Smart Techno (Smart Technology, Informatic, and Technopreneurship)
Volume 08, Number 01, 2026 pp. 83-96
E-ISSN : 2541-0679
Open Access: https://lppm.primakara.ac.id/jurnal/index.php/smart-techno/

How Interface Design Nudges Instagram Users Toward Posting Less Permanent Content

Putu Dhanu Driya[1*], Ni Putu Abigail Firsta Sumerta[2], I Gusti Nyoman Anton Surya Diputra[3]
[1] Faculty of Engineering and Vocational, Ganesha University of Education, Singaraja, Indonesia
[2] Faculty of Psychology, Soegijapranata Catholic University, Semarang, Indonesia
[3] International Ph. D. Program in Innovative Technology of Biomedical Engineering and Medical Devices, Ming Chi University of Technology, New Taipei, Taiwan

ARTICLE INFO
Article history:
Initial submission
04-12-2025
Received in revised form
22-12-2025
Accepted 13-01-2026
Available online 02-02-2026

Keywords:
Interface Design, Nudges, Cognitive Bias, Instagram

DOI:
https://doi.org/10.59356/smart-techno.v8i1.184

ABSTRACT

This study examines the effect of Instagram interface design nudges on Gen Z users' preference for ephemeral content over permanent feed posts, and the mediating roles of cognitive biases and self-presentation concerns. A survey of 347 Gen Z users was analyzed using parallel mediation (PROCESS Model 4). Results indicated that interface nudges significantly predicted cognitive biases (b = 0.903, p = 0.047) and self-presentation concerns (b = 0.807, p = 0.039), but neither mediator significantly influenced ephemeral posting (indirect effect M1 = 0.0021, 95% CI [-0.0244, 0.0192]; M2 = 0.0003, 95% CI [-0.0165, 0.0236]). The direct effect of nudges on ephemeral posting was significant (b = 0.060, p = 0.031), indicating that UI design directly encourages temporary content sharing. These findings highlight the dominant role of interface design in guiding user behavior, suggesting that nudges influence ephemeral posting primarily through direct behavioral effects rather than mediated psychological mechanisms.

1. INTRODUCTION

Instagram has evolved beyond its origins as a photo-sharing platform to become one of the most influential socio-technical ecosystems in contemporary digital life. With more than a billion active users, it plays a central role in shaping online identity, social interaction, and content consumption habits. Over the past few years, however, a notable behavioral shift has emerged, users are increasingly posting fewer permanent photos or videos on their profile grid (Jang et al., 2016). Instead, they rely more heavily on ephemeral formats such as Stories, Reels, and Close Friends, or use the Archive feature to hide older posts (Wibowo et al., 2024). While content creation on Instagram continues to grow overall, the decline of permanent profile posts raises compelling questions about how interface design influences user expression and behavior.

This shift is not merely a cultural trend; it represents a deeper transformation in how individuals manage their digital identities. Prior research has extensively examined motivations behind sharing on social media. Users are primarily motivated to disclose information because of the convenience of maintaining and developing relationships and platform enjoyment (Krasnova et al., 2010). Sharing stems from needs for connection, expression, and self-affirmation, amplified by permanent digital storage and broad audiences. Self-affirmation theory explains boosted self-esteem from positive posts, while social sharing frameworks highlight emotional events' resonance online. Platforms like BeReal counter strategic curation with spontaneous prompts to foster authenticity (Wang et al., 2023). Upward social comparisons, triggered by idealized posts on platforms like Instagram, predominate due to curated self-presentations highlighting success and attractiveness. Downward comparisons occur less frequently but can provide relief by emphasizing one's relative advantages. High social comparison orientation amplifies these processes, leading frequent users to engage more intensely (Ozimek et al., 2023). Yet, there is limited understanding of the decision not to post, and even less about how specific interface elements influence that withholding behavior.

* *Corresponding Author: Putu Dhanu Driya: dhanu.driya@undiksha.ac.id*

Instagram's design embeds numerous subtle nudges, such as the prominent placement of the Stories camera, frictionless editing tools, real-time viewer lists, and the high-visibility grid layout that highlights aesthetic consistency. These features may unintentionally nudge users toward favoring temporary, low risk sharing and discourage them from publishing permanent posts that contribute to their long-term online persona.

From a behavioral economics perspective, Instagram's interface may activate cognitive biases such as loss aversion (fear of negative evaluation), perfectionism bias, choice overload, and impression management concerns. The pressure to maintain a "clean," cohesive, or aesthetically curated profile grid can lead users to archive posts, reduce the frequency of permanent uploads, or opt for short-lived formats that offer immediate engagement without long-term scrutiny. As platforms continue to optimize for engagement, such nudges shape not only what users choose to share but also how they manage their identity, visibility, and emotional well-being online.

Understanding these design-driven behavioral patterns is increasingly urgent for several reasons. As social media platforms exert growing influence on personal expression and mental health. Platforms foster performative self-presentation, where users adapt content for likes and shares, often leading to inauthentic personas that amplify idealized traits. Authentic expression, however, correlates with higher life satisfaction and positive mood, as seen in studies prompting genuine posts over idealized ones. Gender differences emerge, with adolescent girls showing stronger links between self-presentation focus and reduced wellbeing (Aryal et al., 2025).The mechanisms driving posting behavior must be critically examined. If users feel pressured to self-censor or overly curate their digital identity due to interface design, this may contribute to anxiety, fear of judgment, and reduced authentic communication.

