



Impact of Social Media Usage on Relationship Development among female college students: The Mediating role of trust

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Abstract

This study investigates the correlation between social media participation and trust in interpersonal interactions, along with its ramifications for relationship growth among female college students. This research examines the correlations between these factors, acknowledging the growing influence of social media in everyday life, through a non-experimental quantitative survey methodology. The correlation study identified a positive correlation among social media usage, trust, and relationship development. Further analysis showed that the direct effect of social media usage on relationship development in the presence of the mediator was insignificant. However, the results revealed a significant indirect effect of social media usage on the relationship development through the mediation of trust. Therefore, trust mediates the relationship between social media usage and relationship development. This study discusses the significance and theoretical implications of the findings.

Keywords: Social Media, Interpersonal Communication, Relationship Development, Interpersonal Trust, Students.

Introduction

Communication is an everyday activity, and it enables us to maintain a mutual understanding with others. This mutual understanding helps us to develop relationships with them. Without communication, neither a person nor a social system can function (Ayee, 2013). People attempt to comprehend one another through an interactive process (Hartman & McCambridge, 2011). Social media is an essential tool of modern life that allows people to interact and communicate in online communities and networks through shared information, videos, photos, and text messages. Social relationships are constantly transforming and evolving in the digital era. The vast majority of teens and young people regularly use the internet to stay in touch with others to maintain social relationships (Lenhart, A., et al., 2010). The prominence of social networks and digital communication tools, especially for younger generations, has altered interpersonal relationship development and maintenance. Communication between individuals in the current digital era encompasses both face-to-face interactions and computer-mediated communication (CMC) (Drago, 2015). Digital gadgets have grown up with younger generations, who use them for regular connection, communication, friendship maintenance, and relationship building. Younger generations use social media sites as their primary means of communication (Hartman & McCambridge, 2011).

The methods of traditional communication have evolved due to societal changes, emerging trends, and the accessibility of new digital and social networking platforms. Digital technology has altered interpersonal communication by enabling connections among individuals via digital tools. A novel form of interpersonal connection has arisen through social networks (Gapsiso & Wilson, 2015). Social media users have unparalleled accessibility to friends, relatives, and new acquaintances, enabling them to communicate with them simply. Social networking sites often serve as people's initial point of contact, offering chances for meeting, exchanging interests, and igniting conversations as well as strengthening existing ones.

An individual's online identity can be tailored to showcase their ideals, hobbies, and personality. People can locate others who share their interests and connect with them through this kind of self-expression. Furthermore, people can explore and develop their identities with the aid of social media, which is an essential component of building relationships. Trust is a fundamental element in the development and sustainability of any relationship, whether personal or professional. In the context of social media, trust plays several critical roles. Honesty and genuineness are the foundations of trust. Being real fosters trust on social media, where it's simple to promote an idealised picture of oneself. Being true to oneself promotes dependability and integrity, which are necessary for building stronger bonds with others. Consistent behaviour and communication gradually develop trust over time. Reliability is strengthened when people interact and react in ways that are consistent with their personality and values. Reliability ensures that others feel secure in the relationship. Trust is also built on the assurance that personal information shared in confidence will be kept private. Social media interactions often involve sharing personal details and experiences; respecting privacy and maintaining confidentiality are crucial for trust. Being transparent about one's intentions and actions helps build trust.

Social media and students

Now Social media (SM) plays an integral part in the communication lives of university students and young adults. In the contemporary world, social media's pervasive influence is undeniable, with its ever-evolving nature and diverse forms. Individuals in the 18–29 age group are among the most active users of these platforms (Perrin, A., & Anderson, M., 2019). Manago et al. (2023) revealed that women generally utilise social media to sustain current relationships, but males are more inclined to utilise similar platforms to establish new connections. Their findings support the notion that gender significantly influences the motivations behind social media engagement. For students, social networking sites serve as essential tools for connection and communication, making them an indispensable part of their daily lives (Mastrodicasa J. & Metellus P., 2013). Social media platforms like WhatsApp, Facebook, and YouTube are widely used among university students (Bashir, I. et al., 2021). A significant percentage of adults actively use social media, with WhatsApp and Facebook emerging as popular choices among university students (Lenhart et al., 2010; Rideout et al., 2010). Studies indicate that both male and female university students are active users of SM, with high percentages having social media accounts (AlFaris et al., 2018). Gender differences in usage exist, with female students spending more time on social media platforms, though these variations may not always be statistically significant (Budden et al., 2007). Female students, in particular, are heavy users of new media, with reported daily usage of nearly 12 hours across various media forms,

including texting, music, the Internet, and social networking (Walsh, J. L., et al., 2013). College students use social media platforms to communicate with friends, and they claim that social media assists them in maintaining relationships and expressing themselves through the medium of art.

