Using Emoji in WhatsApp among the Students of Technical Education and Training Institutions in Tanzania

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ARTICLE INFORMATION

ABSTRACT

Using emojis is growing among people following the recent prevalent use of paralinguistic cues through computer-mediated communication. The widespread adoption of digital communication has led to increased use of emojis as non-verbal, paralinguistic cues, especially on platforms like WhatsApp. Despite this trend, limited research exists in Tanzania on how students in Technical Education and Training (TET) institutions use emojis, their level of proficiency, and the perceived impact of emoji use on communication. This study aimed to assess emoji proficiency, examine perceptions of advantages and disadvantages, and determine the influence of demographic characteristics on emoji use among TET students in Tanzania. A quantitative research approach was employed using descriptive and explanatory survey designs. Data were collected through structured questionnaires administered to a stratified random sample of TET students between November and December 2022. Descriptive statistics and multiple linear regression were used to analyse the data. The findings revealed that TET students possess an average level of proficiency in using emojis on WhatsApp. Participants generally perceived emoji use as more advantageous than disadvantageous, citing benefits such as enhanced emotional expression and communication efficiency. Furthermore, demographic factors, including gender, marital status, place of origin, and employment status, were found to have a statistically significant and positive influence on emoji use. Conversely, higher levels of education and increasing age negatively influenced emoji usage. These results highlight the role of demographic diversity in shaping digital communication practices and underscore the need for targeted interventions to improve emoji literacy among students. The study contributes to the understanding of emoji use in educational contexts and supports the integration of digital communication skills into TET curricula to raise more effective interpersonal communication in online environments.

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1.0 Introduction

The use of emojis is increasing among people due to the recent widespread adoption of paralinguistic cues in computer-mediated communication (Prada et al., 2022). Emojis are universal tools that are frequently used to express people's emotional states throughout daily communications (Kutsuzawa et al., 2022). Emojis are thus a growing phenomenon that has gained popularity in the digital era (Alismail & Zhang, 2018). In other words, the use is growing among people as a way to assist the process of conveying emotions in textual communication that lacks non-linguistic cues and was created as a visual mixed expression of sentiments, attitudes, or moods for use in modern communication technologies.

The given modern technologies, i.e., information and communication technologies (ICTs) and especially the use of smartphones, have generated new forms of interaction and communication, both synchronous and asynchronous, in formal and informal spaces termed in this study as emoji (Veytia-Bucheli et al., 2020). The very emojis gain momentum in the conversations employing different applications such as Facebook, Twitter, and WhatsApp, both person-to-person and in groups, which reduces the response time but, at the same time, displaces conventional practices (Spilioti, 2019). One of the most used applications in such modern technologies is WhatsApp, which allows the sending of text, documents, images, and emojis. Through WhatsApp, the emojis become images that allow the representation of gestures, emotions, and feelings (Alismail & Zhang, 2018).

The use of emojis on WhatsApp spread widely in the social field, and emojis as innovative forms of communication have their presence in the educational world, including TET (Alismail & Zhang, 2018). The students are not left behind in using emoji, especially in this era of modern communication technologies in TET. In other words, the students and the TET at large cannot remain unaware of the social revolution in the digital paradigm of using emoji on WhatsApp. The given students are now endowed with the use of smartphones, and there is greater integration of ICTs in the TET contexts, including policies, all forms of communication, training, and the administration process (Veytia-Bucheli, 2020).

Various studies were carried out about the use of emoji through social media. For instance, Veytia-Bucheli (2020) carried out a study on the presence of new forms of intercultural communication in higher education: emojis and social interactions through WhatsApp among graduate students. The study specifically determined the frequency of use and value of emoji through WhatsApp amongst Mexican graduate students. It likewise analysed the advantages and disadvantages of using emojis.

