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Impact of Internet Usage on Social Maturity Among Indian Adolescents

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ABSTRACT

The rapid rise of internet usage among adolescents has prompted increasing interest in understanding its influence on their psychosocial development. This study uses a quantitative research design to investigate the level of social maturity among 507 internet-using adolescents aged 13–16 years from selected metropolitan and non-metropolitan schools. Data were collected using Dr. Nalini Rao's standardised Social Maturity Scale, which evaluates three key dimensions: personal adequacy, interpersonal adequacy, and social adequacy. Results revealed a mean social maturity score of 220.78, with the highest average score in personal adequacy. The majority of respondents (64.4%) exhibited average social maturity, followed by above average (24%), below average (8.87%), and high maturity (2.56%). Demographic analysis highlighted variations in social maturity based on gender, religion, area of residence, type of school, and source of internet access. Males, rural students, Sikhs, private school students, and those using computers for internet access demonstrated comparatively higher maturity scores. The findings underscore the complex interplay between digital exposure and psychosocial development in adolescents, suggesting the need for balanced internet use and socially supportive environments to foster healthy adolescent growth.

Keywords: Social Maturity, Adolescents, Internet, school students

Introduction

With a rapidly growing population of 8.2 billion, there are currently 1.3 billion adolescents, representing 16% of the global population—the largest adolescent cohort in history. Notably, India, as the world's most populous country, hosts the largest number of adolescents, with one in every five individuals falling into the 10–17-year-old category and one in every three being a young person aged 10–24 years. This demographic represents a significant opportunity and challenge for societal development.

ISSN: 2455-8834

Volume:10, Issue:05 "May 2025"

Adolescence is a critical developmental period marked by profound physical, emotional, and social changes. It is during this phase that adolescents confront a myriad of risk factors that can substantially affect their mental health and well-being. The struggle to navigate complex social situations, develop a sense of identity, and adapt to societal expectations can be overwhelming. For many adolescents, the influence of media and societal norms—particularly those concerning gender roles and achievement standards—can create dissonance between their real experiences and the ideals they perceive they should attain. Such pressures often contribute to isolation and loneliness, especially when adolescents withdraw from face-to-face interactions.

In today's digital era, internet usage plays an increasingly significant role in shaping adolescents' social experiences. According to the American Psychological Association (APA), during early adolescence (approximately 10–12 years), structural and hormonal changes occur in the brain's ventral striatum, a region sensitive to social rewards such as attention and admiration. The surge of hormones like oxytocin and dopamine makes preteens' minds especially responsive to social validation—manifesting as gratification from compliments, likes, and online interactions. APA's Chief Science Officer, Mitch Prinstein, highlights how social media activities are closely linked to activation in the ventral striatum, with dopamine and oxytocin releases reinforcing social rewards through likes, comments, and views. Adjacent to this region, the ventral pallidum further drives motivated actions, shaping behaviors that seek social approval and belonging.

This unprecedented intertwining of technology and social interaction is reshaping how adolescents navigate social relationships. For the first time in human history, social connections are increasingly mediated—and sometimes dictated—by algorithms and artificial intelligence. Adolescents must learn to balance complex interactions in family, school, and society while navigating these new challenges independently. In addition to these pressures, adolescents are expected to develop into socially mature, responsible members of society—capable of adapting emotionally and interpersonally to their environments.

Social maturity refers to the degree of social skills and awareness an individual develops, relative to age-specific norms. It encompasses competencies in interpersonal relationships, appropriate social behavior, problem-solving, and social judgment. A socially mature adolescent can adapt effectively to their environment, demonstrating qualities such as empathy, kindness, emotional flexibility, cooperation, leadership, and resilience. The cultivation of such attributes is essential for smooth integration into society, given humans' inherently social nature.

Given these considerations, the present study aims to investigate the impact of internet usage on the social maturity of adolescents. Recognizing the transformative role of digital media in shaping social behaviors, this research seeks to understand how internet usage patterns are associated with adolescents' social competence and overall development.

ISSN: 2455-8834

Volume:10, Issue:05 "May 2025"

Objectives of the Study:

1. To assess the social maturity of adolescent internet users.
2. To examine the levels of social maturity among adolescent internet users.
3. To identify the association between selected demographic and extraneous variables with the social maturity scores of adolescent internet users in selected schools of metropolitan and non-metropolitan areas.

