

An Exploratory Factor Analysis of Interpersonal Communication Skills Among University Students

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ABSTRACT

Interpersonal communication skills are important to be acquired by students as part of the core competencies to prepare themselves before graduated from university. It is ranked as the first priority expected by the industries from the graduates. Interpersonal skills mould the way of communication between individuals in the social system like family, friends, community and workplace. This paper attempted to identify the factors that influence the interpersonal communication among students of Universiti Teknologi MARA (UiTM) Cawangan Negeri Sembilan, Seremban Campus. A total of 206 students involved in this study by responding to the online survey questionnaire that included items on interpersonal communication, social media, family and friends. An exploratory factor analysis of 29 items was extracted as four factors to identify the items relevant for the study which will be the measurement instrument for further analysis. The results and finding of this study provide validated and reliable variables for testing factors influencing the interpersonal communication among students.

Keywords: exploratory factor analysis, interpersonal communication, social media, family, friends.

1. INTRODUCTION

Interpersonal communication skills is becoming more and more prominent nowadays. The core competencies required from all graduates to penetrate the job market is demanding for candidates with good interpersonal communication skills as required by the employers. Jobstreet Malaysia has ranked excellent interpersonal communication as the number one in the top five transferable skills that students must have to prepare themselves before graduates (Jobstreet Malaysia, 2021). This is supported by Razak et al (2018) and, Nesaratna and Chelladurai (2018). Thus, it is important to understand on how the interpersonal skills is developed among students in higher learning institutions. A review of existing literature revealed that there are limited studies on the factors that influenced the interpersonal communication skills among undergraduate students in recent years. This study is based on a conceptual framework where the factors that influence interpersonal communication skills are social media (Subramanian, 2017), family (Fitzpatrick & Badzinski, 1994; Chris, 2016; Sun & Wilkinson, 2020) and friends (Liu et al., 2013; Candrasari, 2020). Thus, it is important to develop an appropriate instrument to address the antecedents for interpersonal communication. In this study, a total of 29 items were analysed using exploratory factor analysis, a data reduction method applied to a large pool of items in order to identify an underlying factor structure (Field, 2013; Mulaik, 2009 as cited in Setiawan *et al.*, 2020). Thus, this study aims to determine the appropriate items as measurement instruments to identify the factors that influence the interpersonal communication skills.

2. LITERATURE REVIEW

Interpersonal communication skill is essential for human relations. It is needed for the maintenance and development of personal relationships as well as social systems such as family, friends, community and in the workplace. Stewart (2019) defines interpersonal communication as a person who started to share

opinions and feelings. It influences the effective communication in understanding messages, delivering information and exchanging ideas. In this type of communication, the people express their thoughts, opinions, attitudes and knowledge face to face which can be in verbal or non-verbal form. Interpersonal communication is not just about what is said and what is received, but it is also about how it is expressed in body language and facial expression. Interpersonal communication also plays an important part in the workplace since the teamwork brings about happiness and productivity of workers (Indradevi, 2020).

There are various factors that shaped interpersonal communication of individuals. Social media will affect emotions, wellbeing, relationships, actions, and politics (Waigumo, 2013). According to Sami *et al.* (2018) social networking is a computer-based application that enables the exchange of ideas, thoughts and knowledge through the creation of virtual networks and communities. Malaysian Communications and Multimedia Commission (MCMC) Internet Survey 2020 has shown that from 88.7% of internet users in Malaysia, social media (93.3%) falls on the second rank of the top five online activities (MCMC, 2021). Thus, social media can affect the individual's attitudes, values and even basic human wellbeing.

The second factor that can influence interpersonal communication of individuals is family. A study from Sewall *et al.* (2020), found that the quality of family relationships remains the important part throughout the students' development and the quality of their interpersonal skills can be directly duplicated from parents. Family environment affects the behaviour of the students' interpersonal communication in their social interaction (Ritchie, 1991; Dorrance *et al.*, 2020). This means if the family behaves more towards passive and introvert, the students will be directly influenced from it. Likewise, if the students have a well outspoken family, they will directly behave towards the example that they have been lived with. Friends also has been found as contributing factor to interpersonal communication. Brown and Reingen (1987) shows that the knowledge which the students received from their friends they feel close to appears to be more significant than the information they receive from people they feel far away from. One potential explanation is that their friends' point of views appears to be more relevant than others' views when making choices. According to their research, the students' interpersonal communication is mould by their friends as they feel more comfortable and confident to voice out their opinion. This view is supported by Koenig Kellas *et al.* (2015) and Rais and Marjohan (2020) where they stated that students tend to receive interpersonal influence and support from their friends as they feel a better engagement with their friends compared to their parents. Based on literature, this study has developed a conceptual framework with three independent variables which have influence on a dependant variable which can be seen in Figure 1.

