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The Effects of AI-Generated Content on Instagram on the Personality Development of Pakistani Youth

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Abstract: *The current project is an investigation of the role of Instagram (with AI-driven contents) on personality development of the young individuals of Mansehra, Hazara division, Khyber Pukhtoonkhwa (KPK), Pakistan. Using quantitative research design the researchers tended to assess the relationships of use of Instagram (AI-driven) with personality traits, like self-esteem, social connectedness, and mental well-being. Findings of the study revealed that 75.2% of the youth make use of AI generated photos on Instagram which has a negative impact on their personalities. A high negative feelings (58 being 28.9%) has been seen among the respondents after comparing themselves with others on Instagram than feeling positive (43 being 21.4%). 18.9% feel insecure however, majority of 18.4% desire to improve their feelings after comparing them with others. The researchers found few positive impacts in the form of self-esteem, social connectedness, and an improved mental well being.*

Keywords: Social media, Artificial Intelligence (AI), Instagram, Personality development, Quantitative Analysis

Introduction

In the world of digital technology, social media, today has been an integral part of everybody's live. Out of the dozens of social platforms, Instagram remained as a visual powerhouse, with more than 2 billion active users monthly (Statista, 2023). The widespread acceptance of this application among users especially among the youth across the globe with inclusive of AI contents, has increased interest in its potential impact on personality development of its users.

It has extended its impacts on communities & individual users globally. Social media most importantly work as a tool that reduce the geographical boundaries, letting the users to improve connections and family and friends. Apart from just connection, these social platforms help its users to deepen their relationships, establish a more empowered community and reduce the feeling of isolation of individuals. The opportunity that Facebook & Twitter offer globally is the global dialogue which enable individuals to openly discuss a variety of subject & topics and which eventually help its users to get connected irrespective of their cultural and ideological beliefs and which remain a base for culture exchange and develop the global complexity of human experience. Social media also offer its user the facility of Empowerment. Individuals get their stories and perspective published and broadcast via these social platforms with a huge audience. Empowerment play a pivotal role for the suppressed groups and community, by facilitating them to raise their voices in the best possible manner.

Social media platform are also the best sources of knowledge sharing and skill development. Experts

of different fields of life share their experiences, expertise for the best interest of community building and collaborating on different projects.

History of Instagram

The transformative journey of Instagram's from an app to a international phenomenon is interconnected with the fascinating narrative of the Facebook founder Mark Zuckerberg and Kevin Systrom.

Kevin Systrom and Mike Krieger the two talented, former the Stanford graduate and the later an-American programmer, co-founded Instagram for its primary purpose of mobile photo sharing. However, the app gained popularity very soon, leveraging mobile-first functionality and curated photo filters. Within a span of one month the number of its followers hit the 1 million figure while the 1st year it expanded its reach it to 10 million members. Recognizing the potential of Instagram, Mark Zuckerberg, kept on communicating with Systrom on regular basis. This is why that Zuckerberg, used Systrom for Facebook

In April 2012 Facebook bought Instagram for \$1 billion. This move of Facebook shock the world on one side and received a significant support in the rapidly growing market of mobile photo sharing on the other side. The year 2017 the Instagram experienced a remarkable growth by hitting the 400 million followers digit. The platform enabled the users to not only rejuvenate Facebook's image but had become a powerhouse in appealing the youngsters. However, Systrom and Krieger separated ways from Instagram in 2018 by making a tough decision which led to the end of a chapter and the beginning of a new era for the platform

Personality development (PD)?

According to the researchers Roberts, Wood, & Caspi, (2008) Personality Development is a complex process that include a variety of things like the self esteem, emotional intelligence and social skills. while McCrae & Costa, (2003) found a number of factors which influence PD, including social and societal interaction, the cultural norms media messages. In the current digital era, social media plays a crucial role as major source of influence. It shapes public and self perception and interconnect people with their friends and family (Valkenburg, Peter, & Schouten, 2006).

