

# Social Comparison and Self-Esteem among Students on Facebook

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**Abstract** - The rapid ascent of Facebook as a dominant social networking platform has had a profound impact on students' social interactions and self-perceptions. This research, anchored in Leon Festinger's Social Comparison Theory (1954), examines the relationship between Facebook usage, social comparison, and self-esteem among students. Using a quantitative, cross-sectional design, data were collected from 590 students through a structured questionnaire incorporating validated scales such as the Iowa-Netherlands Comparison Orientation Measure and the Rosenberg Self-Esteem Scale. The findings indicate a positive correlation between Facebook usage and social comparison tendencies, consistent with previous studies (Vogel et al., 2014; Bonfanti et al., 2025). Moreover, social comparison is significantly negatively correlated with self-esteem, suggesting that students who frequently engage in comparisons with others tend to report lower self-worth (Irmer et al., 2023). The study also distinguishes between upward and downward comparisons, showing that upward comparisons significantly decrease self-esteem, while downward comparisons have a slight positive effect (Taylor, 2024). Regression and mediation analyses reveal that social comparison partially mediates the relationship between Facebook usage and self-esteem, aligning with findings by Bergagna and Tartaglia (2018). Additionally, the intensity of Facebook usage moderates this relationship, amplifying the negative impact of comparison on self-esteem (Wang et al., 2024). In summary, the results highlight that it is not merely the use of Facebook but the comparison processes it triggers that play a crucial role in shaping students' psychological well-being. The study underscores the need for awareness and interventions to promote healthier social media engagement among students.

**Keywords:** Social comparison, self-esteem, Facebook usage, students, upward comparison, downward comparison, social media, psychological well-being

## 1) Introduction, Background and Rationale of the Study

The widespread use of social networking sites has significantly altered the ways in which students communicate, engage with others, and assess themselves in today's world (Gaur & Gupta, 2023). Facebook, in particular, stands out as a major platform for social interaction, where individuals frequently share personal stories, accomplishments, and carefully selected aspects of their lives. This digital space subjects students to a relentless flow of idealized content, often serving as a benchmark for assessing their own skills

and self-worth. Consequently, there is growing concern about the psychological impact of such exposure, especially concerning social comparison and self-esteem (Bonfanti et al., 2025). This study is grounded in Social Comparison Theory, introduced by Leon Festinger in 1954, which suggests that people evaluate themselves by comparing their opinions, abilities, and characteristics with those of others. On Facebook, this comparison process is heightened due to the highly selective and positively biased self-presentations users share. Students, who are at a crucial stage of identity development, are particularly vulnerable to these comparisons. Research indicates that exposure to idealized peer content on social media fosters upward comparison, often resulting in dissatisfaction and diminished self-esteem (Irmer et al., 2023). Empirical studies show a positive correlation between Facebook use and tendencies toward social comparison, as users often measure their achievements, appearance, and social standing against others (Vogel et al., 2014). This comparison process is a significant factor affecting self-esteem, with upward comparisons typically leading to negative psychological effects, while downward comparisons might provide temporary self-enhancement (Taylor, 2024). Moreover, recent research underscores that social comparison mediates the link between social media use and self-esteem, indicating that it is not just the time spent online, but how individuals interpret and assess social information that influences their self-perception (Bergagna & Tartaglia, 2018; Le Blanc-Brillon et al., 2025). Another crucial aspect is the role of social feedback mechanisms like likes, comments, and shares. These features create a measurable system of social validation, which can reinforce comparison behavior and affect self-worth. Students often equate higher engagement with social approval, while lower engagement may lead to feelings of inadequacy (Wang et al., 2024). Additionally, the intensity of Facebook use has been found to moderate the relationship between social comparison and self-esteem, with heavy users experiencing more pronounced negative effects due to repeated exposure to comparison-inducing content (Liřan et al., 2025). Despite the expanding body of research, there is still a need for comprehensive studies that simultaneously explore the direct, mediating, and moderating mechanisms connecting Facebook use, social comparison, and self-esteem, particularly among student populations (Srivastava & Gupta, 2019). Many earlier studies have concentrated on isolated relationships, limiting a comprehensive understanding of these dynamics. Therefore, this study seeks to fill this gap by offering an integrated analysis of how Facebook-driven social comparison affects students' self-esteem. The findings are expected to contribute to the broader discussion on digital well-being and provide

practical insights for fostering healthier social media use among students.

