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A Linguistic Analysis of Emoji's: Exploring the Role of Language in the Digital Age of Generation Z

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ABSTRACT

This study investigates young adults' use of emoticons (emojis) in India, focusing on their effectiveness in digital communication. It aims to understand factors influencing their use and their potential impact on social inclusion, using a quantitative approach and a structured questionnaire to understand the factors driving emoji usage. The study's major results indicate that intention to use emojis during virtual communication is significantly influenced by factors such as accuracy, sociability, enjoyment, and efficiency, which together account for 16.4% of the variance. The most significant factor among them is sociability, as respondents agreed that emojis make online communication more social and interactive. The results will aid in comprehending the significance and utility of emojis and how their use can facilitate effective virtual communication among users. The study proposes a statistically significant model to determine the usage and effectiveness of emojis as a new form of digital communication.

INTRODUCTION

The technological era has brought about a number of changes in the way day-to-day activities take place. With internet based applications available for any service, the technological revolution has also altered the traditional communication methods. There are a number of virtual communication mediums being set up by various companies in order to strengthen networking and communication among individuals. The methods of such communication have led to the advent of a number of new concepts of interacting and communicating online. One such concept is the use of emoticons or emojis to express oneself during a conversation occurring virtually. The word is formulated by combining two words which are emotion and icon (Chen & Siu, 2017). It basically refers to an icon that aids an individual to express their emotion. The emojis are constructed either in a static form or in an animated version. It can be characterised as a combination of alphabets, numbers, letters, marks and many more. These emojis are specifically very helpful in instant messages that are very often used in the present times to communicate among themselves (Rodrigues *et al.*, 2022). The study investigates emoji usage among young adults in India, focusing on patterns and motivation in addressing the digital divide and promoting equitable technology access. It also explores factors influencing virtual communication, promoting robust online systems and skilled digital communication practices.

Theoretical Framework

Sociolinguistics

Sociolinguistics explored among the language and the society for analysing the emojis in the context of Generation Z has involved in understanding how certain emojis or emoji have been associated with specific social groups, sub-cultures or linguistic communities (Heller, 1984).

Digital Communication Theories

In a Digital Communication System, the messages produced by the source, often in analogue form, undergo conversion to digital format before being transferred. At the recipient's end, the received digital data is transformed into an analog format, representing an approximation of the original message (Lee & Messerschmitt, 2012).

LITERATURE REVIEW

Impact of Emojis on Conveying Emotions and Adding Nuance

Emojis, emoticons, and human faces all communicate emotional information, although emojis are the most easily identifiable for certain emotions, followed by human faces and emoticons (Fischer & Herbert, 2021). Emojis in interpersonal communication serve as compensation and persuasion tools, influencing perception through logical and emotive aspects (Khymytsia & Kolos, 2018; Koltsova & Kartashkova, 2022). Emojis in electronic communication are transforming digital culture, potentially exposing unexpressed information and potentially impacting decision-making in legal proceedings (Wagner *et al.*, 2020). One of the examples included in which social media influencers use intricate and strategic emojis to stimulate interaction and fulfil various persuasive and communicative objectives (Ge & Gretzel, 2018). Emoji are crucial in modern communication, allowing users to express body language, objects, symbols, or thoughts using Unicode pictographs and logographs, and are used by social media influencers for persuasive purposes (Kralj Novak *et al.*, 2015; Santamaría-Bonfil

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& López, 2019). Emoticons in business emails serve as visual representations of authors' emotions, providing information on the intended interpretation of a statement. They serve as contextualisation indicators, organising interpersonal relationships in written communication (Thompson & Filik, 2016).

Emoji's as Conflict Avoidance or Disagreement Indicators

Emoji's used in internet communication provide psychologists with a unique chance to examine current human behaviour and uncover insights about contemporary human behaviour (Kaye *et al.*, 2017). Emoji's enhance technology communication by providing fundamental elements that are frequently lacking in textual interactions, like those seen in face-to-face contact (Ahmad Sabri *et al.*, 2021; Andrade Jr *et al.*, 2020). Emoji sentiment is agreed upon by 82% of readers and writers, with negative emojis causing a 26% decrease in emotion, but no correlation exists between emoji use and moodiness (Al-Azani & El-Alfy, 2021). Emojis, pictorial representations in text messaging, have increased in prevalence, particularly non-facial ones representing things. This study investigates if emojis depicting things also communicate emotions (Boutet *et al.*, 2021). 86% of paediatric dental patients favour the Emoji scale, and it has a moderate level of agreement with the Wong-Baker FACES scale, indicating that it is very effective for communication purposes. (Nagarwal *et al.*, 2022). Emoji characters represent the tension between emotions' creative potential and their limitations in a market-oriented digital economy, highlighting the creative influence of emotions (Luxmoore *et al.*, 2023).

