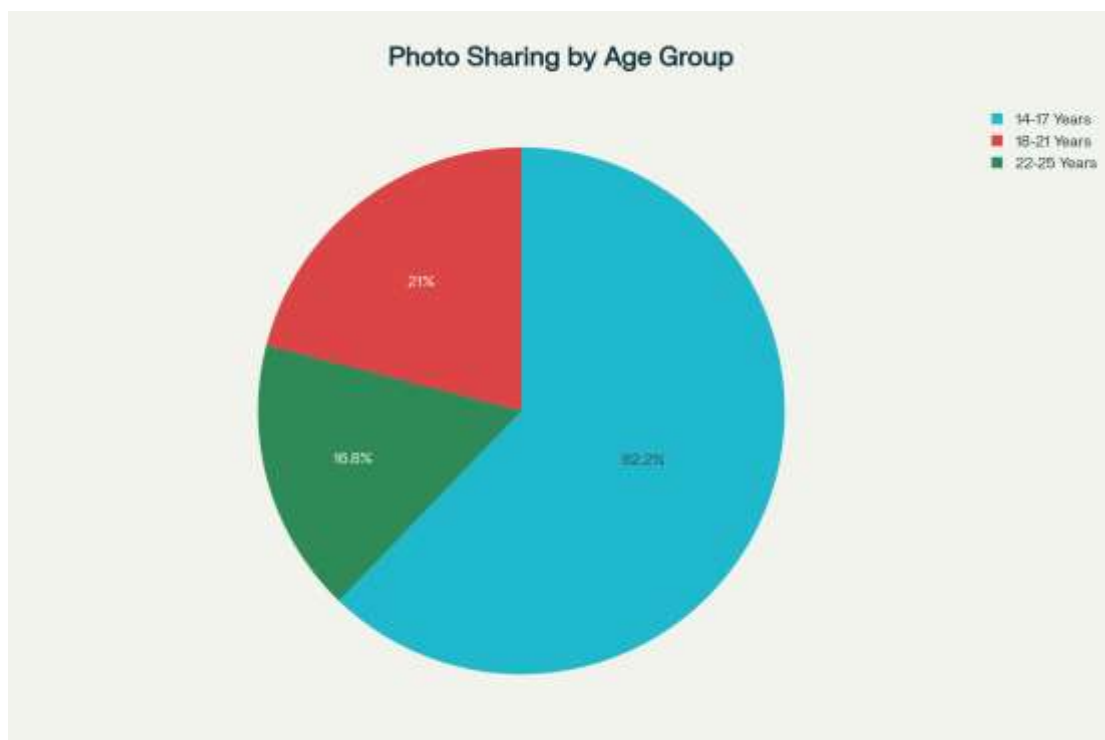


4. Correlation of variables - Sharing personal photos/videos and using privacy settings to control personal posts on Social media x Age

Age	Sharing personal photos/videos on Social media				Privacy settings to control personal posts on social media				
	Yes	No	Total	Chi-Square Value	Always	Sometimes	Never	Total	Chi-Square Value

				es					s
14-17 Years	74 (85.1%)	13 (14.9%)	87 (100.0%)	Chi square= 0.732 df=2 p< 0.001	53 (61.1%)	30 (33.3%)	5 (5.6%)	89 (100.0%)	Chi square= 1.386 df=2 p= 0.008
18-21 Years	25 (29.4%)	60 (70.6%)	85 (100.0%)		70 (82.4%)	15 (17.6%)	0 (0.0%)	85 (100.0%)	
22-25 Years	20 (26.7%)	55 (73.3%)	75 (100.0%)		54 (73.3%)	15 (20.0%)	5 (6.7%)	75 (100.0%)	
Total	58 (24.0%)	189 (76.0%)	247 (100.0%)		177 (72.0%)	60 (20.0%)	10 (4.0%)	247 (100.0%)	

(Note: Significance levels = *** = $p < 0.00$, ** = $p < 0.01$, * = $p < 0.05$)



This means there **is a strong and statistically significant relationship** between age and whether youth share personal photos/videos on social media. Younger users (below 17 years) are far more likely to share personal photos/videos (85.1%) compared to older groups. The difference is highly significant.

Most youth across all ages use privacy settings ("Always" or "Sometimes"), but the distribution differs by age. Those aged 18-21 years overwhelmingly select "Always" (82.4%), while younger users more often choose "Sometimes" (33.3%).

Age significantly influences both the likelihood of sharing personal content and the use of privacy controls. Younger users are more open in sharing but also slightly less strict about privacy, whereas older youth are more conservative and cautious.

5. Correlation of variable - Experience of cyberbullying x Age

Age	Experience cyberbullying or online harassment			Chi-Square Values
	Yes	No	Total	
14-17 Years	69 (77.6%)	20 (22.2%)	89 (100.0%)	Chi square= 2.439 df=2 P<0.001
18-21 Years	35 (41.2%)	49 (58.8%)	84 (100.0%)	
22-25 Years	49 (66.7%)	25 (33.3%)	74 (100.0%)	
Total	153 (62.0%)	94 (38.0%)	247 (100.0%)	