Social media companies are rapidly expanding ephemeral content features, yet there is inadequate academic evaluation of how these UI shifts affect long-term content visibility and archival culture. The decline of permanent posting affects platform algorithms, content distribution, user engagement strategies, and even digital memory practices (Register et al., 2023). Analyzes how platforms like Facebook evolved algorithms from click-based to time-spent and meaningful interactions, favoring ephemeral short-video feeds like TikTok's, which reduces original permanent sharing (Metzler & Garcia, 2024). From a UX and design ethics standpoint, understanding how nudges shape user decisions is essential for developing healthier and more transparent interface patterns (Kostick et al., 2020). As researchers and designers increasingly emphasize responsible technology, examining how subtle UI cues influence posting behavior is both timely and necessary.

This study aims to deepen understanding of how Instagram's interface design influences users' decisions to post less permanent content. Specifically, the research seeks to explore which interface features, such as the prominence of Stories, the ease of using the Archive function, the aesthetic pressure of the grid layout, and the visibility of engagement metrics, that shape users' hesitation toward publishing long-lasting posts. The study also investigates the cognitive and behavioral biases triggered by these design elements, including social comparison, loss aversion, perfectionism, and fear of negative evaluation. Furthermore, it examines how Instagram's growing emphasis on ephemeral formats redirects users away from permanent sharing and toward temporary content that feels safer and more flexible. Ultimately, this research aims to provide a design-oriented explanation of how Instagram's choice architecture shapes digital identity expression and to offer insights that can support UX practitioners and platform developers in creating healthier, more intentional interaction environments.

2. LITERATURE REVIEW

Social Media Content Sharing and Self-Presentation

Content sharing on social media is strongly shaped by self-presentation strategies and impression management, a 2024 study on adolescents' self-presentation practices influenced by social norms, showing how peer expectations shaped and authentic content sharing on

platforms like Instagram and Snapchat (Zillich & Wunderlich, 2024). Users often create their posts to maintain a desired public image, selectively revealing aspects of their identity while withholding others. A pertinent paper titled "Why We Disclose on Social Media? Towards a Dual-Pathway Model" (2025) explains that social media self-disclosure is motivated by building social capital but users balance what to reveal based on psychological and relational outcomes, maintaining selective control over their private information to craft favorable impressions. Another study, "Self-disclosure versus self-presentation on social media" (2020), addresses how the greater control and lack of nonverbal cues in online communication enable users to curate idealized versions of themselves, selectively sharing positive or identity-confirming content while withholding negative or undesired aspects (Bai et al., 2025). Research shows that the permanence of online content heightens concerns about social judgment, leading individuals to deliberate carefully before posting permanent material, "Neglecting Long-Term Risks: Self-Disclosure on Social Networking Services" finds that high self-disclosure in permanent posts correlates with a tendency to overlook enduring risks like social judgment, but users generally deliberate more carefully before posting due to fears of irreversible scrutiny and reputational harm (Ostendorf et al., 2020). This trend is closely related to the shift from "authentic sharing" toward more managed and aestheticized self-representation, particularly on platforms such as Instagram where visual presentation plays a central role. Studies have also observed that younger users increasingly prefer temporary or semi-private formats, such as Stories or Close Friends, to avoid the long-term visibility and perceived evaluative pressure associated with permanent posts.

Instagram's Interface and the Rise of Ephemeral Content

Instagram's introduction of Stories, Reels, Archive, and Close Friends has significantly changed user behavior. Stories, in particular, have become a dominant form of interaction due to their ease of posting, short-lived visibility, and immediate engagement feedback, (SQ Magazine): Reports Stories claim 26% of user time (second to Reels at 39%), with 86% completion and low 4.1% exit rates, driven by ease, immediate feedback via stickers/polls, and algorithmic prioritization fostering daily habits (Lee, 2025). The interface design of Stories, including its accessible placement at the top of the app and camera-first workflow, encourages spontaneous and frequent posting. Meanwhile, the grid-based profile layout emphasizes aesthetic coherence and permanence, increasing the perceived risk of posting content that might disrupt one's curated visual identity. Research suggests that these contrasting interface structures, ephemeral and permanent, create distinct psychological environments. While the grid invites strategic curation, the Stories interface supports low-commitment, low-risk content sharing, making it an appealing alternative for users concerned about self-presentation.

Digital Nudging and Choice Architecture in Social Media

Digital nudging refers to interface design strategies that subtly influence user decision-making without restricting choice (Yang, 2025). In social media platforms, these nudges appear through default settings, layout choices, visual prominence, interaction flows, and feedback mechanisms (Schneider & Weinmann, 2018). Instagram's UI embeds several nudges that steer behavior toward certain types of content engagement. The immediate availability of the camera for Stories, the simplified uploading process, and the reward structure of instant reactions function as nudges toward ephemeral posting. Conversely, the more deliberate steps required to publish a permanent post, combined with its lasting visibility, may nudge users away from posting to their grid. Studies on digital nudging highlight how choice architecture effectively shapes user behavior by amplifying cognitive shortcuts, emotional responses, and habitual patterns (Hummel & Maedche, 2019).

