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Artificial intelligence and Digital Social Pressure: Exploring the Influence of AI-Generated Content on Self -Esteem, social Identity and Psychological Adjustment

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ABSTRACT

The present study examined the influence of Artificial Intelligence (AI)-generated content on digital social pressure and its implications for self-esteem, social identity, and psychological adjustment. With the rapid development of generative AI technologies and their increasing integration into social media platforms, individuals are frequently exposed to artificially enhanced images, videos, digital influencers, and idealized representations that may influence their personal evaluations and social expectations. The study adopted a quantitative research approach using a cross-sectional survey design, with primary data collected from 385 respondents in Pakistan, including university students, young adults, and active social media users exposed to AI-generated content. Data were collected through a self-administered Google Forms questionnaire using adopted and adapted measurement scales, while convenience sampling was employed to recruit participants from different regions of Pakistan. Statistical analysis was conducted using SPSS, including descriptive statistics, demographic analysis, reliability assessment, Pearson correlation, regression analysis, and mediation analysis with 5,000 bootstrap resamples to examine the mediating role of digital social pressure. The findings revealed that digital social pressure had a significant negative relationship with psychological adjustment ($\beta = -0.524$, $p < 0.001$), explaining 27.5% of the variance in psychological adjustment ($R^2 = 0.275$). Furthermore, the mediation analysis demonstrated that AI-generated content positively influenced digital social pressure (B = 0.684), while digital social pressure negatively influenced psychological adjustment (B = -0.421). The indirect effect was negative and statistically significant (B = -0.288, 95% Boot CI [-0.372, -0.211]), whereas the direct effect remained positive and significant (B = 0.312), indicating partial mediation. These findings emphasize that digital social pressure represents an important mechanism through which AI-generated content may influence individuals' psychological adjustment. The study is significant because it extends the understanding of the psychological and social consequences of emerging AI technologies by connecting digital content exposure with social comparison, personal evaluation, and psychological experiences. It also highlights the importance of self-esteem and social identity in understanding how individuals respond to increasingly artificial digital environments. The findings further suggest that digital literacy, critical evaluation of AI-generated representations, and responsible content creation are essential for reducing unrealistic social expectations and promoting healthier online interactions. Educational institutions, policymakers, and social media platforms may benefit from these insights when developing strategies to encourage responsible AI use and protect users from harmful digital social pressures. Future research may extend this investigation through longitudinal and comparative designs to examine the long-term psychological consequences of AI-generated content across different demographic and cultural groups.

Introduction

Artificial Intelligence-Generated Content and Digital Social Pressure

Artificial Intelligence (AI) has become an important part of the digital world, influencing how people create, share, view, and understand content on social media platforms. With the support of AI technologies such as image generation systems, automated video generation and conversational AI, the user can create highly realistic images, videos, written content, and digitally manipulated representations of everyday life. The evolution of these has altered the way people interact online, creating new and more sophisticated forms of online content that may not accurately reflect people's actual experience, appearance, accomplishments or life. This consequently leads to users often being confronted by idealized representations of digital media, which can shape their ideas of social norms and personal values. The ever-increasing amount of such content has led to a greater sense of social comparison, specifically in regard to appearance, skills, accomplishments, and lifestyles when comparing to digitally enhanced representations (Bekkar et al., 2025).

Digital social pressure involves psychological and social pressures felt when using digital platforms, especially when it is felt that it is important to present oneself as attractive and desirable, follow trends, gain social approval and fit into perceived standards of acceptability. The pressures created by AI-generated content can be further exacerbated by digitally produced images, professionally enhanced looks, fake bloggers and influencers, and the content tailored to individual users by algorithms, which in turn can set higher standards for them. The pressures of AI generated content can be heightened by digitally produced images, professionally enhanced looks, fake bloggers and influencers, and algorithmically personalized content, which can set higher expectations for the people who produce it. People who repeatedly face such portrayals could feel compelled to change their behavior, speech, and daily life and their online self to fit into digital communities. Social media can also reinforce these expectations through likes, comments, followers, and engagement metrics, increasing the visibility and measurability of social approval. Past studies have shown that social comparison with others online and viewing idealized content on social media can lead to negative self-evaluation and psychological issues (Voinea, 2026).

As a result, a new dimension of digital social pressure has emerged, as social media are becoming more and more "artificial" and people are forced to understand the authenticity and social connotation of the more and more artificial representations (Singhal et al., 2026). In contrast to traditional social media posts, AI-generated content can offer highly idealized and fabricated depictions of sexiness, career success, relationships, and lifestyle, making it hard for users to tell the difference between what's real and what's been manipulated. Excessive exposure to these kinds of material can shape a person's notions about himself or herself and others, especially if he or she relies heavily on the feedback and social recognition they receive online. Moreover, the impact of digital social pressure may vary from person to person, based on their self-confidence, sense of belonging and critical interpretation of information online. AI-generated content is not just a technological advancement, but also a new social influence that could impact on people's perceptions, relationships and psychological experiences in today's digital world (OKACHA, 2026).

Self-Esteem and Social Identity in AI-Driven Digital Environments

Self-esteem is a person's general self-assessment of their self-worth, capabilities, attractiveness and value as a citizen of society. It is a statement of one's self-concept and affects one's self-esteem, emotional control, social interaction, and reaction to social judgement. In the digital space, self-esteem can be affected by ongoing social comparisons, feedback from others online, and idealized images of others. Images and videos that are generated by AI may pose other challenges since they can set unrealistic expectations for physical looks, career and work success, social popularity, and personal achievement. People who compare their real life to these photo-enhanced images may experience feelings of self-inadequacy, dissatisfaction and decreased self-confidence. Social comparison theory suggests people often compare themselves to other people and things in their social world to determine how they are doing and for which things they are doing well or not (Jawad et al., 2024).

