

The Effects of Social Media on Self-esteem Among High School Students

Sian Choi

Student, Yongsan International School of Seoul

Abstract— This study examined how social media use affects self-esteem among high school students. A sample of 23 students in grades 9–12 completed an anonymous survey measuring daily social media use, usage style (active vs. passive), social comparison tendencies, online validation, and self-esteem. Results showed that higher social comparison was moderately associated with lower self-esteem ($r = -0.46$), and more daily hours on social media were weakly associated with lower self-esteem ($r = -0.31$). Students who reported mostly passive use tended to have lower self-esteem than those who used social media more actively. Online validation dependence was weakly positively related to self-esteem ($r = 0.22$). These findings suggest that how students use social media, especially the extent of passive scrolling and social comparison, may be more important than total time spent. Encouraging more active, supportive, and mindful use may help protect adolescents' self-esteem.

Keywords— Adolescents, self-esteem, social comparison, social media.

I. INTRODUCTION

Social media has become a central part of daily life for high school students as it shapes how they communicate, compare themselves to others, and receive feedback. Self-esteem is especially sensitive during adolescence, when identity and social belonging are developing (Valkenburg, P., et al., 2021). This paper examines how social media use affects self-esteem among high school students, focusing on mechanisms such as social comparison, feedback and validation, and differences between active and passive use.

Research shows that the relationship is not simple: overall, more time on social media is weakly associated with lower self-esteem, but effects vary widely between individuals and depend heavily on how platforms are used. Understanding these patterns helps explain why some students feel worse after scrolling, while others feel supported and more confident. The present study surveyed 23 high school students to examine these relationships in a small, school-based sample.

II. LITERATURE REVIEW

Multiple studies find a small negative link between time spent on social media and adolescents' self-esteem. For example, Valkenburg et al. (2021) reported a between-person correlation of about $r = -0.15$, meaning that, on average, teens who spent more time on social media over several weeks reported slightly lower self-esteem than those who spent less time. However, person-specific analyses showed that most adolescents (around 88%) experienced very small or no effects, while a minority experienced clearly negative or positive effects. This suggests that "average" effects hide important individual differences.

A major explanation for negative effects is social comparison: students compare their lives, appearance, and achievements to curated posts from peers and influencers. Research on Italian high school students found that higher social media-based social comparison was associated with lower self-esteem, especially for ability-based comparisons (Youssef, 2025). Image-centric platforms and passive browsing (scrolling without interacting) tend to increase upward comparisons, which can reduce self-worth.

Social media also provides constant, quantifiable feedback (likes, comments, views) that can influence self-esteem in real time. Experimental work shows adolescents are more sensitive than adults to online feedback: positive feedback boosts their self-esteem more, and negative feedback lowers it more sharply. Among high school students, perceived validation on social media correlates positively with self-esteem, especially social self-esteem. This indicates that for some students, supportive interactions online can enhance feelings of acceptance and worth.

III. METHODOLOGY

Research design

This study used a cross-sectional survey design to examine relationships between social media use and self-esteem among high school students. The survey was anonymous and administered online during a single class period.

Participants

Participants were 23 high school students in grades 9–12 from a single school. The sample included 13 female students (56.5%), 9 male students (39.1%), and 1 student who preferred not to specify gender (4.3%). Grade distribution was as follows: 5 students in 9th grade (21.7%), 7 in 10th grade (30.4%), 6 in 11th grade (26.1%), and 5 in 12th grade (21.7%). Participation was voluntary, and all responses were kept confidential.

Measures

Social media use: Students reported average daily time spent on social media (less than 1 hour, 1–2 hours, 3–4 hours, 5 or more hours) and their most-used platforms (e.g., Instagram, TikTok, YouTube). They also indicated whether their use was mostly passive (scrolling, watching), mostly active (posting, commenting, messaging), or a mix of both.

Social comparison: Three items measured tendency to compare life, abilities, and appearance to others on social media (e.g., “When I use social media, I often compare my life to other people’s posts”), rated from 1 (Strongly disagree) to 5 (Strongly agree). Scores were averaged to create a social comparison score (higher = more comparison).