Cognitive Biases Influencing Posting Behavior

Cognitive biases play a significant role in shaping how users evaluate the risks and benefits of posting content online (Saygı & Saygı, 2023). Loss aversion, for instance, may cause users to avoid permanent posts due to potential negative feedback or the fear of being

judged (Bos et al., 2021). Social comparison bias is intensified by Instagram's highly curated environment, leading users to evaluate themselves against idealized profiles and become more selective about what they post (Le Blanc-Brillon et al., 2025). Perfectionism bias may also emerge as users strive to maintain a visually coherent profile grid, resulting in fewer permanent uploads and greater reliance on ephemeral content (Hjetland et al., 2022). Additionally, choice overload can occur when the platform offers numerous editing tools, filters, and posting options, increasing the cognitive effort required for decisions involving permanent posts. These biases collectively contribute to a pattern where users prefer temporary forms of expression.

The Shift Toward Minimalism and Digital Identity Curation

Recent research highlights a growing trend toward profile minimalism, where users intentionally reduce their visible posts, delete or archive older content, and maintain a cleaner and more professional online presence (Kain, 2025). This behavior is often associated with a desire for greater control over digital identity and a response to the pressure of algorithmic visibility. Instagram's Archive feature, which allows users to remove posts from their public profile without deleting them, plays a significant role in facilitating this trend. Scholars argue that tools enabling reversible decisions reduce the psychological cost of curating one's digital footprint, further encouraging selective posting behavior.

Gaps in Existing Research

While existing literature provides valuable insights into content sharing motivations, interface design strategies, and the role of cognitive biases, several gaps remain. Few studies specifically examine why users choose not to post permanent content, despite increasing evidence of declining profile activity. Moreover, limited research integrates the perspectives of UX design, digital nudging, and behavioral economics to explain this phenomenon. Most studies focus on general social media behavior rather than the detailed interaction patterns shaped by platform-specific interface features. As Instagram continues to shift toward ephemeral formats, a deeper understanding of how its interface design nudges users away from permanent posting is both timely and necessary.

3. CONCEPTUAL FRAMEWORK

The conceptual framework for this study integrates theories from digital nudging, cognitive biases, and self-presentation to explain how Instagram's interface design influences users' decisions to post less permanent content. The framework posits that Instagram's interface functions as a system of nudges that subtly shapes user behavior by altering perceptions of risk, effort, and identity management. These nudges interact with users' cognitive biases and self-presentation concerns, ultimately influencing their choice between permanent and ephemeral content.

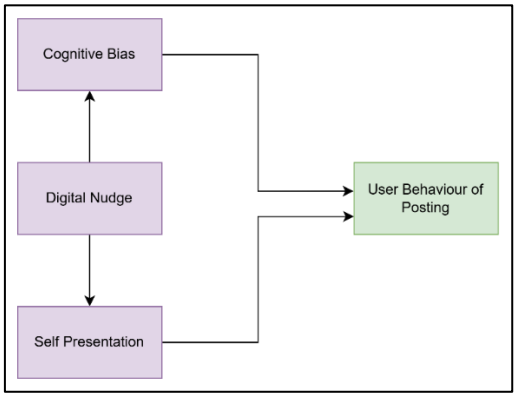


Figure 1. Conceptual Framework

At the core of the framework are Interface Design Nudges, which include the visual prominence of ephemeral features (such as Stories and Close Friends), the streamlined posting workflow for temporary content, the pressure created by the curated grid layout, and the visibility of metrics such as likes and views. These design elements represent forms of choice architecture that guide users toward certain behaviors without eliminating alternatives. In this context, the interface creates an environment where ephemeral posting feels easier, safer, and more socially adaptive compared to permanent sharing.

These nudging elements activate a set of Cognitive and Behavioral Biases that influence decision-making. Loss aversion is triggered when users consider the potential negative implications of a permanent post, including judgment or low engagement. Social comparison bias emerges as users evaluate their posts in relation to highly curated profiles, raising the threshold for what they deem post-worthy. Perfectionism bias intensifies this selective behavior, especially when users aim to maintain a cohesive and aesthetically pleasing profile grid. Additionally, choice overload may occur due to the numerous customization tools and posting options, increasing the cognitive burden associated with permanent posts. Together, these biases reduce users' willingness to commit to content that would persist on their profile.

The interplay between interface nudges and cognitive biases influences users' Self-Presentation Concerns, which include identity curation, impression management, and control over long-term visibility. When users perceive permanent posts as more vulnerable to scrutiny and more representative of their public identity, they may strategically choose ephemeral formats that minimize risk and offer greater flexibility. Instagram's interface reinforces this tendency by making temporary posts highly accessible and socially rewarding through features like reactions, stickers, and short-lived visibility.

Ultimately, the framework proposes that these combined forces lead to the Behavioral Outcome: a measurable decline in the frequency of permanent posts. Users shift toward using Stories, Reels, Close Friends, and the Archive features as alternative modes of sharing that better align with their cognitive predispositions and identity management goals. The outcome is not only behavioral but also psychological, contributing to new patterns of digital expression and profile minimalism.

In summary, the conceptual framework suggests that Interface Design Nudges (IV) influence Users' Cognitive Biases and Self-Presentation Concerns (Mediators), which in turn affect Permanent Posting Behavior (DV). The model highlights a multifaceted relationship where platform design shapes psychological processes, ultimately guiding users toward less permanent forms of content sharing.

4. METHOD

Research Design

This study adopts a quantitative, cross-sectional survey design to examine how interface design nudges influence Instagram users, specifically Generation Z, in their preference toward posting less permanent content such as Stories, Close Friends Stories, and disappearing messages. A survey-based approach is chosen because it allows efficient measurement of user perceptions, attitudes, and self-reported behavioral tendencies across a large sample, enabling statistical testing of relationships between interface cues, cognitive biases, and posting choices.

