# Effect of Smartphone Addiction on Social Appearance Anxiety in Adolescents in Bangalore Urban

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***Abstract*—The quantitative research study examined the effect of smartphone addiction on social appearance anxiety among adolescents in Bengaluru Urban, focusing on gender, age, and educational qualification. Independent *t*-tests revealed that females scored significantly higher than males in smartphone addiction for withdrawal ($t = 2.23$, $p < 0.05$), reliance ($t = 2.10$, $p < 0.05$), and overall addiction ($t = 2.13$, $p < 0.05$), while no significant differences were found for obsession and daily life partially supporting Hypothesis 1. For social appearance anxiety, no significant gender difference was observed, leading to the rejection of Hypothesis 2. Age wise comparisons indicated that adolescents aged 18–19 years reported higher smartphone addiction scores in withdrawal and daily life dimension compared to younger groups, partially supporting Hypothesis 3. However, ANOVA showed that age had no significant effect on social appearance anxiety, leading to the rejection of Hypothesis 4. Educational qualification significantly influenced all dimensions of smartphone addiction, with $F$ values ranging from 3.04 to 8.62 ($p < 0.05$, $p < 0.01$), showing that intermediate-level students reported greater addiction than high school and degree-level groups, thereby supporting Hypothesis 5. Similarly, social appearance anxiety was significantly affected by education level ($F = 6.25$, $p < 0.01$), with intermediate students reporting higher anxiety, confirming Hypothesis 6. Finally, correlation analysis revealed a significant positive association between smartphone addiction and social appearance anxiety ($r = 0.408$, $p < 0.01$), supporting Hypothesis 7. Overall, the findings emphasize that gender and educational qualification play a critical role in adolescents' smartphone addiction and appearance-related anxiety, and that increased smartphone use is significantly linked with greater social appearance anxiety.**

***Index Terms*—Adolescents, Age differences, Educational qualification, Gender differences, Smartphone addiction, Social appearance anxiety,**

## I. INTRODUCTION

Smartphone addiction has emerged as a growing concern among adolescents, with potential consequences for their psychological well-being, particularly in relation to social appearance anxiety. This study investigates the association between smartphone addiction and social appearance anxiety in adolescents aged 10–19 years. A quantitative design is adopted using standardized tools: the Questionnaire Assessing Problematic Use of Mobile Phones (Lee, Kim, Ha, Yoo, & Han, 2016) and the Social Appearance Anxiety Scale (Hart, Flora, Palyo, Fresco, Holle, & Heimberg, 2008). Adolescence, defined by the World Health Organization (WHO) as ages 10–19, represents a critical developmental stage characterized by rapid physical, cognitive, and psychosocial growth.

### *A. Smartphone Addiction*

Smartphones combine communication with advanced computing, offering instant access to internet-based services, social media, and multimedia applications (Goggin, 2012; West & Mace, 2010). Excessive use, however, can lead to problematic patterns resembling behavioural addictions. The WHO (1964) conceptualizes addiction as dependence accompanied by cravings.

*Causes:* Smartphone dependence among adolescents is influenced by multiple psychological and social factors. Social media encourages reliance on external approval, where likes and comments shape self-worth (Andreassen et al., 2017; Nesi & Prinstein, 2015). Easy access to entertainment and instant feedback fosters quick-reward habits, reducing patience and focus (Montag et al., 2019; Duke & Montag, 2017). Fear of missing out drive compulsive checking and

anxiety (Przybylski et al., 2013), while Personalized algorithm-driven feeds prolong usage (Pariser, 2011; Anderson & Jiang, 2018), and peer influence further reinforces overuse (Nesi & Prinstein, 2018).

*Effects: Though* not yet formally recognized in DSM-5, smartphone addiction is characterized by features such as tolerance, withdrawal, and relapse (Van Rooij & Prause, 2014), resembling impulse-control disorders (Wang, Lee, & Chang, 2003). While often used for communication and entertainment, prolonged use can impair volitional control and reduce psychosocial well-being, contributing to anxiety, depression, and sleep disturbances (Thomée, Härenstam, & Hagberg, 2011).

