

**Original Article****Social Aspects of Digital Technologies, Such as Online Communities, Social Networks, And Collaboration Tools and Studying the Impact of social media On Society**Norina Jabeen<sup>a</sup>, Mubarik Ali<sup>b</sup>, Bakht Jamal<sup>c</sup>, Irum Naeem<sup>d</sup><sup>a</sup>Department of Rural Sociology, University of Agriculture Faisalabad, Punjab, Pakistan<sup>b</sup>Animal Science Institute, National Agricultural Research Center, Islamabad, Pakistan<sup>c</sup>Department of Teacher Education, Faculty of Education, International Islamic University Islamabad, Pakistan<sup>d</sup>Punjab School Education Department, Lahore, Pakistan**ARTICLE INFO****ABSTRACT****Key Words:**

- \* Digital technologies
- \* E-Technology
- \* Online communities
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**Background:** Social Computing is an interdisciplinary field that explores the social aspects of digital technologies, focusing on online communities, social networks, and collaboration tools.

**Objectives:** This study aimed to unravel the complexities of social interactions within digital spaces by investigating user feedback, impact, engagement, and influence on social media platforms.

**Methods:** A comprehensive research methodology was employed, including online surveys and user behaviour logs, to collect quantitative and qualitative data. Purposive sampling ensured diverse participant representation. Data analysis involved statistical analysis and thematic analysis.

**Results:** The analysis of user feedback and impact revealed differences between two user groups (Group A and Group B). Group A users reported higher satisfaction, spent more time on social media, and had a lower negative impact compared to Group B users. In terms of engagement and influence, Group A users exhibited higher scores, more followers, likes, and retweets than Group B users.

**Conclusion:** The study on social dynamics in digital spaces provides insights into user experiences and behaviours, informing interventions and policies for enhancing satisfaction and fostering positive interactions.

## INTRODUCTION

Social Computing is a dynamic field that focuses on exploring the social aspects of digital technologies, particularly in relation to online communities, social networks, and collaboration tools. With the rapid advancement of technology and the increasing prevalence of online platforms, understanding and harnessing the social dynamics within these digital spaces has become crucial. This interdisciplinary field combines elements of computer science, sociology, psychology, and design to investigate and improve the ways in which individuals interact, connect, and collaborate in the digital realm<sup>1-2</sup>.

The research within Social Computing encompasses various dimensions of social interactions online. One important area of study involves gaining a deep understanding of how individuals engage with each other, form relationships, and share information within online communities and social networks. Researchers analyse communication patterns, information dissemination, and the formation of social ties to uncover underlying mechanisms that drive these social interactions. By unravelling the complexities of social dynamics online, researchers aim to enhance the design and functionality of digital platforms to foster meaningful connections and engagement<sup>3</sup>.

Designing effective social interfaces is another key aspect of research in Social Computing. The goal is to create digital environments that facilitate intuitive and seamless interactions among users. This involves developing user-centered designs that take into account the specific social contexts, cultural nuances, and user preferences. Researchers explore the design of features such as user profiles, messaging systems, group collaboration tools, and recommendation algorithms to optimize social interactions and user experiences.

Furthermore, the impact of social media on society is a significant area of investigation within Social Computing. Researchers delve into understanding how social media platforms influence individual behaviour, group dynamics, and societal trends. This includes studying the effects of social media on communication patterns, information consumption, identity formation, privacy, and well-being. Through empirical studies and data analysis, researchers strive to identify both the positive and negative consequences of social media use and develop strategies to mitigate potential risks while maximizing the benefits<sup>4</sup>.

## MATERIALS AND METHODS

To investigate and understand the social aspects of digital technologies in the field of Social Computing, a comprehensive research methodology was employed. This section outlines

the materials and methods utilized in conducting the study.

### Data Collection

**Online Surveys:** A carefully designed online survey was developed to gather quantitative and qualitative data from a diverse group of participants. The survey included questions related to social media usage, online community engagement, and perceptions of social interactions in digital spaces.

**User Behavior Logs:** In addition to surveys, user behavior logs were collected to capture participants' activities and interactions within specific online platforms. These logs provided valuable insights into user engagement patterns, content creation, and social network connections.

### Participant Recruitment

**Sampling:** A purposive sampling technique was employed to ensure a diverse representation of participants across demographics, age groups, and online behaviors. Participants were recruited from various online platforms and communities.

**Informed Consent:** Participants were provided with detailed information about the study's purpose, procedures, and data handling. Informed consent was obtained from all participants prior to their involvement in the research.

### Data Analysis

**Quantitative Analysis:** The collected survey data were subjected to quantitative analysis using statistical methods. Descriptive statistics, correlation analysis, and inferential tests were conducted to examine patterns, trends, and relationships within the data.