Emojis help alleviate challenges in message-based communication, but individuals' self-articulation and message significance can hinder effective communication (Dan & Zamfirescu, 2022).

Suggestions for Future Research on Emojis and Communication

The study has provided its results on two fronts, one for the one using the emojis and the other with respect to the ones viewing the emojis (Rodrigues *et al.*, 2022). It is found that for the users of emojis, it is the functions, frequency of use and popularity that play a significant role. The profile of the emoji user is often considered a point of consideration by the receiver of the emojis (Koch *et al.*, 2022). The study about emojis and their use in communications between teachers and students in higher education (Veytia-Bucheli *et al.*, 2020). The use of emojis in the case of communication formulation among brands and consumers (Manganari, 2021). Younger consumers are more favourable towards brands using emojis to convey their messages. (Crombie, 2020)
based their study on a very interesting aspect of emojis, which includes the adequacy of their use. The study focused on understanding the levels of using emojis for the distant and the close senders of the messages (Cavalheiro *et al.*, 2022). Also, the use of emojis should be limited for the distant senders and can be used at a comparatively higher level for the close senders (Hand *et al.*, 2022). Moreover, it identified the opportunities that are brought about by emoji usage in building brand communication. The use of emojis can be considered an essential element in building communication among brands as it can generate a high level of engagement among its consumers (McShane *et al.*, 2021). Its use in customer service can show a sense of care and positivity. Further it has been investigated the linguistic role of emojis when establishing communication in the online domain. The results of the study have shown that emojis can act as grammatical elements in language as well as a vehicle of sign. It does produce a semantic and syntactic element in establishing communication in social media. The study, conducted among 143 EFL learners in Saudi Arabia, found that emoji usage significantly impacts their language skills, despite its importance in interpersonal communication, and negatively affects their writing abilities (Aljasir, 2023). The study examines the impact of emojis on online communication and their usage in a digitally divided country, focusing on their motivations and usage patterns.

RESEARCH METHODOLOGY

The study used rigorous research to gather data on the usage and perceptions of emojis among adults aged 15-30. Further, a quantitative research approach has been employed in using a structured questionnaire with a 5-point Likert scale (Dourado *et al.*, 2021). The study employed non-probabilistic, non-probabilistic purposive sampling and analysed the results using the Principal Component Analysis. However, the findings have shown objective insights into the usage and perceptions of the emojis used in this group. The subsequent section provides a comprehensive analysis of the collected primary data, delving into the details and findings derived from the data set.

Data Analysis & Interpretation

The data from young adults has been analysed while using SPSS, one of the widely used statistical software in giving a comprehensive breakdown related to the findings. The initial section of the study focuses on providing an overview of the demographic composition of the respondents. While the age group was specified as 15 to 30 years, the frequency distribution of respondents across different age categories and other essential demographic variables is presented in table 1 below. This table offers insights into the representation and diversity of the participant demographics in the study.

Table 1: Demographics

Variables	Total	%
Gender		
Male	117	45
Female	141	55
Age Group		
15-18 years	77	30
19-21 years	77	30
22-25 years	65	25
26-30 years	39	15
Education Level		
Undergraduate	129	50
Graduate	51	20
Post Graduate	65	25
Doctorate	13	5
Earning Status		
Earning	65	25
Non-earning	193	75
Marital Status		
Married	26	10
Unmarried	232	90
Widow/Separated		

Table 1 displays a nearly equal distribution of male and female respondents, with a majority being at the undergraduate level. Considering the age group starting from 15 years, it is observed that 74.8% of the respondents did not have their earnings, indicating that they were financially dependent. Additionally, 89.9% of the respondents were unmarried, suggesting a predominantly unmarried population within the study sample. The questionnaire included several preliminary questions to gain insights into the usage behaviour of emojis among the respondents. The results of these questions are presented in graph 1 below, providing visual representations of the responses.