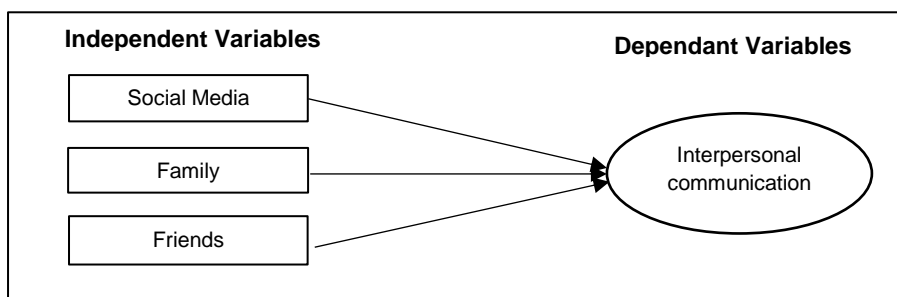


Figure 1 Conceptual Framework

3. RESEARCH METHODOLOGY

An exploratory factor analysis was used in this quantitative research to reduce the number of items into a few number of factors. This method of exploratory factor analysis is a data reduction process and will be used to validate the measurement instrument. A total number of 206 students of the Universiti Teknologi MARA Cawangan Negeri Sembilan, Seremban Campus participated and responded to the online questionnaire where Part A of the survey was the demographic data of the respondents and Part B consisted of 29 items with Likert scale responses format such as 1=strongly disagree, 2=agree, 3=uncertain, 4=agree and 5= strongly agree. The data was later analysed using the Statistical Package for Social Science (SPSS) version 24. A total of 11 responses were deleted being the outliers which will affect the accuracy of the analysis.

4. ANALYSIS & DISCUSSION

Based on the result of analysis, the demographic data of the respondents is shown in Table 1 below.

Table 1: Profile of Respondents

Profile	Frequency (n)	Percentage (%)
Gender		
Male	80	38.8
Female	126	61.2
Age		
18 – 20 years old	43	20.9.9
21 – 23 years old	133	64.6
24 – 26 years old	23	11.2
27 – 29 years old	7	3.4
Faculty		
FSKM	60	29.1
FSPPP	109	52.9
FSR	37	18.0
Academic		
Degree	161	78.2
Diploma	45	21.8
Program		
AM110	11	5.3
AM120	12	5.8
AM225	18	8.7
AM226	15	7.3
AM228	53	25.7
CS112	11	5.3
CS241	5	2.4
CS247	15	7.3
CS248	19	9.2
CS249	14	6.8
SR111	9	4.4
SR113	5	2.4
SR241	11	5.3
SR243	8	3.9

The data was initially analysed to remove the outliers and extreme scores. The determination of the decision to remove outliers and extreme scores was based on the Mahalanobis distance (Drumond *et al.*, (2019). The value of the Mahalanobis distance was compared to its probability values of 0.001 based on chi-square distribution. Any responses with p-value less than 0.001 were considered as multivariate outliers (Hair *et al.*, 1998). A total of 11 responses were detected as being the outliers and deleted to avoid it from affecting the analysis. Further analysis was performed to test the normality of data. This study used the Shapiro-Wilk test to determine the normality of data. In a normality test, the null hypothesis is that the “sample distribution is normal”. If the test is significant, the distribution is non-normal (Ghasemi, Zahediasl, 2012). Based on the results, all the items of the data produced a significant level of 0.000 which is than lower than 0.05 which shown that there is a deviation from the normal distribution.

Since the data is not normal, principal axis factoring (PAF) as the extraction method will be used in the exploratory factor analysis. PAF will determine which items are within the same factors. Oblique rotation was selected to allow the factors to correlate so as to produce a more accurate result. The number of factors were fixed at four in accordance with the conceptual framework and the small coefficient was suppressed at 0.40. Any loading below than 0.4 was dropped from the factors since Guadagnoli and Velicer (1988) considered scores which are greater than 0.4 to be acceptable. From the analysis, the measure of sampling adequacy in the anti-image correlation values are all are above 0.5 and hence, no items will be deleted at this stage. The results in Table 2 on the Kaiser-Meyer-Olkin which is 0.905 exceeds the minimum value of 0.5, thus, the sampling is adequate (Kaiser, 1981). Further, the Bartlett test of sphericity also produced a significant result.