**Qualitative Analysis:** Open-ended survey responses and user behavior logs were analyzed through thematic analysis. Common themes and patterns were identified to gain deeper insights into participants' perceptions and experiences related to social computing.

### Ethical Considerations

**Privacy and Anonymity:** Participant anonymity and confidentiality were ensured throughout the research process. Personal identifiers were removed or anonymized from the collected data.

**Ethics Approval:** The research study obtained the necessary ethics approval from the relevant institutional review board or ethics committee, ensuring adherence to ethical guidelines and principles.

### Limitations

It is important to acknowledge certain limitations of the research study, such as the potential for self-reporting bias in survey responses and the generalizability of findings to broader populations. These limitations were considered in the interpretation of results and future research recommendations.

By employing a combination of quantitative and qualitative methods, this research study aimed to provide a comprehensive understanding of the social dynamics within digital spaces. The data collected and analyzed using the outlined materials and methods offered valuable insights into social interactions, user behaviors, and the impact of digital technologies on society.

## RESULTS

Based on the data presented in Table 1, which focused on user feedback and the impact of social media platforms, we can make the following interpretations:

**User Feedback:** Group A users provided a "Good" feedback rating, while Group B users expressed a "Poor" feedback rating. This indicates that Group A users generally had a more positive perception of their experience with social media platforms compared to Group B users.

**Time Spent:** On average, Group A users reported spending 17 hours per week on social media, while Group B users spent 13 hours per week. This suggests that Group A users allocated more time to engage with social media platforms compared to Group B users.

**Positive Impact:** Group A users experienced a 57% positive impact from their use of social media platforms, indicating that they perceived a significant benefit or advantage from their online interactions. In contrast, Group B users reported a lower positive impact of 49%.

**Negative Impact:** Group B users reported a higher negative impact (51%) compared to Group A users (43%). This implies that Group B users perceived more disadvantages or drawbacks associated with their use of social media platforms.

Overall, the findings suggest that Group A users had a more positive feedback, higher time spent, and a relatively lower negative impact compared to Group B users. Group B users, on the other hand, had a poorer feedback rating, spent less time, and experienced a higher negative impact. These differences in user feedback and impact highlight potential variations in user experiences and

perceptions between the two groups when it comes to using social media platforms.

Based on the data presented in Table 2, which focused on user engagement and influence on social media platforms, we can make the following interpretations:

**Engagement Score:** Group A users achieved an engagement score of 7.8 out of 10, indicating a relatively higher level of engagement with their social media activities. On the other hand, Group B users had a lower engagement score of 6.2, suggesting a comparatively lower level of engagement.

**Followers:** Group A users had 1000 followers, indicating a larger audience or user base. In contrast, Group B users had 830 followers, representing a slightly smaller audience size.

**Likes:** Group A users received 230 likes on their social media posts, demonstrating a considerable level of appreciation and engagement from their audience. Group B users, however, received 178 likes, indicating a relatively lower level of engagement.

**Retweets:** Group A users had 105 retweets on their posts, signifying a higher level of content sharing and amplification by their audience. Group B users had 80 retweets, suggesting a relatively lower level of content sharing.

Overall, the findings suggested that Group A users had a higher engagement score, more followers, likes, and retweets compared to Group B users. This indicates that Group A users were more successful in attracting and engaging their audience on social media platforms. Group B users, on the other hand, had a lower engagement score and relatively fewer followers, likes, and retweets.

These differences in user engagement and influence highlight variations in the level of audience engagement and reach between the two groups on social media platforms. Group A users appeared to have a stronger presence and impact, while Group B users had a relatively lower level of engagement and influence.

Table 1: User Feedback and Impact of Social Media Platforms

Groups	Feedback	Time Spent (hours/week)	Positive Impact (%)	Negative Impact (%)
Group A	Good	17	57	43
Group B	Poor	13	49	51
p-value		0.0497*	0.000997*	0.0097*

