Investigating the Usage Patterns and the Implications of Young Adults' Social Media Usage in South Africa

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Abstract. Social media has rapidly grown and become a prominent and integral part of our daily lives. Social media usage has various effects on users. The purpose of this research is to provide an insight on the current social media usage patterns of young adults in South Africa and to explore the implications of social media usage on social interactions. A survey was conducted and the data gathered from 103 participants was analysed. The usage pattern analysis found that most users are followers rather than posters. The following factors were found through exploratory factor analysis: social media dependency, social interaction impact and false self-comparison/impress. It was found that social media usage affects face-to-face conversations and therefore affects the quality of relationships. It was also found that these factors are linked to social norms.

Keywords: Social media · Implications · Usage patterns · Young adults

1 Introduction

Internet access in developing countries is rapidly increasing which has helped bridge the "digital divide", giving people a platform to express their views and giving them a sense of self-empowerment [1]. It has created a vast amount of opportunities for users, due to its extensive capabilities such as providing educational and development opportunities, as well as given rise to the use of social media [1].

South Africa, a developing country, has a population of approximately 57.2 million people [3]. Approximately half of the South African population is present online, there is an estimated 21 million internet users in South Africa [4]. Facebook is ranked the most used social media platform with 2.2 billion users worldwide [5]. It is also the most used platform in South Africa with 16 million active users [6].

Social media has influenced the way people interact and socialize impacting their daily lives [2]. It does not require any prior training/skills to be used and is easily accessible giving it a wide user base [9]. There are various reasons and influencing factors that make people utilize social media and some are common while others vary depending on different factors [7]. Personal influencing usage factors can include personality or human satisfying needs [8]. There are also external influencing factors

such as the intention of use, capabilities of the social media site or the ease of use of the site. Different users may be influenced by different factors in different contexts and environments, therefore influencing their usage patterns [9]. The use of social media has various implications on its users [10].

1.1   Classification of Social Media

There are various types of social media platforms that have a combination of functionalities that allow users to interact in different ways [9]. Various social media platforms, such as Facebook, Twitter, WhatsApp, LinkedIn, YouTube and Instagram help facilitate user actions [11]. These platforms are classified by a type depending on the content generated and the way in which users engage on the platform, since new platforms are constantly evolving and new ones being created, the following model can be used to classify social media platforms based on users' presence/media richness and self-presentation/self-disclosure [2] (Fig. 1).

		Social presence/ Media richness		
		Low	Medium	High
Self-presentation/ Self-disclosure	High	Blogs	Social networking sites (e.g., Facebook)	Virtual social worlds (e.g., Second Life)
	Low	Collaborative projects (e.g., Wikipedia)	Content communities (e.g., YouTube)	Virtual game worlds (e.g., World of Warcraft)

Fig. 1. Classification of social media by self-presentation/self-disclosure and social presence/media richness [2]

1.2   Classification of Social Media Users

Social media users can be classified as posters or followers on social media. Posters are defined as users that post a lot of content and are often seen as influencers. Followers generally don't post content as often but generally appreciate the content posted by "posters" [8]. The following reasons presented in [8] were proposed to explain why users engage in social media and the behaviour they portray on social media, based on the type of user they are and what they use social media for [12]. The 4 main reasons identified were relationship, self-media, creative outlet and collaboration, and the two types of users are posters and followers.

	Relationship	Self-media	Creative outlet	Collaboration
Poster	Self-presentation, Develop relationship	Have an impact, Promote one's self	Hobby sharing, Showcase of creativity	Help others establish reputation/fame
Follower	Develop relationship	Fans of celebrities, Update news and information	Aesthetic content, Entertainment	Learn new things, Find answers/help

Fig. 2. Reasons users engage on social media based on the type of user [12]

1.3   Factors that Influence Social Media Usage

Social media can be used for various activities such as communication, socializing, creating online communities, content creation and sharing, collaboration, marketing for businesses and various other activities [1] therefore serving as a platform for users to express themselves [13]. Various influencing factors and users' individual differences that impact the use of social media, can be factors such as age, gender, personality traits [7], level of computer literacy, trust of the site, ease of use and social influences [12]. Various influencing factors will be discussed below.