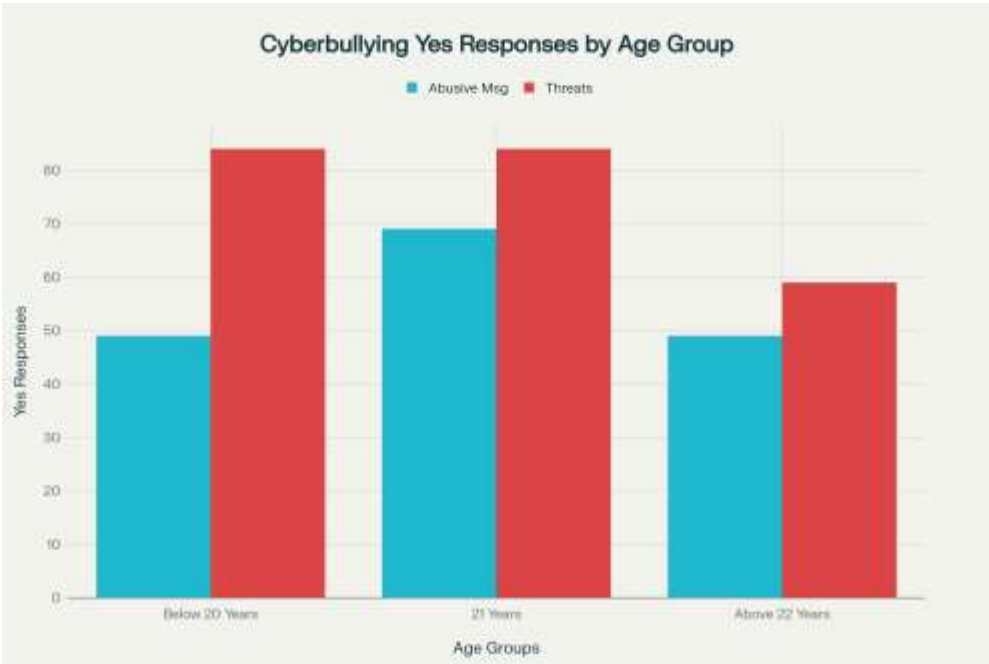
(Note: Significance levels = *** = $p<0.00$, ** = $p<0.01$, * = $p<0.05$)

The corrected values show a **highly significant association** between age and the experience of cyberbullying or online harassment. 77.6% reported experiencing cyberbullying – the highest among groups. **18-21 years**: Only 41.2% reported cyberbullying – the lowest. Above 22 years, 66.7% reported experiencing cyberbullying. This suggests that younger users below 17 years are most vulnerable to cyberbullying, while those aged between 22-25 years are comparatively less affected, but the experience rises again among those above 22 years.

6. Correlation of variables- Cyberbullying in the forms of abusive messages and threats x Age

Age	Cyberbullying in the form of Abusive messages				Cyberbullying in the form of Threats			
	Yes	No	Total	Chi-Square Values	Yes	No	Total	Chi-Square Values
14-17 Years	49 (55.6%)	40 (44.4%)	89 (100.0%)	Chi square= 14.57 df=2 p=0.000 68	84 (94.4%)	5 (5.6%)	89 (100.0%)	Chi square= 22.87 df=2 p=0.000 011
18-21 Years	69 (82.4%)	15 (17.6%)	84 (100.0%)		84 (100.0%)	0 (100.0%)	84 (100.0%)	
22-25 Years	49 (66.7%)	25 (33.3%)	74 (100.0%)		59 (80.0%)	15 (20.0%)	74 (100.0%)	
Total	167 (68.0%)	80 (32.0%)	247 (100.0%)		227 (92.0%)	20 (8.0%)	247 (100.0%)	

(Note: Significance levels = *** = $p<0.00$, ** = $p<0.01$, * = $p<0.05$)



The table shows the correlation of cyberbullying in the forms of abusive messages and threats by age group. The calculated chi-square and p-values for both types of cyberbullying (abusive messages and threats) indicate statistically significant differences across age groups. The p-value for abusive messages is less than 0.05, showing a significant association between age group and experiencing cyberbullying in the form of abusive messages. The observed frequencies differ substantially from what would be expected if age and cyberbullying were independent.

The p-value for threats is also much less than 0.05, again indicating a significant relationship between age and being threatened via cyberbullying. The incidence of threats is not randomly distributed- all age groups show pronounced differences in reported experiences.

Both forms of cyberbullying show strong, statistically significant associations with age group distribution among the surveyed sample. The extremely low p-values suggest age is an influential variable for both types of cyberbullying, reject the hypothesis of independence.

7. Correlation of variables - Cyberbullying in the forms of sexual harassment and spreading false information x Age

Age	Cyberbullying in the form of sexual harassment				Cyberbullying in the form of spreading false information			
	Yes	No	Total	Chi-Square Values	Yes	No	Total	Chi-Square Values
14-17 Years	89 (100.0%)	0 (0.0%)	89 (100.0%)	Chi square= 20.22	54 (61.1%)	35 (38.9%)	89 (100.0%)	

18-21 Years	74 (88.2%)	10 (11.8%)	84 (100.0%)	df=2 p=0.000 041	64 (76.5%)	20 (23.5%)	84 (100.0%)	Chi square= 5.48 df=2 p=0.065
22-25 Years	74 (100.0%)	0 (0.0%)	74 (100.0%)		54 (73.3%)	20 (26.7%)	74 (100.0%)	
Total	237 (96.0%)	10 (4.0%)	247 (100.0%)		172 (70.0%)	75 (30.0%)	247 (100.0%)	

(Note: Significance levels = *** = $p < 0.00$, ** = $p < 0.01$, * = $p < 0.05$)

For sexual harassment, the p-value is showing statistically significant association with age group. For spreading false information remains statistically non-significant at the 0.05 threshold; however the value is closer to significance. The results indicate that age is a strong differentiator in experiences of cyberbullying as sexual harassment, with prevalence patterns varying significantly between age groups. The pattern for spreading false information appears more uniform across age groups.

The evidence suggests policies and intervention strategies should especially account for the age-linked risk in sexual harassment cases, while broad awareness efforts may be needed for spreading false information.

8. Correlation of Variables - Cyberbullying in the form of stalking and others x by Age

Age	Cyberbullying in the form of stalking				Cyberbullying in the form of other reasons			
	Yes	No	Total	Chi-Square Values	Yes	No	Total	Chi-Square Values
14-17 Years	57 (64.0%)	32 (36.0%)	89 (100.0%)	Chi square = 5.74 df=2 P=0.057	62 (69.7%)	27 (30.3%)	89 (100.0%)	Chi square= 2.93 df=2 p=0.232
18-21 Years	64 (76.1%)	20 (23.9 %)	84 (100.0%)		54 (64.3%)	30 (35.7%)	84 (100.0%)	
22-25 Years	59 (79.7%)	15 (20.3%)	74 (100.0%)		42 (56.8%)	32 (43.2%)	74 (100.0%)	
Total	180 (72.9%)	67 (27.1%)	247 (100.0%)		158 (2.0%)	89 (98.0%)	247 (100.0%)	

The chi-square and p-values show the association between age and the two types of cyberbullying responses.