Instagram due to its unique features that majorly focus on the self representation of Individuals via visuals especially the mobile photo sharing, provide an outstanding opportunity and space to the user for personality development

Goffman, (1959) referred process of self-representation to both empowering and detrimental, highly depending on how the users perceive the platform. Literature review reveals that people who frequently use a platform and exposed to idealized images have the high chances of social comparison, and which affect their self-esteem and mental well-being (Chou & Edge, 2012). Likewise, Boyd, (2014) revealed that Instagram can be used as a platform for personality development particularly self expression and identity exploration among the young users.

Furthermore, the new feature of AI induced contents play a crucial role in the personality development of the users. Bucher, (2018) found that AI algorithms modify individual's experiences by filtering and suggesting content based on their preferences and behaviors, results in reinforcing the current beliefs and attitudes. This way of delivery lead to the creation of echo chambers resulting the influence on how youth perceive themselves and the global world (Pariser, 2011). Accordingly, knowing the result of Instagram on personality development needs an investigation of both the content and the technological mechanisms driving the platform.

Personality Development Pre- Internet & Post- Internet

According to some researchers biological background, cultural norms, societal expectations, and

personal experiences were among the factors that influenced personality development in the past. Education is the tool that stresses on the moral and ethical values of individuals and societies. It shapes people perception in the context of their community however, religious and philosophical teachings also play a crucial role in the development of moral character.

The current shape of internet has begun from the late 60's and early 70's. Using ANET (Advanced Research Projects Agency Network) the 1st effective communication was made on October 29, 1969, marking a crucial moment in the creation of the internet. It has been observed that face to face interactions, traditional education and local community are more handy in the improvement of personality development. However, the shape of internet enables individuals to use a variety of platforms (Social Media) to express themselves, connect with friends and family globally and experience a diverse perspective on different topic of different fields.

Problem Statement

Social media platforms like Instagram, in the current shape, had been an integral part of everybody's life especially the youth, resulting significant influence and effects on their personality development

Adding AI as new feature in a variety of these platform has further enriched its users experience. Shaping the content for them to which they are exposed to and potentially reinforcing certain behaviors and attitudes. Since, the impact of Instagram on personality development has been widely covered by researcher for the last couple of years however, still there is a lack of empirical research that focuses on particular group of people, particularly in smaller, non-urban settings like district Mansehra.

The current project tended to understand "the impact of AI-driven contents on Instagram on the personality development of youth in District Mansehra" by following quantitative research design. The researchers through an online survey aimed to answer a variety of questions likes the usage patterns and daily engagement of Pakistani Youth on Instagram, The influence of Instagram's AI driven contents on self-esteem, social skills, and emotional intelligence & the comparison of users with others on Instagram? along with potential positive and negative impacts of Instagram on the relationships.

Literature Review

Instagram has become one of the fastest-growing social media platforms, particularly among younger populations (Jiang, S., & Ngien, A. 2020). These researchers further added that the increasing popularity of Instagram has created a sense of concern in many people about whether Instagram might lead to greater emotional burdens, such as stress and anxiety, or to better emotional well-being? Instagram's design encourages an idealized online self-presentation, which can impact self-esteem and lead to social comparison ultimately impacting social development (Harris, E., & Bardey, A. C. 2019).

Sharifi, et, al. 2023) found that Instagram can play a complex role in personality development because it can provide a platform for self-presentation and expression of one's talents, leading to feelings of competence and relatedness that eventually is important for one's well-being. Suh, S. (2020) investigated that Instagram can have an impact on dressing sense, it could be a platform for fashion influencers to express their aesthetic identities and create new styles in various situations and places. Nigeria, T. D., & Okon, F. E. (2023) revealed that there is a significant influence of both Instagram and YouTube on the dress sense of female students in the University of Uyo. Mun, I. B., & Kim, H. (2021) found that lying self-presentation positively influenced depression, perceived popularity, and deleting behaviors on Instagram while Moreton & Greenfield (2022) revealed multiple implications for Instagram use on the mental wellbeing of undergraduate students written by

According to Pedalino & Camerini (2022) Instagram has been linked to various effects on self-image, including body image concerns, self-esteem issues, and social anxiety. The researchers added that Instagram use is associated with lower levels of body appreciation, fully mediated by upward social comparison with peers and influencers. The use of Instagram is associated with poorer body image

satisfaction and self-esteem, mediated by the tendency to compare physical appearance in relation to the daily duration of Instagram use (Alfonso, F. I., et al. . 2023). They added that social media continues to change not only the way we share knowledge and communicate but also how we socially connect with others. Thus, the future is bright for research investigating how rapid changes in online technologies are influencing our social interactions (Ryan, T., Allen, K., Gray, D., & McInerney, D. 2017).