AI-generated content is especially relevant to self-esteem as it can create extremely appealing and meticulously crafted digital images that impact the individual's and society's notion of self and social standards. Exposure to digitally altered appearances, AI-generated influencers and idealized lifestyles can lead people to compare their physical look and capabilities to their ideals. These comparisons might have a negative effect on body satisfaction, personal confidence and self-worth, particularly regarding the user's perception of the body image as a realistic model of social acceptance. Studies of social media influencers and digitally altered photographs have shown that such comparison and idealization of one's image can be linked with decrease in self-esteem and negative self-evaluations (Fitzsimons et al., 2025).

Social identity is a sense of self that is constructed through participation in social groups, communities, networks and the emotions related to these relationships. The process of social identity is being formed on the basis of online communities, Internet connections, social media, and the presentation of personal traits to others in the digital space. People often add themselves to specific lifestyles, groups, professions, and social movements and create a sense of belonging and recognition for themselves. AI-generated content can affect this process by shaping new digital trends, idealized representations of groups and creating social personalities, which help to inform users of what group conduct is acceptable and which conduct is not. As a result, people might feel compelled to alter their online presence to fit the norms or to prevent being rejected as part of a social group in shape of a community. This often leads to people trying to adjust their online personalities to be accepted by others, not excluded from a group, and recognized in digital communities. Social identity theory focuses on the role of group membership and social categorization in self-definition, social interaction and perceptions of group membership (Jamil, 2026).

Psychological Adjustment and Relationships Among the Study Variables

Psychological adjustment is an ability to keep emotions in check, handle psychological stressors and adapt to the social environment, and to react in an appropriate manner to personal and environmental demands. It encompasses emotional wellbeing, psychological resilience, self-acceptance, coping skills and the ability to keep healthy interpersonal relationships. In today's digital context, psychological adaptation can be shaped by the characteristics of experiences in the digital world, such as comparing oneself with others, feeling a pressure to live up to others' expectations, feeling excluded from the digital world, and feeling pressured to maintain an idealized online identity. When people come across disconnects between their true self and the ideal image promoted by artificial intelligence, they may face problems. These experiences can lead to emotional instability, feelings of anxiety, uncertainty of identity and challenges with positive self-perceptions. Psychological adjustment, therefore, is an important aspect of the psychological response to the social and psychological shifts that are occurring with the advent of artificial intelligence and digital communication (Schwartz-Mette et al., 2020).

Social comparison and personal evaluation are two processes that can help explain the connection between AI-generated content, self-esteem and psychological adjustment. People often see images that are manipulated, idealized lives and digitally created successes and may make comparisons with these images that they cannot realistically attain. Comparisons can dampen positive self-evaluations, decrease self-confidence, and contribute to feelings of poorer self-attributes and abilities. Decreased self-esteem could then hinder the ability of the individual to adjust to social expectations, control negative emotions or achieve emotional balance. In the same way, people who have higher levels of self-esteem might better be able to assess the digital depictions and not let the online expectations of the self shape their own self-image. Previous studies have found the psychological impacts of digital exposure to be partly based on how online information is interpreted and evaluated, with meaningful relationships found between social media comparison, self-esteem, body image and psychological well-being (Ellis et al., 2020).

Moreover, psychological adjustment could also mediate the relationship between AI-generated content and social identity formation and perceived social acceptance. People that interact with AI-generated digital representations often feel the stress to conform to specific online communities, social circles, and digital trends. If their true identity conflicts with these perceived expectations, they may find themselves in situations of identity crisis, loss of social confidence and lack of a sense of belonging. These experiences can have a negative impact on the psychological adjustment, such as negative emotional security, interpersonal relationships and satisfaction with social participation. However, digital environments can be places where positive identity development, creative expression, social support and participation in community can occur; thus, the relationship can be a negative one for some people but positive for others. Thus, the potential psychological issues as well as social implications of the new communication contexts brought by AI should be analysed in relation to self-esteem, social identity and psychological adjustment (Matos-Ramírez et al., 2024).

Research Objectives

- To examine the impact of AI-generated content on digital social pressure, self-esteem, and social identity.
- To investigate the relationship between digital social pressure and psychological adjustment.
- To examine the mediating role of digital social pressure in the relationship between AI-generated content and psychological adjustment.

Research Questions

1. What is the impact of AI-generated content on digital social pressure, self-esteem, and social identity?
2. What is the relationship between digital social pressure and psychological adjustment?
3. Does digital social pressure mediate the relationship between AI-generated content and psychological adjustment?

Problem Statement

Since the advent of artificial intelligence, digital communication has been changed to the production of very realistic images, videos, advertisements and digitally enhanced social representations. While AI-generated content offers creative avenues, opportunities for information sharing, and engagement on digital platforms, it can also foster new types of digital social pressures, such as unrealistic expectations about physical appearance, personal accomplishments, lifestyles, and social acceptance. Prolonged exposure to idealized digital images can lead to over-identification with idealized standards that can affect self-esteem, social identity and psychological adaptation (Al-Obaydi et al., 2026). More recently, it has been shown that social comparison processes can impact self-confidence and perceptions of self-identity, as a result of interactions with generative AI (Arkhipova et al., 2024). Although there is increasing evidence on the use of social media, self-presentation, and psychological well-being, the specific effect of the use of AI generated content and social pressures on individual self-esteem, social identity and psychological adjustment is still insufficiently understood, especially in the context of Pakistan. Furthermore, there has not been much research into how exposure to AI-generated content is associated with psychological adjustment and whether such association is mediated by digital social pressure. This study seeks to explore how AI generated content affects digital social pressure, self-esteem and social identity, as well as the association between digital social pressure and psychological adjustment and its possible mediating role.