Ercan (2021) investigated 52 foreign language learners' usage of emoticons and emojis in their media communication at Final International University (FIU). The study tried to find answers to whether elementary language learners differentiate between emojis and emoticons, who uses emojis and emoticons more, in which contexts, how, and why they use emojis and emoticons at the School of Foreign Languages at the FIU in their media communication in English.

Bakir and Haji (2019) found out the possible ways that university students from scientific departments at Salahaddin University made use of emoticons when they communicate using any online medium that is applicable for communication. The study also tried to find whether females use emoticons more than males or vice versa. The study noted that participants were aware of the differences that exist between emoticons and emoji, and females use emoticons more than males.

Vareberg et al. (2020) explored the impacts of emojis on students' impressions when used in a course welcome email. In so doing, the authors insist that one of the most used applications is WhatsApp, which allows the sending of text, documents, images, and emojis. It is important to study emoji as a new form and language of communication in higher education because any educational or training process is essentially communicative.

Lu, Y. & Wu, J. (2022) empirically studied the use of emojis by college students from the perspective of symbolic interactionism. This study found that emojis have linguistic, social, and aesthetic

functions but have certain disadvantages and limitations.

Zou'bi & Shamma (2021) assessed instructors' usage of emojis in distance education for high diploma students. This study indicates that all students strongly preferred instructors to use emojis to express what is on their minds as an alternative to facial expressions, and female instructors were more active in using emojis in virtual lectures. The emoji is used most frequently by distance education instructors.

Several studies (e.g., Alismail & Zhang, 2018; Bakir & Haji, 2019; Veytia-Bucheli, 2020; Vareberg et al., 2020; Ercan, 2021; Zou'bi & Shamma, 2021; Lu & Wu, 2022) previously addressed the use of emojis among students in the colleges or universities. However, the given studies did not address the proficiency and knowledge level of students on emojis or the rating of advantages and disadvantages of emojis and did establish the influence of background information on the use of emojis on WhatsApp, particularly in TET and in Tanzania. One of the most used social media for sending or receiving emojis is WhatsApp, and the given emojis in colleges have been a very essential communication process, including educational training (Veytia-Bucheli, 2020).

The rise of digital communication tools like WhatsApp has transformed how students interact, with emojis becoming essential for expressing tone, emotion, and intent in text-based messages. In Tanzania, students in Technical Education and Training (TET) institutions increasingly use emojis in both academic and social communication. However, there is limited research on their proficiency, perceptions, and the influence of demographic factors on emoji use. This lack of data presents a gap in understanding digital literacy and communication practices within the TET context. This study addresses that gap by examining emoji proficiency, perceived advantages and disadvantages, and demographic influences among TET students, contributing valuable insights to support integrating digital communication skills into technical education. Therefore, this study assessed the use of emoji in WhatsApp among the students of TET in Tanzania. It addressed the following questions:

i. What is the level of proficiency in using emojis on WhatsApp among TET students in Tanzania?

ii. How do TET students perceive the advantages and disadvantages of using emojis in WhatsApp communication?

iii. To what extent do demographic factors such as age, gender, marital status, education level, and employment status influence emoji use among TET students in Tanzania?

2.0 Theoretical Literature Review

Our research and the discussion presented in this article are grounded in Receptive Theory. This theoretical framework focuses directly on the audience (reader), exploring the dynamic relationship between the protagonist of a literary work, the reader, the reading process itself, and the interpretations of the text. Among literary scholars, there has long been debate regarding whether a literary work possesses singular or multiple meanings. Receptive Theory emerged from this discourse, asserting that the truth or meaning of a literary work does not adhere to a fixed or definitive form. According to proponents of this theory, a literary work is inherently incomplete. This concept underscores the crucial role of the audience in completing the meaning of the literary work, drawing on their prior experiences and interpretations of the text. A significant concept that arises from this interaction is the "expectations horizon", which involves what the reader anticipates or knows (based on experience), what they encounter in the text, and the gap between these elements (Mushengyezi, 2003).