Self-esteem: Four items adapted from the Rosenberg Self-Esteem Scale assessed global self-worth, rated from 1 to 5. One negatively worded item was reverse-scored, and all items were averaged to create a self-esteem score (higher = higher self-esteem).

Online validation: Two items assessed dependence on likes and comments for self-feelings, rated from 1 to 5 and averaged.

Procedure

The survey was distributed via an online form. Students were told that participation was voluntary and that responses would be anonymous. Completion took approximately 7–10 minutes. No identifying information was collected.

Data analysis

Descriptive statistics (means, standard deviations, percentages) were calculated for all variables. Pearson correlations were used to examine relationships between continuous variables (social comparison, self-esteem, hours of use, validation). Group means for self-esteem were compared across usage-style categories (passive, mixed, active) to explore patterns, though formal significance testing was not conducted due to the small sample size.

IV. RESULTS

Participant characteristics

A total of 23 high school students in grades 9–12 participated in the survey (56.5% female, 39.1% male, 4.3% prefer not to say). The sample included students from all four grade levels: 21.7% in 9th grade, 30.4% in 10th grade, 26.1% in 11th grade, and 21.7% in 12th grade. Descriptive statistics and correlations among key variables are presented in Table 1.

Table 1: Descriptive Statistics and Correlations Among Key Variables (N = 23)

Variable	Mean	SD	1	2	3	4
1. Hours of social media/day	2.70	1.10	—			
2. Social comparison	3.42	0.78	−0.29	—		
3. Self-esteem	3.61	0.65	−0.31	−0.46	—	
4. Online validation	3.28	0.91	0.18	0.24	0.22	—

Social media use

On average, participants reported spending 2.7 hours per day on social media (SD = 1.1). Thirteen percent of students used social media for less than one hour daily, 34.8% for 1–2 hours, 39.1% for 3–4 hours, and 13.0% for five or more hours. The most commonly used platforms were Instagram, TikTok, and YouTube. Regarding usage style, 43.5% of students described their use as mostly passive (scrolling and watching with little posting), 21.7% as mostly active (frequent posting, commenting, and messaging), and 34.8% as a mix of both.

Social comparison and self-esteem

The average social comparison score was 3.42 out of 5 (SD = 0.78), indicating a moderate tendency to compare one's life and appearance to others on social media. The average self-esteem score was 3.61 out of 5 (SD = 0.65), suggesting generally moderate levels of self-esteem in this sample. Correlation analyses revealed that higher social comparison scores were associated with lower self-esteem ($r = -0.46$), indicating a moderate negative relationship. This finding is consistent with prior research showing that social media-based social comparison is linked to reduced self-worth among adolescents. In addition, more daily hours of social media use were weakly

associated with lower self-esteem ($r = -0.31$), aligning with evidence that greater time on social media is related to slightly lower self-esteem on average.

Usage style and self-esteem

When students were grouped by their self-reported usage style, differences in average self-esteem emerged. Students who described their use as mostly passive reported a mean self-esteem score of 3.35, compared to 3.68 for those with a mixed usage style and 3.92 for those who were mostly active. Although this small sample does not allow for strong statistical conclusions, the pattern suggests that more active, interactive use of social media may be associated with higher self-esteem than primarily passive consumption.

Online validation

Participants' average score on online validation items was 3.28 out of 5 ($SD = 0.91$), indicating that many students felt somewhat affected by likes and comments. The correlation between online validation dependence and self-esteem was positive but weak ($r = 0.22$), suggesting that students who felt more boosted by online feedback tended to report slightly higher self-esteem, though the relationship was small. This aligns with research showing that adolescents are sensitive to online feedback, but that its impact on overall self-esteem varies across individuals.

Overall, these results illustrate a pattern in which greater social comparison and more passive, time-intensive social media use are associated with lower self-esteem, while more active and socially engaged use is linked to somewhat higher self-esteem.

V. DISCUSSION

The findings from this small survey align with broader research on social media and adolescent self-esteem. Students who reported more frequent social comparison on social media tended to have lower self-esteem, supporting the idea that comparing oneself to curated posts and highlight reels can undermine self-worth. Similarly, more daily hours on social media were weakly associated with lower self-esteem, consistent with meta-analytic evidence of a small negative average effect.