The study focuses on perceived exposure risk, self-presentation concerns, and interface cue salience as the main independent variables, with preference for impermanent content as the dependent variable. The population of interest is Gen Z users (born approximately between 1997–2012), as this group constitutes a large segment of Instagram's active user base and is particularly sensitive to privacy expectations, identity management, and ephemeral communication norms.

Research Questions and Hypotheses

In line with the research objectives, the study formulates the following guiding questions embedded within the methodological framework:

- RQ1: How does Instagram's interface design nudges influence Gen Z users' preference for ephemeral content over permanent feed posting?
- RQ2: To what extent do cognitive biases, such as loss aversion, fear of negative evaluation, and choice overload, mediate the relationship between interface design nudges and Gen Z users reduced permanent posting behavior?
- RQ3: Does self-presentation mediate the relationship between interface design nudges and Gen Z users' preference for ephemeral posting?
- RQ4: Between cognitive biases and self-presentation concerns, which mediator has a stronger influence in explaining why interface nudges encourage Gen Z users to avoid permanent feed posts?

Based on prior research on digital nudging and self-presentation theory, the following hypotheses are proposed:

- H1: Instagram's interface design nudges will positively predict Gen Z users' preference for ephemeral content over permanent feed posting.
- H2: Cognitive biases, such as loss aversion, fear of negative evaluation, and choice overload, will mediate the relationship between interface design nudges and reduced permanent posting behavior among Gen Z users.
- H3: Self-presentation concerns will mediate the relationship between interface design nudges and Gen Z users' preference for ephemeral posting.
- H4: The indirect effect through cognitive biases will be stronger than the indirect effect through self-presentation concerns in explaining why interface design nudges reduce permanent posting behavior.

Participants

The target participants for this study are Gen Z Instagram users, aged 18–28, residing in any region but with active and frequent Instagram usage defined as at least 3 days per week of engagement. A minimum recommended sample size of N = 100 will be used to ensure adequate statistical power for exploration factor analysis, correlation tests, and regression or mediation modeling.

Recruitment will be conducted via online channels such as university mailing lists, Instagram Stories, student groups, and personal networks. Participation is voluntary and anonymous.

Instrumentation

Data will be collected using a structured online questionnaire distributed through Google Forms. The survey consists of five sections:

- Demographics: age, gender, frequency of Instagram use.
- Independent Variable = Interface Nudges
- Mediators 1 = Cognitive Bias
- Mediators 2 = Self Presentation
- Dependent Variable V = Ephemeral Preference/Posting Behavior

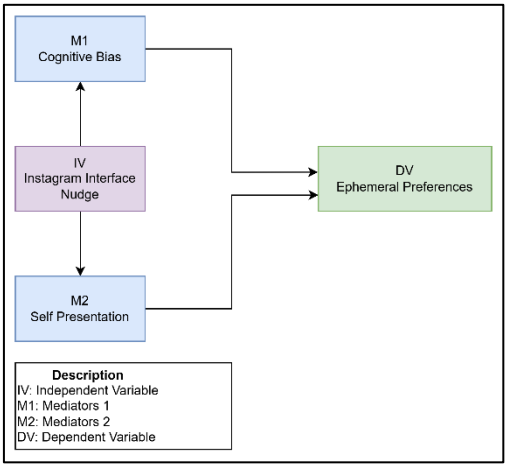


Figure 2. Research Instrument

All items will be adapted from validated scales where applicable or constructed following best practices in survey design. Pilot testing with 15 respondents will be performed to ensure clarity and reliability.

5. RESULT AND DISCUSSION

Reliability Test

The reliability analysis of the questionnaire was conducted to evaluate the internal consistency of the scales used in this study. Cronbach's alpha was computed for the independent variable, the mediators, and the dependent variable. The results indicate that most of the scales demonstrate acceptable reliability, providing confidence that the items within each construct consistently measure the intended concept. Internal consistency reliability of the measurement instruments was assessed using Cronbach's Alpha (α). Cronbach's Alpha evaluates the extent to which items within a construct consistently measure the same underlying concept. The coefficient is calculated using the following equation:

$$\alpha = \frac{k}{k-1}(1 - \frac{\sum \sigma_i^2}{\sigma_t^2})$$

The *k* represents the number of items in a scale, $\sigma_i^2$is the variance of each individual item, and $\sigma_t^2$is the total variance of the summed scale. A Cronbach's Alpha value of 0.60 or higher is considered acceptable for exploratory and behavioral research, while values above 0.70 indicate good internal consistency

Table 1. Cronbach's Alpha Results

No	Variable	Cronbach's Alpha	Interpretation
1	IV	0.656	Reliable
2	M1	0.719	Reliable
3	M2	0.621	Reliable
4	DV	0.742	Reliable

In this study, all constructs demonstrated acceptable internal consistency reliability. The Perceived Interface Design Nudges construct achieved a Cronbach's Alpha of 0.656, indicating adequate reliability for exploratory research. The Cognitive Biases mediator showed a Cronbach's Alpha of 0.719, reflecting good internal consistency among items capturing fear of negative evaluation, loss aversion, and choice overload. The Self-Presentation Concerns

mediator obtained a Cronbach's Alpha of 0.621, which remains acceptable given the multidimensional nature of impression management and identity curation. Finally, the Preference for Ephemeral/Reduced Permanent Posting construct demonstrated good reliability with a Cronbach's Alpha of 0.742.

These results indicate that the measurement items within each variable and mediator consistently represent their intended constructs. Consequently, the reliability of the instruments supports the robustness of subsequent analyses, including regression and parallel mediation testing, as measurement error is minimized across all variables.