Selder, Widdowson & Brooker (2005) contend that literary works often contain gaps that readers must fill, necessitating the creation of new interpretations based on the original text. To comprehend the meaning of a literary work, several key steps of receptivity must be followed:

a. Confirming that the interpretation aligns with the reader's understanding of the work's meaning; Receptive theory emphasises the role of the audience (in this case, students at technical education institutions) in interpreting and completing the meaning of communication. Emojis, as

visual representations of emotions, attitudes, and contextual cues, rely heavily on the interpretation and understanding of the recipients (students) to convey intended meanings effectively.

b. Exploring how context from unrelated texts can be linked and integrated into the reader's understanding. According to Receptive Theory, communication is not solely determined by the sender (in this case, the sender of emojis) but also by the receiver (students). The use of emojis in WhatsApp chats among Tanzanian students involves interpreting these symbols within their cultural, social, and educational contexts. Each emoji may carry multiple interpretations depending on the reader's background and experiences, aligning with the theory's assertion that meaning is not fixed but constructed through interaction.

c. Providing clear evidence that the reader's interpretations, stemming from their life experiences, are connected to crucial aspects of the work. The theory's concept of "expectations horizon" is relevant here, as it pertains to what the reader expects or anticipates (based on personal and cultural contexts) and how this influences their interpretation of the text (or in this case, emojis). Students may use emojis to express emotions, clarify messages, or create social bonds within their WhatsApp groups, aligning their use with shared expectations and norms.

Thus, Receptive Theory provides a framework to explore how emojis are utilised and understood among students in technical education and training institutions in Tanzania within the digital communication platform of WhatsApp. It highlights the dynamic role of the audience in interpreting and attributing meaning to emojis, reflecting broader sociolinguistic dynamics and cultural nuances in digital communication practices. Furthermore, the principles of Receptive Theory offer valuable insights into capturing the perspectives of readers and bridging the gap between textual content and real-world contexts, encompassing economic, social, geographic, political, and historical frameworks.

3.0 Methodology

3.1 Approach of the Study
This study applied a quantitative approach due to the nature of the main questions. The proficiency level and causal-effect questions of this study needed a quantitative approach with the support of quantitative data. The approach facilitated the understanding of the study problem more categorically by describing the proficiency level with emoji, comparing advantages and disadvantages of using emoji and explaining a relationship between the variables, i.e., background information and use of emoji on WhatsApp among TET students in Tanzania.

3.2 Research Design
Cross-sectional descriptive and explanatory survey designs were used in this study. The designs aided in studying every TET student. The designs similarly provided a quick, resourceful, and precise means of describing and explaining the true nature of the population and their perceptions about the use of emoji in WhatsApp. The "what" questions of the study required the use of the given designs.

3.3 Area of the Study
This study was conducted in four selected public TET institutions in Tanzania. It was predominantly conducted at Dar es Salaam Institute of Technology (DIT) in Dar es Salaam, Arusha Technical College (ATC) in Arusha, National Institute of Transport (NIT) in Dar es Salaam, and Karume Institute of Science and Technology (KIST) in Zanzibar from November to December 2022. The institutions have similar operating characteristics. These institutions also offer similar courses, such as engineering, science, and technology, which are collectively referred to as 'technical courses'. Just like other educational institutions, they have students engaged in the use of emoji on WhatsApp. However, the literature is quiet on the use of emoji on WhatsApp among those students in Tanzania.

3.4 Population and Sampling Design

The population of this study was final-year TET students. Participants were selected using stratified simple random sampling, where the population of final-year TET students was divided into strata based on characteristics such as gender and education level. For each stratum, students were randomly chosen to ensure equal representation and minimise selection bias. The technique also provided an equal chance of selecting each student from the strata specified. The technique brought forth a sample size of 480 students. There are criteria for obtaining sample size, including formula, small population as a whole, saturation point, and nature of data analysis. However, the given sample size of 480 students was obtained based on the nature of data analysis, i.e., multiple linear regression (MLR). The sample size requirements for MLR were calculated using the formula "N > 50 + 8m (where m = number of predictors)" by Tabachnick and Fidell (2001). After calculation, it was noted that this study has not violated the sample size assumption, i.e., N > 50 + 8 (5) = 90. This study has a maximum of five predictors and 500 TET students, which is more than 90 obtained from the given formula. However, 480 questionnaires were found complete and useful for the data analysis, i.e., the response rate was 96%.