Research Hypothesis

- H1: The more an individual spends time on Instagram, the more he/she perceive its influence on their personality traits
- H0: There is no relationship of the time spent on Instagram & its influence on the personality traits of the user.

Research Methodology

This study employs a quantitative research methodology to investigate the impact of Instagram, particularly in the context of AI driven content, on the personality development of youth in District Mansehra. The research design focuses on collecting numerical data to analyze relationships between Instagram usage patterns and various aspects of personality, such as self-esteem, social skills, and emotional intelligence etc. Researcher took youth of District Mansehra, being active on every social platform, as target population.

An online survey using Google Forms is conducted which helped the researchers in efficient distribution of questionnaires. Links to online questionnaire were shared through social contacts, different community groups and social media platforms in order to receive a huge number of responses and to ensure a broad reach among the youth. The questionnaire had different sections including measuring personality traits, the frequency of Instagram use, the perceived impact of AI-Induced content, and respondents' self-assessment of their personality traits.

After the data collection process the researcher used SPSS for the data analysis, which allowed them to identify the trends and correlations between Instagram use and personality development.

Data Tabulation and Analysis

The statistics show that 172 respondents being 85.6% respondents were of the age of 18-24, 18 being 9% were under 18 years of age while 10 being 5% and 1 being 0.5% were of the age of 25-34 and 34 above respectively. 131 respondents being 65.2% were Male, 70 being 34.8% were females. The numbers show that 133 respondents being 66.2% have used Instagram for up to 5 years, 60 being 29.9% have been using it for 1-2 years and 4% have been using Instagram for less than a year. The statistics also show that 37.3% (75) use Instagram for 1-2 hours daily, 62 being 30.8% use 30 min to an hour and 11.4% and 20.4% have a daily Instagram usage of under 30min and more than 2 hours respectively.

Table #1

X-Table of Gender and Time Spent on Instagram daily

Gender	Under 30 minutes	30 minutes to 1 hour	1-2 hours	More than 2 hours	Total
Male	12 (10.3%)	36 (31%)	46 (39.7%)	22 (19%)	116 (100%)
Female	11 (12.9%)	26 (30.5%)	29 (34.2%)	19 (22.4%)	85 (100%)
Total	23 (11.4%)	62 (30.8%)	75 (37.3%)	41 (20.4%)	201 (100%)

Explanation:

The cross-tabulation of gender and time spent on Instagram daily, highlights similar usage trends among

male and female respondents, with slight variations. The data revealed that among male, a high percentage of (39.7%) pay 1–2 hours daily on Instagram while the second majority is 31% who spends 30 minutes to 1 hour daily.

For females, majority of the respondents (34.2%) use it for 1–2 hours daily while 30.5% pay 30 mins to 1 hr daily. The data shows a slightly high % of female respondents i.e. 22.4% who pay more than two hours per day as compared to males which is 19%, while 12.9% of female respondents use instagram for below 30 mins.

Table #2

X/Table of Gender vs Daily Engagement on Insta

Gender	Photos	Videos	Stories	Reels	Others	Total
Male	98 (74.8%)	94 (71.8%)	82 (62.6%)	82 (62.6%)	8 (6.1%)	131 (100%)
Female	54 (77.1%)	50 (71.4%)	45 (64.3%)	44 (62.9%)	4 (5.7%)	70 (100%)
Total	152 (75.6%)	144 (71.6%)	127 (63.2%)	126 (62.7%)	12 (5.9%)	201 (100%)

Explanation:

Above is the cross table of gender vs type of content viewed. The stats shows a similar engagement of both male and female. Both the gender are more likely interested in viewing photos. The data of male respondents reveals that 74.8% of participants are likely to view photos, 71.8% view videos, 62.6% stories, and 62.6% reels. However a small percentage of (6.1%) view other types of content. The data shows a similar pattern of usage of the platform among the females, with slightly higher engagement with photos i.e. 77.1% & stories i.e.64.3%, similar with videos i.e. 71.4% & reels 62.9%. However, 5.7% of females were found engaged in other types of contents

Table #3

X-tabulation table of Time Spent vs influence of Instagram on personality aspects

Time Spent	Yes	No	Sometimes	Total
Under 30 minutes	12 (52.2%)	8 (34.8%)	3 (13.0%)	23 (100%)
30 minutes to 1 hour	44 (71.0%)	12 (19.4%)	6 (9.7%)	62 (100%)
1-2 hours	55 (73.3%)	15 (20.0%)	5 (6.7%)	75 (100%)
More than 2 hours	30 (73.2%)	5 (12.2%)	6 (14.6%)	41 (100%)
Total	141(70.1%)	40 (19.9%)	20 (10.0%)	201 (100%)

Explanation:

This table shows cross-table data of time spent on Instagram and if Instagram influences personality aspects like self-esteem, social skills, and emotional intelligence etc. The data shows a clear pattern that more time spent on Insta means more influence to receive. People spending 1–2 hrs & more than 2 hrs per day, 73% feel that the platform has affects on their personality aspects. Likewise those spending 30mins to 1hr also agreed (71%) to the affects on their peronality aspects. On the other hand 52.2% of participants spending under 30 mins daily feel the same.

Table #4

X-table of Gender vs self comparison (Self Esteem)

Gender	Frequently	Occasionally	Rarely	Never	Total
Male	18 (13.7%)	42 (32.1%)	30 (22.9%)	41 (31.3%)	131 (100%)
Female	18 (25.7%)	29 (41.4%)	27 (38.6%)	5 (7.1%)	70 (100%)

Gender	Frequently	Occasionally	Rarely	Never	Total
Total	36 (17.9%)	71 (35.3%)	57 (28.4%)	37 (18.4%)	201 (100%)

Explanation:

The data in this table shows a significant higher % of females i.e. 25.7% are frequently engaged in self-comparison as compared to males i.e. 13.7%. In addition, 41.4% of females participants do the same occasionally, while 38.6% do comparison rarely/ However, a small percentage of 7.1% are of the view that they never do comparison of themselves to others. On the other hand, majority of male participants i.e. 32.1% do compare themselves occasionally, 22.9% do it rarely, and 31.3% never engaged in self-comparison.

Table #5

X-table of Gender vs feelings after comparing one's ownself

Gender	Positive	Negative	Inspired	Insecure	Desire to Improve	Total
Male	27 (20.6%)	39 (29.8%)	15 (11.4%)	26 (19.9%)	24 (18.3%)	131 (100%)
Female	16 (22.9%)	19 (27.1%)	10 (14.3%)	12 (17.1%)	13(18.6%)	70(100%)
Total	43 (21.4%)	58 (28.9%)	25 (12.4%)	38 (18.9%)	37(18.4%)	201 (100%)

Explanation:

The data in the table above revealed that among males, majority of the participants 29.8% felt negative after comparing themselves on Instagram with others, followed by feelings of insecurity (19.9%) & desire to improve (18.3%). However, 20.6 & 11.4% felt positive & inspired respectively. Similar feelings have also been observed in females. Majority of 27.1% felt negative, 22.9% felt positive, 18.6% felt that they feel a desire to improve while 14.3% felt inspired, and insecure (17.1%).

Overall the data revealed existence of negative feelings among the participants after comparing themselves online especially following the AI-generated Instagram. However, a significant proportion of positive aspects does exists in the form of inspiration and motivation to improve.

Discussion & Conclusion

This project tended to understand the effects of AI-driven Instagram on the personality development of youth of Pakistan. The study primarily focused on different aspects of personality including self-esteem, social comparison, and emotional well-being of the youth of Mansehra, Khyber Pukhtoonkhwa, Pakistan. The researchers found a significant coordination of the findings of this study and the existing literature. The results revealed a meaningful insights on how AI-enriched Instagram contents affect male and female users differently.