Relationship development

Social media's simplicity of use for communication encourages regular engagement, which is vital for developing relationships. Individuals can foster and build their relationships by consistently communicating through messaging, leaving comments, and exchanging material. With the use of social media, people can discover and provide emotional support to one another. Sharing struggles and experiences can strengthen bonds. Chen et al. (2023) demonstrated that Women exhibiting greater levels of self-objectification are inclined to employ more calculated and less genuine self-presentation methods on social media platforms such as Tinder. Their study indicates that such strategic self-presentation motivated by the desire for social approval can undermine authenticity and affect the development of meaningful relationships online. SNS, or social networking websites, emerged as an essential tool for interacting with others and dealing with Interpersonal interactions (Baym, 2010). People learn about interpersonal interactions by observing others' behaviour.

According to Bandura, learning is a cognitive process that happens when one watches how other people behave in a social context (Bandura, 1986). Recent studies have highlighted the crucial role that social media platforms, particularly Facebook, play in both developing and sustaining interpersonal relationships (Dainton, 2013).

Technology-mediated communication, sometimes referred to as "mediated communication", has been enhancing the development of new interpersonal relationships. More people than ever before can establish and sustain relationships through this type of communication, which includes exchanges via social media, email, and other digital channels (Seiler, W. J., & Beall, M. L., 2005).

Social media has enhanced connectivity, often translating into more meaningful and frequent in-person interactions and significantly strengthening face-to-face interpersonal relationships (Boase, J. et al., 2006). Teenagers prefer online social networks over traditional methods to establish and maintain relationships (Pierce, 2009). Mediated communication simply enhances interpersonal relationships (Dainton & Aylor, 2002). Instantaneous and frequent communication breaks down barriers, accelerating the development of interpersonal relationships through mediated formats compared to face-to-face interactions (Hian, L. B., et al., 2004). According to Houser, women use social media sites more frequently than men to maintain their ties. Nonetheless, both men and women use various social media channels to build and preserve their relationships (Houser et al., 2012).

Interpersonal Trust

Interpersonal Trust is the general expectation and conviction regarding a person's dependability and trustworthiness in a relationship. It means believing that the other person would behave honourably and morally, especially in potentially hazardous or unexpected situations. Interpersonal Trust is commonly defined as the expectation that others will act in a reliable, honest, and cooperative manner (Rotter,

1967). Stated differently, it's about trusting that the other person would act honourably in unanticipated circumstances. Interpersonal trust refers to an individual's belief in the integrity, competence, and dependability of others (Mayer, Davis, & Schoorman, 1995). The three elements of interpersonal trust are predictability, dependability, and faith, with faith being the most important element necessary for successful relationships. Good and challenging times on social media reinforce trust.

A Systematic review conducted by Zhang et al. (2023) emphasised the complex nature of trust in social media, highlighting the need for consistent definitions and reliable measurement approaches. The researchers identified key dimensions of trust, including trust in content, the platform, and other users, and called for greater standardisation across studies to enhance clarity and comparability. Social media allows individuals to publicly misunderstand; misunderstandings can occur, and clear and open communication about one's motives and actions helps in preventing conflicts and fostering a trusting environment. Demonstrating support and loyalty reinforces each other, which can strengthen bonds and affirm the significance of trust within the relationship as well as its theoretical implications. Predictability is the capacity to foresee the actions of partners. Reliability is more than just believing that a partner would act in the same way on a regular basis; it also means having confidence in a person's unique characteristics and qualities. Faith is having emotional security in the understanding that, despite uncertainty, a partner's kindness in their responses within relationships is present (Rempel et al., 1985).

The notion of interpersonal trust derives predictability, reliability, and faith from our social interactions with other individuals. Over time, these traits emerge based on what we observe about others' behaviour in various contexts. We begin to expect someone to behave a certain way when we have stable, consistent interactions with them. This increases our trust in them and the way they behave in our interactions (Miller, 1981). Social media has revolutionised relationship development by providing new avenues for connections, communication, and support. However, the success and depth of these relationships largely depend on the presence of trust. Building and maintaining Trust is crucial for developing meaningful and lasting relationships in today's digital age.