3.5 Data Collection Method

This study used principally primary data. The data were collected between November and December 2022 using structured, closed-ended questionnaires with multiple-choice answer options. This type of questionnaire allowed standardised data collection and facilitated efficient analysis across a large sample of 480 respondents from four geographically dispersed TET institutions. Because the particular data were collected from 480 respondents in four different TET institutions in four cities far from each other, the questionnaire became relatively cheap, quick, and efficient in obtaining large amounts of information from that large sample of respondents.

3.6 Data Analysis Methods

The collected data were essentially analysed using descriptive statistics (frequency, percentages, mean, and standard deviation) and multiple linear regression (MLR). The descriptive statistics were used to analyse the background information and variables for any assumption violations and to address questions 2 and 3 of the study. Alternatively, MLR was used to analyse specific question three in testing and establishing the influence of background information on the use of emoji in WhatsApp among TET students. The equation of the MLR is:

$Y = α + β_1 χ_1 + β_2 χ_2 + β_3 χ_3 + β_4 χ_4 + β_5 χ_5 + ε$

Where:

Y-Criterion (i.e., Use of Emoji on WhatsApp)

α-constant (intercept)

B-1-5-Regression Coefficients

X1-5-Predictors (i.e., gender, age, education level pursued, marital status, origin of home)

ε- Margin of error

The above methods were run with the aid of the Software Package for Statistical Analysis (SPSS) Version 27.

3.7 Variables and Measurement

This study has variables whose measurements are well specified in Table 1.

Table 1

Variables and Measurement

Variable	Construct	Measurement/Scale	Source
Proficiency in Using Emoji on WhatsApp	**interpretation of functions** *understand the intended meaning of emoji when seeing them on WhatsApp*	1. Very Poor 2. Poor 3. Below Average 4. Average 5. Good 6. Very Good	Ercan (2021)
	platform norms *Understand the norms of using emojis when on WhatsApp.*		
	choice of emojis *understand which emoji to choose for certain*		

Variable	Construct	Measurement/Scale	Source
	situations, i.e., the happy face, the smile, the finger pointed up, the angry and sadness emojis, etc.	7. Excellent	
	amount of emoji used *understand how to communicate the intensity of meanings and feelings contained in the message*		
	Emoji preferences *Know that emoji are preferred mostly on WhatsApp*		
Background Information	Gender	1. Female 2. Male	Kutsuzawa et al. (2022).
	Level of education pursued	1. Diploma 2. Bachelor	
	Age	Number of years old.	
	Marital status	1. Not in-relationship 2. In-relationship	
	Origin of home	1. Rural 2. Rural	
Advantages of Emoji	**Emoji make the WhatsApp text seem sympathetic and friendly** (*adding emoji to WhatsApp messages can make the text seem sympathetic and friendly to the reader, messages without emoji sometimes come across as cold*) *emoji help in understanding the emotions, attitudes, and attention that the sender intends to communicate to the reader* *emojis help to intensify the perceived mood of the sender in a positive way with positive emojis and in a negative way with negative emojis*	1. Strongly disagree 2. Disagree 3. Neutral 4. Agree 5. Strongly Agree	Veytia-Bucheli (2020).
	Emoji on WhatsApp are a universal language (*which means they make it easier to communicate with people from different parts of the world*)		
	Saving time (*adding emoji to messages can also save us a lot of time, as we do not have to itemize messages*) *the processing speed and understanding of verbal messages increased when emojis were added in a congruent way*		
	Advertising brand (*emoji is that they can be used to advertise a brand, for example. Various companies have started using them in emails for business communication, as their appearance makes them more appealing to the reader.*		
	A close personal connection and overcoming language differences *emojis help to establish a closer personal connection and overcome language differences, and help to express people's cultural identities*		
.	**Different interpretations of WhatsApp emoji on their meaning** (*emoji users may have different interpretations of their meaning, which can naturally lead to frequent misunderstandings when using them*)	.	Veytia-Bucheli (2020).
	Emoji make some people seem less serious or even childish (*emoji overuse in instant*	1. Strongly disagree 2. Disagree	