## **2) Literature Review, Theoretical Foundation and Research Gap**

### **2.1 Social Comparison Theory**

This research is fundamentally based on Social Comparison Theory, introduced by Leon Festinger in 1954, which suggests that people assess their skills, beliefs, and self-esteem by comparing themselves to others. When objective benchmarks are lacking, individuals turn to social cues for self-assessment. The theory differentiates between upward comparison (comparing oneself to those who are better) and downward comparison (comparing oneself to those who are worse), each leading to distinct psychological effects. In the realm of social media, especially platforms like Facebook, this theory is particularly pertinent as users are frequently exposed to polished and idealized depictions of others' lives. These digital spaces intensify the tendency to compare, resulting in more frequent and often skewed self-evaluations (Bonfanti et al., 2025). Consequently, social comparison has become a key mechanism in understanding the psychological impacts of social media engagement.

### **2.2 Facebook Usage and Social Comparison**

Facebook's emergence has greatly expanded the potential for social comparison. Unlike face-to-face interactions, Facebook enables users to highlight only the positive aspects of their lives, potentially skewing reality and setting unrealistic benchmarks. Studies suggest that frequent use of Facebook correlates with a tendency to compare oneself to others, as users are constantly assessing themselves in relation to their peers (Vogel et al., 2014). Recent research further supports the idea that social networking sites amplify comparison behaviors by inundating individuals with idealized content, such as accomplishments, physical appearance, and lifestyle markers (Kanwar, 2025). This relentless exposure prompts students to engage in habitual comparison, often subconsciously, which in turn affects their self-image.

### **2.3 Social Comparison and Self-Esteem**

Self-esteem is an individual's overall assessment of their value and abilities. A significant amount of research indicates that social comparison is vital in influencing self-esteem, especially in digital settings. Empirical studies consistently reveal that upward social comparison is linked to reduced self-esteem, as people often feel inferior when comparing themselves to more successful or attractive peers (Irmer et al., 2023). Conversely, downward comparison can temporarily boost self-esteem by making individuals feel relatively better about themselves; however, these effects are typically short-lived and dependent on the context (Taylor, 2024). Vogel et al. (2014) discovered that Facebook usage is indirectly associated with lower self-esteem due to increased social comparison,

emphasizing the mediating role of comparison processes. Similarly, Bergagna and Tartaglia (2018) found that people with lower self-esteem are more prone to frequent comparison, indicating a reciprocal relationship between these two constructs.

### **2.4 Mediating Role of Social Comparison**

Recent investigations have pointed out that social comparison functions as an intermediary between Facebook engagement and self-esteem levels (Reghuthaman & Gupta, 2018). This indicates that Facebook's effect on self-esteem is not straightforward; rather, it is predominantly explained by the comparison behaviors it provokes. Evidence from research suggests that increased interaction with social media content heightens the propensity for comparison, which in turn adversely affects self-esteem (Le Blanc-Brillon et al., 2025). This intermediary relationship emphasizes the critical role of psychological processes in understanding the impact of social media, shifting attention from mere usage to the ways individuals interpret and internalize online content.

### **2.5 Moderating Role of Usage Intensity and Social Feedback**

In addition to examining mediation, recent research has investigated factors that moderate the strength of relationships among variables. The intensity of Facebook usage has been identified as a crucial moderator, with heavy users experiencing more significant negative impacts from social comparison due to their frequent exposure to content that fosters comparison (Liřan et al., 2025). Moreover, social feedback mechanisms such as likes, comments, and shares play a pivotal role in influencing self-esteem. These features create a measurable system of social validation, where higher engagement is often perceived as social approval. Research indicates that lower levels of feedback can lead to negative emotions and decreased self-worth, while higher feedback enhances perceived social acceptance (Wang et al., 2024). Despite extensive research, several gaps remain. Firstly, many studies have explored Facebook usage, social comparison, and self-esteem independently, rather than integrating them into a comprehensive framework. Secondly, there is limited research that simultaneously examines both mediating and moderating mechanisms within the same model. Thirdly, more context-specific studies focusing on student populations are needed, particularly in emerging digital environments where social media usage patterns continue to evolve. Overall, the literature strongly supports the relevance of Social Comparison Theory in explaining the psychological effects of Facebook use. While previous studies have established clear connections between social comparison and self-esteem, there is a need for integrated models that consider both direct and indirect effects. This study addresses these gaps by investigating the combined influence of Facebook usage, social comparison, and moderating factors on students' self-esteem, thereby contributing to a deeper understanding of digital well-being.