Materials and Methods

This study adopted a quantitative research approach to investigate the social maturity of adolescent internet users. A quantitative design was chosen because it emphasizes objective measurement and numerical analysis, facilitating the identification of patterns, correlations, and differences in adolescents' social maturity levels based on their internet usage. The quantitative approach enables systematic assessment, ensuring that the findings are reliable, replicable, and generalizable.

Participants and Sampling

The target population for this study comprised adolescent internet users aged 13–16 years who actively engage with the internet. A total of 507 adolescents were selected as the study sample from both metropolitan and non-metropolitan schools. Purposive sampling was employed, a non-probability sampling technique that involves deliberately selecting participants who meet specific criteria relevant to the research objectives—namely, being active internet users and attending school. This method ensured that the sample was aligned with the study's focus on understanding social maturity among internet-using adolescents.

Tools and Instruments

Social maturity among the participants was assessed using the Social Maturity Scale developed by Dr. Nalini Rao. This standardized scale is widely recognized for its reliability and validity in measuring social maturity in adolescents. The Social Maturity Scale evaluates key dimensions, including interpersonal skills, social responsibility, and adaptability—all crucial aspects of an individual's social development. This tool provides a comprehensive measure of adolescents' abilities to interact effectively, demonstrate responsibility, and adjust to social norms.

Data Collection Procedure

Data were collected through structured questionnaires administered to the participants. The questionnaire included items based on the Social Maturity Scale, with responses recorded using a

ISSN: 2455-8834

Volume:10, Issue:05 "May 2025"

Likert scale format. This questioning technique is efficient for collecting quantitative data from a large sample, enabling the systematic measurement of social maturity among internet-using adolescents. Participants completed the questionnaires under standardized conditions to ensure uniformity in data collection and minimize potential biases.

Data Analysis

The collected data were subjected to descriptive and inferential statistical analyses using appropriate software. Descriptive statistics were used to summarise participants' social maturity scores, while inferential tests were employed to examine relationships between social maturity and selected demographic and extraneous variables.

Findings and Discussions

Demographic Profile

The study comprised a total of 507 internet-using adolescents aged 13–16 years, selected from both metropolitan and non-metropolitan schools. The gender distribution was nearly equal, with 50% male (254 participants) and 49.9% female (253 participants). A significant majority of the participants identified as Hindu (92.7%), followed by Muslim (5.9%), with a very small proportion identifying as Sikh (0.78%) and Christian (0.59%).

In terms of area of residence, 57.3% of participants were from urban areas (291 adolescents) while 42.6% resided in rural areas (216 adolescents). Regarding the type of school, 60.15% attended private schools (305 participants), while 39.8% were from government schools (202 participants). Notably, the majority of adolescents accessed the internet primarily through mobile devices (93.4%), with a small percentage using television (2.76%), laptops (2.16%), and computers (1.57%).

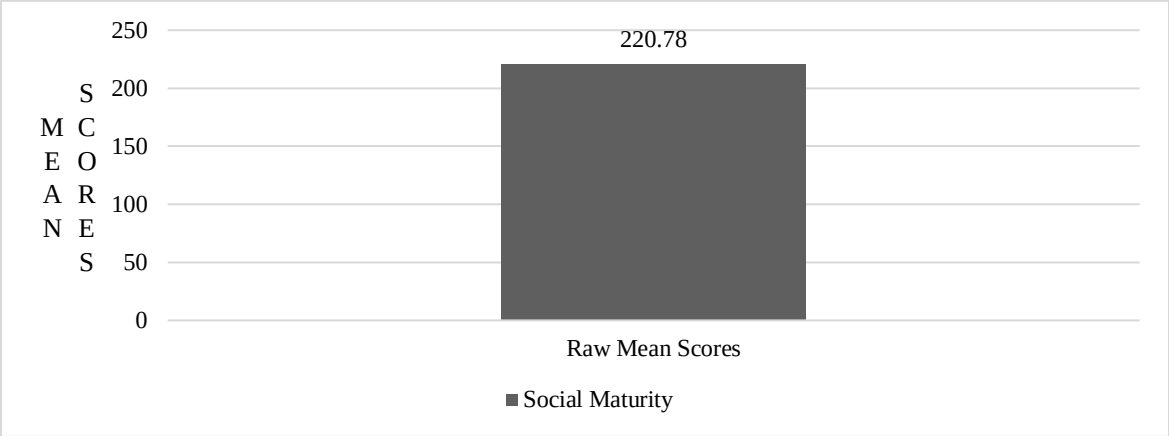
Social Maturity Scores of Internet-Using Adolescents

The study analyzed the social maturity of 507 internet-using adolescents studying in 9th and 10th standards in selected metropolitan and non-metropolitan cities. The raw mean score of the Social Maturity Scale was 220.78, indicating a moderate level of social maturity among the participants (Figure 1).