Variable	Construct	Measurement/Scale	Source
Disadvantages of Emoji	*messaging can make some people seem less serious or even childish. In fact, people sometimes prefer a more serious conversation, especially in professional communication)*	3. Neutral 4. Agree 5. Strongly Agree	
	Emoji make it very easy to fake real feelings*(emoji makes it very easy to fake real feelings. Although emojis make communication much easier, they are still no substitute for a face-to-face conversation, even if the choice is wide*		
	Emoji deteriorates vocabulary*(we do not have to write as long sentences when we use emoji, which deteriorates vocabulary)*		

3.8 Ethical Considerations

This study adhered to standard ethical research practices involving human participants. Ethical clearance was obtained from the relevant institutional research review board before data collection. Participation in the study was voluntary, and informed consent was obtained from all respondents. Participants were assured of confidentiality and anonymity, and the data collected were used solely for academic research purposes.

4.0 Findings

4.1 Background Information

The background information considered in this study is gender, age, education level pursued, marital status, employment status, and home of origin. This section presents the results of the background information collected from the surveyed TET students (Table 1). Among the surveyed students, 61% were male, while 39% were female. The range of ages of surveyed students was between 21 and 31 years and above. 53% of the surveyed students were aged 30 and below, while 47% of them were aged 31 and above. Regarding the education level pursued by the given students, 51% of them were pursuing an ordinary diploma, while 49% of them were pursuing a bachelor's degree in the field of science and engineering. Moreover, the results show that 43% of the surveyed TET students were not in a relationship, while 57% were in a relationship. 79% of the same students had no employment, while 21% had employment but were studying in the given TET institutions. Generally, the majority of the surveyed TET students were male, were in a relationship and were not employed. On the other hand, there was an insignificant difference between the majority and minority of the students when considering age, level of education pursued, and home of origin.

Table 2
Background Information of the TET Students

Information	Scale	Frequency	Percent
Gender	0. Male	293	61.0
	1. Female	187	39.0
	Total	**480**	**100.0**
Age	0. 30 and below years	254	53.0
	1. 31 and above years	226	47.0
	Total	**480**	**100.0**
Education Level Pursued	0. Ordinary Diploma	245	51.0
	1. Bachelor Degree	235	49.0
	Total	**480**	**100.0**
Marital Status	0. Not in-relationship	206	43.0
	1. In relationship	274	57.0
	Total	**480**	**100.0**

Employment Status	0. No	379	79.0
	1. Yes	101	21.0
	Total	**480**	**100.0**
Home of Origin	1. Rural	278	58.0
	2. Urban	202	42.0
	Total	**480**	**100.0**

4.2 The Proficiency Level of the TET Students on Emoji

This section shows how the students could rate their proficiency level on the emoji. This means that what in emoji use is sought by the TET students to be proficient in a particular level. Being that the case, the results in Table 2 indicate that, the majority of the surveyed students (61%, 71%, 70%) had average proficiency level in interpreting functions of emoji; in understanding platform norms of emoji and in understanding the emoji preferred by the audience on WhatsApp. In addition, the other majority (55%, 51%) had good proficiency level in understanding choice of emoji and the amount of emoji to use when communicating on WhatsApp. Generally, the proficiency level of using emoji on WhatsApp by the TET students is either average or good. When calculating of mean score of the given results, TET students had an average level of proficiency in using emoji in WhatsApp.