The data in Table 2 reveals that a significant majority of respondents, accounting for 84.9%, reported using emojis frequently in their messages on social media platforms. This indicates a high level of engagement and reliance on emojis as a means of communication in the online context.

Table 2: Frequencies of How often do you prefer to use emojis when sending a message across social media platforms?

How often do you prefer to use emojis when sending a message across social media platforms?	Counts	% of Total	Cumulative %
Sometimes	39	15.1 %	15.1 %
Very Often	219	84.9 %	100.0 %

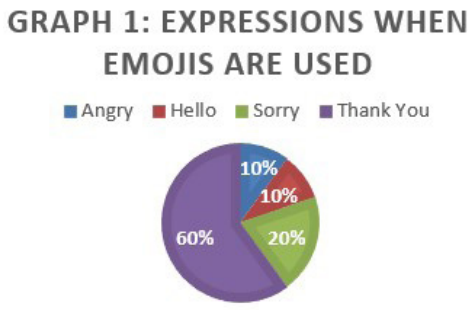

Figure 1: Expressions when emojis are used

The second question inquired about the situations in which respondents prefer to use emojis the most. The graph1 above clearly indicates that a majority of respondents, accounting for 60%, prefer to use emojis when expressing gratitude and saying "Thank you." This is closely followed by the situation of apologising or saying "Sorry." These findings suggest that emojis are commonly used to convey emotions of appreciation and remorse, highlighting their significance in expressing extreme emotional states in virtual communication.

Table 3: Frequencies of Which type of emoticons do you mostly use when texting?

Which type of emoticons do you mostly use when texting?	Counts	% of Total	Cumulative %
Funny stickers	39	15.1%	15.1%
Yellow Face Emojis	219	84.9%	100.0%

The table presented above indicates that the majority of respondents, totalling 84.9%, reported using yellow face emojis commonly found on various apps. The finding has shown a preference in terms of traditional and widely recognised emojis that have shown universal understanding. Around 15.1% of the participants were used with funny stickers, which has suggested more prefer traditional emojis that are more playful visual for virtual communication. Principal Component Analysis was used in finding the factors in 19 questionnaires that used Varimax rotation in maximising the factor loadings and giving a comprehensive understanding related to the relationship between items and factors. Further, in this section the study has also conducted the KMO test and Bartlet Test of Sphericity in assessing the sampling adequacy of the data before proceeding with PCA. KMO test has been measured through the sustainability of the data for factor analysis with a higher value than 0.7, which indicates good sampling adequacy. Further, the Bartlet test of the Sphericity test has shown a null hypothesis that the correlation matrix has shown an identity matrix, indicating the variables that are not related. Also, a p-value less than 0.05 suggested that the correlation matrix has shown a significant difference from the identity matrix as this has supported the sustainability of the data for PCA.

Table 4: Bartlett's Test of Sphericity

χ^2	df	p
3144	171	< .001

KMO value is measured to be 0.797, and the above table has shown a p-value that is less than 0.01, which has shown the sampling requirements that should be met. Further, the table has shown requirements in conducting PCA that have included sampling adequacy and the significant correlation among variables that have been met.

Table 5: Component Loadings

	Component					
	1	2	3	4	5	Uniqueness
I think emojis can clearly reflect my mood during communication.					0.538	0.545
Emojis help to reduce misunderstandings during a conversation.					0.481	0.377
Emojis can increase the accuracy of information used during communication.					0.798	0.238
Emojis can improve the efficiency and effectiveness of communication.					0.686	0.453
The use of emojis can help remove awkwardness during a conversation	0.614					0.25
Emojis make the communication process more fun and fluent	0.871					0.21
Emojis can be used to express things which are difficult to communicate in personal life	0.637					0.159
The use of emojis helps to make the socialisation process easier	0.726					0.457
Suitable emojis help make people feel comfortable.			0.851			0.232
The use of emojis helps in making communication positive.			0.756			0.306
Emojis can give a pleasurable experience in communication.			0.737			0.446
Using emojis during communication helps give a relaxed and enjoyable experience.			0.541			0.556
I use emojis to make the conversation vivid and fluid.		0.823				0.306
Emojis can help in providing verbal clues to represent non-verbal communication.		0.872				0.157