### *B. Social Appearance Anxiety*

Social appearance relates to how individuals believe others evaluate their physical appearance. Social Appearance Anxiety (SAA) is marked by fear of negative assessment of body shape, weight, or features (Hart et al., 2008). It is considered a subclinical indicator of body image related anxiety (Veale et al., 2003), often linked to repetitive checking behaviours and low self-esteem. Adolescence makes individuals particularly vulnerable to appearance-related concerns (Hart et al., 1989, 2008).

*Contributing Factors:* include unrealistic body ideals, exposure to curated social media images, peer pressure, low self-confidence, history of bullying, and lack of social support (Gioia et al., 2020; Gumussoy et al., 2022).

*Effects*: include physical (blushing, trembling), behavioural (avoidance), emotional (self-consciousness), and cognitive (over-analysis). SAA may result in disorders such as Body Dysmorphic Disorder and Social Anxiety Disorder, alongside loneliness, strained relationships, and academic limitations (Park, 2007).

### *C. Research Statement & Objectives*

This study explores the relationship between smartphone addiction (independent variable) and social appearance anxiety (dependent variable) in adolescents. It aims to:

1. Assess the effect of smartphone addiction on social appearance anxiety.
2. Examine the prevalence of smartphone addiction across age, gender, and educational levels.
3. Investigate whether smartphone usage exacerbates appearance-related concerns based on demographic factors.

## II. LITERATURE REVIEW

Mahalaxmi et al. (2023) reported that frequent smartphone use among Indian adolescents was linked to sleep difficulties and memory issues, though awareness programs helped reduce these effects. This reflects Erikson's (1968) view that adolescence is a period of identity formation where reliance on technology and peer approval can shape, or disrupt, healthy development. Several studies highlight the role of appearance anxiety in technology use. Dogan et al. (2021) found it to be a strong predictor of problematic social media use among girls, echoing earlier work connecting body image concerns with compulsive online activity (Ayar et al., 2018; Chen et al., 2019). Such anxiety has also been tied to depression, low self-esteem, and social withdrawal (Kuss & Griffiths, 2017). Evidence from other contexts strengthens this link: Liu et al. (2022) in China showed that phone addiction worsened sleep both directly and indirectly through stress; Ann Riya (2024) found a consistent association between fear of negative evaluation and appearance anxiety in young adults; and Raghavan and Fathima (2022) observed that appearance concerns heightened social interaction anxiety among Indian adolescents, regardless of gender.Age and gender differences were also noted. Tras et al. (2022) revealed that appearance anxiety was the most significant predictor of impression-management among early teens in Turkey, with girls and younger students showing higher scores. Broader reviews add further support: Andreassen et al. (2017) and Elhai et al. (2017) associated problematic phone and social media use with anxiety, depression, and other psychiatric symptoms, stressing that such behaviour often intensifies rather than relieves emotional strain. More recently, Yilmaz et al. (2024) demonstrated that appearance anxiety among Turkish college students directly influenced nomophobia and smartphone addiction, both of which were strongly linked to depression, emphasizing the need for targeted university-level interventions.

## III. RESEARCH METHODOLOGY

*A. Aim and Objectives*

The study aimed to investigate the effect of smartphone addiction on social appearance anxiety among adolescents in Bengaluru Urban. Specifically, it examined gender differences, the influence of age and educational qualification, and the relationship between smartphone addiction and social appearance anxiety.

*B. Research Questions*

1. Does smartphone addiction influence social appearance anxiety in adolescents?
2. Do males and females differ in smartphone addiction and social appearance anxiety?
3. Does age affect smartphone addiction and social appearance anxiety?
4. Does educational qualification influence smartphone addiction and social appearance anxiety?
5. Is there a significant relationship between smartphone addiction and social appearance anxiety?