Table 3
The Proficiency Level of the TET Students on Emoji

Scale (Rating)	Interpret on emoji functions		Platform Norms of Emoji		Choice of Emoji		Amount of Emoji to Use		Emoji Preference	
	F	%	F	%	F	%	F	%	F	%
Poor	24	5.0	36	8.0	07	1.0	37	7.0	61	12.0
Average	293	**61.0**	340	**71.0**	151	31.0	188	39.0	334	**70.0**
Good	91	19.0	89	18.0	262	**55.0**	243	**51.0**	63	13.0
Very Good	41	9.0	10	2.0	33	7.0	09	2.0	18	4.0
Excellent	31	6.0	05	1.0	27	6.0	03	1.0	04	1.0
Total	480	100.0	480	100.0	480	100.0	480	100.0	480	100.0

4.3 Perception of TET Students on Advantages and Disadvantages of Using Emoji

The majority of respondents (61%, 63%, 57%) agreed that the use of emoji on WhatsApp makes the text seem sympathetic and friendly, a universal language, and brings a close personal connection.

In addition, 70% of the surveyed students strongly agreed that the use of emoji on WhatsApp saves time. The majority of the surveyed students agreed that the use of emoji on WhatsApp is advantageous. On the other hand, the majority (65%, 60%, 65%, 70%) of the surveyed students in the TET institutions agreed that, use of emoji on WhatsApp different interpretations on their meaning; make some people seem less serious or even childish; make it very easy to fake real feelings; and deteriorates vocabulary among them. It is generally noted that the majority of the students agreed on all the tested disadvantages of the emoji when used on WhatsApp.

Using the mean of the mean score in Table 4, it can be concluded that the use of emoji on WhatsApp is more advantageous than being disadvantageous.

Table 4
Advantages and Disadvantages of Using Emoji

Scale (Rating)	the text seems sympathetic and friendly		universal language		saving time		close personal connection	
	F	%	F	%	F	%	F	%
Strongly Disagree	12	3.0	89	19.0	11	2.0	50	10.0

Disagree	29	5.0	61	13.0	25	5.0	51	11.0
Neutral	91	20.0	13	3.0	26	5.0	03	1.0
Agree	293	**61.0**	300	**63.0**	80	17	273	**57.0**
Strongly Agree	55	11.0	17	4.0	338	**70.0**	103	21.0
Total	480	100.0	480	100.0	480	100.0	480	100.0
Scale (Rating)	Different interpretations of their meaning		make some people seem less serious or even childish		make it very easy to fake real feelings		deteriorates vocabulary	
	F	%	F	%	F	%	F	%
Strongly Disagree	24	5.0	36	8.0	07	1.0	37	7.0
Disagree	31	6.0	60	13.0	100	31.0	100	21.0
Neutral	10	2.0	89	18.0	33	7.0	09	2.0
Agree	310	**65.0**	290	**60.0**	313	**65.0**	331	**70.0**
Strongly Agree	105	22.0	05	1.0	27	6.0	03	1.0
Total	480	100.0	480	100.0	480	100.0	480	100.0

Table 4
Mean of Mean-Advantages and Disadvantages of Using Emoji

Variable	Sample Size	Mean	Standard Deviation	Mean of Mean
Advantages of Emoji on WhatsApp				
text seems sympathetic and friendly	480	3.652	.965	
universal language	480	3.689	1.002	
saving time	480	4.413	1.726	**3.820**
close personal connection	480	3.527	.840	
Advantages of Emoji on WhatsApp				
Different interpretations on their meaning	480	2.793	1.616	
make some people seem less serious or even childish	480	2.957	1.780	
make it very easy to fake real feelings	480	2.385	1.208	**2.730**
deteriorates vocabulary	480	2.783	1.608	

4.4 The Influence of Background Information on the Use of Emoji on WhatsApp

A Multiple Linear Regression (MLR) was performed to predict the influence of background information of the TET students on the use of emoji on WhatsApp. Preliminarily, Descriptive Statistics were performed to avoid violation of the MLR assumptions. The assumptions addressed were normality, multicollinearity, sample size, independence of residuals/relations, outliers, linearity, and Homoscedasticity.