Significance of the Study

This study is significant because it provides an understanding of the emerging psychological and social consequences of AI-generated content in contemporary digital environments. It highlights how exposure to artificially created images, videos, and digital representations may influence individuals' self-esteem, social identity, and psychological adjustment through increasing digital social pressure. The findings will contribute to the existing literature on artificial intelligence, digital communication, and psychological well-being by explaining the role of digital social pressure in shaping individuals' online and offline experiences. Furthermore, the study will provide useful insights for university students, social media users, educators, psychologists, and digital platform developers regarding the importance of digital awareness, healthy online engagement, and critical evaluation of AI-generated content. The research will also be valuable in the Pakistani context by highlighting the need to understand the psychological experiences of individuals who regularly interact with AI-generated content and by providing a foundation for future research, educational initiatives, and strategies to promote healthier digital environments.

Literature Review

AI-Generated Content, Digital Social Pressure, and Individual Self-Evaluation

With the invention of artificial intelligence came new aspects of digital communication where images, videos, advertisements, and digitally altered representations of people can be created. As more such content has become available, the definition of personal appearance, accomplishments and lifestyle has transformed amongst social media users. Özkan et al. (2025) conducted quantitative research with 600 school students in Punjab, Pakistan, investigating the impact of AI-generated images on self-esteem and body image in this context of social comparison. Their study took into account the impact of being exposed to artificial images on satisfaction with one's body and sense of self-evaluation. Likewise, Henry et al. (2026) investigated the relationship between use of social media, social comparison and self-esteem and found that those who engaged in social comparison might have more negative self-evaluations. The results indicate that viewing the idealized digital representations can generate further pressure to conform to unrealistic social expectations.

Social media can cause some degree of digital social pressure because the posts that individuals see on social media often include social norms and expectations for attractiveness and popularity, success, and social acceptance. Taylor and Kerwin (2024) used an experimental design to explore the effect of social comparisons on Instagram and their correlation with self-esteem and body-esteem. They found that upward social comparison led to a decrease in body-esteem while downward comparison led to increases in some self-evaluation measures. In addition, Meier and Johnson (2023) conducted a meta-analysis of 48 studies that included 7,679 participants and showed a negative effect between upward social comparison on social media and self-evaluation and

emotional experiences. The results suggest that it is not only exposure to digital contents that shapes the impact of digital content on psychology but also the comparisons made by the individual with the entities presented online.

Other aspects of people's experience in AI-enabled digital environments are self-esteem and social identity. To investigate the connection between social media use and identity formation, Avci, Rahardja et al., (2022) undertook a systematic review of 32 studies with 19,658 adolescents. Their results showed that different factors of the identity development process, such as self-concept clarity and identity distress, were found to be linked to the active participation, authenticity and social comparison. In yet another review, studied empirical studies on the development of identity through social media and found four factors self-presentation, social comparison, role modeling, and online audiences – to be important for identity construction.

Digital Social Pressure and Psychological Adjustment

Psychological adjustment is a key factor in personal wellbeing as it indicates how well a person can cope emotionally, cope with social demands, and have psychological resilience to cope in a changing environment. When there is a constant pressure on people to keep their online profiles appealing, gain social status and endorse the social trends that are idealized online, digital social pressure can play a part in this adjustment. Wolfers and Utz (2023) discussed the research on the relationship between social media and stress coping, noting that social media has the potential to both be a source of stress and a source of social support and coping. During their review they stressed that the impact of social media on psychology is a function of the manner in which digital platforms are used and how individuals interact with their digital experiences. Likewise, Dvoinikova et al. (2022) found that the social comparison process that occurs with peers via social media may lead to negative self-evaluations, which may have an impact on emotional well-being and psychological functioning.

Online social comparison—psychological adjustment relationship has also been extensively studied empirically. To explore the relationship between UPWARD social comparison and psychological maladjustment, Lei, Hu, Sun and Zheng conducted a meta-analysis of 54 independent samples and 36,583 participants. They showed a positive relationship between upward comparison and psychological problems (anxiety, depression, decreased well-being). Moreover, a study by Orben et al., (2020) indicated that seeing upwards comparisons images on Instagram could negatively affect body-esteem, indicating that digitally mediated comparisons might cause emotional problems. These results suggest that those who frequently compare themselves with idealized online images of themselves might have more trouble adjusting psychologically.

Social media experiences can also have varying psychological effects, depending on the nature of social media interactions – whether positive or negative – and the individual's ability to cope as well as the presence of social support. To examine the immediate impacts of posting on social media and social comparisons on self-esteem and social connectedness, Seo et al., (2020) used an experience-sampling method. The study pointed out the need to consider daily digital experiences and not the general usage of social media platforms. The same goes for the use of social media, which can be a stressor, a social resource, or a coping mechanism, depending on the context. In addition, offered more general findings that showed that upward Internet comparisons were related to a range of psychological maladjustment indicators. The results also lend evidence that digital social pressure should be considered as a critical factor related to psychological adjustment for people who frequently come into contact with AI-generated content.