For stalking, the association with age approaches statistical significance suggesting a marginal trend that different age groups may experience cyberbullying in the form of stalking at varying rates, though it does not reach conventional significance ($p < 0.05$). For other reasons the association with age is weaker ($p \sim 0.232$), indicating little evidence of a significant difference among age groups

regarding experiencing cyberbullying for other reasons. Both p-values are above 0.05, so the null hypothesis cannot be rejected in either case.

There is a marginal association between age and experiencing cyberbullying in the form of stalking, more so than for other reasons. The results suggest further studies with larger sample sizes could clarify whether age plays a more significant role in the type of cyberbullying experienced. These findings indicate age is a potential but not statistically proven factor for cyberbullying in the form of stalking, whereas no age-based association is found for other cyberbullying reasons at conventional significance levels.

9. Correlation of variable - Incidence of cyberbullying faced x Age

Age wise	Incidence of cyberbullying faced				Chi-Square Values
	Rarely (1-2 times)	Occasionally (3-5 times)	Frequently (>5 times)	Total	
14-17 Years	5 (5.6%)	20 (22.5%)	64 (71.9%)	89 (100.0%)	Chi square=0.64 df=4 p=0.96
18-21 Years	5 (6.0%)	20 (23.8%)	59 (70.2%)	84 (100.0%)	
22-25 Years	5 (6.7%)	20 (27.0%)	49 (66.3)	74 (100.0%)	
Total	15 (6.1%)	60 (24.3%)	172 (69.6%)	247 (100.0%)	

(Note: Significance levels = *** = $p < 0.00$, ** = $p < 0.01$, * = $p < 0.05$)

The very high p-value far exceeds 0.05, indicating no significant association between age group and how frequently cyberbullying was faced. This suggests the distribution of rarely, occasionally, and frequently experiencing cyberbullying is similar across the age groups assessed. The null hypothesis (that there is no difference among groups) cannot be rejected.

There is no statistically significant correlation between age and the frequency with which cyberbullying is experienced in this data. Patterns of cyberbullying incidence (rare, occasional, frequent) appear comparable irrespective of age category, indicating similar risk across the studied population.



The above chart enables clear comparison of how often each age segment experiences cyberbullying, making it easier to observe the most affected groups and frequency patterns.

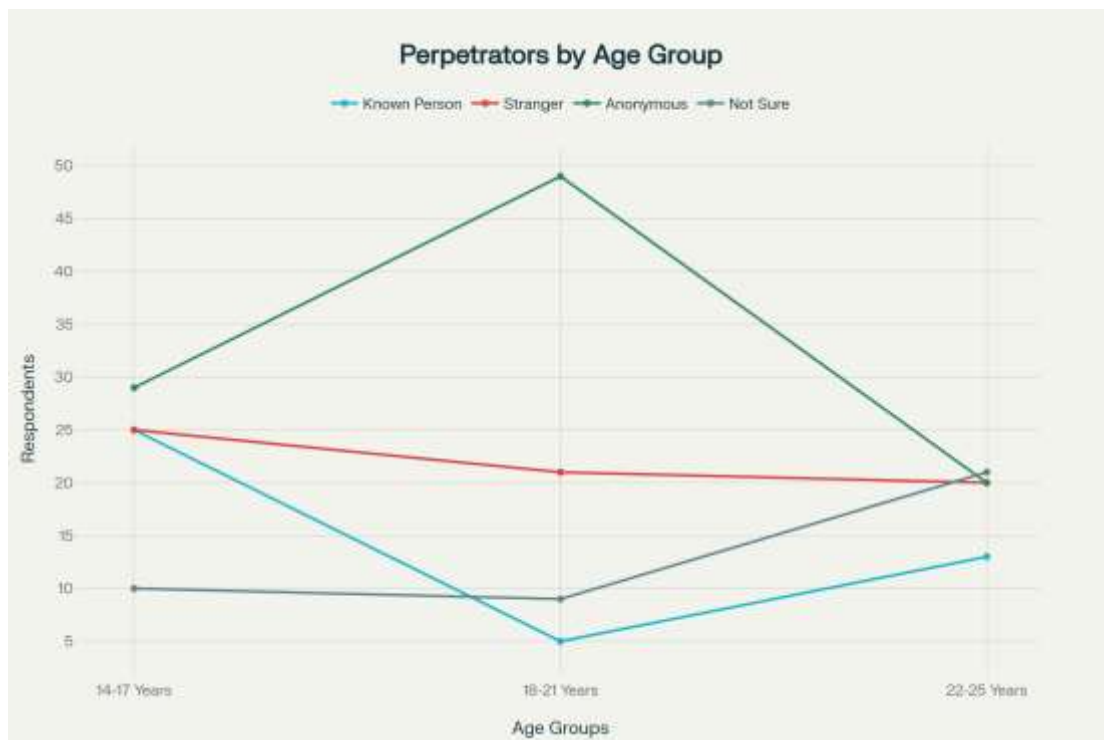
10. Correlation of variable - Perpetrators of cyberbullying x Age

Age	Perpetrators of cyberbullying					Chi-Square Values
	Known person	Stranger	Anonymous	Not sure	Total	
14-17 Years	25 (27.8%)	25 (27.8%)	29 (33.3%)	10 (11.1%)	89 (100.0%)	Chi square= 33.5 df=6 p=0.0000084
18-21 Years	5 (5.9%)	21 (23.5%)	49 (58.8%)	9 (11.8%)	84 (100.0%)	
22-25 Years	13 (20.0%)	20 (26.7%)	20 (26.7%)	21 (28.7%)	74 (100.0%)	
Total	43 (18.0%)	66 (20.0%)	98 (16.0%)	40 (40.0%)	247 (100.0%)	

(Note: Significance levels = *** = $p < 0.00$, ** = $p < 0.01$, * = $p < 0.05$)

The statistical data indicates highly significant association between age and types of cyberbullying perpetrators. This indicates age is an important factor influencing perceptions or experiences regarding the identity of cyberbullying perpetrators. Young people report much higher rates of cyberbullying from

anonymous sources, unlike those below 17-14 years, who show more balance or higher uncertainty (Not sure) in above 22 years.