Personality. Personality traits influence Facebook usage habits [7]. The Five-factor model, which has been used in multiple studies [12], is based on the theory that an individual's personality can be analysed by determining how they rank in 5 bipolar factors: extraversion, agreeableness, openness to new experiences, conscientiousness and neuroticism. Several of the Big 5 factors have been found to be associated with the way individuals interact with each other and maintain social relationships [7]. A study was conducted in Australia, by [7] applying the personality model to Facebook and found that some of these factors are associated with certain Facebook usage patterns [14]. The study aimed to identify the personality characteristics associated with being a Facebook user or non-user and to determine whether these characteristics are related to the user's usage patterns. The results showed Facebook users are more likely to be narcissistic and extraverted but tend to have stronger feelings of family loneliness. They have higher levels of narcissism, leadership and exhibitionism than non-users. It was also found that non-users of the site are more likely to be conscientious, shy and socially lonely. Overall, it was found that personality characteristics are associated with differential preferences for particular types of Facebook features.

Human Satisfaction Needs. A large and significant part of social media is the "social" factor and understanding how this shapes social media [11]. Social norms and basic human needs have remained the same over many years [15]. Human behavior is

Autonomy	Feeling like you are the cause of your own actions rather than feeling that external forces or pressures are the cause of your actions.
Competence	Feeling that you are very capable and effective in your actions rather than feeling incompetent or ineffective.
Relatedness	Feeling that you have regular intimate contact with people who care about you rather than feeling lonely and uncared for.
Physical thriving	Feeling that your body is healthy and well taken care of rather than feeling out of shape or unhealthy.
Security	Feeling safe and in control of your life rather than feeling uncertain and threatened by your circumstances.
Self-esteem	Feeling that you are a worthy person who is as good as anyone else rather than feeling like a "loser."
Self-actualization	Feeling that you are developing your best potential and making life meaningful rather than feeling you are stagnant and that life does not have much meaning.
Pleasure-stimulation	Feeling that you get plenty of enjoyment and pleasure rather than feeling bored and under-stimulated by life.
Money-luxury	Feeling that you have plenty of money to buy most of what you want rather than feeling like a poor person who has no nice possessions.
Popularity-influence	Feeling that you are liked, respected, and have influence over others rather than feeling like a person whose advice or options nobody is interested in.

Fig. 3. The basic needs for human satisfaction [16]

governed by the satisfaction of these needs [16]. The way in which these needs are satisfied has changed over the years, social media becoming one of the channels for this [8]. There exists 10 candidate needs that are satisfying to human nature and are ranked as follows 8:

"To derive a set of candidate needs for the study, we drew from a variety of psychological theories. As a foundation we used Deci and Ryan's self-determination theory of motivation (1985, in press), which specifies that people want to feel effective in their activities (competence), to feel that their activities are self-chosen and self-endorsed (autonomy), and to feel a sense of closeness with some others (relatedness)" [16]. The identified needs that are satisfying to human nature can be categorized by the reason of social media use and the type of user [7], which can be seen in the table below (Fig. 4).

	Relationship	Self-media	Creative outlet	Collaboration
Poster	Relatedness, Self-esteem	Popularity-influence, Money-luxury^	Self-actualization, Competence	Competence, Self-actualization
Follower	Relatedness	Self-esteem, Relatedness	Pleasure-stimulation	Autonomy

Fig. 4. Table combining the type of user and human satisfaction needs [8]

Uses and Gratifications of Using Facebook. The use and gratification theory explains that the psychological and social needs motivate users to utilize different social media platforms based on the functionalities available to the user [17]. "The basic premise of uses and gratifications theory is that individuals will seek out media among competitors that fulfills their needs and leads to ultimate gratifications" [18]. Combining the work of [18] and [17], the following are the factors derived as the top 10 uses and gratification themes: social interaction, information seeking, pass time, relaxation, entertainment, expression of opinions, communicatory utility, convenience utility, information sharing, surveillance/knowledge about others.