ISSN: 2455-8834

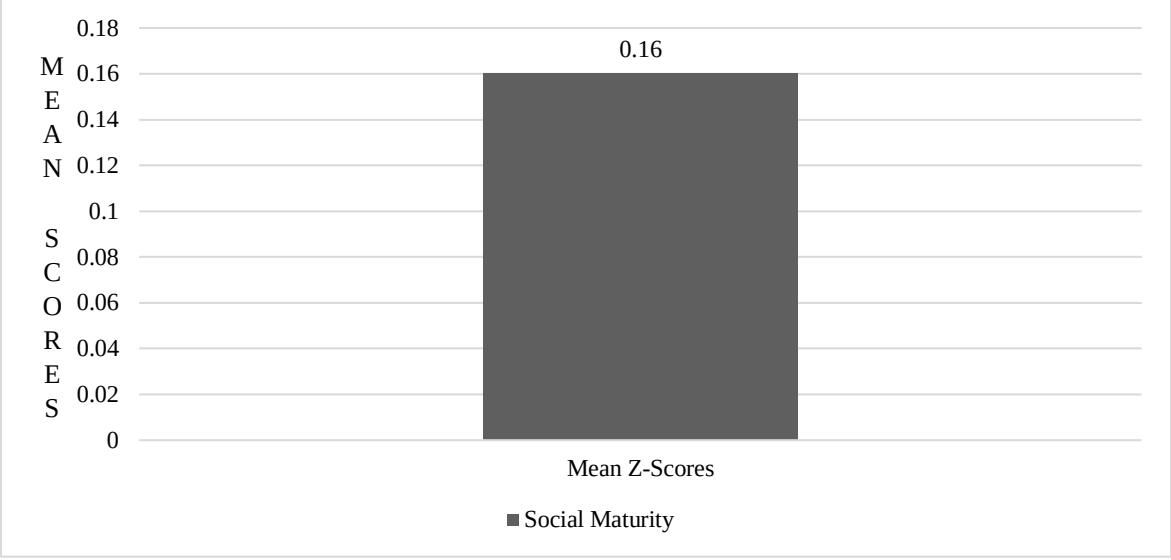
Volume:10, Issue:05 "May 2025"

Figure 1 Mean of the Raw Scores of the Social Maturity Scales of Internet User Adolescents



The mean Z-score for social maturity was 0.16, reflecting that the average score was slightly above the standardized mean, indicating a positive but modest deviation from the norm (Figure 2).

Figure 2: Mean of the Mean Z-scores



The range of the social maturity scale was found to be 121, with a maximum possible score of 360. The standard deviation of 20.39 indicates a moderate spread in the distribution of social maturity scores among participants. The standard error was also 20.39 at a P-value of 0.05, demonstrating acceptable reliability of the results.

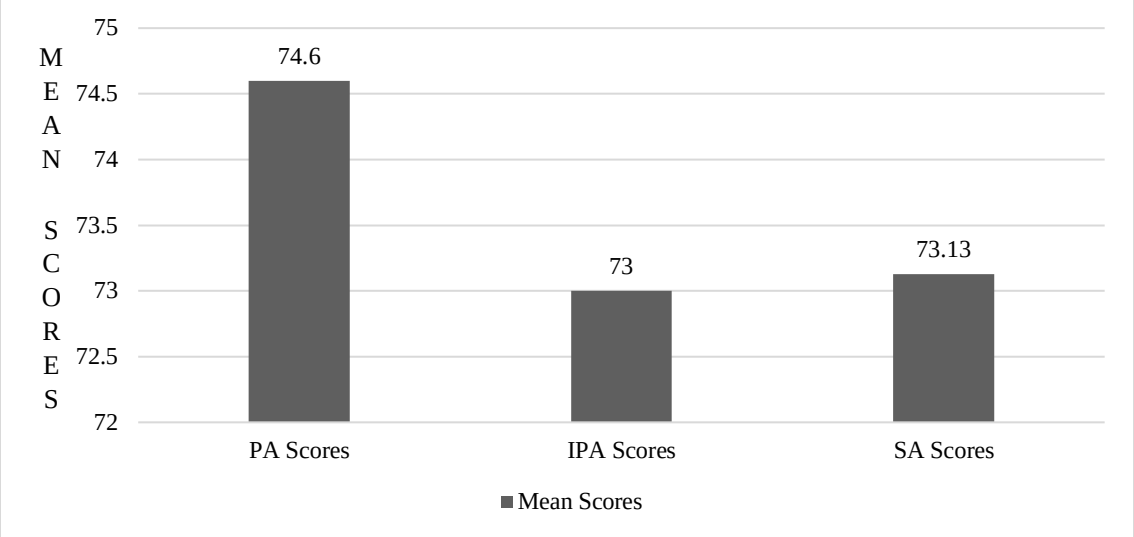
ISSN: 2455-8834

Volume:10, Issue:05 "May 2025"