Perpetrators of Cyberbullying by Age Group (Line Diagram)

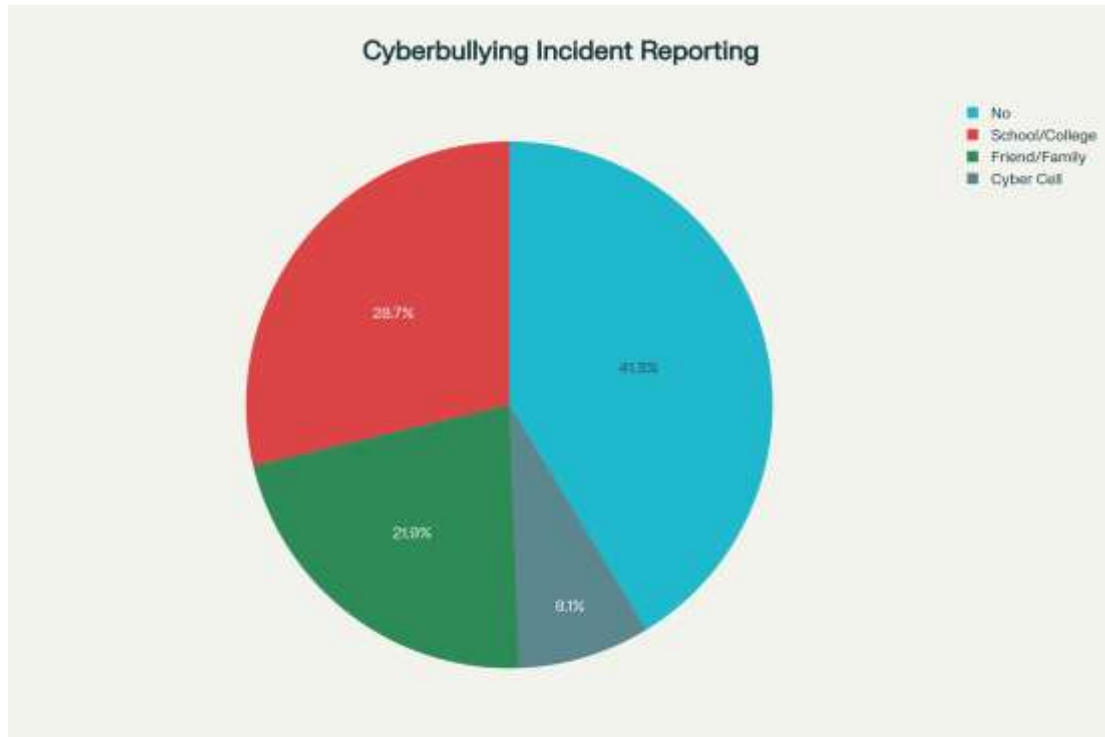
11. Correlation of variable (Reporting the incident of Cyberbullying incident to anyone x Age

Age	Cyberbullying incident reporting to anyone					Chi-Square Values
	To friend/family	To school/college authority	To cyber cell/police	No	Total	
14-17 Years	15 (16.7%)	26 (27.8%)	15 (16.7%)	33 (36.9%)	89 (100.0%)	Chi square= 30.05 df=6 p=0.00003
18-21 Years	25 (29.4%)	15 (17.6%)	0 (0.0%)	44 (52.9%)	84 (100.0%)	
22-25 Years	14 (20.0%)	30 (40.0%)	5 (6.7%)	25 (33.3%)	74 (100.0%)	
Total	54 (22.0%)	71 (28.0%)	20 (8.0%)	102 (42.0%)	247 (100.0%)	

(Note: Significance levels = *** = $p < 0.00$, ** = $p < 0.01$, * = $p < 0.05$)

The low p-value states that the variation in how different age groups report cyberbullying is unlikely to be due to chance alone. The distribution of reporting behavior is significantly different depending on age group. Most respondents (42%)

do not report cyberbullying incidents, while reporting to school/college authorities (28%) and friends/family (22%) are the next common choices. Reporting to Cyber Cell or Police is least common at 8%.