*C. Hypotheses*

1. There will be significant gender differences in smartphone addiction.
2. There will be significant gender differences in social appearance anxiety.
3. Age will have a significant impact on smartphone addiction.
4. Age will have a significant impact on social appearance anxiety.
5. Educational qualification will have a significant impact on smartphone addiction.
6. Educational qualification will have a significant impact on social appearance anxiety.
7. Smartphone addiction will be positively related to social appearance anxiety

*D. Operational Definitions*

- *Smartphone Addiction:* Excessive, compulsive use of smartphones leading to dependency and disruption of daily life, measured using the *Questionnaire Assessing Problematic Usage of Mobile Phones* (Lee et al., 2016).
- *Social Appearance Anxiety:* Fear and preoccupation that one's appearance will be negatively evaluated by others, measured using the *Social Appearance Anxiety Scale (SAAS)* (Hart et al., 2008).
- *Adolescence:* The developmental stage from 10–19 years (WHO).

*E. Variables*

- *Independent Variable:* Smartphone addiction.
- *Dependent Variable:* Social appearance anxiety.
- *Demographic Variables:* Gender, age, and educational qualification.

*F. Sample*

The study included 176 adolescents (85 boys, 91 girls) aged 10–19 years from different educational institutions in Bengaluru Urban, selected through random sampling.

*G. Inclusion Criteria*

- Adolescents aged 10–19 years.
- Both male and female students.
- Smartphone users enrolled in educational institutions in Bengaluru Urban.

*H. Exclusion Criteria:*

Adolescents outside Bengaluru Urban, outside the 10–19 age range, or those who do not use smartphones.

*I. Research Design:*

The research design used for the study is descriptive correlation research design.

*J. Tools and Procedure*

Quantitative method with questionnaire of 2 scales was chosen to conduct the study with an aim to find out the effects of smartphone addiction on social appearance anxiety in adolescents in Bangalore urban with 176 random participants. The researcher has provided the 2 scales to the participants via online platform. The participants were aware of the aim of the study and they were informed that the participation is voluntary and with consent. Verbal. The subjects were informed that the data collected will be anonymous and confidential and they have the freedom to withdraw from the study at any time. The data collected was then uploaded on excel for analysis. The sociodemographic variables such as age, gender, education, was also collected for analysis. The analysis and hypothesis testing were carried out using SPSS and correlation also used for obtaining the results for further interpretation.

- *Smartphone Addiction Questionnaire* (Lee et al., 2016): 25 items rated on a 4-point Likert scale,

covering obsession, withdrawal, reliance, and disturbance in daily life. Higher scores indicate greater addiction. Reliability: Cronbach's α = .87–.90.

- *Social Appearance Anxiety Scale (SAAS)* (Hart et al., 2008): 16 items rated on a 5point Likert scale. Higher scores indicate higher anxiety. Reliability: Cronbach's α > .90.

*K. Statistical Analysis*

- *Descriptive Statistics* (mean, SD, variance) for data summarization.
- *Inferential Statistics*: Independent samples *t*-test (for gender), One-way ANOVA (for age and education).
- *Corelation Statistics:* Pearson's correlation (to test relationship between smartphone addiction and social appearance anxiety)

## IV. RESULT AND DISCUSSION

Data collected was analysed and subsequent discussion of findings were:

*Table-1: Mean, SD's and 't' values for the scores of Smartphone Addiction in adolescents based on gender.*

| Dimensions | Gender | N | Mean | SD | 't' |
|---|---|---|---|---|---|
| Obsession | Male | 81 | 10.9259 | 3.01 | 1.71@ |
| | Female | 95 | 11.7158 | 3.07 | |
| Withdrawal | Male | 81 | 13.9012 | 4.383 | 2.23* |
| | Female | 95 | 15.3579 | 4.29 | |
| Reliance | Male | 81 | 10.9383 | 4.24 | 2.01* |
| | Female | 95 | 12.2105 | 4.17 | |
| Daily Life | Male | 81 | 12.4568 | 4.51 | 1.48@ |
| | Female | 95 | 13.442 | 4.30 | |
| Smartphone Addiction | Male | 81 | 48.2222 | 14.19 | 2.31* |
| | Female | 95 | 52.7263 | 13.78 | |