1.4   Social Norms

Social interactions are governed by social norms which have existed for many years, they are a set of unwritten rules that govern social interactions and behaviour which are considered acceptable by society [15]. These norms originate from individual attitudes and behaviour to create group norms which are accepted by a group consensus and on the other hand these norms influence an individuals' attitude and decisions consequently shaping, constraining and redirecting behaviour. There are also various influencing factors on social norms, such as societal approval and establishing status. Social norms also vary depending on the group that establishes the norm and the environment of the individual [19]. These norms are shared amongst groups that usually share common values. A norm may not be inherently good or valuable but it gets passed along depending on the values accepted by people. Social norms can help shape the desire to act effectively, build and maintain relationships with others and maintain self-image [15]. There are two types of social norms: injunctive and descriptive norms. Injunctive norms are perceived moral rules of a group, they are what

is accepted and seen as appropriate behaviour. Descriptive norms, also known as typical behaviour, are the norms that are actually followed, and help reflect the kind of behaviour that is prevalent in a given setting [20].

It is human nature to want to fit in and be accepted by society. Humans are motivated to behave in ways that are effective in achieving their goals and this behavior is influenced by the environment in which they exist [15]. When people conform to norms, this results in positive external benefits such as inclusion and approval from the group they conform to and establishing a high or acceptable status within this group [20]. People are social beings [11], they aim to build and maintain relationships with those around them by following the norms of the group of people they wish to be a part of. To be a part of this group and accepted, they also need to maintain self-image. These social constructs and interactions have existed for many years and continue to exist in the world today [11]. These existing concepts have been integrated with social media as it has become a new environment for socialization [8]. Measuring norms can be done in two ways by observing the behaviour over time or individuals can be asked to report on their behaviour, by answering specific questions provided [21].

2   Research Design

The purposes for using an inductive approach are to (a) condense raw data into a brief, summary format; (b) establish clear links between the evaluation or research objectives and the summary findings derived from the raw data; and (c) develop a framework of the underlying structure of experiences or processes that are evident in the raw data [22]. The study aimed to explore the influence of social media on social interactions. A quantitative strategy was best suited for this study as it aimed to quantify data and generalise results from a sample of the population of South Africa.

The target population for this study is South African social media users, aged 18–25. This group was chosen as it has the largest active social media user group [13] and are more technologically aware [13], therefore they will be more comfortable and able to participate in an online questionnaire. The South African population is 57.2 million, with approximately 21 million internet users. There are an estimated 16 million Facebook users and about 3 million users aged between 18–25 years [6]. Facebook is the most used social media platform so Facebook users were chosen as the target population because the number of general social media users was difficult to obtain. For the purposes of this study with a population size of 3 million users, a 95% confidence level and 5% margin of error, a good representation will be 385–400 respondents. There were only 117 respondents to the questionnaire, therefore analysis had to be conducted on this set of data as it was the best representation obtained.

Online Questionnaires were used as it was assumed that respondents have internet access since they are social media users, making it convenient for them to respond to the survey. Online questionnaires can be freely distributed, making it easier to obtain a large sample and makes the storing of the recorded data centralized and consistent [25]. Online questionnaires ensured confidentiality allowing for respondents to feel comfortable to provide honest and open feedback [24]. Google forms was the medium used to collect data for this study.

Participation in the study was voluntary and users were guaranteed anonymity. Participants were informed about the background of the study and its purpose in the cover letter of the questionnaire. Participants were required to give consent before proceeding to participation in the study.

2.1 Research Questions and Objectives

The main goal of this study is to investigate the implications of social media use on the social interactions of young adults in South Africa. This will be achieved by:

- investigating user's social media usage patterns
- analysing the implications social media has on users' social interactions

These goals will be achieved by addressing the following questions:

The main research question is:

What is the impact of social media on social interactions of Facebook in South Africa, on users aged 18–25?

Research sub-questions:

- What is the Facebook usage pattern of young adults (18–25 year olds) in South Africa?
  To answer this question the following questions need to be answered:
  - How much time do users spend daily, using social media?
  - What activities do users engage in on social media and which is the most frequent activity engaged in?
- What implications does the use of social media use have on social interactions?
  - Do people ignore their work/daily activities because of social media usage?
  - Do people pay more attention to their phones during a conversation?
  - How do other people's online presence influence users?