Table 2: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.905
Bartlett Test of Sphericity	Approx. Chi-Square	2211.984
	df	406
	Sig.	.000

A value of less than 0.40 in the Communalities is considered as low and not related to other items, which may be deleted (Costello & Osborne, 2005). Five items were identified to be less than 0.40 and may be considered to be removed. Since this study has fixed only four factors, the total variance extracted where the eigenvalues greater than 1 was explained at 42.1 % at four stages. Further detail on the scree plot, shown that there are 3 to 4 predominant factors before the curve starts to level as shown in Figure 2.

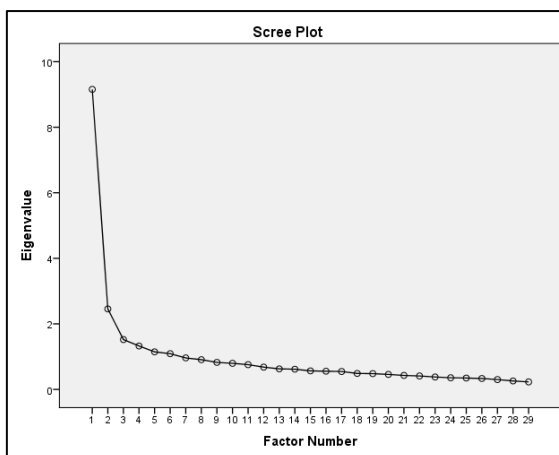


Figure 2: Scree Plot

Pattern matrix was further examined for item loadings. Any loading below 0.4 has been suppressed in the analysis as explained earlier while any cross loading will be deleted. The four factors were then tested using the Cronbach’s alpha coefficient of internal consistency to ensure that the factors produced are reliable and the result is shown in Table 3.

Factors	Cronbach’s Alpha	No. of Items
Factor 1	0.870	7
Factor 2	0.789	6
Factor 3	0.776	6
Factor 3	0.748	5

The widely accepted cut-off value for Cronbach’s Alpha is 0.60 or higher (Hair, et al., 2010). From Table 3, all the items were valid and reliable since Cronbach’s alpha is above 0.7 and can be used for further analysis.

The final result of 24 items which has been categorised into four factors is shown in Table 4. The exploratory factor analysis has reduced the original 29 items to 24 items in four factors. These factors are the variables which will be given a name for further analysis. From the Table 4, Factor 1, Factor 2 and Factor 3 can be as named as ‘Discussion’, ‘Interaction’ and ‘Social Media’ respectively while Factor 4 can be referred to as “Communication”. The items which were deleted are as follows:

- “I feel more confident when other people show support for what I have said”*
- “I like to listen to others rather than talking”*
- “I am comfortable communicating in groups”*
- “I am able to understand the ideas that have been conveyed and communicated by others easily”*
- “I am able to make friends through social media and offline”*

Based on the deleted items, the statements were deleted due to duplicity and carry the same meaning with some items in Table 4.

Factor 1	Factor 2	Factor 3	Factor 4
I discuss everything with my parents without hesitation.	Social media helps me on how to interact with people effectively.	I have an account on social media.	I enjoy having discussions with other people.
My parents feel good when I ask various questions	Social media helps me on how to interact with people effectively.	I check social media accounts daily.	I have improved my decision making and problem-solving skills when communicating with other people.
In my family, we often talk about our plans and hopes for the future.	I like to interact with people through social media networking sites such as Facebook, Twitter and Instagram.	I like to communicate using instant messaging social media such as WhatsApp, Telegram, and Facebook Messenger.	I am able to express my opinion when communicating with other people.

Factor 1	Factor 2	Factor 3	Factor 4
My parents usually say that I should always review both sides of a matters.	I will share any knowledge or information that I get with my friends.	Social media is the solution when I lost contact with my friends.	I can be friends with anyone.
Disagreement is openly expressed in our family.	My friends understand when I am sharing and explaining any information.	Social media has brought me closer to my friends and family.	I can be friends with someone I dislike.
My family members strongly motivate each other to hold up their rights.	I have a lot in common with my friends.	My friend and I like to use the same platform of social media.	
My parents like to hear my opinion even when they don't agree with it.			

5.0 CONCLUSIONS AND RECOMMENDATIONS

The results of the exploratory factor analysis which reduced the initial 29 items to 24 items in four factors provided a validated and reliable measurement instrument. The items which are grouped together in factors correspond with the conceptual framework. Those factors are variables that can be used in later analysis. Despite results produced validated and reliable factors, it is recommended that the validity of measurement instrument to be further tested by increasing the sample size to have a more reliable data for analysis.

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