Need for the Study

In the contemporary digital landscape, it is essential to examine the impact of social media usage on relationship development among female college students, particularly focusing on the mediating role of trust. Particularly for young adults, social media has influenced every aspect of life and has a big impact on how people interact with one another in shaping interpersonal relationships (Baker & Algorta, 2016). Existing literature shows that social networking has become a fundamental component of the lives of college students and young people (Best, Manktelow, & Taylor, 2014). When compared to male college students, female college students use new media extensively (Thompson & Loughheed, 2012). To maintain mental stability and achieve academic success, it is crucial to establish solid and healthy relationships during the formative years of college, which are a time for the development of one's social and personal identity (Kramer, 2019). Second, social media can help or hurt the development of trust; therefore, it's critical to recognise the circumstances in which it promotes or inhibits the development of relationships (Liu & Brown, 2014). Lastly, with the growing frequency of virtual exchanges, pinpointing the precise processes by which social media influences confidence might guide measures intended to cultivate deeper

and more reliable connections among female college students (Wang & Wellman, 2010). This study addresses a significant research gap in the existing literature by examining these dynamics and offering insights that could improve the social interactions as well as outcomes of this demographic.

Theoretical framework

This study investigates how social media usage influences relationship development among female college students, with interpersonal trust as a central mediating factor. To construct a robust analytical lens, this framework integrates four theories: Knapp's Relational Stage Model, Social Exchange Theory (SET), Uses and Gratifications Theory (UGT), and Online Trust Formation Theory (OTFT). Each theory examines distinct aspects of the interplay between social media, the development of relationships and trust, hence directly supporting the study's objectives and hypotheses.

Knapp's Relational Stage Model (Knapp & Vangelisti, 2005) outlines how interpersonal relationships progress through five stages: initiation, experimentation, intensification, integration, and bonding. Social media platforms facilitate these stages by enabling frequent interaction, rapid self-disclosure, and ongoing relational maintenance, which are particularly relevant for college students. This model grounds Hypotheses H1 and H5 by explaining how social media use supports the development and deepening of relationships. Social Exchange Theory (Thibaut & Kelley, 1959; Blau, 1964) posits that individuals evaluate relationships based on the perceived balance of rewards and costs. In social media contexts, perceived rewards such as attention, emotional support, or trust motivate continued engagement. SET supports Hypotheses H1, H2, and H5 by illustrating how social media use is driven by perceived interpersonal benefits, including trust and more profound relationships.

Uses and Gratifications Theory (Katz et al., 1973) explains media usage as goal-driven behaviour to satisfy personal needs. For female college students, social media serves as a space for self-expression, validation, and connection (Quan-Haase & Young, 2010). These motivations influence how trust is built and relationships are formed, providing theoretical support for Hypotheses H1, H2, and H4. UGT clarifies why social media is used and how that usage shapes trust formation and relationship dynamics.

Online Trust Formation Theory (Gefen et al., 2003; Corritore et al., 2003) focuses on the development of trust in online environments. Trust is influenced by factors such as communication frequency, message consistency, and perceived authenticity. OTFT directly informs Hypotheses H2, H3, H4, and H6, providing the conceptual foundation for trust as a mediator between social media usage and relationship development. This theory explains the mechanism by which digital interactions cultivate trust, which then reinforces more profound relationships. Together, these theories form an integrated framework that connects the motivations for using social media (UGT), the cost-benefit considerations of forming online relationships (SET), the process of relational development (Knapp), and the formation of trust in digital settings (OTFT). This integration provides a comprehensive explanation for the directional and mediating hypotheses outlined in this study. This integrated framework guides the hypotheses tested in this study.

Objectives

- To examine the role of social media usage in relationship development among female college students.
- To investigate the relationships among social media usage, relationship development, and interpersonal trust.

Hypotheses

H1: Social media use will be significantly associated with relationship development.

H2: Social media use will be significantly associated with trust.

H3: Relationship development will be significantly associated with trust.

H4: Social media use will significantly predict trust.

H5: Social media use will significantly predict relationship development.

H6: Trust mediates the relationship between social media usage and relationship development.

Methodology

Participant Recruitment

A total of 738 female college-going students from various colleges and universities in Tamil Nadu, India, participated in this study. While the study initially aimed for simple random sampling, practical constraints led to a convenience sampling approach, as participants were recruited based on accessibility and willingness to participate. The inclusion criteria required participants to be female students aged 18 to 30 years who used social media apps daily. This criterion was chosen to ensure that all participants had regular exposure to social media, which was relevant to the study's objectives. The sample size was determined based on practical feasibility and is comparable to sample sizes used in similar research.

Measures

We assessed social media use using a self-constructed questionnaire, which included four items: (1) "How many hours per day do you use social media?" (measured in hours), (2) "What types of social media do you use most frequently?" (categorical selection of platforms), (3) "How many social media accounts do you have?" (numerical count), and (4) "How long have you been using social media?" (measured in years). To create a composite measure of social media use, only the three quantitative items (hours per day, number of accounts, and years of use) were included. These variables were standardised and averaged to form a composite score. The categorical item (types of platforms used) was excluded from the composite because it served as a descriptive variable rather than a continuous metric. The resulting composite score functioned as a general index of social media engagement and demonstrated adequate internal consistency, with Cronbach's $\alpha = .75$, $M = 11.69$, and $SD = 3.13$. The items represented conceptually distinct yet related indicators of general social media engagement, and the use of

standardised values facilitated the integration of variables measured on different ratio scales. variables measured on different ratio scales, and the composite score was intended as a broad index rather than a latent construct.