12. Correlation of variables - Impact of Cyberbullying x Age

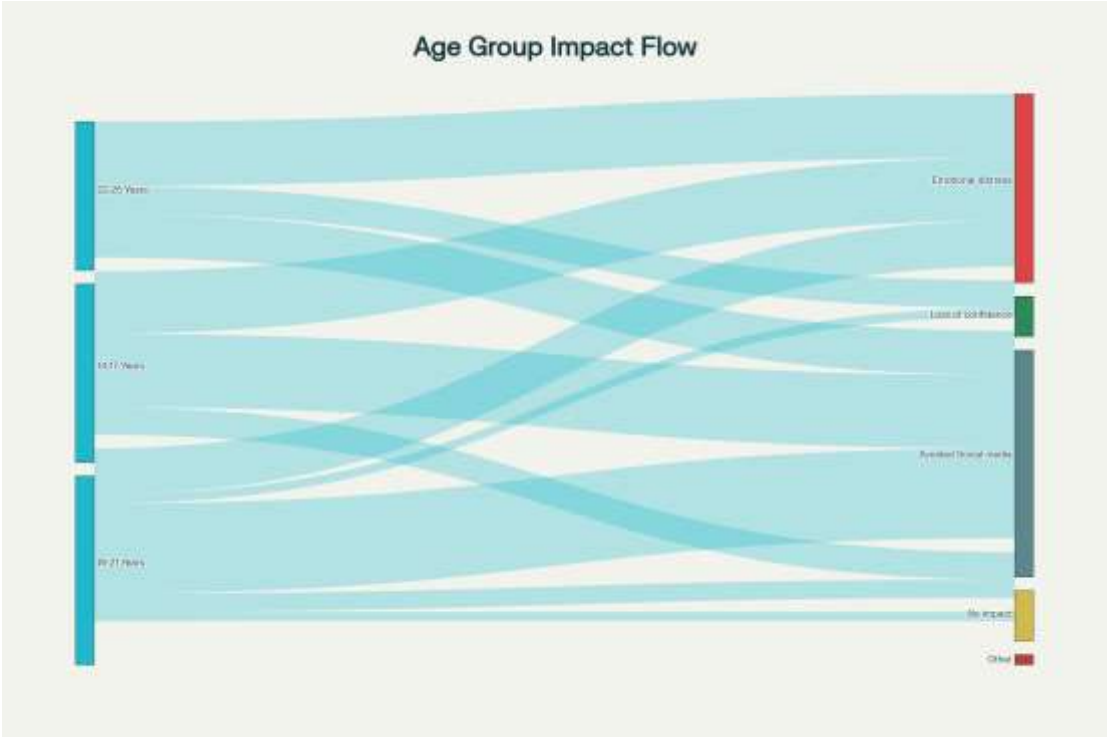
Age	Impact of cyberbullying experienced personally							Chi-Square Values
	Emotional distress	Loss of confidence	Avoided Social media	Decline in academic performance	No impact	Other	Total	
14-17 Years	34 (38.9%)	0 (0.0%)	40 (44.4%)	0 (0.0%)	15 (16.7%)	0 (0.0%)	89 (100.0%)	Chi square= 51.72 df=8 p=0.000009
18-21 Years	25 (17.6%)	5 (5.9%)	49 (58.8%)	0 (0.0%)	10 (11.8%)	5 (5.9%)	84 (100.0%)	
22-25 Years	35 (46.7%)	15 (20.0%)	24 (33.3%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	74 (100.0%)	
Total	94 (34.0%)	20 (8.0%)	113 (46.0%)	0 (0.0%)	25 (10.0%)	5 (2.0%)	247 (100.0%)	

(Note: Significance levels = *** = $p < 0.00$, ** = $p < 0.01$, * = $p < 0.05$)

The Chi-square value is showing a highly significant association between age group and the type of impact experienced from cyberbullying. The p-value is

extremely low and suggests that the way different age groups experience cyberbullying impacts is not due to random chance and varies significantly across the age groups.

The most frequent impact across all ages is “Avoided Social media” (46%) and “Emotional distress” (34%), with “Loss of confidence”, “No impact”, and “Other” being less common. Distinct age-specific differences are present. Decline in academic performance was excluded due to zero responses across all groups, making statistical analysis possible.



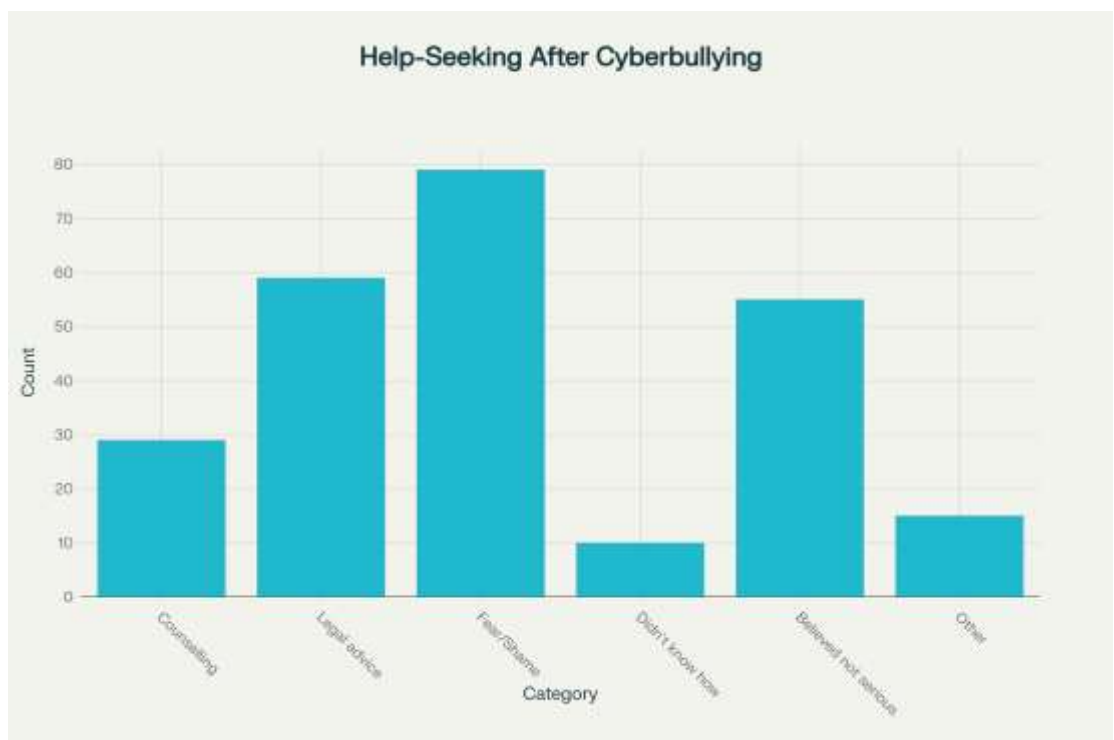
The Sankey diagram illustrates how individuals in different age groups report various impacts from cyberbullying incidents. This graph clearly demonstrates the age-specific flow to different impact types, visually emphasizing the dominance of social avoidance and emotional impact among the age cohorts.