2.2 Hypotheses

The following hypotheses were developed to answer the research sub-questions posed and formulated based on the literature that has been researched.

Hypotheses for the usage pattern:

H1: Social media users use social media every day and spend approximately 4 h a day using social media.

H2: Users spend more time scrolling through content posted by others, than updating their statuses and posting pictures.

Hypotheses for the implications of the use social media:

H3: People prioritize their work/daily activities over social media usage.

H4: People are easily distracted by checking their phones during a conversation.

H5: Other people's online behaviour affects users' self-esteem and self-presentation.

3   Research Analysis and Findings

The demographic information gathered for this study was the age and gender of the participants. Statistical analysis was carried for the first half of the analysis to gain an insight on the usage patterns of social media users in South Africa. Exploratory factor analysis was carried out for the second part of the analysis to assist with gaining an insight on the implications of social media usage.

Demographic Information. The age and gender of the participants was recorded to ensure participants were in the correct age category and to ensure a diverse group of individuals. The research yielded 117 respondents but 12% (n = 14) of responses had to be disregarded as these respondents were in the wrong age category, therefore only 103 responses were used for this study. Out of the 103 responses, there were 39.81% (n = 41) male respondents, 58.25% (n = 60) female and 1.94% (n = 2) chose not to specify.

Statistical Analysis. Statistical analysis helps identify patterns and trends in data that has been collected [25], therefore it was used for the first part of the analysis as the first aim of this study was to look at the usage patterns of social media users.

How Often Users Glance at Their Phone. Users were asked to choose a time interval that most appropriately described how frequent they glanced at their mobile phones to check for notifications. Approximately 33.98% (n = 35) of respondents reported that they glance at their phones every 10–20 min, approximately 27.18% (n = 28) reported they glance within 5-10 min and 18.45% (n = 19) respondents every 20–30 min. Therefore majority of users, 79.61% (n = 82), glance at their phones at least every 30 min. 2.91% (n = 3) of respondents admitted to looking at their phone every minute, 13.59% (n = 14) of respondents every hour and the 3.88% (n = 4) that specified how often they glance at their phones, stated they would at more than an hourly rate.

Rank Activities Engaged in on Mobile Phones. Users were asked to rank the activities they engage in on their mobile phones, the 6 activities that were presented in the survey were: social networking, music/videos, email, news applications, online shopping and online gaming. Respondents were required to rank these activities on a scale of 1–6 where 1 represented most frequent and 6 represented the least frequent.

The results indicate the most frequently engaged-in activity on mobile devices is social networking, followed by listening to music/watching videos, then email, news applications, online shopping and lastly online games.

Likeliness to Use Social Media on a Typical Day. Users were asked to indicate their likeliness of social media usage on a typical day, using a scale of 1–5 ranging from 1 - very likely to 5 - very unlikely. The results showed that majority 65.05% (n = 67) of respondents reported that they are very likely to use social media on a typical day. 8.74% (n = 9) were likely, 5.83% (n = 6) neutral, 6.8% (n = 7) unlikely and 13.59% (n = 14) very/highly unlikely.

Amount of Time Spent Using Social Media. Since the study intends to gain insight on the usage patterns of social media users, respondents were asked to indicate the amount

of time they spend using social media, it can be seen that 91.26% (n = 94) of users spend 1–6 h utilizing social media. Only 2.91% (n = 3) spend less than 1 h and 6.80% (n = 6) spend more than 6 h using social media on a typical day.

A better insight on what activities users engage in on social media can be gauged from the following 2 questions that were asked.

Amount of Time Posting Content. First users were asked how many hours they spend posting content and only 2.92% (n = 3) respondents said they spend more than 2 h posting content on social media, where 0.97% (n = 1) spent 2–4 h, 0.97% (n = 1) spent 4–6 h and 0.97% (n = 1) spends more than 6 h. 97.01% (n = 100) respondents reported that they spend 0–2 h posting content on social media.

Activities Engaged in While Using Social Media. Users were then asked to rank the activities they engage in from most frequently to least frequently. The results show that the activity that is engaged in most frequently is scrolling through content, followed by posting pictures which is closely followed by the updating of statuses.