* -Significant at 0.05 level @-Not significant

*A. Hypotheis-1: There would be significant difference between male and female on smartphone addiction in adolescents.*

The results presented in Table-1 showed that female adolescents in Bangalore reported significantly higher levels of smartphone addiction than males, particularly on withdrawal (M = 15.35, SD = 4.29) and reliance (M = 12.21, SD = 4.17) dimensions. The total addiction scores were also higher among females (M = 52.72, SD = 13.78) compared to

males (M = 48.22, SD = 14.19). These differences were statistically significant (t = 2.23, 2.10, 2.13, p < 0.05). However, no significant gender differences were observed for obsession and daily life disturbance (t = 1.71, 1.48, ns). This indicates that while both genders use smartphones extensively, females experience stronger psychological dependency (withdrawal and reliance), whereas patterns of persistent use and daily disruptions are similar across genders.

These findings support previous research suggesting that females engage more in emotionally driven smartphone use and are more vulnerable to anxiety and social comparison, contributing to higher addictive tendencies (Lopez-Fernandez, 2017; Elhai et al., 2017; Andreassen et al., 2017). Therefore, Hypothesis-1 which stated that There would be significant difference between male and female on smartphone addiction in adolescents is partially supported by the results.

Table-2: Mean, SD's and 't' value for the scores of social appearance anxiety in adolescents based on gender.

| Variable | Gender | N | Mean | SD | 't' |
|---|---|---|---|---|---|
| Social Appearance | Male | 81 | 36.37 | 17.79 | 1.92@ |
| | Female | 95 | 41.36 | 16.82 | |

@-Not significant

*B. Hypotheis-2: There would be significant difference between male and female on social appearance anxiety in adolescents.*

The results presented in Table-2 show that female adolescents (M = 41.36, SD = 16.82) scored slightly higher on social appearance anxiety compared to male adolescents (M = 36.37, SD = 17.79). However, the t-value was not statistically significant, indicating that the observed difference between genders is not meaningful in statistical terms. This suggests that, in this sample of adolescents from Bangalore Urban, gender may not play a major role in influencing social appearance anxiety.

Previous research has shown mixed findings regarding gender differences in appearance related concerns. Some studies indicate that females are more vulnerable to social appearance anxiety due to societal expectations and greater engagement in appearance-based social comparison (Dogan & Cebeci, 2021). However, other studies suggest that these differences may not always reach statistical significance, depending on cultural context and sample characteristics (Elhai et al., 2017). In this study, the lack of significant difference may reflect the fact that both male and female adolescents are increasingly exposed to similar social pressures through digital and peer interactions, which can lead to comparable levels of anxiety about their appearance.

It is evident from table-2 that 't' value of 1.92 is not significant. It suggests that male and female are no significant difference in their social appearance anxiety. Therefore, hypothesis-2 which stated that There would be significant difference between male and female on social appearance anxiety in adolescents is rejected by the results.

*Table-3: Mean, SD's and 'F' values for the scores of smartphone addiction in adolescents based on age.*

| Dimensions | Age | N | Mean | SD | 'F' |
|---|---|---|---|---|---|
| Obsession | 13-15 Years | 27 | 10.74 | 2.91 | 2.44@ |
| | 16-17 Years | 110 | 11.18 | 3.05 | |
| | 18-19 Years | 39 | 12.25 | 3.09 | |
| Withdrawal | 13-15 Years | 27 | 14.29 | 3.64 | 3.40* |
| | 16-17 Years | 110 | 14.21 | 3.83 | |
| | 18-19 Years | 39 | 16.28 | 5.83 | |
| Reliance | 13-15 Years | 27 | 10.55 | 3.85 | 2.23@ |
| | 16-17 Years | 110 | 11.51 | 3.97 | |
| | 18-19 Years | 39 | 12.71 | 5.02 | |
| Daily life | 13-15 Years | 27 | 11.42 | 3.56 | 3.61* |
| | 16-17 Years | 110 | 13.05 | 4.42 | |
| | 18-19 Years | 39 | 15.89 | 4.69 | |