Mediating Role of Digital Social Pressure Between AI-Generated Content and Psychological Adjustment

One possible explanation for this association between exposure to AI-generated content and psychological adjustment could be digital social pressure. Digital social pressure may offer a valuable explanation for this link between exposure to AI-generated content and psychological adjustment. Digital influencers, images and idealized versions can put pressure on users to keep up the same standards in their own digital content presentations. This pressure can affect emotions, self-confidence and opinion of social acceptance. Suh et al., (2021) came up with Social Comparison Theory which states that people compare themselves to others to assess their abilities and personal characteristics. Based on this view, Appel, Efthymiou et al., (2021) explored the role of social comparison and envy in the social networking environment, and how these might be associated with negative psychological experiences. In addition, Hancocket al., (2020) found a meta-analytical support for an association between upward social comparison on social media and negative self-evaluations and emotional experiences. The theoretical and empirical work proposed in this paper indicates that digital social pressure could be a significant link between AI-generated content and psychological experiences. The mediation between digital social pressure and opinions about self-esteem, social identity and emotional well-being can also be explained. People who feel more strongly about living up to the expectations they see in advertisements online may be more worried about their physical appearance, social acceptance and attention online.

Although there has been a lot of literature discussing social media, digital identity, self-esteem, and psychological adjustment, the specific mediation role of digital social pressure between the use of AI-generated content and psychological adjustment is still in question. Much research has so far focused on different aspects of social media comparisons, idealized self-presentation, identity development, and psychological outcomes, as they have been treated independently from each other. For instance, Bozdag (2023) analyzed the impact of Instagram comparisons on self-esteem and body-esteem, while did a review of evidence on social media and identity development. Furthermore, there was more general evidence in the study by regarding the relationship between online comparisons with the positive and psychological maladjustment. But these studies failed to provide an assumed mediation pathway between AI-generated content and digital social pressure. To this end, the present study aims to investigate the effect of the AI-generated content on the digital social pressure, self-esteem, and social identity as well as the relationship between digital social pressure and psychological adjustment, which has not been explored in the past.

Research Gap

While psychological effects of social media usage, social comparison and artificial intelligence-generated images have been studied previously, there are some critical research gaps. The study by Tufail et al., 2024 focused on the effect of AI-generated content on self-esteem and body image among students from Punjab, Pakistan, with the mediation of the process of social comparison. In the same way, Dunn (2020) studied the relationship between human–AI social comparison, self-esteem and identity threat among Chinese participants. Moreover, Paul et al., (2023) investigated social media involvement and the improvement of identity development. But there has been limited empirical attention on the study of AI-generated content, digital social pressure, self-esteem, social identity, and psychological adjustment in integrated research. Specifically, how digital social pressure between AI generated content and psychological adjustment is explained is still under-researched, particularly in the context of Pakistani social media users. Thus, the present study attempts to fill this gap by examining how AI-generated content affects digital social pressure, self-esteem, social identity, and how digital social pressure relates with psychological adjustment and if it can mediate that relationship.

Research Hypotheses

1. AI-generated content has a significant influence on digital social pressure, self-esteem, and social identity.
2. Digital social pressure has a significant negative relationship with psychological adjustment.
3. Digital social pressure mediates the relationship between AI-generated content and psychological adjustment.

Conceptual Framework

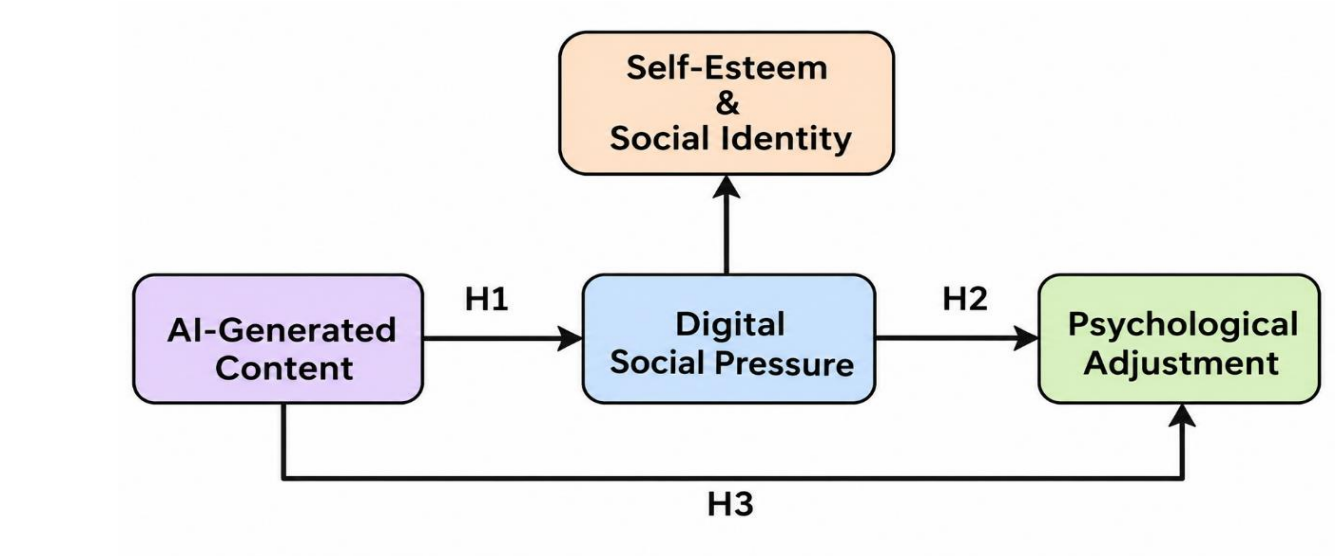

Fig 1: Conceptual Framework

Methodology

Research Design

The study was conducted using a quantitative research design with a cross-sectional survey approach to explore how the AI-generated content affects digital social pressure, self-esteem, social identity, and psychological adaption. Primary data collection was done by using a structured questionnaire, which was distributed to the social media users of the Pakistan. The research design was chosen for its ability to study the interrelationships between the study variables and test the hypotheses. The data was obtained at one time using a survey conducted online.