Interpersonal trust was assessed using Six self- constructed items, such as (“To what extent do you trust the person you are communicating with on social media?”; “To what extent do you believe that the person you are communicating with on social media is honest with you?”; “To what extent do you feel comfortable sharing personal information with the person you are communicating with on social media?”; “To what extent do you think the person you are communicating with on social media respects your privacy?”; “To what extent do you think the person you are communicating with on social media is transparent about their identity?”; “How reliable do you think the person you are communicating with on social media is?”). All items were measured on a 5-point Likert scale (1 = Not at all, 2 = slightly, 3 = moderately, 4 = Very, 5 = completely). Responses were summed to create a composite interpersonal trust score, with possible values ranging from 6 to 30. Higher scores indicated greater perceived trust in social media contacts. The internal consistency of the scale was acceptable, Cronbach’s $\alpha = .77$, $M = 13.98$, $SD = 4.83$. We measured relationship development using nine items. The self-constructed items included the following questions: "Have you ever had a negative experience on social media that impacted your relationships with others?" "How has your social media use impacted your relationships?" "To what extent do you feel that you have developed a personal connection with the people you communicate with on social media?" "To what extent do you feel that the people you communicate with on social media know you well?" "To what extent do you feel that the people you communicate with on social media understand your perspective? How much do you think your social media friends share your values and interests?" "To what extent do you feel that the people you communicate with on social media are open and honest with you?" "To what extent do you feel that the people you communicate with on social media provide emotional support to you?" We scored these items on a 5-point Likert scale (1 = Not at all, 2 = slightly, 3 = moderately, 4 = Very, 5 = completely). We summed the responses to generate a total relationship development score, which ranged from 9 to 45. Higher scores indicated greater perceived relationship depth and emotional connection through social media. The scale demonstrated strong internal consistency, with a Cronbach’s α of .78, a mean (M) of 13.98, and a standard deviation (SD) of 4.83. The self-constructed questionnaire has been tested for reliability, and Cronbach’s alpha analysis showed the scale of social media use ($\alpha = .75$), interpersonal trust ($\alpha = .77$), and relationship development ($\alpha = .78$).

Results

Table1: Demographic Characteristics of Participants (N = 738).

Variable	Category	Frequency	Percentage (%)
Gender	Female	738	100.00
Education Level	Diploma	90	12.19
	Graduation	250	33.88
	Post-Graduation	350	47.42
	Doctorate or Other Advanced Degree	40	5.43
	Other	8	1.08
Marital Status	Married	510	69.10
	Unmarried	228	30.90

Source: Own elaboration

Table 2: Means and standard deviations of variables.

Variable	N	Minimum	Maximum	M	SD
Age	738	1.00	2.00	1.58	0.49
Marital Status	738	1.00	5.00	1.39	0.58
Education	738	2.00	4.00	2.797	0.66
Social Media Usage	738	5.00	20.00	11.69	3.13
Relationship Development	738	10.00	39.00	21.25	5.69
Trust	738	6.00	30.00	13.98	4.83

Source: Own elaboration

The final sample consisted of 738 participants, (Female college-going students, age range 18–30 years). Demographic Characteristics of the sample are included in Table 1. Students exhibited high levels of social media usage, with many using social media daily and some even engaging with it multiple times throughout the day (Bashir, I., Malik, A., & Mahmood, K., 2021). The study included a total of 738 participants, with n=510 of them being unmarried and n=228 married. Among the participants, the largest group were pursuing post-graduation studies (n = 350), while the remaining participants were enrolled in various educational levels, including graduation (n = 250), diploma programmes (n = 90), doctorate or other advanced degree programmes (n = 40), and other courses (n = 8). Means and standard deviations for the variables are reported in Table 2.

Table 3: Display the Correlation analysis between Social media use, Trust and Relationship development among female college students.

Variables	SM Usage	Trust	Relationship Development
SM Usage	1		
Trust	.149**	1	
Relationship Development	.073*	.683**	1

** . Correlation is significant at the 0. 01 level (2-tailed). *.Correlation is significant at the 0. 05 level (2-tailed).

Source: Own elaboration

To test Hypothesis 1 (H1), Hypothesis 2 (H2) and Hypothesis 3 (H3) (Relationship between social media usage and Relationship development, Relationship between social media usage and Trust and Relationship

between relationship development and Trust), Pearson correlation analysis was run and results are in Table 3.