Dimensions of Social Maturity

Further analysis of the three dimensions of the Social Maturity Scale revealed the following (Figure 3):

Figure 3 Mean scores of study subjects in three dimensions of the Social Maturity Scale



- **Personal Adequacy** scored the highest mean (**74.6**), indicating that adolescents excelled most in areas like work orientation, self-direction, and stress tolerance.
- **Social Adequacy** followed closely with a mean score of **73.13**, reflecting reasonable competence in social commitment, social tolerance, and openness to change.
- **Interpersonal Adequacy** scored the lowest mean (**73**), suggesting areas like communication, enlightened trust, and cooperation could benefit from targeted interventions.

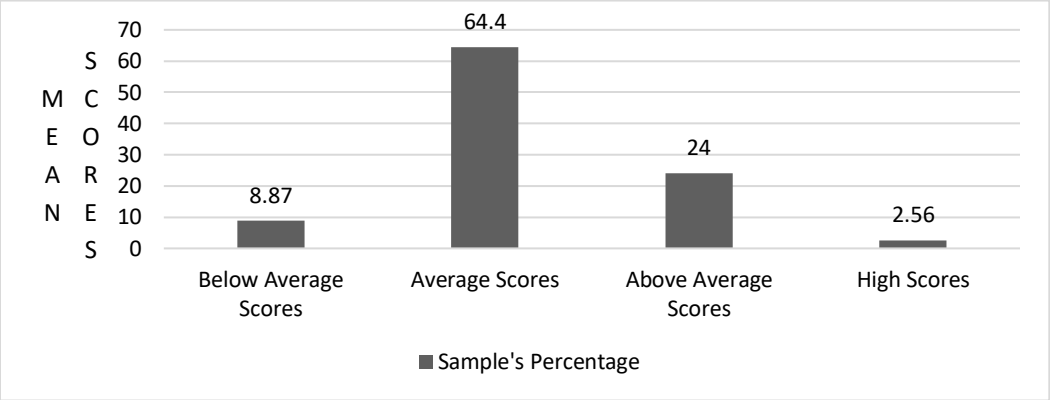
Levels of Social Maturity

When categorizing the social maturity scores (Figure 4), the majority of adolescents (**64.4%**) fell within the **'Average'** level of social maturity, indicating that most adolescents demonstrated moderate social competence. **24%** of participants were in the **'Above Average'** category, **8.87%** were in the **'Below Average'** category, and only **2.56%** of adolescents achieved a **'High'** level of social maturity. This distribution highlights that while most adolescents are navigating social skills adequately, a notable proportion could benefit from interventions to enhance their social maturity.

ISSN: 2455-8834

Volume:10, Issue:05 "May 2025"

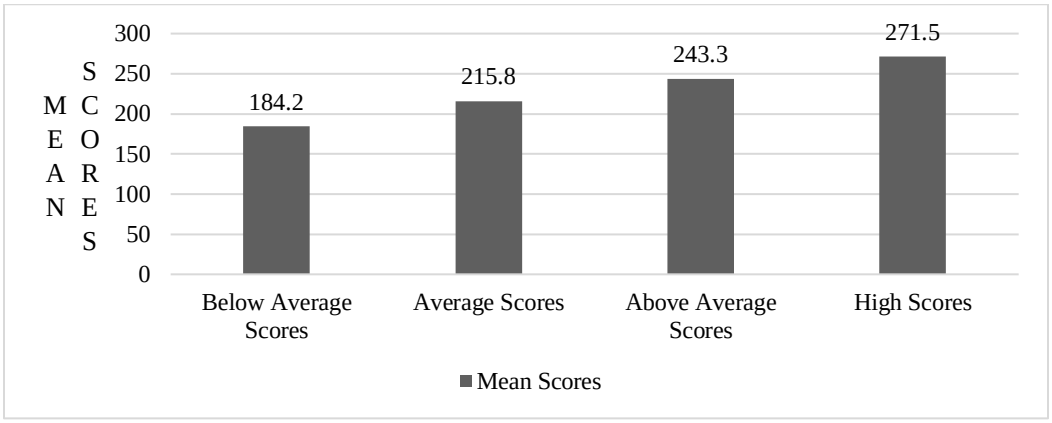
Figure 4 Number of study subjects under each level of the Social Maturity Scale.