For the independent variable, Perceived Interface Design Nudges, the Cronbach's alpha was 0.656. Although slightly below the commonly recommended threshold of 0.70, this value is considered moderate and acceptable for exploration research. The slightly lower reliability may be attributed to the diversity of the items capturing different aspects of interface design, such as visual prominence, shortcut placement, and prompts for ephemeral posting. Future studies may consider refining or expanding the items to improve the internal consistency of this construct.

The first mediator, Cognitive Biases, showed a Cronbach's alpha of 0.719, indicating acceptable internal consistency. This suggests that the items measuring loss aversion, fear of negative evaluation, perfectionism, and choice overload reliably capture the underlying cognitive tendencies of Gen Z users when interacting with Instagram's interface. This level of reliability provides confidence in using this scale for subsequent mediation analysis.

On the other hand, the second mediator, Self-Presentation Concerns, demonstrated a Cronbach's alpha of 0.621. While this is lower than the recommended threshold, it still indicates moderate reliability. The lower alpha may result from the variety of behaviors and concerns captured in this scale, such as identity curation, impression management, and aesthetic consistency. Despite this limitation, the scale is considered usable for exploration analysis, and the results should be interpreted with caution.

Finally, the dependent variable, Preference for Ephemeral Posting, achieved a Cronbach's alpha of 0.742, which exceeds the 0.70 threshold and indicates good reliability. This confirms that the items measuring users' preference for Stories or temporary content consistently reflect their behavior regarding permanent posting. Overall, reliability analysis supports the suitability of the questionnaire for further statistical analyses, including descriptive statistics, correlations, and parallel mediation.

Parallel Mediation Process Model 5 Result

The findings of this study provide insights into how Instagram interface design nudges influence Gen Z users' posting behavior and the psychological mechanisms underlying it. The results showed that perceived interface nudges significantly predicted both cognitive biases (M1; b = 0.903, p = 0.047) and self-presentation concerns (M2; b = 0.807, p = 0.039). This indicates that users who perceive stronger nudges, such as prominent Stories features, visual cues, and shortcut placements, are more likely to experience hesitation, fear of negative evaluation, and concerns about maintaining a curated profile. These findings align with previous research on behavioral economics and UX design, suggesting that subtle interface cues can activate cognitive and social considerations that influence user behavior.

Regarding the direct effects on posting behavior, the analysis revealed a significant direct effect of perceived nudges on preference for ephemeral posting (DV; b = 0.060, p = 0.031). This suggests that interface nudges increase the likelihood of users posting ephemeral content, such as Stories, independently of the mediators. In other words, the design of the platform can directly encourage temporary content sharing, even if users' cognitive biases or self-presentation concerns do not fully translate into behavioral changes.

Table 2. Path Coefficients from IV to Mediators (a-paths)

Mediator	Coefficient (a)	p-value

M1_Total	0.9028	0.04686
M2_Total	0.8069	0.03937

Although the a-paths (IV → mediators) were significant, the b-paths (mediators → DV) were only marginally significant, cognitive biases (b = 0.077, p = 0.057) and self-presentation concerns (b = 0.046, p = 0.066). Consequently, the bootstrapped indirect effects for both mediators were not significant (M1: 0.002, 95% CI [-0.024, 0.019]; M2: 0.000, 95% CI [-0.017, 0.024]), and the total indirect effect was also non-significant (0.002, 95% CI [-0.028, 0.030]). These results indicate that while nudges do increase cognitive and self-presentation concerns, these psychological factors do not significantly mediate the relationship between nudges and ephemeral posting. In other words, the influence of interface design on temporary posting behavior occurs primarily through a direct effect, rather than being strongly channeled through the measured mediators.

Table 3. Direct Effects of IV and Mediators on Dependent Variable (b and c' paths)

Predictor	Coefficient (b/c')	p-value
IV_Total	0.0599	0.0308
M1_Total	0.0766	0.0567
M2_Total	0.0464	0.066

This pattern of findings has several theoretical and practical implications. From a theoretical perspective, it suggests that interface design nudges can directly shape user behavior, while the cognitive and social mechanisms, although activated, may not always translate into observable posting changes. Practically, this highlights the power of UI design in guiding ephemeral content sharing: social media platforms can leverage visually salient features and shortcuts to encourage temporary posting, without necessarily relying on users' cognitive or self-presentation concerns to drive behavior.

This study contributes to theory development by demonstrating that interface design nudges exert a direct influence on user behavior that is not fully explained by cognitive biases or self-presentation concerns. The dominance of the direct effect aligns closely with nudging theory, particularly the concept of choice architecture, which posits that the structure and presentation of options can shape behavior independently of conscious deliberation (Thaler, 2018). From a nudging perspective, the findings suggest that interface elements such as visual salience, shortcut prioritization, and default interaction paths function as non-deliberative behavioral cues. Users are guided toward ephemeral posting not because they explicitly evaluate risks or identity concerns, but because the interface reduces friction and normalizes temporary sharing as the default action. This supports recent extensions of nudging theory into digital environments, where behavioral influence occurs through interaction design rather than explicit persuasion.

In the context of HCI and UX theory, the results reinforce the notion that interfaces are not neutral mediators of user intent but active behavioral systems. The persistence of a significant direct effect, even when mediators are included, resonates with work on habitual interaction, attention steering, and micro-level design affordances in human–computer interaction. These perspectives argue that repeated exposure to interface layouts and interaction shortcuts can produce automatic behavioral responses that bypass higher-level cognitive processing.