The correlation analysis showed a positive relationship between Social Media Usage and Trust ($r = .149$, $p < .001$) and between Social Media Usage and Relationship Development ($r = .073$, $p = .047$). The analysis revealed that these correlations are statistically significant at the 0.01 and 0.05 levels, respectively. The correlation analysis between Trust and Social Media Usage ($r = .149$, $p < .001$) revealed a statistically significant positive correlation at the 0.01 level. The correlation analysis between Trust and Relationship Development ($r = .683$, $p < .001$) also showed a strong positive correlation, significant at the 0.01 level.

The correlation analysis between Relationship Development and Social Media Usage ($r = .073$, $p = .047$) revealed a weak but statistically significant positive correlation at the 0.05 level. The correlation analysis between Relationship Development and Trust ($r = .683$, $p < .001$) indicated a strong positive correlation, significant at the 0.01 level.

Table 3 confirms that there are significant relationships between Social Media Usage and Relationship Development, Social Media Usage and Trust, as well as between Relationship Development and Trust. Thus, Hypothesis 1, Hypothesis 2 and Hypothesis 3 were supported.

Table 4: Regression Analysis of Predictors of Trust.

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Model summary	
	B	Std. Error	Beta				
1	(Constant)	11.361	1.060		10.715	.000	F= 11.874 R= 0.247 R ² =0.061
	SM Usage	.218	.055	.142	3.944	.000	
	Age	1.642	.414	.168	3.971	.000	
	Marital Status	-1.530	.319	-.184	4.798	.000	
	Education	-.141	.290	-.019	.485	.628	

a. Dependent Variable: TRUST; b. Predictors: (Constant), Education, SM usage, Marital Status, Age.

Source: Own elaboration

To test Hypothesis 4 (H4) (Social media use will significantly predict trust), a regression analysis was run with Dependant Variable (Trust) and Predictors (Social media use, Education, Marital Status, Age) in Table 4. Table 4: Presents a regression analysis, with a focus on predictors (independent variables) influencing trust (the dependent variable) among female college students. If a significant value (P-value) is less than alpha (.05), the model is significant. The analysis reveals that $F=11.874$, $p=.000$, and $R^2=0.061$. Hence, 6.1 per cent of the variance in social media usage can be attributed to its impact on Trust. According to the table's R^2 score value, independent variables forecasted 6.1 per cent of the overall variance brought on by the dependent variable. The substantial "f" value = 11.874 demonstrates model fit, and the

predictors included in the model are statistically significant. We projected an increase of 0.142 (Social media use), 0.168 (age), -0.184 (Marital Status), and -.019 (Education). Therefore, we supported Hypothesis 4.

Table 5: Regression Analysis of Predictors of Relationship Development.

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Model Summary	
	B	Std.Error	Beta				
1	(Constant)	19.076	1.253		15.221	.000	F= 10.574 R= 0.234 R ² =0.055
	SM Usage	.108	.065	.060	1.655	.098	
	Age	2.925	.489	.254	5.983	.000	
	Marital Status	-1.284	.377	-.131	3.407	.001	
	Education	-.686	.343	-.080	2.000	.046	

a. Dependent Variable: Relationship Development. b. Predictors: (Constant), Education, SM Usage, Marital Status, Age.

Source: Own elaboration

To test Hypothesis 5 (H5) (Social media use will significantly predict relationship development), a regression analysis was run with Dependant Variable (Relationship development) and Predictors (Social media use, Education, Marital Status, Age) in Table 5.

Table 5: Presents a regression analysis, with the focus on predictors (independent variables) influencing Relationship Development (the dependent variable) among female college students. If the significant value (P-value) is less than the alpha level of 0.05, the model is considered significant. The analysis reveals an F = 10.574 with a P = 0.098 and an R² = 0.055. Therefore, 5.5% of the variance in social media usage can be attributed to its impact on relationship development. As per the R² value in the table, the independent variables collectively account for 5.5% of the overall variance observed in the dependent variable. The substantial "F" value = 10.574 indicates a satisfactory model fit, and the predictors included in the model are statistically significant. It was projected that they would increase by .060 (Social media use), .254 (age), -.131 (Marital Status), and -.080 (education). Therefore, we supported Hypothesis 5.