Mean Scores by Social Maturity Levels

Figure 5 illustrates the mean scores of adolescents at each level of social maturity. Adolescents in the **'High'** category achieved the highest mean score of **271.5**, followed by those in the **'Above Average'** level (**243.3**). Participants in the **'Average'** level had a mean score of **215.8**, while those in the **'Below Average'** level had the lowest mean score of **184.2**. This trend indicates a clear, positive relationship between social maturity classification and mean scores, supporting the scale's reliability and the expected distribution of social skills.

Figure 5 : mean scores of study subjects at different Social Maturity Scale scoring levels.



The findings reveal that a majority of internet-using adolescents exhibit average social maturity levels, with a smaller segment excelling or lagging behind. The higher scores in **Personal Adequacy** suggest that adolescents are developing essential individual competencies but may face challenges in interpersonal domains. The overall results highlight the importance of fostering balanced social skill development in adolescents, especially given the widespread

ISSN: 2455-8834

Volume:10, Issue:05 "May 2025"

influence of internet use on their daily lives. Given that the majority of participants accessed the internet via mobile devices (93.4%), it is likely that the nature of online interactions (e.g., social media, gaming) could influence the observed social maturity dimensions. These findings underscore the need for parents, educators, and policymakers to support healthy internet habits and foster positive social development among adolescents.

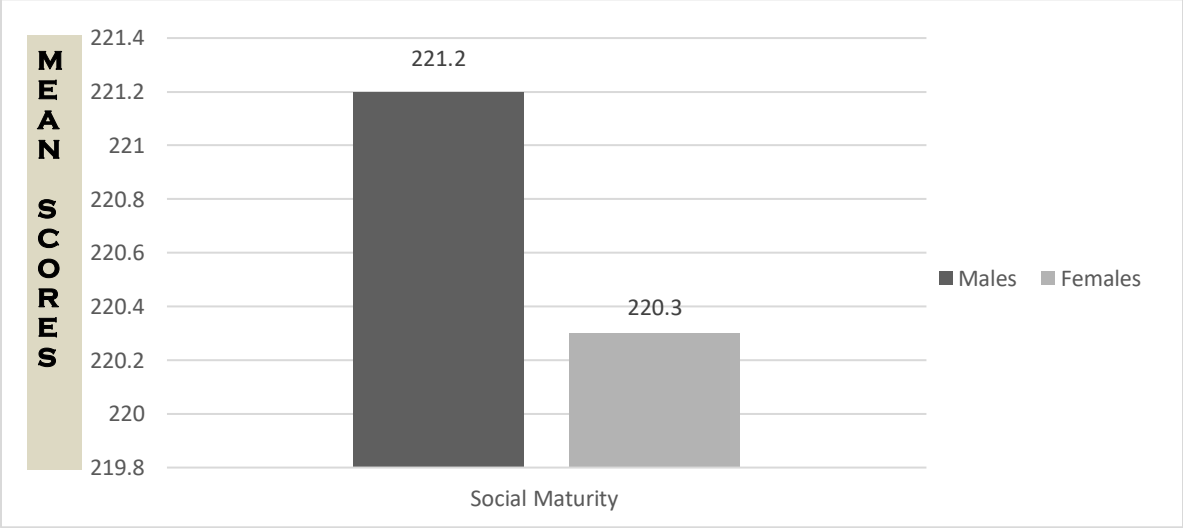
Association Between Social Maturity Raw Scores and Selected Demographic Variables

An analysis was conducted to explore the relationship between internet-using adolescents' social maturity raw scores and key demographic variables, including gender, religion, area of residence, type of school, and source of internet access.

Gender

Figure 6 indicates that male adolescents (n=254) demonstrated slightly higher raw mean social maturity scores compared to female adolescents (n=253). This suggests a marginal gender-based difference, with males exhibiting a slight advantage in overall social maturity levels.