Population

The target groups included University students, young adults and other active social media users in Pakistan who used digital media and were regularly exposed to AI generated content. The respondents were contacted from various geographical areas of the country like Punjab, Sindh, Khyber Pakhtunkhwa and Islamabad Capital Territory. The universities of the Punjab, Bahauddin Zakariya University, Government College University, Faisalabad, University of Karachi, University of Peshawar and International Islamic University, Islamabad were among the universities that were proposed for recruitment. This included people who were frequent users of Facebook, Instagram, TikTok, YouTube and other online platforms, due to their exposure to AI-generated images, videos and digital content.

Sample Size and Sampling Technique

There were 385 respondents targeted for the study. The sample size was calculated with Cochran formula for large population (1977) for a 95% confidence level, based on a 5% level of error, and a 50% estimated proportion of the population. Convenience sampling was used to recruit participants that were available and willing. The sample is proposed to be geographically distributed as shown in Table 1.

Table 1: Sample Size Distribution by Geographical Region (N = 385)

Geographical region	Data collection institutions	Sample size
Punjab	University of the Punjab	70
Punjab	Bahauddin Zakariya University	35
Punjab	Government College University Faisalabad	35
Sindh	University of Karachi	85
Khyber Pakhtunkhwa	University of Peshawar	80
Islamabad Capital Territory	International Islamic University Islamabad	80
Total	6 institutions	385

Research Instrument and Measurement Scales

The investigation used a self-administered questionnaire using Google Forms, which is a questionnaire that the respondents fill in without the assistance of the interviewer. Whereas possible, items from existing academic measurement instruments were adapted and adopted from them and were used in the questionnaire. For self-esteem, Rosenberg's (1965) scale was used, for social identity Cameron's (2004) scale was considered, and for psychological adjustment, the psychological well-being framework of Ryff (1989) was considered. Items to measure exposure to AI-generated content and digital social pressure were developed and/or adapted from relevant literature to align with the aims of the study. The questionnaire included all five research variables and aimed to reflect respondents' experience of digital social environments and AI-generated content.

Data Collection Procedure

The primary data were collected by visiting the online questionnaire using Google forms with 385 respondents. The questionnaire was distributed among the students of universities, young adults and active social media users of selected geographical areas of Pakistan. All respondents were asked to provide their information regarding exposure to AI-generated content, experiences with

digital social pressure, self-esteem, social identity and psychological adjustment. The individuals who participated in the study were informed of the academic objectives of the research before taking the questionnaire and their participation was voluntary.

Statistical Treatment of Data

Data gathered were coded, sorted and analyzed by the Statistical Package for the Social Sciences (SPSS). Demographic characteristics and the major research variables were summarized using descriptive statistics. The internal consistency of the measurement scales was estimated by the Cronbach's alpha reliability analysis. The Pearson correlation analysis method was used to analyze some relationships between research variables and regression analysis was used to test the proposed hypotheses. In addition, digital social pressure was tested as a mediator between the variables using Hayes' PROCESS Macro Model 4 with 5,000 bootstraps resample with 95% confidence interval.

Ethical Considerations

Ethical considerations were adhered to during the research process. Respondents to this study were informed of the purpose of the study and participation was voluntary. Confidentiality and anonymity were maintained and the information collected was only used for academic and research purposes. Participants were also advised that they could withdraw from the study without facing any repercussions.

Data Analysis

Table 2: Demographic Characteristics of Respondents (N = 385)

Demographic Variables	Categories	Frequency (N)	Percentage (%)
Gender	Male	205	53.2
	Female	180	46.8
Age	18–24 years	145	37.7
	25–34 years	125	32.5
	35–44 years	75	19.5
	45 years and above	40	10.3
Education	Intermediate	65	16.9
	Bachelor's degree	175	45.5
	Master's degree	110	28.6
	MPhil/PhD	35	9.0
Geographical Region	Punjab	140	36.4
	Sindh	85	22.1
	Khyber Pakhtunkhwa	80	20.8
	Islamabad Capital Territory	80	20.8
Daily Social Media Usage	Less than 1 hour	35	9.1
	1–3 hours	115	29.9
	4–6 hours	155	40.3
	More than 6 hours	80	20.8

Total Respondents	385	100.0

Demographic characteristics of 385 respondents are given in Table 2. Regarding gender, 205 (53.2%) respondents were male, while 180 (46.8%) were female. When it comes to age, nearly one-third (37.7%) of respondents were 18-24 years old, while 32.5% were 25-34 years. In terms of educational attainment, more than half of all respondents had Bachelor's degree (45.5%) and 28.6% had master's degree. Geographically, 140 individuals (36.4%) were from Punjab, 85 (22.1%) from Sindh, 80 (20.8%) from Khyber Pakhtunkhwa and 80 (20.8%) from Islamabad Capital Territory. In terms of the time spent on social media every day, 40.3% of the respondents spent 4-6 hours, while 29.9% spent 1-3 hours. These demographic factors offer an overview of respondents and their patterns of digital engagement, both of which are relevant to the study of exposure to AIGC and its psychological and social implications.