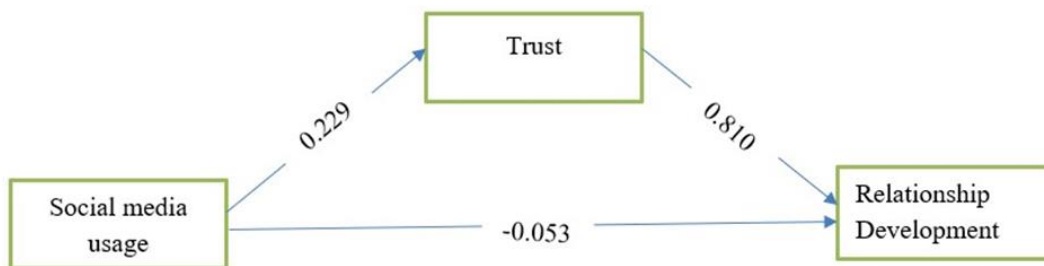
Table: 6 Shows the mediating role of trust in the relationship between social media usage and relationship development

Total effect (SMU→RD)	Direct effect (SMU→RD)	Relationship	Indirect effect	Confidence Interval		Conclusion
				Lower bound	Upper bound	
0.133 (p < .001)	-0.053 (p = n.s.)	Social media usage → Trust → Relationship development	0.186	0.097	0.272	Full Mediation

Source: Own elaboration

To test Hypothesis 6 (H6), mediation analysis was conducted using Model 4 of the Process Macro in SPSS. This study aimed to assess the mediating role of trust in the relationship between social media usage (SMU) and relationship development (RD). The indirect effect of social media usage on relationship development through trust was statistically significant (b = 0.186, SE = 0.043, 95% CI [0.097, 0.272]), indicating that trust mediates the relationship. The total effect was significant (b = 0.133, SE = 0.066, p < .001). However, when trust was included as a mediator, the direct effect of social media usage on relationship development became non-significant (b = -0.053, SE = 0.066, p = n.s.). These findings suggest that trust fully mediates the relationship between social media usage and relationship development. Therefore, we support Hypothesis 6. The mediation summary is presented in Table 5, and the path diagram is shown in Fig. 1.

Fig. 1: The path diagram illustrates the mediating role of trust in the relationship between Social Media Use (SMU) and Relationship Development (RD).



Source: Own elaboration

Discussion

Social media platforms offer a virtual arena for individuals to generate, share, and exchange information and ideas, enabling them to develop connection with others individuals that possess same ideas, desires, needs and objectives (Sharma & Shukla, 2016; Jalaluddin et al., 2019). Among these platforms, university students are active participants in social media, using them as daily tools to connect and communicate with friends while dedicating varying amounts of time to these platforms (Javed, 2019). During this stage of emerging adulthood, identity development becomes a central and pivotal task. These students utilise

social networking and text messaging to establish and maintain relationships with their peers, particularly as their social circles expand during their time in college (Arnett, 2000). Females employ Facebook for diverse purposes, including the maintenance of current relationships, pursuing academic goals, and reconnecting with old friends, all while maintaining a certain level of anonymity (Mazman, S. G. and Usluel, Y. K., 2011).

This study examined social media use, trust, and relationship development through correlation analysis. The data show intriguing patterns that illuminate these variables' complex interaction. The positive correlation between Social Media Usage and Trust ($r = .149$, $p < .001$) suggests that as individuals engage more with social media, there is a corresponding increase in their levels of trust. This result matches up with previous research that highlights the role of social media in fostering connections and building trust (Ellison, Steinfield, & Lampe, 2007). Social media provide spaces for individuals to share information, engage in conversations, and develop a sense of community, contributing to the establishment of trust among users (Kwon & Wen, 2010). The positive correlation between Social Media Usage and Relationship Development ($r = .073$, $p = .047$) indicates that using social media more often is linked to enhanced relationship development. This finding supports the notion that social media serves as a tool for maintaining and strengthening social ties (Vitak et al., 2011). Through online interactions, individuals can build and sustain relationships, transcending geographical barriers (Ellison et al., 2007). The strong positive correlation between Trust and Relationship Development ($r = .683$, $p < .001$) emphasises that trust is essential for the development and expansion of connections. Trust is a fundamental component in interpersonal interactions, influencing individuals' willingness to be vulnerable and share personal information (Mayer, Davis, & Schoorman, 1995). Within the realm of social networking sites, Trust is vital for establishing meaningful connections and maintaining relationships over time.