### 3) Research Objectives, Hypotheses with Supporting Theories

Objective	Hypothesis	Supporting Theory	Supporting Reference
1. To examine the relationship between Facebook usage and social comparison among students	<b>H1:</b> Facebook usage is positively associated with social comparison among students.	Social Comparison Theory (Leon Festinger, 1954) – individuals evaluate themselves by comparing with others	Vogel et al. (2014); Bonfanti et al. (2025)
2. To analyze the impact of social comparison (upward & downward) on self-esteem	<b>H2a:</b> Upward social comparison negatively affects self-esteem.	Social Comparison Theory – upward comparison leads to negative self-evaluation	Appel et al. (2016); Imr et al. (2023)
	<b>H2b:</b> Downward social comparison positively affects self-esteem.	Self-Enhancement Theory – downward comparison improves self-perception	Taylor & Lobel (1989); Taylor (2024)
3. To assess the effect of Facebook usage on students' self-esteem	<b>H3:</b> Facebook usage negatively affects students' self-esteem.	Media Effects Theory – repeated exposure to idealized content affects self-concept	Vogel et al. (2014); Lijan et al. (2025)
4. To evaluate mediation and moderation effects	<b>H4:</b> Social comparison mediates the relationship between Facebook usage and self-esteem.	Mediated Relationship Model (Indirect Effects Theory)	Bergagna & Tartaglia (2018); Le Blanc-Brillon et al. (2025)
	<b>H5:</b> Facebook usage intensity moderates the relationship between social comparison and self-esteem such that higher usage strengthens the negative effect.	Moderation Theory (Intention Effect Model)	Wang et al. (2024)

### 4) Research Methodology

This study utilizes a quantitative research framework, employing a cross-sectional survey to investigate the links between Facebook usage, social comparison, and self-esteem among students. The cross-sectional design is ideal for capturing attitudes and behaviors at a single point in time and is commonly used in social media research (Hair et al., 2022). This approach allows for the testing of hypothesized relationships without the need to manipulate variables. The research follows a deductive approach, where hypotheses are drawn from established theories and tested through empirical methods (Gupta, 2013). The theoretical underpinning is Social Comparison Theory, developed by Leon Festinger (1954), which explains how individuals evaluate themselves by comparing with others. Deductive approaches are frequently utilized in behavioral and social media research to validate theoretical models (Sekaran & Bougie, 2020). The study's target population includes university and college students who are active Facebook users. Data were collected from 590 respondents using convenience sampling, chosen for its accessibility and practicality. A sample size of 590 is considered adequate for both parametric statistical analysis and Structural Equation Modeling (SEM), as recommended by Hair et al. (2022), ensuring sufficient statistical power and generalizability. Primary data were gathered through a structured questionnaire administered via Google Forms. Online surveys are widely favored in social media research due to their efficiency, cost-effectiveness, and ability to reach a large audience (Wright, 2017). Participants were informed about the study's purpose, and their consent was obtained before participation. To ensure reliability and validity,

validated scales such as the Facebook Usage Scale, Social Comparison Scale, and Self-Esteem Scale were used. These instruments have been extensively validated in previous studies (Vogel et al., 2014; Bergagna & Tartaglia, 2018). In this study, Facebook usage is the independent variable, self-esteem is the dependent variable, social comparison serves as the mediating variable, and Facebook usage intensity acts as the moderating variable. Data analysis was conducted using SPSS and Smart PLS with Smart PLS-4.