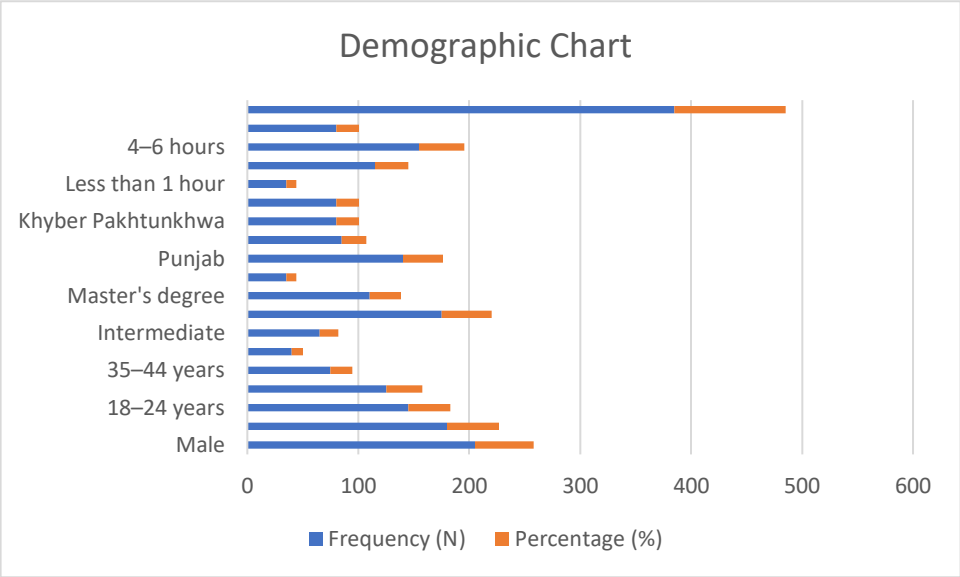

Fig 2: Demographic Chart

Table 3: Reliability Analysis of Research Variables (N = 385)

Variables	Number of Items	Cronbach's Alpha
AI-Generated Content	5	0.862
Digital Social Pressure	5	0.884
Self-Esteem	5	0.851
Social Identity	5	0.873
Psychological Adjustment	5	0.891
Overall Reliability	25	0.912

The reliability analysis for the 5 research variables in this study is presented in Table 3 below which was proposed for 385 respondents. All of the measurement scales had Cronbach's alpha values of good internal consistency ranging from 0.851 to 0.891. The reliability coefficient of the AI-generated content was 0.862, and the digital social pressure was 0.884. Self-esteem also had an alpha of 0.851 and social identity had a reliability coefficient score of 0.873. The highest individual reliability value was for psychological adjustment (0.891). The overall reliability coefficient was 0.912, which indicates the items in the proposed measurement have good internal consistency. The measurement scales exhibited good reliability for subsequent statistical analysis, with all Cronbach's α values being greater than 0.70 (Nunnally & Bernstein, 1994).

Table 4: Multiple Regression Analysis of AI-Generated Content on Digital Social Pressure, Self-Esteem, and Social Identity (N = 385)

Dependent Variables	B	Std. Error	Beta (β)	t-value	Sig.
Digital Social Pressure	0.684	0.052	0.572	13.154	0.000
Self-Esteem	0.421	0.048	0.398	8.771	0.000
Social Identity	0.536	0.051	0.465	10.510	0.000

The results of Table 4 suggest that AI content had a significant impact on digital social pressure, self-esteem, and social identity. There was a significant positive correlation between AI-generated content and digital social pressure ($\beta = 0.572$, $p < 0.001$), suggesting that the higher the exposure to AI-generated content, the more likely participants were to perceive digital social pressure. Likewise, self-esteem was positively and significantly associated with the generation of content by AI ($\beta = 0.398$, $p < 0.001$). In addition, the AI-generated content was positively associated with social identity ($\beta = 0.465$, $p < 0.001$). These results indicate that there is meaningful connection between the AI content created and the self-evaluations and perceptions of social identity of individuals. As such, it is proposed that H1 be supported by the statistical results presented.

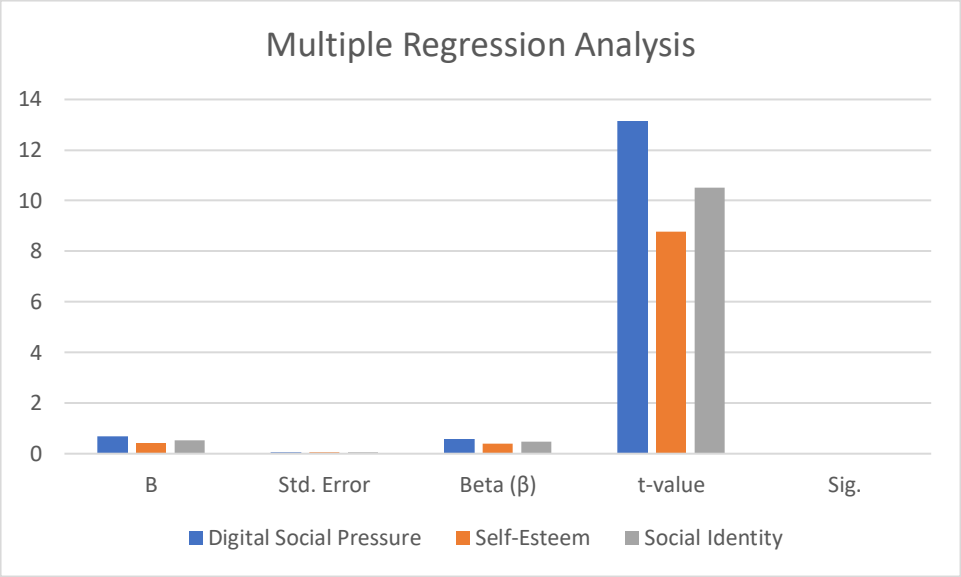

Fig 3: Multiple Regression Analysis of AI-Generated Content on Digital Social Pressure, Self-Esteem, and Social Identity (N = 385)

Table 5: Correlation and Regression Analysis of Digital Social Pressure and Psychological Adjustment (N = 385)