The regression analysis conducted in this study with the focus on predictors (independent variables) influencing Relationship Development and Trust (the dependent variable) among female college students. The results suggest that $F=11.874$, $p=.000$. $R^2= 0.061$, Hence 6.1 % of the variance in social media usage can be attributed to its impact on Trust and $F = 10.574$ with a $P= 0.098$ and an $R^2= 0.055$. Therefore, 5.5% of the variance in social media usage can be attributed to its impact on relationship development. The results of this study, which were backed up by earlier research, show that the benefits of social connections may rely on how much trust there is in online communities. For instance, Ellison uncovered a positive correlation between Facebook usage, specifically connecting with others through comments and messages, and an increase in social capital (Ellison et al., 2014). This implies that active participation in social media can assist individuals in sustaining and strengthening their social connections. Likewise, Burke found that some types of social media engagement, such as directed communication through posting and Commenting on other individuals' social media content can help increase feelings of social support and reduce loneliness (Burke et al., 2010). This emphasizes the concept that involvement in social media can positively impact social relationships. In this study, the R^2 value for the model examining the impact of social media usage on trust is $R^2 = .061$, indicating that 6.1% of the variance in social media usage is explained by its impact on trust. Similarly, the R^2 value for the model assessing the impact of social media usage on relationship development is $R^2 = .055$, meaning that 5.5% of the variance is explained by this relationship. Although these R^2 values are modest, such values are not uncommon in social science research. As noted in prior literature (e.g., Falk & Miller, 1992; Meyer et al., 2001), low R^2

values may still reflect meaningful and practically significant relationships, particularly when the predictors are theoretically grounded and statistically significant. Human behavior is complex and influenced by numerous factors, many of which may not be included in a single model. Therefore, models with low R^2 can still contribute valuable insights, especially when examining nuanced constructs like trust and relationship development in the realm of social media usage. The findings confirm a full mediation effect since the direct effect of social media use (SMU) on relationship development (RD) is not significant (-0.053 , $p = n. s.$), whereas the indirect effect via Trust is significant (0.186 , 95% CI [$0.097, 0.272$]). Baron and Kenny (1986) assert that full mediation occurs when the direct effect of the independent variable on the dependent variable is not significant, whereas the indirect effect is significant. This is also supported by current mediation analysis techniques, including the bootstrapping method advocated by Hayes (2013), which verifies that the indirect effect is statistically significant. Because the confidence interval for the indirect effect does not contain zero, this constitutes strong evidence of full mediation.

Results suggest that trust plays a mediating role in the relationship between social media usage (SMU) and relationship development (RD). The significant indirect effect of social media usage on relationship development through trust indicates that trust fully mediates this relationship, meaning that the influence of social media usage on relationship development occurs primarily through the establishment and maintenance of trust. This aligns with previous research that has highlighted the significance of trust in online interactions and relationships. The latest study revealed a significant association between increased social media interaction, including individual participation and the strength of social ties on these platforms (Hatamleh et al., 2023). Also Trust evolved as a crucial aspect affecting social connections in the virtual realm. Trust is the primary factor influencing social relationships, and an increase in trust levels positively affects engagement on social media. It leads to strengthening relationships, especially virtual connections. This study emphasises that engagement with social media, the benefits of relationships, and trust play crucial roles in influencing social connections in the digital realm. By leveraging these elements, both individuals and organisations can cultivate deeper connections in the continuously evolving digital landscape. Trust serves as a crucial element in social interactions, whether in physical spaces or digital environments, and it is essential for the formation and sustenance of relationships. The findings of this study indicate that social media platforms act as a conduit for individuals to establish and strengthen trust, which subsequently influences the formation of relationships. The findings indicate that trust fully mediates the effect of social media usage on relationship development, suggesting that social media influences relationships primarily by enhancing trust rather than through direct effects. Numerous studies have already looked at how social media affects relationships, highlighting both the advantages and disadvantages. Positively, social media can help with connection, communication, and experience sharing all of which support the growth of relationships and trust. However, concerns such as privacy risks, misinformation, and the potential erosion of trust remain significant challenges in online interactions.

Theoretical Contributions and Literature Implications

This study adds to the Social Exchange Theory (SET) (Blau, 1964) in that it illustrates that social media use is positively and significantly correlated with trust ($r = .149$, $p < .01$) and relationship development ($r = .073$, $p < .05$). This aligns with the notion that two-way interactions on social media create trust and

reinforce relationships (Gefen & Pavlou, 2019). Moreover, the results also concur with the Commitment-Trust Theory (Morgan & Hunt, 1994), which underscores trust as the basis for sound relationships. The positive correlation between relationship development and trust ($r = .683$, $p < .01$) also supports this, indicating that relationship development and trust increase concurrently, especially within online contexts (Farooq et al., 2022). The findings from the regression analysis show that the use of Social media predicts trust ($\beta = .142$, $p < .001$) significantly and has a marginal effect on the development of relationship development ($\beta = .060$, $p = .098$). The result implies that although social media supports trust establishment, its impact on more profound relationship development can be contingent on other factors like communication style or frequency of interaction (Kim & Park, 2023).