Furthermore, the relatively weak mediating effects observed in this study suggest that traditional psychological explanations, such as fear of negative evaluation or impression management, may be secondary to interface-level determinants in platform-mediated behavior. This finding extends existing UX literature by highlighting that design-induced

defaults and affordances can outweigh individual cognitive differences, especially among digitally native users such as Gen Z.

Given that the mediators were not significant despite strong a-paths, other psychological factors, such as social norms, peer influence, habit formation, or perceived privacy risks, may play a more important role in mediating the effect of nudges on posting behavior. Additionally, examining different user populations or longitudinal designs may clarify how interface nudges shape posting habits over time.

Table 4. Bootstrapped Indirect Effects of IV on DV through Mediators

Mediator	Indirect Effect	BootLLCI	BootULCI
M1_Total	0.0021	-0.0244	0.0192
M2_Total	0.0003	-0.0165	0.0236
TOTAL	0.0018	-0.0276	0.0295

RQ1: How does Instagram's interface design nudges influence Gen Z users' preference for ephemeral content over permanent feed posting?

The results indicate that Instagram's interface design nudges significantly influence Gen Z users' preference for ephemeral content through a direct effect. The analysis showed that the direct effect of perceived nudges on ephemeral posting was significant (b = 0.060, p = 0.031). This suggests that visually prominent Stories features, shortcuts, and visual cues directly encourage users to post temporary content instead of permanent feed posts. Users are more likely to choose ephemeral options because the interface design makes them more salient and convenient, highlighting the power of nudges in shaping user behavior independently of psychological mediators.

RQ2: To what extent do cognitive biases, such as loss aversion, fear of negative evaluation, and choice overload, mediate the relationship between interface design nudges and Gen Z users' reduced permanent posting behavior?

Although perceived interface nudges significantly predicted cognitive biases (M1; b = 0.903, p = 0.047), the mediating effect of cognitive biases on ephemeral posting was not significant (indirect effect = 0.0021, 95% CI [-0.0244, 0.0192]). This suggests that while nudges increase cognitive biases, such as hesitation, fear of judgment, or decision overload, these biases do not meaningfully translate into reduced permanent posting in this sample. Therefore, cognitive biases do not serve as a significant pathway through which interface nudges affect ephemeral posting behavior.

RQ3: Does self-presentation mediate the relationship between interface design nudges and Gen Z users' preference for ephemeral posting?

Similarly, perceived nudges significantly predicted self-presentation concerns (M2; b = 0.807, p = 0.039), yet the indirect effect through self-presentation concerns was non-significant (indirect effect = 0.0003, 95% CI [-0.0165, 0.0236]). This indicates that although nudges increase users' concerns about maintaining a curated profile or managing impressions, self-presentation concerns do not significantly mediate the relationship between nudges and ephemeral posting. Users' preference for Stories appears to occur primarily due to the direct salience and convenience of the UI rather than through self-presentation motivations.

RQ4: Between cognitive biases and self-presentation concerns, which mediator has a stronger influence in explaining why interface nudges encourage Gen Z users to avoid permanent feed posts?

Comparing the two mediators, cognitive biases had a slightly higher indirect effect (0.0021) than self-presentation concerns (0.0003), but neither was statistically significant. This

indicates that neither mediator has a meaningful explanatory role in this relationship in the current sample. While nudges do activate these psychological mechanisms, they do not substantially account for users' reduced permanent posting behavior. The findings suggest that the direct impact of interface nudges is more influential than the mediated pathways.

Practical Implications for UX Design

While prior discussion highlights the role of interface design nudges in shaping users' posting behavior, the findings of this study allow for a more concrete identification of specific interface elements that influence Gen Z users' preference for ephemeral over permanent content. The visual salience and placement of the Stories interface, particularly the persistent camera shortcut and the Stories bar at the top of the home screen, function as strong behavioral cues that lower the effort required to post ephemeral content. The prominence of these elements appears to normalize temporary sharing while implicitly positioning permanent feed posting as a more deliberate and higher-risk action. Shortcut prioritization plays a critical role. The ease of accessing Stories through one-tap camera entry, compared to the multi-step process required for permanent feed posting, encourages users to select the path of least resistance. This design choice subtly nudges users toward ephemeral posting without explicitly restricting permanent content creation.

Visual framing of the profile grid contributes to heightened self-presentation concerns. The fixed, publicly visible nature of the profile layout encourages users to treat permanent posts as part of a curated identity, increasing hesitation and perfectionism. This contrasts with Stories, which are visually and temporally detached from the profile grid, reducing perceived long-term consequences. Fourth, temporal cues and ephemerality indicators, such as countdown timers, fading Story rings, and disappearance messages, reduce perceived exposure risk. These elements appear to mitigate cognitive biases related to loss aversion and fear of future judgment by signaling impermanence and limited audience persistence.

Collectively, these findings suggest that UX designers do not merely provide neutral tools for content creation but actively shape user behavior through visibility, accessibility, and perceived permanence. Designers aiming to encourage more balanced content ecosystems may consider adjusting shortcut symmetry, reducing visual hierarchy favoring ephemeral content, or offering greater control and reassurance for permanent posts, such as preview expiration options or audience-limited feed posts.

Hypotheses Testing Results

The results indicate that H1 is supported, demonstrating that Instagram's interface design nudges directly influence Gen Z users' preference for ephemeral content over permanent feed posts. This supports the idea that UI elements such as prominent Stories features, shortcuts, and visual cues can guide behavior independently of psychological mediators. Users respond to the interface itself, reflecting the power of nudges in digital environments.