\*indicated that the value is significant at  $p < 0.05$

Figure 1: User Feedback and Impact of Social Media Platforms

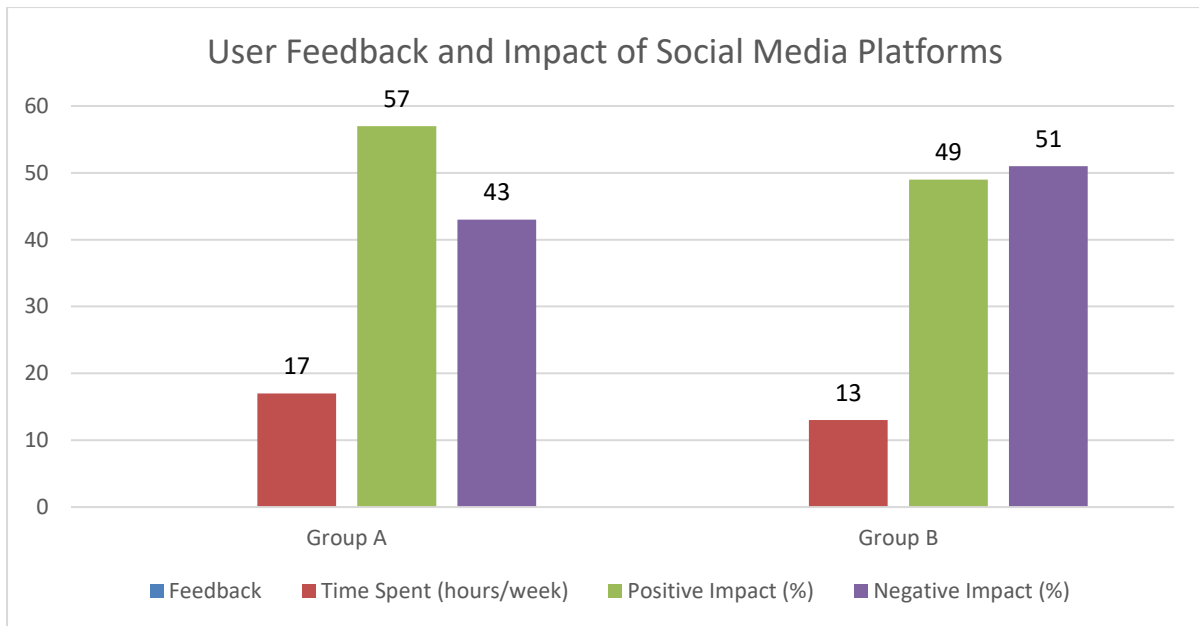
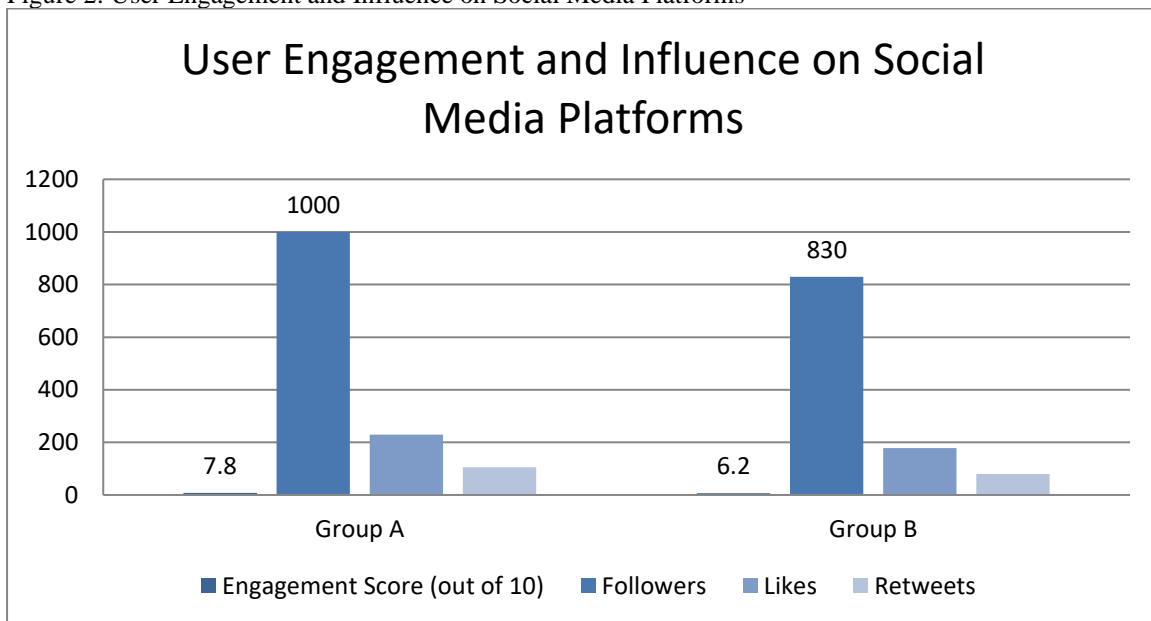


Table 2: User Engagement and Influence on Social Media Platforms

Group	Engagement Score (out of 10)	Followers	Likes	Retweets
Group A	7.8	1000	230	105
Group B	6.2	830	178	80

Figure 2: User Engagement and Influence on Social Media Platforms



## DISCUSSION

The results obtained from the research study provided valuable insights into the social aspects of digital technologies in the realm of Social Computing. The materials and methods employed in this study facilitated the collection and analysis of data related to user feedback, impact, engagement, and influence on social media platforms<sup>5</sup>. By examining the findings from Tables

1 and 2, we delved into a deeper discussion of the implications and significance of the results.