wise	Sought help or support when experienced cyberbullying personally							Chi-Square Values
	If Yes - Counselling	If Yes – Legal advice	If No – Fear/Shame	If No – Didn’t know how	If No – Believed it wasn’t serious	Other	Total	
14-17 Years	14 (16.7%)	20 (22.2%)	25 (27.8%)	0 (0.0%)	30 (33.3%)	0 (0.0%)	89 (100.0%)	Chi square= 79.61 df=10 p=5.998 x10
18-21 Years	15 (17.6%)	15 (17.6%)	24 (29.4%)	0 (0.0%)	15 (17.6%)	15 (17.6%)	84 (100.0%)	
22-25 Years	0 (0.0%)	24 (33.3%)	30 (40.0%)	10 (13.3%)	10 (13.3%)	0	74 (100.0%)	

						(0.0%)		
Total	29 (12.0%)	59 (24.0%)	79 (32.0%)	10 (4.0%)	55 (22.0%)	15 (6.0%)	247 (100.0%)	

13. Correlation of variables - Seeking help or support when experienced cyberbullying personally x Age

This shows a strong statistical association between age group and the type of help/support sought when experiencing cyberbullying. This extremely low p-value indicates that differences across age groups in how they seek help or support for cyberbullying are highly unlikely to be due to chance. The most common response among all groups is “Fear/Shame” (32%) followed by “Legal advice” (24%) and “Believed it wasn’t serious” (22%). Seeking “Counselling” (12%), “Didn’t know how” (4%) and “Other” (6%) are less frequent choices. The significant chi-square result demonstrates marked differences in help-seeking behavior across the age groups, suggesting interventions should be tailored to group-specific needs and barriers.

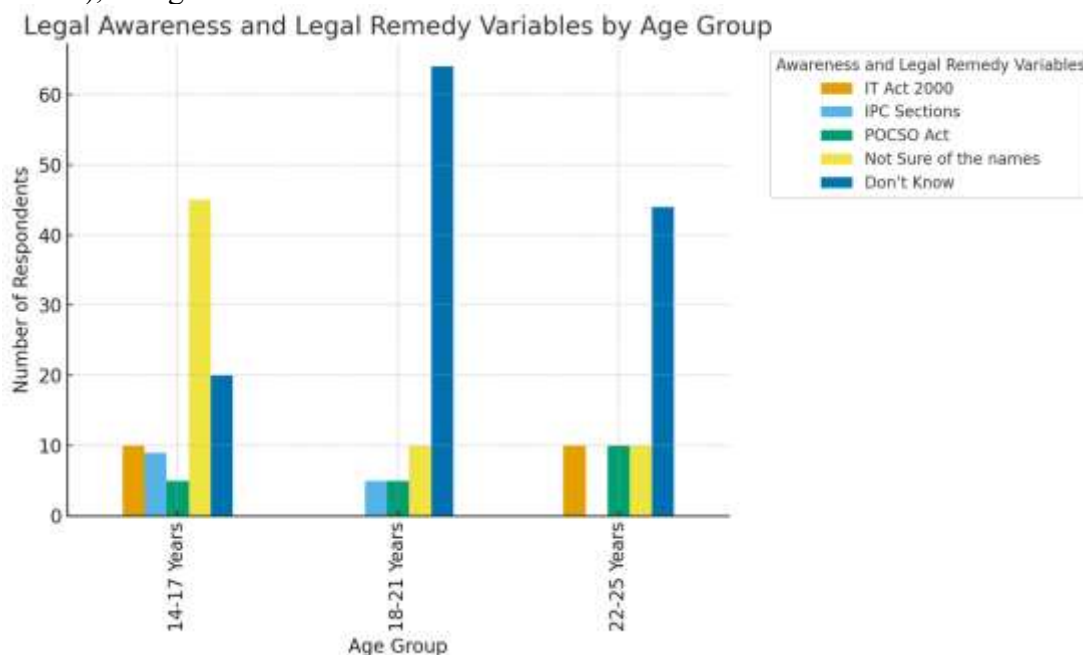


Age	Awareness and Legal remedy variables							Chi-Square Values
	IT Act 2000	IPC Sections	POCSO Act	Not Sure of the names	Don't Know	Total		
14-17 Years	10 (11.1%)	9 (10.1%)	5 (5.6%)	45 (51.0%)	20 (22.2%)	89 (100.0%)		Chi square= 78.08 df=8 p=1.19 ×
18-21 Years	0 (0.0%)	5 (5.9%)	5 (5.9%)	10 (11.8%)	64 (76.5%)	84 (100.0%)		

22-25 Years	10 (13.3%)	0 (0.0%)	10 (13.3%)	10 (13.3%)	44 (60.0%)	74 (100.0%)		10^{-13}
Total	20 (8.0%)	14 (6.0%)	20 (8.0%)	65 (26.0%)	128 (52.0%)	247 (100.0%)		

14. Correlation of variables - Legal Awareness and Legal remedy x Age (Note: Significance levels = *** = $p < 0.00$, ** = $p < 0.01$, * = $p < 0.05$)

Age has a significant and strong impact on legal awareness, with younger respondents showing notably lower familiarity with specific laws. This indicates a highly significant association between Age group and Legal Awareness/Remedy variables. Awareness levels differ significantly across age groups. The respondents of 14-17 years (51%) are “Not sure of the Names” showing partial awareness. Majority (76.5%) of 18-21 years of respondents “Don’t Know” the laws. Respondents between 22-25 years are slightly better to show some awareness of IT and POSCO Acts (each 13.3%), though still 60% of them “Don’t Know”.