Current studies confirm that social media use promotes trust because of its increased accessibility and transparency (Zhu et al., 2021). Brands, people, and institutions are viewed as more trusted when they appear consistently on SM platforms (Litt et al., 2023). Nevertheless, the relatively low correlation indicates that trust development in social media involves repetitive positive interactions rather than just usage (Farooq et al., 2022). In the same vein, the weak but significant correlation between Social media use and relationship development is consistent with earlier research indicating that, although social media allows first contacts, more meaningful relationship development depends on communication quality or offline contact (Baccarella et al., 2020). The non-significant regression outcome ($p = .098$) implies that mere Social media use is not sufficient to establish strong relationships; quality of engagement counts more than quantity (Kim & Park, 2023).

This study enhances our understanding by merging traditional models of interpersonal relationships, like Knapp's Relational Stage Model, with theories of digital communication, such as Online Trust Formation Theory. This creates a thorough framework for exploring how relationships develop in the realm of social media. Although Knapp's model was initially intended for face-to-face interactions, this research broadens its scope to include online relationships, illustrating how social media alters the way connections progress through digital communication. Recent research indicates that forming relationships online follows different paths compared to offline interactions, with social media speeding up self-disclosure and trust-building thanks to its distinct communication features (Fox & Warber, 2022; McEwan, 2021).

Furthermore, by integrating Social Exchange Theory (SET) and Uses and Gratifications Theory (UGT), this study underscores how personal motivations and perceived rewards in relationships impact trust formation in digital environments. Previous studies have shown that social media facilitates low-cost, low-risk interactions, enabling users to cultivate relationships based on perceived emotional support, self-presentation, and the pursuit of validation (Nesi et al., 2022; Vaterlaus et al., 2021). This study contributes to the literature by showing that trust mediates the relationship between social media use and relationship growth. In addition, this study supports the significance of online trust-building mechanisms in digital communication studies, as supported by recent evidence indicating that trust in online relationships is influenced by message consistency, frequency of communication, and perceived authenticity (Taddicken & Krämer, 2021; Zhao et al., 2023). While trust-building is a core issue in online relationships, this study provides insightful information regarding how social media promotes relational commitment and closeness,

especially in the case of female college students, a group with unique relational attitudes and trust processes in online relations (Boyd & Ellison, 2022). Existing literature corroborates the findings of this study. Scholars have highlighted the role of social media in shaping social interactions and building trust (Ellison et al., 2007; Kwon & Wen, 2010). Trust is considered a cornerstone of relationship development, both online and offline (Mayer et al., 1995). The positive correlation between social media use, trust, and relationship development aligns with a sociotechnical perspective, emphasising the intertwining of social and technological factors in shaping communication patterns (Walther, 1992). By connecting interpersonal relationship theories and digital communication theories, this research is adding to the developing literature around social media and relational growth with a focus on the role of trust in shaping virtual relationships. Future research should continue to study how new technologies (e.g., AI communications, virtual reality) continue to shape digital trust development and relationship maintenance strategies within online communities. The current study's outcomes highlight that trust mediates the relationship between social media usage and relationship development. This nuanced understanding suggests that interventions or strategies aimed at enhancing relationship development in online environments may benefit from targeting trust-building mechanisms. It's worth noting that the insignificant direct effect of social media usage on relationship development in the presence of the mediator illustrates the value of trust as a mediator in this context. This finding suggests that the impact of social media on relationship development is primarily driven by the trust individuals place in the information, interactions, and connections facilitated by these platforms. As individuals increasingly turn to social media for communication and connection, understanding different dynamics becomes crucial for communication studies, psychology, and digital marketing. The statistical analysis supports the significance and fit of the model, indicating that social media usage can account for 6.1% of the variance in trust. These results advance the broader understanding of the subtle relationship between social media and trust, with implications for both research and practical applications.

Limitations

The current model may not account for all relevant variables, and the sample size might impact the generality of the findings. This aligns with a broader discussion in the literature about the challenges of predicting human behaviour, particularly in the context of social interactions. Another limitation implies that only women were surveyed in this current study. Future studies related to this area can repeat the same work with a similar sample of males and attempt to explain any differences that may exist and why they could exist.

Conclusion

This study adds valuable insights to the body of knowledge surrounding social media usage and relationship development. The role of trust as a mediator sheds light on the complex dynamics that govern online relationships, driving home the importance of a deeper understanding of trust-building mechanisms in the context of social media interactions. The results revealed a significant indirect effect of social media

usage on relationship development through trust, while the direct effect was non-significant. This result demonstrates that trust completely mediates the association between relationship development and social media use. Additionally, the study offers empirical evidence of the beneficial correlations among social media use, relationship building, and trust. The observed correlations suggest that social media serves as a key facilitator in fostering trust, which, in turn, enhances relationship development. These findings underscore the need for future research to explore additional factors that influence trust formation in online interactions.

Conflict of interest

No potential conflict of interest was reported by the author(s).

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