Table 5. Hypotheses Testing Results

Hypothesis	Description	Result	Significance	Conclusion
H1	Instagram's interface design nudges will positively predict Gen Z users' preference for ephemeral content over permanent feed posting.	b = 0.0599	p = 0.0308	Supported
H2	Cognitive biases will mediate the relationship between interface design nudges and reduced permanent posting behavior.	Indirect effect = 0.0021	95% CI [-0.0244, 0.0192]	Not Supported

Hypothesis	Description	Result	Significance	Conclusion
H3	Self-presentation concerns will mediate the relationship between interface design nudges and ephemeral posting.	Indirect effect = 0.0003	95% CI [-0.0165, 0.0236]	Not Supported
H4	The indirect effect through cognitive biases will be stronger than through self-presentation concerns in explaining why interface nudges reduce permanent posting.	Cognitive bias: 0.0021 Self-presentation: 0.0003	Neither significant	Not Supported

However, H2 and H3 were not supported. Although perceived nudges significantly predicted cognitive biases (H2) and self-presentation concerns (H3), the indirect effects were not significant. This suggests that while nudges activate users' cognitive biases (e.g., loss aversion, fear of negative evaluation) and social considerations (e.g., profile curation), these factors do not meaningfully explain the increase in ephemeral posting. Essentially, the influence of interface design on posting behavior occurs directly, rather than through the mediating psychological processes measured in this study.

Regarding H4, the comparison between mediators shows that cognitive biases had a slightly higher indirect effect than self-presentation concerns, but neither effect was significant. Therefore, it is not possible to conclude that one mediator is stronger than the other in explaining the relationship between nudges and ephemeral posting behavior.

Overall, these findings highlight the dominant role of interface design itself in guiding user behavior on social media platforms. While psychological factors such as cognitive biases and self-presentation are affected by nudges, they do not appear to be the primary pathways through which ephemeral posting is encouraged. These results emphasize the effectiveness of UI nudges in shaping behavior directly, reinforcing the importance of thoughtful interface design in promoting desired user actions.

6. CONCLUSION

This study examined how Instagram interface design nudges influence Gen Z users' preference for ephemeral content over permanent feed posts, and whether cognitive biases and self-presentation concerns mediate this relationship. The findings provide several important insights.

First, the results confirm that Instagram's interface design nudges directly encourage ephemeral posting. Features such as prominent Stories buttons, shortcuts, visual cues, and prompts make temporary content sharing more salient and convenient, increasing the likelihood that users choose Stories over permanent feed posts. This supports the hypothesis that interface design can guide user behavior independently of psychological mediators. Although perceived nudges significantly predicted cognitive biases (e.g., loss aversion, fear of negative evaluation, choice overload) and self-presentation concerns, neither of these mediators significantly explained the effect of nudges on ephemeral posting. The bootstrapped indirect effects were non-significant, indicating that the psychological processes activated by nudges do not meaningfully translate into changes in permanent posting behavior in this sample. Moreover, no mediator was stronger than the other in explaining posting preferences, suggesting that the direct effect of interface nudges dominates the behavioral outcome.

These findings have both theoretical and practical implications. Theoretically, they reinforce the notion that digital nudges can shape behavior directly, highlighting the importance of interface salience and usability in influencing user decisions. Practically, the results suggest that social media designers can encourage ephemeral content sharing by carefully designing

UI elements, without necessarily relying on users' cognitive biases or self-presentation concerns.

Despite the theoretical and empirical contributions of this study, several limitations should be acknowledged. First, the use of a cross-sectional survey design limits the ability to draw strong causal conclusions. Although the results demonstrate statistically significant relationships between perceived interface design nudges and posting behavior, the findings should be interpreted as associative rather than strictly causal.

The observed effects reflect how users' perceptions of interface elements are related to their reported posting preferences at a single point in time. Consequently, while the analysis is theoretically grounded in nudging and HCI/UX literature, it cannot definitively establish that interface design nudges cause reduced permanent posting behavior. Reciprocal or unobserved factors, such as prior posting habits or platform norms, may also contribute to the observed associations.

Future research could address this limitation by employing experimental or longitudinal designs, such as interface manipulation experiments, A/B testing, or time-based observation of posting behavior, to more directly test causal mechanisms. Such approaches would allow researchers to isolate the effects of specific interface elements and examine how nudges influence user behavior over time.

In conclusion, this study demonstrates that Instagram interface design nudges are effective tools for promoting ephemeral content among Gen Z users, primarily through direct behavioral influence rather than mediated psychological mechanisms. Understanding this relationship provides valuable guidance for both UX designers and behavioral researchers seeking to optimize social media engagement.