3.1 Exploratory Factor Analysis

Since an exploratory approach was used, exploratory factor analysis was carried out to analyse the data. EFA is a complex multivariate statistical approach involving many linear and sequential steps, which is used to uncover the underlying structure of a relatively large set of variables and identify the relationships between measured variables [26]. The survey presented a set of 24 statements, also referred to as items, based on the literature and required the respondents to declare how suitable each statement applied to them on a scale of 1–5, this is how these variables were measured. Therefore the exploratory factor analysis method was best suited for this study. IBM SPSS Statistics, an analysis software program was used to perform this part of the analysis and extract the factors. The guidelines and steps proposed by [25] was used for the factor analysis.

First a correlation matrix was created to show the relationship between the items that were presented to the respondents. The variables with high inter-correlations could be measuring an underlying variable, called a factor [25]. Each item is compared with every other item and gets a value between −1 and 1, the higher the value, the stronger the relationship is between the items and the lower the value, the weaker the relationship is between the items. Bruin [25] recommends inspecting the correlation matrix (often termed Factorability of R) for correlation coefficients over 0.30. The factor loadings can be categorised using another rule of thumb as ±0.30 = minimal, ±0.40 = important, and ±.50 = practically significant. It is also recommended that the ratio of the data sample and variables be a 1:5, 1:10 or 1:20 [26]. The ratio for this study was 1:4.29.

Before extracting factors, several tests need to be conducted to ensure the data can be accurately analysed and to assess the suitability of the data for factor analysis [26]. The Kaiser-Meyer-Olkin (KMO) test is used to measure the adequacy of the sample. The first test that was conducted was the KMO test which is recommended when the variable ratio is less than 1:5. The KMO index ranges from 0 to 1, with a value greater

than 0.5 which is considered to be suitable for factor analysis. The second test conducted was the Bartlett's Test of Sphericity which should be significant ($p < .05$) for factor analysis to be suitable [25]. The table below shows the KMO of Sampling Adequecy and Bartlett's Test of sphericity produced by IBM SPSS (Fig. 5).

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.716
Bartlett's Test of Sphericity	Approx. Chi-Square	896.236
	df	276
	Sig.	0.000

Fig. 5. Results of KMO and Bartlett test

The results indicate that the KMO is >0.5 and the Bartlett's Test of Sphericity significance is <0.05, therefore the data collected was suitable for factor analysis.

Once the data was deemed suitable for factor analysis, the factor extraction process followed. Multiple extraction techniques and rules exist, and it is suggested that multiple approaches should be used for factor extraction [24]. The approaches used in this study are: the Scree test, Kaiser's criteria (Eigenvalue > 1) and the cumulative percent of variance extracted.

The cumulative Percentage of variance and Eigenvalue > 1 rule varies across disciplines of research as no fixed threshold exists, some researchers believe factors should be stopped when at least 95% of the variance is explained and some have as low as 50–60% [26]. The results of this study show a cumulative percentage of variance 24.29% and a total of 8 factors have an eigenvalue > 1, which was taken from the Total variance table.

The Scree test approach plots the eigenvalues with the components and helps the researcher determine how many factors will be extracted. A Scree plot was produced, giving affirmation that 8 factors would be extracted.

A component matrix was then created, showing the relationship between the factors and the individual components.

The next step was to create a rotation matrix, this helps determine which items relate to which factor, items may relate to more than one factor but will relate more to one of the factors. Orthogonal rotation was used for this analysis.

The final step of this process is to check the reliability of these factors by using Cronbach's alpha. The Cronbach's alpha is a measure of internal consistency, how closely related the items in a factor are. This involves calculating the Cronbach's alpha of each factor that has been extracted, if the value is greater than 0.7, the factor is reliable, if not the factor should be removed. After calculating the Cronbach's alpha for each factor and it could be seen that there are only 3 credible factors.

List of the Items Categorized by Factors
Factor 1: Social media dependency

- I spend more time on social media than I think I should.
- I ignore my work because of social media usage.
- My family tells me that I spend too much time on my phone.
- I keep my phone out and present during any conversation.
- I can't imagine my life without using social media.

Social media dependency is when users are reliant on the use of social media and prioritize social media above priorities or obligations.