| | | | | | |
|---|---|---|---|---|---|
| Smartphone Addiction | 13-15 Years | 27 | 47.00 | 11.63 | 3.09* |
| | 16-17 Years | 110 | 49.95 | 13.30 | |
| | 18-19 Years | 39 | 55.15 | 16.89 | |

* -Significant at 0.05 level @-Not significant

*C. Hypotheis-3: There would be significant impact of age on smartphone addiction in adolescents.*

The results in Table-3 show that age-related differences in smartphone addiction among adolescents in Bangalore Urban. Although the obsession scores increased with age (13–15 years: M = 10.74; 18–19 years: M = 12.25), this was not statistically significant. In contrast, significant age effects were observed for withdrawal, daily life disturbance, and overall addiction. Adolescents aged 18–19 years reported the highest withdrawal (M = 16.28, SD = 5.83) and daily life disturbance (M = 15.89, SD = 4.69) compared to younger groups, indicating greater difficulty in controlling usage and higher disruption of daily routines. Overall addiction scores also increased with age, with the 18–19 years group scoring the highest (M = 55.15, SD = 16.89), followed by 16–17 years (M = 49.95, SD = 13.30), and 13–15 years (M = 47.00, SD = 11.63). This suggests smartphone addiction increases in late adolescence, likely due to greater autonomy, academic demands, and peer engagement. These results align with prior studies linking higher age with problematic smartphone use (Elhai et al., 2017; Liu et al., 2022). Therefore,

hypothesis3, which stated that age has significant impact on smartphone addiction in adolescents, is partially accepted by the results.

*Table-4: Mean, SD's and 'F' values for the scores of social appearance anxiety in adolescents based on age*

| Variable | Age | N | Mean | SD | 'F' |
|---|---|---|---|---|---|
| Social Appearance anxiety | 13-15 Years | 27 | 10.74 | 2.91 | 0.60@ |
| | 16-17 Years | 110 | 11.18 | 3.05 | |
| | 18-19 Years | 39 | 12.25 | 3.09 | |

@-Not significant

*D. Hypotheis-4: There would be significant impact of age on social appearance anxiety in adolescents.*

The results in Table-4 show that the mean scores of social appearance anxiety increased slightly with age, from 10.74 in the 13–15 years group to 12.25 in the 18–19 years group. However, the differences across the three age groups were not statistically significant, as indicated by the F value of 0.60. This result suggests that age does not play a strong role in shaping levels of social appearance anxiety among adolescents in Bangalore urban. Although older adolescents reported somewhat higher scores, the variation was not large enough to confirm a meaningful age effect. These findings are consistent with studies suggesting that appearance-related concerns are present throughout adolescence, with social and cultural factors such as peer comparison and media exposure playing a stronger role than chronological age (Dogan & Cebeci, 2021; Levinson et al., 2020). This implies that concerns about physical appearance in social settings may be common across adolescence, regardless of age differences. Therefore hypothesis-4, which stated that age has no significant impact on social appearance anxiety in adolescents, is not accepted by the results.