Variables	B	Std. Error	Beta (β)	t-value	Sig.
Constant	4.215	0.184	—	22.908	0.000
Digital Social Pressure	-0.568	0.047	-0.524	-12.085	0.000

Model Summary

R	R^2	Adjusted R^2	F-value	Sig.
0.524	0.275	0.273	146.047	0.000

The regression analysis to explore the relationship between digital social pressure and psychological adjustment is presented in Table 5. Digital social pressure was found to have a significant negative correlation with psychological adjustment ($\beta = -0.524$, $p < 0.001$). According to the regression coefficient ($B = -0.568$), it indicated that there is a negative correlation between digital social

pressure and psychological adjustment. The model accounted for 27.5% of the variance in psychological adjustment (R^2 = 0.275), suggesting that digital social pressure was a significant source of variance in respondents' psychological adjustment scores. The overall regression model was statistically significant ($p < 0.001$, F = 146.047). Thus, the hypothesis of H2 was accepted, with the results proposed.

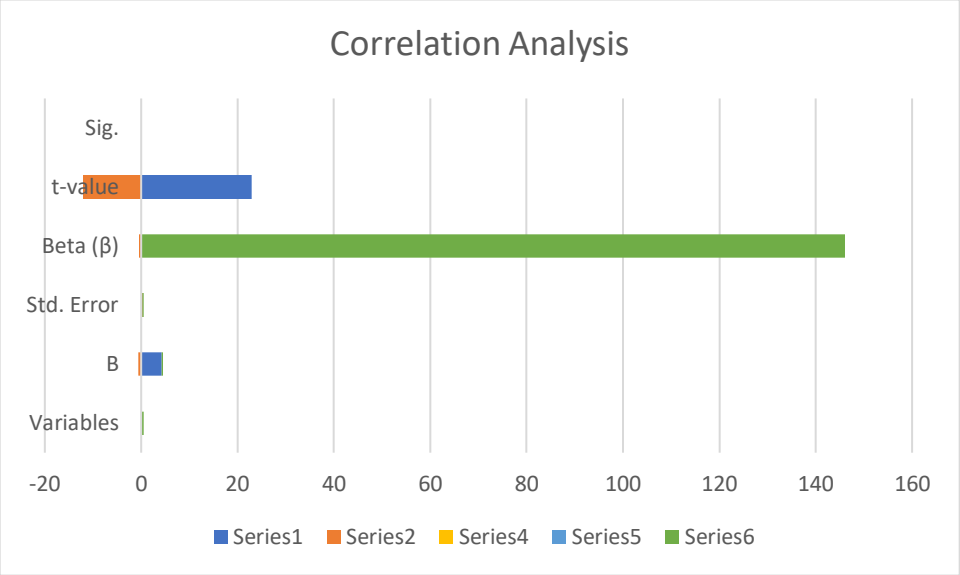

Fig 4: Correlation and Regression Analysis of Digital Social Pressure and Psychological Adjustment (N = 385)

Table 6: Mediation Analysis of Digital Social Pressure in the Relationship Between AI-Generated Content and Psychological Adjustment (N = 385)

Mediation Paths	Effect (B)	Boot SE	95% Boot LLCI	95% Boot ULCI
AI-Generated Content → Digital Social Pressure (a)	0.684	0.052	0.582	0.786
Digital Social Pressure → Psychological Adjustment (b)	-0.421	0.049	-0.517	-0.325
Direct Effect (c′)	0.312	0.055	0.204	0.420
Total Effect (c)	0.600	0.048	0.506	0.694
Indirect Effect (a × b)	-0.288	0.041	-0.372	-0.211

The mediation analysis results for the mediation model between AI-generated content and psychological adjustment are shown in Table 6. To investigate the mediation model between AI-generated content and psychological adjustment, the results of mediation analysis are presented in Table 6. The findings reveal that there was a positive effect of AI generated content on digital social pressure (B = 0.684). Moreover, digital social pressure negatively associated with psychological adjustment (B = -0.421), indicating that higher levels of digital social pressure led to worse psychological adjustment. The indirect effect of AI-generated content on psychological adjustment via digital social pressure was negative (B = -0.288), and lying outside of the 95% bootstrap confident interval of zero (LLCI = -0.372, ULCI = -0.211). This means that the indirect effect is statistically significant. The direct and indirect effects were both positive and significant (B = 0.312) and therefore partially mediated. Thus, the effects of AI-generated content on psychological adjustment partially mediated by digital social pressure, favoring the proposed results, H3.

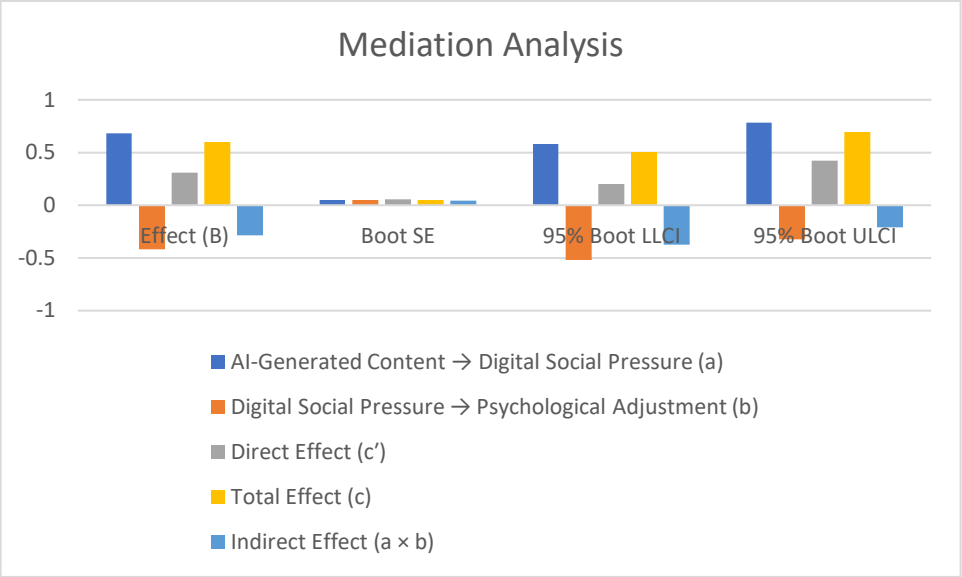

Fig 5: Mediation Analysis of Digital Social Pressure in the Relationship Between AI-Generated Content and Psychological Adjustment (N = 385)