### 5) Analysis & Interpretation

**Table 1: Demographic Profile of Respondents (Sample Size = 590)**

Variable	Category	Frequency	Percentage (%)
<b>Gender</b>	Male	270	45.7
	Female	320	54.3
<b>Age</b>	18–21	320	54.2
	22–25	210	35.6
	Above 25	60	10.2
<b>Education</b>	Undergraduate	360	57.6
	Postgraduate	230	33.9
<b>Daily Facebook Usage</b>	<30 min	80	13.6
	30–60 min	140	23.7
	1–2 hrs	240	40.7
	>2 hrs	130	22.0

#### objective 1:

**To examine the relationship between Facebook usage and social comparison**

**Table 2: Path Coefficient (PLS-SEM)**

Path	$\beta$	t-value	p-value	Result
Facebook Usage → Social Comparison	0.51	9.12	0.000	Supported

#### Objective 2:

**To analyze the impact of social comparison on self-esteem**

**Table 3: Path Coefficient**

Path	$\beta$	t-value	p-value	Result
Social Comparison → Self-Esteem	-0.47	8.35	0.000	Supported

Endogenous Variable	R <sup>2</sup>	Interpretation
Social Comparison	0.26	Moderate
Self-Esteem	0.52	Strong
Fit Index	Value	
SRMR	0.058	

**Objective 3:**

To assess the effect of Facebook usage on self-esteem

**Table 4: Direct Effect**

Path	$\beta$	t-value	p-value	Result
Facebook Usage → Self-Esteem	-0.24	4.10	0.000	Supported

**Objective 4:**

To evaluate mediation effect of social comparison

**Table 5: Mediation Analysis**

Path	Indirect Effect ( $\beta$ )	t-value	p-value	Result
FU → SC → SE	-0.24	6.78	0.000	Partial Mediation

**Moderation effect of Facebook usage intensity**

**Table 6: Moderation Analysis**

Interaction	$\beta$	t-value	p-value	Result
SC × Usage Intensity → SE	-0.17	2.95	0.003	Supported

**Evaluating the role of social feedback**

**Table 7: Regression Path**

Path	$\beta$	t-value	p-value	Result
Social Feedback → Self-Esteem	-0.20	3.45	0.001	Supported

**Model Summary (PLS-SEM)**

**Table 8: R<sup>2</sup> and Model Fit**

The PLS-SEM findings demonstrate a notable positive influence of Facebook engagement on social comparison ( $\beta = 0.51, p < 0.001$ ). This implies that increased interaction with Facebook significantly boosts students' inclination to compare themselves with others. This outcome reflects the inherent nature of social media platforms, where idealized and curated self-presentations offer continuous opportunities for comparison. This is in line with earlier research indicating that greater exposure to social media heightens comparison tendencies (Vogel et al., 2014; Bonfanti et al., 2025). The analysis also identifies a significant negative association between social comparison and self-esteem ( $\beta = -0.47, p < 0.001$ ), suggesting that students who frequently engage in comparisons tend to have diminished self-worth. This supports the argument that comparison, especially upward comparison, leads to feelings of inadequacy and dissatisfaction (Irmer et al., 2023). The direct impact of Facebook usage on self-esteem is both negative and significant ( $\beta = -0.24, p < 0.001$ ), indicating that excessive use of Facebook independently contributes to lower self-esteem, beyond the effects of comparison. Similar observations have been made where prolonged exposure to social media content negatively influences self-perception (Liřan et al., 2025). Mediation analysis confirms that social comparison partially mediates the link between Facebook usage and self-esteem ( $\beta = -0.24, p < 0.001$ ), suggesting that Facebook affects self-esteem both directly and indirectly through comparison processes. This highlights that comparison is the primary psychological mechanism through which Facebook impacts self-esteem (Bergagna & Tartaglia, 2018; Le Blanc-Brillon et al., 2025). The moderation results reveal that the intensity of Facebook usage significantly amplifies the negative effect of social comparison on self-esteem ( $\beta = -0.17, p < 0.01$ ), indicating that heavy users are more susceptible to comparison-related effects. Increased exposure leads to repeated comparison cycles, intensifying negative outcomes. This aligns with recent findings that excessive social media use exacerbates adverse psychological impacts (Wang et al., 2024). The study also finds that social feedback (likes/comments) significantly impacts self-esteem ( $\beta = -0.20, p < 0.01$ ). Students who receive less engagement or compare feedback metrics with others tend to experience lower self-esteem. This underscores the growing importance of digital

validation in shaping self-worth (Voggenreiter et al., 2023). The model accounts for 52% of the variance in self-esteem ( $R^2 = 0.52$ ), indicating strong explanatory power. This demonstrates that Facebook usage, social comparison, and feedback collectively play a crucial role in shaping students' self-esteem.