Figure 6: The raw mean scores of social maturity were slightly higher in males than females



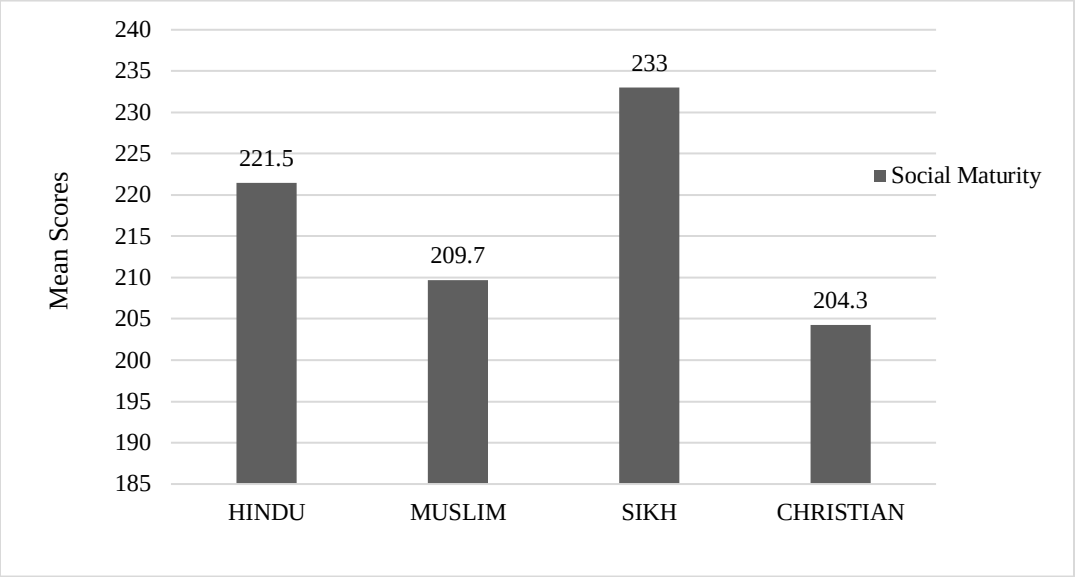
Religion:

Figure 7 shows that Sikh adolescents (n=4) had higher mean social maturity scores compared to their Hindu (n=470), Muslim (n=30), and Christian (n=3) counterparts. While the Sikh sample size was small, the finding hints at potential cultural or community factors contributing to social maturity that could be explored in future research.

ISSN: 2455-8834

Volume:10, Issue:05 "May 2025"

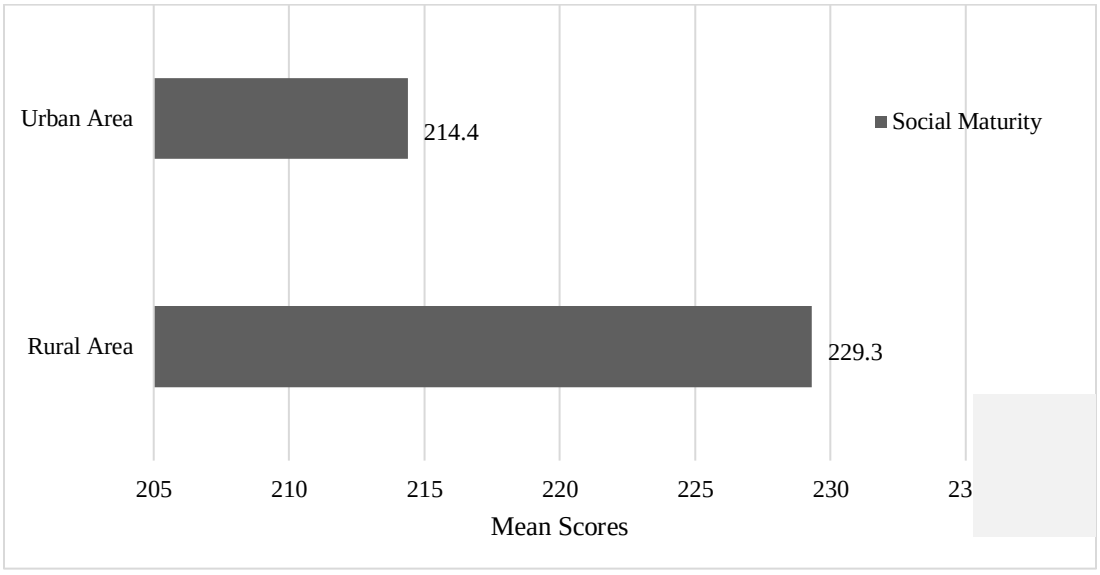
Figure 7 The raw mean scores of social maturity of Religions



Area of Residence:

As depicted in Figure 8, adolescents from rural areas (n=216) demonstrated higher mean social maturity scores than their urban counterparts (n=291). This suggests that rural adolescents might develop stronger social maturity attributes, possibly due to tighter community bonds, greater family interaction, or different social experiences compared to urban adolescents.