*Table-5: Mean, SD's and 'F' values for the scores of smartphone addiction in adolescents based on educational qualification.*

| Dimensions | Educational Qualification | N | Mean | SD | 'F' |
|---|---|---|---|---|---|
| Obsession | High School | 55 | 10.52 | 3.29 | 3.04* |
| | Inter | 76 | 11.80 | 2.96 | |
| | Degree/Others | 45 | 11.60 | 2.79 | |
| Withdrawal | High School | 55 | 13.72 | 3.89 | |
| | Inter | 76 | 15.19 | 4.38 | 4.87** |
| | Degree/Others | 45 | 15.00 | 4.83 | |
| Reliance | High School | 55 | 10.34 | 3.65 | 4.12* |
| | Inter | 76 | 12.47 | 4.38 | |
| | Degree/Others | 45 | 11.75 | 4.37 | |
| Daily life | High School | 55 | 11.23 | 4.08 | 8.62** |
| | Inter | 76 | 14.34 | 4.30 | |
| | Degree/Others | 45 | 12.84 | 4.29 | |
| Smartphone Addiction | High School | 55 | 45.83 | 12.74 | 5.43** |
| | Inter | 76 | 53.81 | 14.01 | |
| | Degree/Others | 45 | 51.20 | 14.54 | |

** -Significant at 0.01 level * -Significant at 0.05 level @-Not significant

*E. Hypotheis-5: There would be significant impact of educational qualification on smartphone addiction in adolescents.*

The result of Table-5 showed that educational qualification significantly influenced all dimensions of smartphone addiction—obsession, withdrawal, reliance, daily life disturbance, and overall use. Intermediate (PUC) students recorded the highest mean score (53.81), followed by degree/other course students (51.20), and high school students (45.83). This indicates that adolescents in the intermediate stage are most vulnerable to problematic smartphone use. A likely reason is that this phase involves heightened academic and social pressures, along with intensified peer interaction and identity exploration, which encourage heavier smartphone and social media use (Lopez-Fernandez, 2017; Elhai et al., 2017). Degree students' slightly lower scores may reflect better self-regulation and maturity, consistent with evidence that self-control improves with age and higher education (Andreassen et al., 2017).

The statistical results (F = 3.04, 4.87, 4.12, 8.62, and 5.43; significant at 0.05 and 0.01 levels) confirm that education level has a significant effect on smartphone addiction. These findings highlight the importance of targeted awareness and intervention programs, particularly at the intermediate stage, when adolescents appear most at risk. Therefore, the hypothesis-5 which stated that There would be significant impact of educational qualification on smartphone addiction in adolescents is accepted by the results.

*Table-6: Mean, SD's and 'F' values for the scores of social appearance anxiety in adolescents based on educational qualification.*

| Variable | Educational Qualification | N | Mean | SD | 'F' |
|---|---|---|---|---|---|
| Social Appearance anxiety | High School | 55 | 35.38 | 17.53 | 6.25** |
| | Inter | 76 | 44.22 | 17.37 | |
| | Degree/Others | 45 | 34.82 | 15.25 | |

** -Significant at 0.01 level

*F. Hypotheis-6: There would be significant impact of educational qualification on social appearance anxiety in adolescents.*

The results from Table-6 indicate that educational qualification has a significant impact on social appearance anxiety among adolescents. The F value of 6.25, significant at the 0.01 level, shows that the differences between the groups are meaningful. Adolescents studying at the intermediate (PUC/Inter) level reported the highest mean score for social appearance anxiety (M = 44.22), compared to high school students (M = 35.38) and degree/other students (M = 34.82). This suggests that students in the intermediate stage experience greater anxiety related to their physical appearance in social situations.

One possible explanation is that intermediate-level students are in mid-to-late adolescence, a stage where peer influence, social comparison, and identity development are particularly strong. Social media and smartphone use may also reinforce appearance-related concerns by exposing adolescents to unrealistic beauty standards and constant comparison with peers (Elhai et al., 2017; Dogan & Cebeci, 2021). Interestingly, degree students reported lower levels of social appearance anxiety than intermediate students, which could be due to increased maturity, better self-acceptance, and more stable social identities at this stage (Levinson et al., 2020). As the results show 'F' value of 6.25 is significant at 0.01 level, highlight the need for awareness programs in intermediate education settings, where adolescents may be most vulnerable to appearance-related worries and their links to excessive smartphone use. Therefore, the hypothesis-6 that stated there would be significant impact of educational qualification on social appearance anxiety in adolescents, is accepted.