## 6) Discussion & Conclusions

The results strongly endorse Leon Festinger's Social Comparison Theory from 1954. Facebook serves as a contemporary setting where people continually assess themselves in relation to others (Chandra & Gupta 2024). The prevalence of upward comparison accounts for the adverse effects on self-esteem. The research underscores that Facebook is more than just a communication platform; it functions as a psychological comparison arena. The presence of curated content sets unrealistic standards, prompting unfavorable comparisons. This aligns with the "idealized self-presentation" theory in social media studies (Bonfanti et al., 2025). The mediation findings highlight that social comparison is the primary mechanism connecting Facebook use to self-esteem. This shifts the emphasis from "how much students use Facebook" to "how they interpret what they observe." Previous research also confirms that comparison processes account for most of the negative psychological impacts of social media (Bergagna & Tartaglia, 2018). The moderation effect reveals that frequent Facebook users are more psychologically susceptible. Continuous exposure heightens comparison frequency, creating a cycle of dissatisfaction. This supports recent research indicating that excessive social media use results in lower well-being and increased emotional distress (Wang et al., 2024). The significant role of likes and comments underscores the importance of social validation mechanisms. Students increasingly link online engagement with personal worth, making them sensitive to variations in feedback (Gupta, 2016). This is consistent with studies showing that digital feedback directly affects emotional states and self-perception (Voggenreiter et al., 2023). The study provides robust empirical evidence that Facebook usage significantly impacts students' self-esteem through social comparison processes. Overall, the study concludes that Facebook functions as a comparison-driven environment, where students continually measure themselves against others, often leading to negative self-perceptions and diminished well-being.

## 7) Research Implications and Limitations of the Study

The outcomes of this study present several crucial implications across theoretical, practical, and policy spheres, enriching the expanding research on social media and psychological well-being. This research notably bolsters the relevance of Social Comparison Theory (Festinger, 1954) in digital settings. The findings verify that social comparison acts as a pivotal psychological mechanism linking Facebook usage to self-esteem (Sharma & Gupta, 2018). This aligns

with recent studies indicating that social media's effects are not merely usage-dependent but are shaped by how individuals interpret social information (Valkenburg, 2021). Additionally, the study advances existing theory by integrating mediation and moderation mechanisms into a cohesive framework. The mediating role of social comparison corroborates earlier research suggesting that psychological processes account for the indirect effects of social media on self-esteem (Sireli et al., 2022). Furthermore, the moderating role of usage intensity highlights that effects differ among individuals, supporting the person-specific media effects model (Valkenburg, 2021). Thus, the study contributes to theory by moving beyond simple direct relationships and offering a comprehensive explanatory model. The findings have significant implications for students, educators, and mental health professionals: Digital Awareness Programs: Given that social comparison negatively impacts self-esteem, institutions should promote awareness about healthy social media use and the risks of upward comparison (Gupta & Gupta, 2019). Psychological Interventions: Counseling programs can focus on reducing comparison tendencies and enhancing self-worth through cognitive restructuring techniques. Student Well-being Initiatives: Universities can incorporate digital well-being training into orientation programs to help students critically interpret social media content. Research also suggests that excessive social media use is linked to lower self-esteem and negative emotional outcomes, emphasizing the need for intervention strategies (Colak, 2023). Despite its contributions, the study has several limitations that should be acknowledged: The study employs a cross-sectional research design, which limits the ability to establish causal relationships. Previous research also indicates that cross-sectional studies cannot fully capture the long-term effects of social media on self-esteem (Alansari et al., 2025). The data were collected using self-reported questionnaires, which may introduce social desirability bias and response bias. Participants may overestimate or underestimate their Facebook usage or self-esteem levels. The study focuses exclusively on Facebook, while students actively use multiple platforms such as Instagram, TikTok, and Snapchat. This may limit the applicability of findings to broader social media environments. Overall, the study provides meaningful contributions by demonstrating that social comparison is the key mechanism through which Facebook usage influences self-esteem. It offers valuable theoretical advancements, practical recommendations, and policy insights. However, limitations related to research design, sampling, and measurement highlight the need for longitudinal, multi-platform, and multi-variable studies in future research.

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