Statistics regarding the usage patterns among both male and female shows that both the genders spend a considerable amount of time on Instagram, predominantly between 30 minutes to 2 hours daily, seems in-line with the results of Jiang & Ngien (2020), who found that Instagram is a highly engaging platform among the youth. They added that, a little higher percentage of female users were found to be both in the category of light and heavy users compared to males, which shows a little more tilt of female users than the males towards the usage of Instagram.

The researcher found a considerable association among Instagram usage and its influence on personality traits. The stats of this study revealed that people who spend more time on the Instagram are more likely to believe that the app affects their self-esteem, emotional intelligence, and social skills. This finding support the results of Pedalino & Camerini (2022) and Alfonso et al. (2023), who indicated that extended use of social media among the youth further increase their social comparison and affects

people personalities in the form of body image and self-worth.

The study also found gender oriented differences in the experience of self-comparison. Females have been noticed to frequently or occasionally compare themselves with others as compared to male who presented a balanced distribution for the same and which is in line with the findings of Harris & Bardey (2019).

The emotional outcomes following self-comparison also reveal critical gendered distinctions. The study found dominant negative feelings in both genders however, positive and inspired responses were seen higher among the females than the males, showing both motivation and pressure among them. Like Sharifi et al. (2023), who described Instagram as both a platform for self-expression and a source of psychological strain this study found the feeling of insecurity and desire to improve among the male participants regarding their personalities, resulting different psychological coping mechanisms.

Overall the results of this study show that AI driven content on Instagram improves the self-awareness and emotional responsiveness in its users. It also facilitates and enhances tendencies like inspiration, self improvement & comparison, insecurity, and emotional vulnerability among the females.

Conclusion

This study aimed to explore how Instagram (AI-driven) effects the personality development aspects like self-esteem, emotional well-being, and social behavior of youth of Mansehra, Khyber Pukhtoonkhwa, Pakistan. The findings of this study helped the researchers to conclude that both the genders use AI-driven Instagram for 0 minutes to 2 hours daily however, the number of females were found slighter higher than the males in this regard. This slight variation among the users engagement to the app is possible due to the App's personalized content algorithms and emotional appeal.

The researchers found uniform consumption of contents across genders, with a strong focus on photos, videos, stories, and reels from both. This reveals the platform's built-in design prioritizing the unique feature of visual storytelling. This feature of the platform play a crucial role in building the perceptions of its users and the tendancy of social comparison.

The central observation of the researchers made was i.e. "the more time individuals spend on Instagram, the more they perceive its influence on their personality traits". The data shows that users who spends more time on Instagram tends to believe that the platform deeply affects their self-esteem, emotional intelligence, and social skills. This association of the time vs personality traits plays a significant role in gradually shaping self identity and personality development of individuals.

A significant difference has been seen among both male and female on how they engage in self comparison. Females are observed to compare more frequently with others on Instagram however, a higher majority of the males are found never engaging in such comparisons. This finding is deeply similar with the results found by broader psychological research which shows that young women are often more sensitive to social evaluations, specially in appearance-driven social applications like Instagram

On the basis results the researchers also found negative feelings in the form of insecurity and self doubt among the participants however, positive responses especially from females in the form of motivation and inspiration have also been recorded. This shows the complexity of AI driven Instagram's impact i.e. psychological. This feature of the platform can challenge and uplift both at the same time, however it majorly depends on how the user perceive the content.

Overall, this study on the one hand provides data and information about how AI driven Instagram offer numerous opportunities and facilities to its users in the form of creativity, connection, and inspiration. On the other hand it also shed light on the possible challenges i.e. challenges to personal identity, social comparison and emotional well being. The application new feature i.e. AI, magnify the benefits and

risks relation to the social media usage and engagement.

Intrinsically, the researchers feel that there is an urgent need of awareness among people and those who are the stakeholders in order to promote healthier usage, informed media literacy, and encourage balanced use of social media contents.

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