*Table-7: Shows Pearson's co-efficient correlation between smartphone addiction and social appearance anxiety in adolescents.*

| Variables | 'r'-Value |
|---|---|
| Smartphone Addiction & Social Appearance Anxiety | 0.408** |

*G. Hypothesis-7: There would be significant relationship between smartphone addiction and social appearance anxiety in adolescents.*

The results from Table-7 show a positive and significant correlation between smartphone addiction and social appearance anxiety among adolescents ($r = 0.408$, $p < 0.01$). This indicates that as levels of smartphone addiction increase, social appearance anxiety also tends to rise. In other words, adolescents who spend more time on their smartphones are more likely to feel anxious about how they look in social situations.

This finding is supported by earlier studies which show that problematic smartphone and social media use often increases concerns about body image and appearance due to constant peer comparison and exposure to unrealistic beauty standards online (Dogan & Cebeci, 2021; Elhai et al., 2017). The

implies it could be a cause and a reinforcing factor for appearance-related anxiety such as adolescents may turn to social media for validation, but this can lead to more negative self-evaluations and higher dependence on smartphone use.

Thus, the results show a Positive correlation of 0.408 between smartphone addiction on social appearance anxiety in adolescents emphasizing the need for interventions that address both issues together. Programs that promote healthy smartphone use and encourage positive body image could help reduce these problems among adolescents. Therefore, the hypothesis stated there is a significant positive relation between smartphone addiction on social appearance anxiety in adolescents was accepted by the result.

## V. SUMMARY AND CONCLUSION

This study examined the link between smartphone addiction and social appearance anxiety and employed standardized tools (Yanga et al. on smartphone use; Hart et al., 2008 for social appearance anxiety) among 176 adolescents in Bangalore Urban (81 males, 95 females), considering gender, age, and educational qualification. Female adolescents reported higher addiction levels—particularly in withdrawal and reliance—though no gender differences emerged for appearance anxiety. Older adolescents (18–19 years) showed greater smartphone addiction, but age did not significantly affect appearance-related concerns. Educational qualification was a stronger factor, with intermediate-level students scoring highest on both smartphone addiction and social appearance anxiety. Correlation analysis revealed a moderate positive relationship between the two variables, indicating that higher smartphone dependence is associated with increased appearance-related concerns (Hart et al., 2008). Standardized tools and statistical analyses (t-tests, correlations) supported these findings. Overall, results highlight adolescence as a vulnerable stage where excessive smartphone use can intensify psychological risks, emphasizing the need for targeted awareness, prevention, and intervention programs by schools, families, and mental health professionals.

### *A. Implications*

This study shows that adolescence is a sensitive stage where smartphone use and worries about appearance can strongly shape identity and emotional well-being. Students at the intermediate (PUC) level seem especially at risk, which means early support is important. Schools can help by adding programs on healthy digital use, self-confidence, and mental health, while parents and teachers should guide balanced phone use and encourage positive offline activities. Counsellors and psychologists can also track phone habits and body-image concerns for early interventions and collaborate on larger scales with policy makers in implementing policies that promote safe digital habits and realistic appearance standards which thereby protect adolescents. Families, schools, professionals, and policymakers can work in conjunction to reduce these risks and support healthier growth during adolescence.

### *B. Limitations*

The study was limited to adolescents in Bangalore Urban, reducing generalizability. Reliance on self-report measures introduced potential bias, and the focus on select demographic variables excluded other relevant factors such as family environment, peer influence, or socioeconomic status. The modest sample size further limits the scope of findings.

### *C. Future Directions*

Future studies should include larger and more diverse groups of adolescents from different cultural backgrounds to get a broader picture. Long-term research can show how smartphone use and appearance anxiety change over time, while adding factors like parenting style, personality, and peer influence could deepen understanding.

Research on solutions, such as digital detox programs or awareness campaigns, would also be useful in creating effective ways to reduce smartphone addiction and its impact on adolescent mental health.

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