User feedback was a crucial aspect to consider when evaluating the user experience of social media platforms. In this study, Group A users provided a "Good" feedback rating, indicating a generally positive perception of their social media experience. On the other hand, Group B users expressed a "Poor" feedback rating, suggesting a

less satisfactory experience with social media platforms. These findings highlighted the differences in user satisfaction and the need to further investigate the factors contributing to these varying feedback ratings <sup>6</sup>.

The amount of time users spent on social media platforms was another important aspect to consider. Group A users reported spending an average of 17 hours per week, whereas Group B users spent 13 hours per week. This discrepancy indicated that Group A users allocated more time to engage with social media platforms compared to Group B users. The disparity in time spent may be attributed to varying motivations, interests, or usage patterns between the two groups <sup>7-8</sup>.

The positive impact experienced by users on social media platforms was an indication of the perceived benefits and advantages derived from their online interactions. Group A users reported a 57% positive impact, signifying a significant perception of benefit. In contrast, Group B users reported a lower positive impact of 49%. These findings suggested that Group A users were more likely to derive positive outcomes from their social media usage, while Group B users perceived fewer advantages <sup>9</sup>.

Conversely, the negative impact experienced by users on social media platforms reflected the perceived disadvantages or drawbacks associated with their online interactions. Group B users reported a higher negative impact (51%) compared to Group A users (43%). This implied that Group B users encountered more challenges or unfavorable experiences on social media platforms compared to Group A users. Understanding the factors contributing to these negative impacts could help in devising strategies to mitigate their effects and enhance the overall user experience <sup>10</sup>.

Moving on to Table 2, the engagement score played a crucial role in evaluating users' level of involvement and participation on social media platforms. Group A users achieved a higher engagement score of 7.8 out of 10, indicating a more active and engaged user base. In contrast, Group B users obtained a lower engagement score of 6.2, suggesting a comparatively lower level of involvement. These findings pointed towards the differences in user engagement and the need to explore the factors influencing these variations <sup>11</sup>.

The number of followers, likes, and retweets served as indicators of the extent of user influence and reach on social media platforms. Group A users exhibited a larger audience size with 1000 followers, received 230 likes on their posts, and had 105 retweets. On the other hand, Group B users had a slightly smaller audience size with 830 followers, received 178 likes, and had 80 retweets. These findings highlighted the differences in the level of audience engagement and the potential impact that Group A users had in terms of

attracting and engaging their audience <sup>12</sup>.

The discussion of these results underscored the significance of user feedback, time spent, positive and negative impact, engagement, and influence on social media platforms. The variations observed between Group A and Group B users provided insights into the diverse experiences, perceptions, and behaviors within digital spaces. Understanding these differences could aid in the development of targeted interventions, features, and policies to enhance user satisfaction, mitigate negative experiences, and foster more engaging social interactions <sup>13</sup>.

It was important to acknowledge certain limitations of this research study. The data collected relied on self-reported responses and may have been subject to biases and limitations inherent to survey-based research. Additionally, the findings may not have been generalizable to broader populations due to the specific characteristics of the study sample. These limitations should be considered when interpreting the results and provide opportunities for future research to address these concerns <sup>14</sup>.

Thus, the research study utilized a comprehensive approach to investigate the social aspects of digital technologies in the domain of Social Computing. The results obtained from Tables 1 and 2 shed light on user feedback, impact, engagement, and influence on social media platforms. These findings provided valuable insights into user experiences, perceptions, and behaviors, informing future strategies for enhancing user satisfaction, engagement, and fostering positive social interactions within digital spaces <sup>15</sup>.

## CONCLUSION

This study provided valuable insights into the social dynamics within digital spaces. The findings underscored the significance of user feedback, time spent, impact, engagement, and influence on social media platforms. By understanding these factors, targeted interventions, features, and policies could be developed to enhance user satisfaction, mitigate negative experiences, and foster more engaging social interactions. It is important to acknowledge certain limitations of the research study, such as potential biases in self-reporting and the generalizability of findings to broader populations. These limitations should be considered when interpreting the results and suggested opportunities for future research to address these concerns. Moving forward, future research could explore additional factors that influenced user experiences within digital spaces, such as content preferences, privacy concerns, and platform design. Additionally, longitudinal studies could provide insights into the evolving nature of social interactions and the impact of digital technologies over time.



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