This study used Adjusted R Square in establishing how much of the variance of using emoji in WhatsApp was explained by the model with the background information (independent variable). The value obtained was .591, which means the model explained 59% of the variance in using of emoji in WhatsApp (Table 4).

The results further indicate that background information, such as gender, marital status, original home, and employment status, significantly and positively influenced the use of emojis on WhatsApp among TET students in Tanzania. These findings are consistent with previous studies that have shown how demographic and social variables influence emoji use. For instance, females have been widely reported to use emojis more frequently than males, often to enhance emotional expression and interpersonal connection (Tossell et al., 2012; Chen et al., 2017). Similarly, individuals in romantic relationships tend to use more emojis to express affection and maintain relational closeness (Ganster et al., 2012). Urban origin has been linked to greater digital media literacy and exposure to online communication norms, which may explain the higher emoji usage among students from urban areas (Park et al., 2014). Furthermore, employed students may use emojis more frequently as part of broader and more diverse social and professional communication networks (Lu et al., 2016). These patterns underscore the role of socio-demographic factors in shaping communication behaviors on digital platforms like WhatsApp.

Furthermore, the background information, such as Level of education pursued and age, significantly but negatively influenced the use of emoji in WhatsApp among TET students in Tanzania. These results imply that, the TET students who were pursuing ordinary diploma used emoji more than students who were pursuing bachelor degree; and the students with the age of 30 and below used emoji more than students with the age of 31 and above.

Table 5

The Influence of Background Information on the Use of Emoji on WhatsApp

	β	t	Sig.
(Constant)	.102	2.196	.027
Gender	.019	2.881	.004
Level of education pursued	-..297	-.4.505	< .001
Age	-.011	-2.490	.013
Marital status	.426	7.023	< .001
Original home	.142	2.385	.018
Employment Status	.079	2.319	.021
Multiple R		.859[a]	
R Square		.612	
Adjusted R		.591	
ANOVA (F, SIG.)		47.075 (< .001)	

5.0 Conclusion and Recommendation

Regarding the above-presented findings, it can be concluded that the TET students had an average proficiency level in using emoji in WhatsApp. Furthermore, the TET students perceived the use of emoji on WhatsApp as more advantageous than being disadvantageous. Some of the demographic information (gender, marital status, original home, and employment status) tested in this study had a statistically significant and positive influence on the use of emoji in WhatsApp. On the other hand, two demographic information (Level of education pursued and age) had a statistically significant and negative influence on the use of emoji in WhatsApp among the TET students in Tanzania. The professionals of digital communication skills should continue to advocate the use of emoji to improve the level of proficiency of the TET students in continuing to continue benefiting from the advantages of the emoji in WhatsApp and other social media.

Based on these findings, it is recommended that TET institutions integrate digital communication components, including emoji literacy, into their curricula or extracurricular training programs. Workshops or short courses on effective digital communication can be developed to enhance students' understanding and appropriate use of emojis, especially in academic and professional contexts. Institutions should also consider adapting such programs to address the influence of demographic factors by offering targeted support for older students or those pursuing higher levels of education, who show lower emoji usage. Awareness campaigns highlighting the communicative value and cultural nuances of emojis can help promote more inclusive and effective communication among diverse student groups.

6.0 Conflicts of Interest

The authors declare that they have no competing interests.

7.0 Author Contributions

All authors equally contributed to the conceptualization of the study, the design of the research methodology, the formal analysis, and the execution of the experiments. They were jointly responsible for data curation, visualization, and resource management, as well as supervising the project. All authors participated in the writing, reviewing, and editing of the manuscript, provided critical feedback on the final draft, and led the

manuscript preparation and revisions. All authors have read and approved the final version of the manuscript.

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