The use of emojis helps me to reply quickly.		0.655				0.558
The information transmission is smooth using emojis.		0.863				0.218
I will continue using emojis in my future communications.						0.134
I will suggest my friends and family use emojis when communicating virtually.						0.635
I intend to continue using emojis in communicating with everyone.						0.162

Note. 'varimax' rotation was used

According to the criteria of factor loadings greater than 0.4, as mentioned, for a sample size of more than 200, a total of five factors have been extracted from the data, as shown in Table 5 above (Shrestha, 2021). These factors have been defined based on their characteristics and the items that contribute to each factor. The factor analysis helps to identify the underlying dimensions or constructs that explain the variability in the responses related to emoji usage.

Table 6: Factor

Factor Name	**Factor Definition**	**Total Number of Items**
Accuracy	It refers to the use of emojis to be able to express one's genuine emotion while communicating virtually	4
Sociability	This defines the ability to use emojis in virtual communication to enhance the level of interaction between the sender and the receiver	4
Enjoyment	It is related to the level of enjoyment one feels when using emojis to communicate in a virtual scenario	4
Efficiency	This factor refers to the ease and convenient flow of information facilitated by the use of emojis	4
Intention to Use	It represents the intention to further use emojis for building communication in the virtual medium	3

These factors mentioned in Table 6 were used to understand the variance caused by the intent to use these emojis. A multiple linear regression is initiated in the next section, where the intention to use has been considered as the dependent variable, and the remaining four factors are represented as independent variables.

Table 7: Model Fit Measure

Model Fit Measures							
				Overall Model Test			
Model	**R**	**R^2**	**Adjusted R^2**	**F**	**df1**	**df2**	**p**
1	0.42	0.18	0.164	13.6	4	253	< .001

Table 8: Model Coefficient

Model Coefficients - Intention to Use				
Predictor	**Estimate**	**SE**	**t**	**p**
Intercept	0.554	0.6722	0.824	0.411
Accuracy	0.114	0.0444	2.565	0.011
Sociability	0.433	0.0608	7.128	< .001
Enjoyment	0.24	0.062	3.865	< .001
Efficiency	0.177	0.046	3.837	< .001

The regression model generated in this study shows a statistically significant relationship, as evidenced by the p-value of less than 0.001 in Table 8. The adjusted R2 value, which represents the proportion of variance explained in the dependent variable (intention to use emojis), is found to be 0.164. This indicates that the independent variables included in the model (the extracted factors) collectively account for 16.4% of the variance in the intention to use emojis among the respondents. The coefficients generated in the regression model indicate

that all four factors extracted from the PCA have p-values less than 0.05, suggesting that they have a statistically significant influence on the use of emojis. The estimates indicate that among the four factors, sociability has the highest influence, with a coefficient of 0.433. Emoji usage is primarily driven by social interaction, enjoyment, and efficiency, with respondents primarily using them to enhance communication and enhance social interactions. Demographics of respondents significantly influenced the use of emojis, with sociability and emotional expression being key factors. t-tests and One-way ANOVA analyses were performed.

Table 9: Independent Sample T Test

Independent Samples T-Test-Gender				
		Statistic	**df**	**p**
Accuracy	Student's t	-8.51	256	< .001
Sociability	Student's t	1.49	256	0.138
Enjoyment	Student's t	-1.02	256	0.308
Efficiency	Student's t	1.62	256	0.106

Table 10: T Test

Independent Samples T-Test- Income Status				
		Statistic	**df**	**p**
Accuracy	Student's t	-1.21	256	0.226
Sociability	Student's t	-4.27	256	< .001
Enjoyment	Student's t	-2.72	256	0.007
Efficiency	Student's t	3.09	256	0.002

An independent samples t-test was performed on two demographic variables, namely gender and income level, each consisting of exactly two categories. The analysis revealed a significant mean score difference based on gender, specifically for the accuracy factor. However, when considering income status, statistically significant differences were found for the other three factors, excluding accuracy.

The remaining three demographic variables were subjected to one-way ANOVA. It's worth noting that, except for age, there were no significant differences in mean scores observed across the four categories for marital status and education level. However, when grouped by age, all four variables exhibited statistically significant differences. To identify the specific points of difference, Games-Howell post-hoc tests were conducted, and the results are presented below in Table 11.