15. Correlation of variables - Awareness on Cyber crime reporting portal x Age

Age	Awareness on reporting to Cyber crime portal			Chi-Square Values
	Yes	No	Total	
14-17 Years	35 (38.9%)	54 (61.1%)	89 (100.0%)	Chi square= 3.97

18-21 Years	35 (41.2%)	49 (58.8%)	84 (100.0%)	df=2 p=0.137
22-25 Years	40 (83.3%)	34 (46.7%)	74 (100.0%)	
Total	110 (44.0%)	137 (56.0%)	247 (100.0%)	

(Note: Significance levels = *** = $p < 0.00$, ** = $p < 0.01$, * = $p < 0.05$)

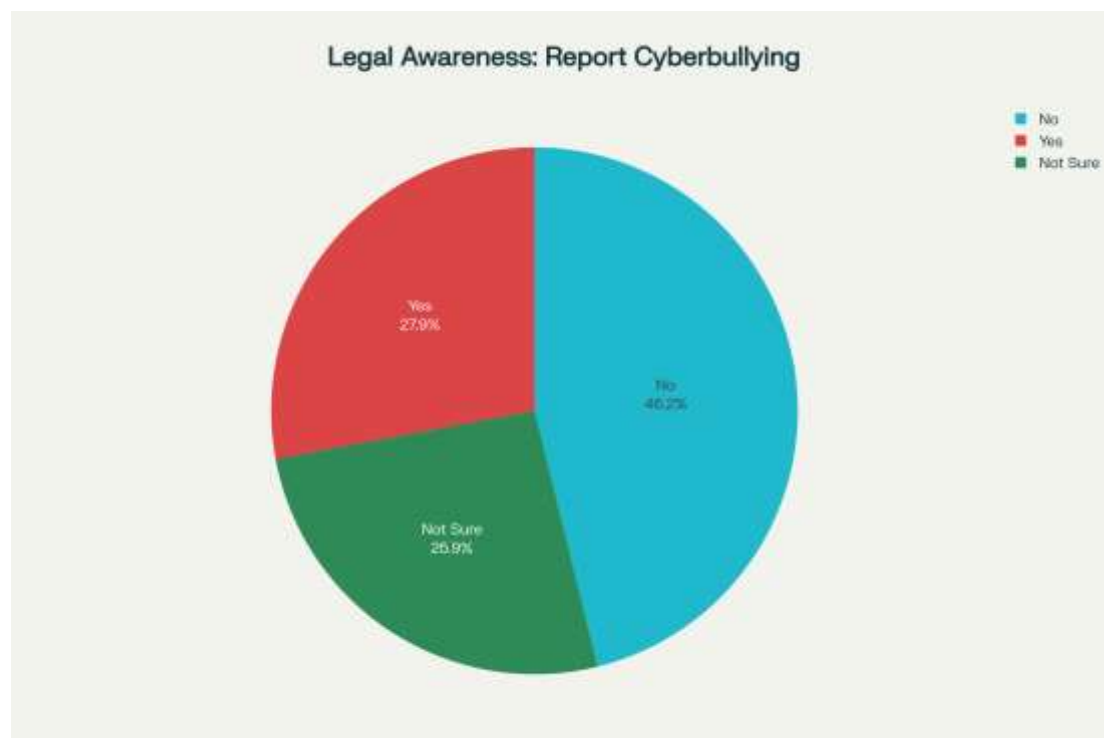
The result is not statistically significant. This means that awareness of the cybercrime reporting portal does not significantly vary across age groups in the dataset. The observed differences may be due to chance rather than a systematic pattern. Awareness improves with age, especially in the 22-25 years group, but not enough to reach statistical significance. While the older group (22-25 years) shows relatively better awareness of the cybercrime reporting portal, the difference across age group is not statistically significant. Hence awareness efforts need to be strengthened uniformly across all age groups especially among adolescents.

16. Correlation of variables - Legal Awareness on how to report cyberbullying x Age wise

Age	Known how to report cyberbullying legally if it happened personally				Chi-Square Values
	Yes	No	Not sure	Total	
14-17 Years	31 (34.3%)	44 (49.0%)	14 (15.7%)	89 (100.0%)	Chi square= 1.634 df=4 p=0.803
18-21 Years	19 (13.5%)	35 (41.2%)	30 (35.3%)	84 (100.0%)	
22-25 Years	19 (26.7%)	35 (46.7%)	20 (26.7%)	74 (100.0%)	
Total	69 (28.0%)	114 (46.0%)	64 (26.0%)	247 (100.0%)	

Note: Significance levels = *** = $p < 0.00$, ** = $p < 0.01$, * = $p < 0.05$)

Majority of respondents (46%) do not know how to report cyberbullying legally if it happens to them, which indicates a significant gap in legal awareness. Only 28% of the total sample are aware of reporting procedures, while 26% remain unsure. Breakdown by age group shows that awareness is highest in the 14-17 and 22-25 years categories, but still fewer than half the respondents in any group answered Yes. The p-value (0.803) suggest there is no statistically significant association between age group and legal awareness on reporting cyberbullying, as the values do not differ much across age groups. This analysis highlights the need for targeted awareness programs to educate youth about legal channels for reporting cyberbullying.