7. REFERENCES

Aryal, R., Hjetland, G. J., Haug, E., Samdal, O., & Skogen, J. C. (2025). Online Personas: Associations Between Focus on Self-Presentation and Social Comparison on Social Media and Mental Well-Being in Early Adolescence. *International Journal of Public Health* , *70*(April), 1–9. https://doi.org/10.3389/ijph.2025.1608425

Bai, Q., Dan, Q., Choi, Y., & Luo, S. (2025). Why We Disclose on Social Media? Towards a Dual-Pathway Model. *Behavioral Sciences*, *15*(4), 1–19. https://doi.org/10.3390/bs15040547

Bos, D. J., Barnes, E. D., Silver, B. M., Ajodan, E. L., Clark-Whitney, E., Scult, M. A., Power, J. D., & Jones, R. M. (2021). An effort-based social feedback paradigm reveals aversion to popularity in socially anxious participants and increased motivation in adolescents. *PLoS ONE*, *16*(4 April 2021), 1–16. https://doi.org/10.1371/journal.pone.0249326

Hjetland, G. J., Finserås, T. R., Sivertsen, B., Colman, I., Hella, R. T., & Skogen, J. C. (2022). Focus on Self-Presentation on Social Media across Sociodemographic Variables, Lifestyles, and Personalities: A Cross-Sectional Study. *International Journal of Environmental Research and Public Health*, *19*(17). https://doi.org/10.3390/ijerph191711133

Hummel, D., & Maedche, A. (2019). How effective is nudging? A quantitative review on the effect sizes and limits of empirical nudging studies. *Journal of Behavioral and Experimental Economics* , *80*(February), 47–58. https://doi.org/10.1016/j.socec.2019.03.005

Jang, J. Y., Han, K., Lee, D., Jia, H., & Shih, P. C. (2016). Teens engage more with fewer photos: Temporal and comparative analysis on behaviors in Instagram. *HT 2016 - Proceedings of the 27th ACM Conference on Hypertext and Social Media*, 71–81. https://doi.org/10.1145/2914586.2914602

Kain, K. (2025). Visual Storytelling in the Digital Age: Analyzing the Evolution of Minimalist Design Principles in Social Media Campaigns. *International Journal For Multidisciplinary Research*, *7*(3), 1–10. https://doi.org/10.36948/ijfmr.2025.v07i03.49001

Kostick, K. M., Trejo, M., Volk, R. J., Estep, J. D., & Blumenthal-Barby, J. S. (2020). Using Nudges to Enhance Clinicians' Implementation of Shared Decision Making With Patient Decision Aids. *MDM Policy and Practice*, *5*(1), 1–13. https://doi.org/10.1177/2381468320915906

Krasnova, H., Spiekermann, S., Koroleva, K., & Hildebrand, T. (2010). Online social networks: Why we disclose. *Journal of Information Technology*, *25*(2), 109–125. https://doi.org/10.1057/jit.2010.6

Le Blanc-Brillon, J., Fortin, J. S., Lafrance, L., & Hétu, S. (2025). The associations between social comparison on social media and young adults' mental health. *Frontiers in Psychology*, *16*(August).

https://doi.org/10.3389/fpsyg.2025.1597241

Lee, R. A. (2025, October 1). *Instagram Statistics 2025: User Behavior, Engagement, and Trends*. SQ Magazine. https://sqmagazine.co.uk/instagram-statistics/

Metzler, H., & Garcia, D. (2024). Social Drivers and Algorithmic Mechanisms on Digital Media. *Perspectives on Psychological Science*, *19*(5), 735–748. https://doi.org/10.1177/17456916231185057

Ostendorf, S., Müller, S. M., & Brand, M. (2020). Neglecting Long-Term Risks: Self-Disclosure on Social Media and Its Relation to Individual Decision-Making Tendencies and Problematic Social-Networks-Use. *Frontiers in Psychology*, *11*(October), 1–17. https://doi.org/10.3389/fpsyg.2020.543388

Ozimek, P., Brandenberg, G., Rohmann, E., & Bierhoff, H. W. (2023). The Impact of Social Comparisons More Related to Ability vs. More Related to Opinion on Well-Being: An Instagram Study. *Behavioral Sciences*, *13*(10), 1–18. https://doi.org/10.3390/bs13100850

Register, Y., Qin, L., Baughan, A., & Spiro, E. S. (2023). Attached to "The Algorithm": Making Sense of Algorithmic Precarity on Instagram. *Conference on Human Factors in Computing Systems - Proceedings*. https://doi.org/10.1145/3544548.3581257

Saygı, I., & Saygı, Y. B. (2023). The Impact of Cognitive Biases on User Decision Making in Human-Computer Interaction: A Review of the Literature. In *Birol Saygı 69 EURAS-Journal of Engineering and Applied Sciences* (Vol. 3).

Schneider, C., & Weinmann, M. (2018). Digital Nudging - Influencing Choices by Using Interface Design. *Communications of the ACM*, *61*(7), 67–73.

Thaler, R. H. (2018). From cashews to nudges: The evolution of behavioral economics. *American Economic Review*, *108*(6), 1265–1287. https://doi.org/10.1257/aer.108.6.1265

Wang, Q., Khuu, A., & Jivotovski, M. (2023). The self online: When meaning-making is outsourced to the cyber audience. *PLoS ONE*, *18*(12 December), 1–19. https://doi.org/10.1371/journal.pone.0294990

Wibowo, M. C., Purnomo, H. D., Hartomo, K. D., & Sembiring, I. (2024). Aesthetic Photography Analysis on Instagram: A Visual Study of Social Media using ATLAS.ti. *Scientific Journal of Informatics*, *11*(4), 1057–1072. https://doi.org/10.15294/sji.v11i4.13985

Yang, J. (2025). Status Quo Bias with Choice Overload. *Games and Economic Behavior*, *149*, 170–186. https://doi.org/https://doi.org/10.1016/j.geb.2024.11.012.

Zillich, A. F., & Wunderlich, A. (2024). The Impact of Social Norms on Adolescents' Self-Presentation Practices on Social Media. *Social Media and Society*, *10*(4). https://doi.org/10.1177/20563051241299829