In terms of accuracy, the mean score differences between respondents aged 22 to 25 and those of the other three age groups are statistically significant.

Table 11: Games-Howell Post Hoc Test Accuracy

		15-18	**19-21**	**22-25**	**26-30**
15-18	Mean difference	—	-0.00649	-0.138	0.079
	p-value	—	0.999	0.003	0.388
19-21	Mean difference		—	-0.131	0.0855
	p-value		—	0.026	0.41
22-25	Mean difference			—	0.2167
	p-value			—	< .001
26-30	Mean difference				—
	p-value				—

Table 12: Games-Howell Post-Hoc Test – Sociability

		15-18	**19-21**	**22-25**	**26-30**
15-18	Mean difference	—	-0.156	-0.108	0.0291
	p-value	—	< .001	0.017	0.897

19-21	Mean difference		—	0.0478	0.185
	p-value		—	0.619	< .001
22-25	Mean difference			—	0.1372
	p-value			—	0.015
26-30	Mean difference				—
	p-value				—

As shown in Table 12, there is a difference in sociability among the age groups, except for the 15-18-year-old age group. Specifically, the 19-21-year-old and 22-25-year-old age groups exhibit variations in their sociability. Furthermore, the 26-30-year-old group differs from both the 19-21 and 22-25-year-old age groups in terms of sociability.

Regarding enjoyment, it is evident in Table 13 that respondents between the ages of 15 and 18 have significantly different mean scores than all other age groups.

Table 13: Games-Howell Post-Hoc Test – Enjoyment

		15-18	**19-21**	**22-25**	**26-30**
15-18	Mean difference	—	0.169	0.2688	0.2522
	p-value	—	< .001	< .001	< .001
19-21	Mean difference		—	0.1	0.0833
	p-value		—	0.032	0.008
22-25	Mean difference			—	-0.0167
	p-value			—	0.97
26-30	Mean difference				—
	p-value				—

Table 14: Games-Howell Post-Hoc Test – Efficiency

		15-18	**19-21**	**22-25**	**26-30**
15-18	Mean difference	—	0.127	0.077	-0.294
	p-value	—	0.005	0.132	< .001
19-21	Mean difference		—	-0.0497	-0.42
	p-value		—	0.7	< .001
22-25	Mean difference			—	-0.371
	p-value			—	< .001
26-30	Mean difference				—
	p-value				—

In terms of efficiency, as shown in Table 14, the age group between 26 and 30 years has different mean scores than the other age groups. The study reveals significant differences in emoji usage patterns among young adults aged 15-30, indicating distinct approaches to communication using these symbols.

DISCUSSION

The study examines online communication among 15-30-year-olds in India, focusing on accuracy, sociability, enjoyment, and efficiency, using 258 respondents. The dependent factor of intention in using emojis provided insights into their adoption and usage. The study reveals that accuracy, social ability, enjoyment, and efficiency significantly influence the intention to use emojis, explaining 16.4% of their variance in online communication (Rawlings, 2023). The study reveals sociability and enjoyment as key factors in influencing the use of emojis in online communication, enhancing socialising and reducing misunderstandings (Tang *et al.*, 2021). The study has utilised t-tests and One-way ANOVA to analyse demographic data, revealing gender and income influence, with age group being the most effective in capturing differences. Young adults showed differences in enjoyment and efficiency, highlighting distinct requirements among age groups. The discussed results are aligned with the findings from the literature review. The importance of functions, frequency, and popularity in emoji usage resonates with the results. The discussion on emojis being used in both formal and

informal communication contexts (Biala & Yusuf, 2022). Emoji usage in brand communication is influenced by context and age, with younger consumers being more receptive. Emojis play a crucial role in online communication (Rodrigues *et al.*, 2022).

CONCLUSION

The study analyse the use of the emoticons (emojis) among young adults in India, focusing on their effectiveness in the digital communication. It has been found that accuracy, social ability, enjoyment, and efficiency are the most influential factors in emoji usage. Sociability is the most influential factor, as respondents believe emojis enhance the social and interactive aspects of online communication. The study proposes a statistically significant model in understanding the usage and effectiveness of emojis, highlighting their importance in enhancing the social-ability and communication efficacy in the digital realm.

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