Figure 8: The raw mean scores of social maturity in rural and Urban Area



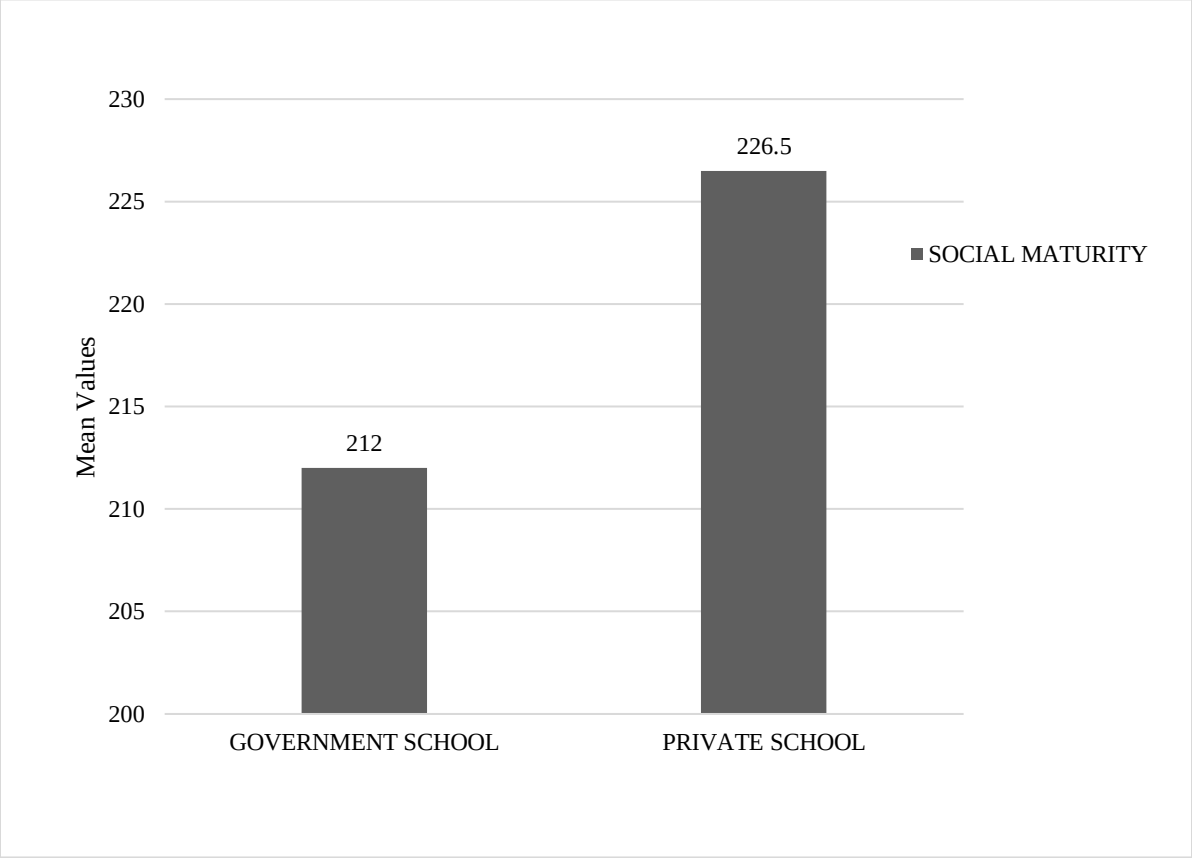
ISSN: 2455-8834

Volume:10, Issue:05 "May 2025"

Type of School

According to Figure 9, students from private schools (n=305) exhibited higher mean social maturity scores compared to those from government schools (n=202). This result might reflect differences in school infrastructure, extracurricular activities, teaching approaches, or peer interactions that contribute to social maturity development.