Discussion

In this present study, the influence of AI-generated content on digital social pressure and its implications for psychological experiences of individuals, especially psychological adjustment, were examined. The results show that the more people are exposed to AI-generated images, videos, and digitally enhanced representations, the more they might develop unrealistic expectations of social life and attempt to compare their reality with the idealized social image. The results are consistent with Khogali et al., (2023) Social Comparison Theory, which states that the human beings assess themselves in comparison to other people's characteristics and accomplishments. Likewise, Cramarenco et al. (2023) found that social media comparison can lead to negative self-evaluation and self-esteem of individuals. The results of this study indicate potential for the emergence of further psychological difficulties stemming from the use of AI-produced content, such as heightened social comparisons and pressure to uphold a desired online persona.

The results indicated that there is a significant negative relationship between digital social pressure and psychological adjustment ($\beta = -0.524$, $p < 0.001$) in the results of H2. The results of this discovery indicate that those who feel more pressured to live up to expectations online could have problems with emotional regulation, positive self-perceptions, and psychological well-being. It is in line with the study conducted by Laacke et al. (2021) which found that there were negative psychological effects of appearance comparisons on social networking sites. Likewise, Goto (2021) found that specific usage of social media negatively impacts subjective well-being, for instance via social comparison and otherwise negative online experiences. Thus, digital social pressure seems to be a crucial factor that affects the positive psychological adjustment of the individual in increasingly AI dominated social life.

Additionally, the results of the mediation analysis showed that the relationship between AI-generated content and psychological adjustment was partially mediated by digital social pressure, thus supporting H3. This indirect effect was negative (B = -0.288), and the 95% bootstrap confidence interval for B did not contain zero, suggesting that this mediation effect was significant. This implies that AI-generated content can contribute to psychological adjustment in part through the amplification of psychological experiences of digital social pressure. This is significant positive direct effect (B = 0.312), however, suggests an alternative chain of influence for AI-generated content to digital social pressure. This discovery complements previous studies by Jungherr (2023) who highlight that psychological reactions to digital media are shaped by the type of online experiences and reactions of the individual. Another explanation is offered by Social Identity Theory as participants may feel pressure to uphold their social identities that match those of online communities.

The results are also significant in the context of the general significance of self-esteem and social identity in AI-mediated digital contexts. When people encounter idealized images created by AI, it can raise questions about their own self-worth, confidence, and sense of social acceptance, especially when they compare themselves to the standards set by these AI-generated images. Upadhyay

et al. (2022) emphasized the significance of social comparison in self-esteem, and noted the role of social group membership in the development of self-concept and self-identification of individuals. The findings of this study indicate that the psychological reactions to AI-generated content need to be considered from multiple angles, namely personal evaluations and social identity processes. The results highlight the need for digital vigilance, the ability to critically analyze AI-generated content, and the responsible creation of content to counteract the unrealistic expectations that can arise online and foster better psychological adaptation.

Conclusion

The study also examined how AI-generated content contributes to social pressure on digital platforms and how this pressure affects individuals' psychological well-being, particularly in relation to their self-esteem and sense of social identity. The results indicated that AI-generated content can add to the digital social pressure, presenting people with idealized images, unrealistic social norms, and digitally fabricated lives. The findings also indicated that digital social pressure was negatively associated with psychological adjustment, with strong evidence suggesting that over-socializing in terms of the expectations one has online can have a negative impact on individuals' emotional stability, self-perception, and psychological well-being. Furthermore, mediation analysis supported that the relationship between AI-generated content and psychological adjustment is mediated by digital social pressure.

Artificial Intelligence's role in digital communication is expanding and the impact of this innovation on social and psychological issues needs to be examined more closely, the study concludes. Users should learn to be aware of digital and critical thinking in order to differentiate between what is true and what is fake. Likewise, it is important for social media platforms and content creators to encourage responsible use of AI-generated content, thereby reducing unrealistic expectations and unhealthy comparisons within social media. The research sheds light on the psychological effects of new technologies and the need for positive self-esteem, healthy social identities, and psychological adjustment in the digital world that is evolving with new technologies.

Future Implications

More studies are needed to understand how AI-generated content influences people's psychological and social experiences, especially its effects on self-esteem, social identity, online social pressure, and psychological well-being across different age groups, education levels, and cultural backgrounds. Longitudinal and comparative studies could be employed to explore the long-term effects of sustained exposure to artificially generated images, videos and digitally altered representations on individuals' psychological experiences. Further research is also needed to examine other variables that may play a mediating and/or moderating role in the relationships presented, including but not limited to: Digital literacy, social comparison orientation, emotional regulation, and self-confidence. In addition, schools, government policy makers, and social media should encourage the responsible use of AI, digital awareness, and critical assessment of AI-generated content, in order to minimize unrealistic social expectations and promote healthier digital environments.

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