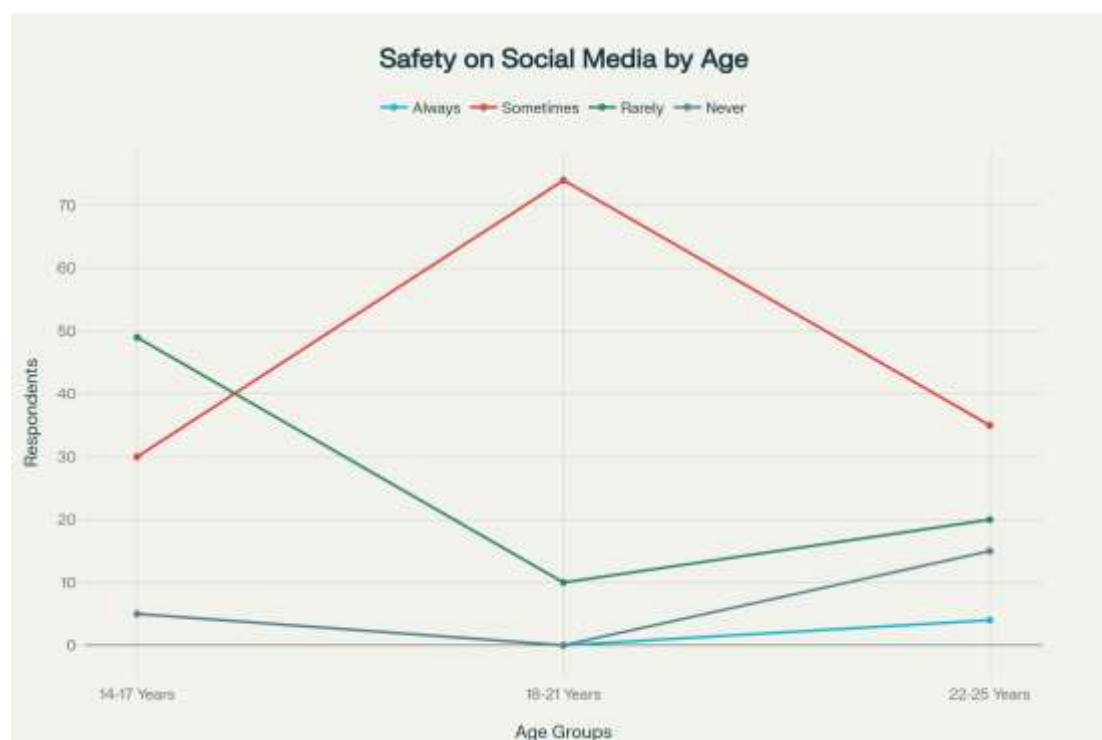
The pie chart below displays the overall legal awareness of respondents regarding how to report cyberbullying if it happened to them personally (Yes, No, Not sure)

17. Correlation of variables - Feeling safe or not on Social media x Age

Age	Feeling safe or not on Social media					Chi-Square Values
	Always	Sometimes	Rarely	Never	Total	
14-17 Years	5 (5.6%)	30 (33.3%)	49 (55.6%)	5 (5.6%)	89 (100.0%)	Chi square= 15.719 df=6 p=0.015**
18-21 Years	0 (0.0%)	74 (88.2%)	10 (11.8%)	0 (0.0%)	84 (100.0%)	
22-25 Years	4 (6.7%)	35 (46.7%)	20 (26.7%)	15 (20.0%)	74 (100.0%)	
Total	9 (40.0%)	139 (56.0%)	79 (32.0%)	20 (8.0%)	247 (100.0%)	

(Note: Significance levels = *** = $p < 0.00$, ** = $p < 0.01$, * = $p < 0.05$)

There is a significant correlation between age and feeling safe on social media. Younger users (especially 14–17 years) are the most vulnerable and least confident about safety online, whereas mid-level youth (18–21 years) display the highest sense of comfort and safety.



Feeling safe on Social Media by Age

The figure helps to illustrate patterns in perceived safety on social media by age and can support your analysis and reporting.

Conclusions

Most respondents across all age groups report frequent Instagram use, especially in the 18-21 age group. Instagram is seen to be a dominant platform for frequent use. The 18-21 age group is often transitioning to college, building new social networks, and using social media to present identity, seek peer feedback, and maintain friendships. Visual, identity-focused platforms like Instagram map well to those needs, explaining the very high uptake. Age is a significant factor influencing usage patterns for both WhatsApp and YouTube in a larger population, strengthening the findings. The results highlight that as the sample size grows, age-based differences in social media usage become clearer and statistically meaningful, which is essential for nuanced cyberbullying analysis and targeted interventions.

There is a highly significant association between age group and average time spent on social media per day. Patterns of time spent on social media differ substantially by age. Age significantly influences both the likelihood of sharing personal content and the use of privacy controls. Younger users are more open in sharing but also slightly less strict about privacy, whereas older youth are more conservative and cautious. The younger users below 17 years are most vulnerable to cyberbullying, while those aged between 22-25 years are comparatively less affected, but the experience rises again among those above 22 years. There is correlation of cyberbullying in the forms of abusive messages and threats by age group. Both forms of cyberbullying show strong, statistically significant associations with age group distribution among the surveyed sample.

Age is a strong differentiator in experiences of cyberbullying as sexual harassment, with prevalence patterns varying significantly between age groups. The pattern for spreading false information appears more uniform across age groups. There is a marginal association between age and experiencing cyberbullying in the form of stalking, more so than for other reasons. Patterns of cyberbullying incidence (rare, occasional, frequent) appear comparable irrespective of age category, indicating similar risk across the studied population. Age is an important factor influencing perceptions or experiences regarding the identity of cyberbullying perpetrators. Young people report much higher rates of cyberbullying from anonymous sources. The distribution of reporting behavior to school/college authorities; friends/family is significantly different depending on age group. Reporting to Cyber Cell or Police is the least. There is a highly significant association between age group and the type of impact experienced from cyberbullying. Different age groups experience cyberbullying impacts is not due to random chance and this varies significantly across the age groups.

There is a strong association between age group and the type of help/support sought when experiencing cyberbullying. This extreme difference across age groups is how they seek help or support for cyberbullying are highly unlikely to be due to chance. The result demonstrates marked differences in help-seeking behavior across the age groups, suggesting interventions should be tailored to group-specific needs and barriers. Age has a significant and strong impact on legal awareness, with younger respondents showing notably lower familiarity with specific laws. This indicates a highly significant association between Age group and Legal Awareness/Remedy variables. Awareness levels differ significantly across age groups. Majority of respondents do not know how to report cyberbullying legally if it happens to them, which indicates a significant gap in legal awareness. There is a significant correlation between age and feeling safe on social media.

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