Figure 9: The raw mean scores of social maturity in schools



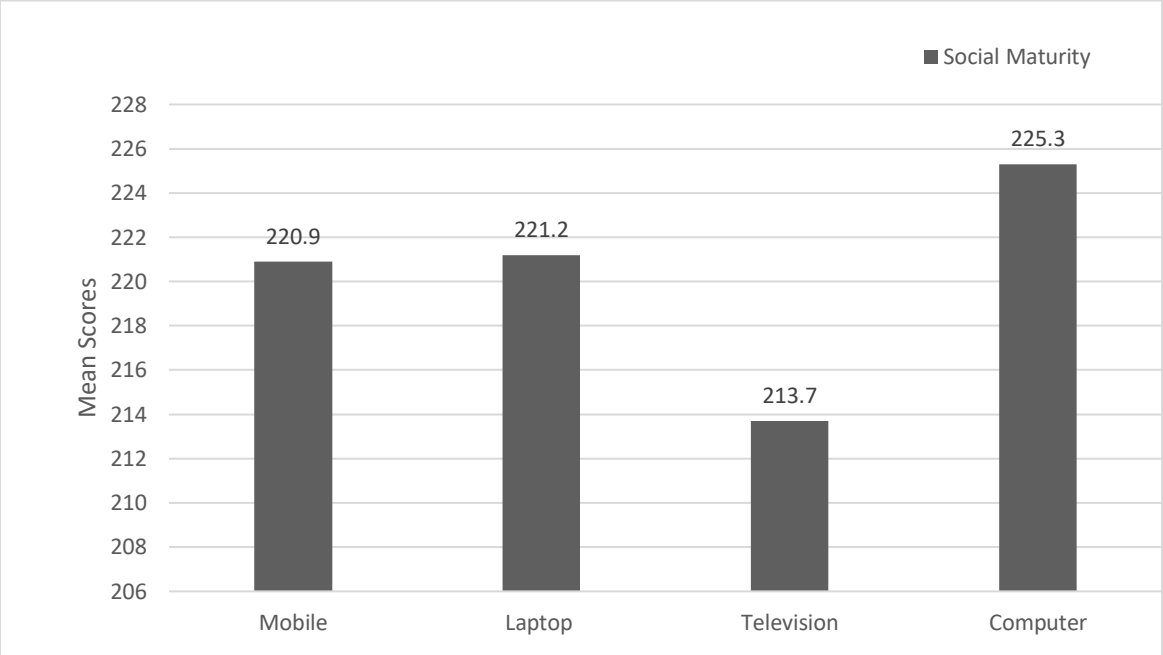
Source of Internet Access:

Figure 10 highlights that students accessing the internet via computers (n=8) reported higher mean social maturity scores compared to those using mobile phones (n=474), laptops (n=11), or televisions (n=14). Although the computer-user group was small, this trend may indicate that more structured or educational use of computers (e.g., school assignments, research) supports higher social maturity development than mobile-centric use, which may lean towards social media and entertainment.

ISSN: 2455-8834

Volume:10, Issue:05 "May 2025"

Figure 10 : The raw mean scores of social maturity as per source of Internet



Overall, these findings suggest nuanced relationships between adolescents' social maturity and their demographic profiles. Notably, males, Sikh adolescents, rural residents, private school students, and those using computers for internet access reported higher levels of social maturity. These insights emphasize the complex interplay between socio-demographic contexts and social development among internet-using adolescents. Further research is warranted to explore underlying factors—such as family dynamics, educational resources, and community influences—that may shape these differences, ultimately contributing to more targeted and effective interventions for enhancing social maturity in diverse adolescent populations.

Conclusion

This study provides a comprehensive examination of the social maturity of internet-using adolescents aged 13–16 years, utilizing Dr. Nalini Rao's Social Maturity Scale as the standardized assessment tool. By employing a quantitative research approach and purposive sampling across metropolitan and non-metropolitan schools, the study captures a broad demographic representation of 507 adolescents. The analysis revealed that the mean social maturity score of internet-using adolescents was 220.78, with the highest dimension scores observed in personal adequacy, followed by social adequacy and interpersonal adequacy.

Demographic analysis indicated that males, Sikh adolescents, rural residents, private school students, and those accessing the internet via computers exhibited relatively higher social

ISSN: 2455-8834

Volume:10, Issue:05 "May 2025"

maturity scores compared to their counterparts. The majority of adolescents fell into the 'average' social maturity category, highlighting a balanced yet varied maturity development among this cohort.These findings underscore the multifaceted nature of social maturity among adolescents in a digital context, influenced by factors such as gender, religion, area of residence, type of schooling, and mode of internet access. The study emphasizes the need for educators, parents, and policymakers to recognize these influencing factors and foster supportive environments that enhance adolescents' social development alongside their internet use. Future research should expand on these findings, exploring the underlying mechanisms that connect internet usage patterns with social maturity development, thereby informing targeted interventions to support healthy adolescent growth in an increasingly digital world.

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ISSN: 2455-8834

Volume:10, Issue:05 "May 2025"

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