Factor 2: Social interaction impact

- I feel disrespected when my friends phub. (Phubbing – using a phone during a conversation and ignoring the person talking to me)
- I feel unheard when my friends phub.
- I feel disconnected when my family/friends glance at their phones during a conversation
- I feel my friends phub all the time.

This factor looks at the impact of others actions on the individual, focusing on in-person/physical interactions.

Factor 3: False self-compare/impress

- I wish my life was as 'exciting' as my friends'.
- I want the world to know I have a great life.
- I 'like' a post to please the 'friend' who posted it.
- Too many pictures posted by someone irritates me.
- I admire my friends' pictures posted online.

The false self-compare/impress factor categorizes the items that drive the person's behaviour where they may present a false persona to impress others or compare to others.

4   Data Results

The results showed that people glance at their phones at least every half an hour. They are also highly likely to use social media on a daily basis. 91.26% (n = 94) of respondents claimed to spend 1–6 h using social media daily but the results also showed that users spend only 0–2 h of posting content, therefore supporting H1. When asked to rank the activities they carry out the most when using social media, it was found that scrolling through content was ranked as the highest, these results support H2. These participants can be classified as followers based on [8]'s definition.

When presented with various activities to engage in on mobile devices, social media was ranked as the most frequent activity. The use of social media satisfies all basic human needs and gratifications as identified by [16] and [18]. The other activities can only satisfy some of the basic needs and therefore social media is shown to take preference above other activities. The watching of videos and listening to music ranked

second as this satisfies the entertainment or pleasure stimulation need. The use of email gives the gratification of social interaction as it is used for communication purposes. The use of news applications ranked fourth which satisfies the need to seek out information. Online shopping was ranked fifth and (satisfies) the money-luxury need, and lastly, online gaming also satisfies the pleasure stimulation need. The ranking of these activities show which human satisfaction needs are valued more above others.

The exploratory factor analysis, produced the following factors: social media dependency, social interaction impact and false self-compare/impress. The first research sub-question based on the implications of social media use, questions whether people prioritize social media or other obligations and the hypothesis stated that people stick to their obligations but the results do not support H3 as it is the highest contributing factor meaning that people do prioritize social media over their obligations. This ties in with the first factor, social media dependency. The second factor that was extracted is the social interaction impact, this factor supports H4 which ties in with the study conducted by [23] and also claimed that this is influencing the quality of relationships as there is a shift from deep meaningful conversations to shallow short conversations due to the presence of a distraction. Factor 3 is about the false presentation of an individual on social media due to the fact that they want to be impressionable on social media, therefore H5 is also supported and this is influencing users' online behaviour.

These 3 factors can be linked to the 3 main social norms that were discussed where factor 1 links to the norm, act effectively, factor 2 relates to building and maintaining relationships and factor 3 is related to self-image. The usage patterns showed an excessive amount of social media usage and these users being classified as followers due to their online behaviour of predominantly scrolling content compared to posting content, therefore high social media usage has an impact on a user by making them dependable on social media, influencing their in-person social interactions and impacting their online self-presentation.

5 Conclusion

Prior research has extensively studied the reasons behind why people use social media. These include the personality, human satisfaction needs, gratifications, the technology acceptance model and a few others. Social media is growing rapidly and does have an impact on its users. An online survey was conducted and the data of 103 respondents were analysed. This study focused on participants aged 18–25 who were South African, social media users.

The first aim of this study was to investigate the usage patterns of social media users, by doing so this gave an insight to the amount of time people spend using social media and what activities they engage in while using social media. Statistical analysis was carried out to gain insight on the data gathered for this part of the study, which showed users spend a lot of time using social media but most of this time spent scrolling through content rather than posting content.

The second aim of this study was to determine the impact social media has on its users. Through an online questionnaire, data was gathered and analysed using

IBM SPSS. The results showed that the use of social media does have an impact on its users. The factors that were identified were social media dependency, the impact on social interactions and the impact on self-compare/impress, which can be linked to the 3 social norms which are to act effectively, build and maintain relationships and maintaining a self-image. All hypotheses besides H3 were supported by the results of the study and therefore answered all proposed research questions.

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