The pattern across usage styles is also consistent with prior work: students who used social media mostly passively reported lower self-esteem than those who used it more actively. This suggests that interactive, expressive, and socially supportive use may be less harmful, or even beneficial, compared to passive scrolling through idealized images and lifestyles.

Online validation showed a weak positive relationship with self-esteem, indicating that students who felt more encouraged by likes and comments tended to report slightly higher self-esteem. However, the small correlation suggests that dependence on feedback is not the main driver of self-esteem differences in this sample. For some students, positive feedback may boost confidence, while for others, it may create pressure or anxiety.

Implications

These results have practical implications for students, parents, and educators:

- Encouraging students to limit passive scrolling and curate feeds that feel supportive rather than competitive may help protect self-esteem.
- Teaching digital literacy, such as recognizing that posts are often curated and not fully realistic, may reduce harmful social comparison.
- Promoting active, meaningful interactions (messaging friends, sharing creative work, joining interest-based communities) may allow students to gain social benefits from social media without the same risks.
- Supporting offline sources of self-worth (academics, sports, arts, close friendships) can provide alternative foundations for self-esteem that are less dependent on online feedback.

VI. LIMITATIONS

This study has several limitations. The sample was small ($N = 23$) and drawn from a single school, limiting generalizability. The design was cross-sectional, so causality cannot be determined; for example, students with lower self-esteem might also be more likely to engage in passive scrolling or social comparison. All measures were self-report, which can be influenced by social desirability and inaccurate self-perception. Despite these limitations, the patterns observed are consistent with larger studies and meta-analyses.

Future directions

Future research with larger, more diverse samples could use longitudinal designs to track how changes in social media use relate to changes in self-esteem over time. Experience-sampling methods (short surveys multiple times per day) could capture how specific online experiences affect moment-to-moment self-feelings. Intervention studies could test whether reducing passive scrolling or promoting active, supportive interactions leads to improvements in self-esteem among high school students.

VII. CONCLUSION

This study found that among 23 high school students, greater social comparison and more passive, time-intensive social media use were associated with lower self-esteem, while more active and socially engaged use was linked to somewhat higher self-esteem. These findings support the view that how students use social media, especially the extent of passive browsing and upward comparison, may be more important than total time spent. Encouraging mindful, active, and supportive use of social media, along with strong offline sources of self-worth, may help adolescents gain the benefits of digital connection while reducing risks to self-esteem.

APPENDIX

Survey Items

Instructions: This survey is anonymous. Please answer honestly. It will take about 5–7 minutes.

A. Demographics

1. Grade:
 - a. 9 / 10 / 11 / 12
2. Gender:

- a. Male
- b. Female
- c. Other
- d. Prefer not to say

B. Social media use

- 3. On a typical day, about how many hours do you spend on social media (Instagram, TikTok, YouTube, Snapchat, etc.)?
 - a. Less than 1 hour
 - b. 1–2 hours
 - c. 3–4 hours
 - d. 5 or more hours
- 4. Which platforms do you use most? (Check all that apply)
 - a. Instagram
 - b. TikTok
 - c. YouTube
 - d. Snapchat
 - e. X (Twitter)
 - f. Other:
- 5. How would you describe your main type of use? (Choose one that fits best)
 - a. Mostly passive (scrolling, watching, not posting much)
 - b. Mostly active (posting, commenting, messaging a lot)
 - c. A mix of both

C. Social comparison

- 6. Answer each on a scale from 1 = Strongly disagree to 5 = Strongly agree.
- 7. When I use social media, I often compare my life to other people's posts.
- 8. I feel that other people's lives look better than mine when I look at social media.
- 9. I compare my appearance to what I see on social media.

D. Self-esteem

- 10. Answer each on a scale from 1 = Strongly disagree to 5 = Strongly agree.
- 11. I feel that I have a number of good qualities.
- 12. I am able to do things as well as most other people.
- 13. I feel I do not have much to be proud of. (reverse-scored)
- 14. Overall, I am satisfied with myself.

E. Online validation

- 15. Answer each on a scale from 1 = Strongly disagree to 5 = Strongly agree.

16. Getting likes and comments on my posts makes me feel good about myself.
17. When my posts don't get many likes, I feel disappointed or insecure.

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