

## CHILDREN'S E-READING BEHAVIOUR: INFLUENCING FACTORS

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### **Abstract**

We now have useful aspects of technology in our daily lives. The Malaysian government has transformed our educational practises by implementing technology, converting school textbooks to electronic versions, and reducing the quantity of textbooks that students must take to class. The government's commitment into digital reading has changed how people read books and given upsurge to e-reading. In addition to technology, parents as well as peers have been documented in numerous studies to have an impact on attitude. The goal of this research is to comprehend how technology transform, peer pressure, and parental influence which have impacted children's e-reading habits. Users will be asked to complete our survey, and the information will either be manually entered by our experts or automatically amended online. To assess the statistical significance, a total of 357 undergraduates from a private university will participate. Results will be evaluated using the Statistical Package for Social Science in accordance with the data's goals.

**Keywords:** E-reading, behaviour, E-book, Multiple regression analysis

### **Introduction: Children's E-reading behaviour**

Since the rise of technological device, it has constantly brought in for our convenience into our daily life (Huda, et al., 2017). We use them every day as if it has become part of our daily lifestyle for instances, reading newspaper, watching video, video calling friend from overseas and many other possibilities. Technology have given rise to many possible collections of digital media and digital documentation and have been constantly growing (Joshi, 2015). As many of the text has been involved into online based, e-reading has become a term for reading books online via platform like iPad or smartphone, and young children are not immune from this trend (Miller and Warschauer, 2014).

According to Malaysian Communications and Multimedia Commission (MCMC), smartphone is the most used device to access the internet in Malaysia since the appearance of Smart Device, and as the users of smart device increasing, so as the usage. With the participants for the research are the registered phone users in Malaysia, the amount of smartphone users has been increasing significantly compare to the feature phone users. Rising from 14.0% in 2010 to 53.4% in 2014.

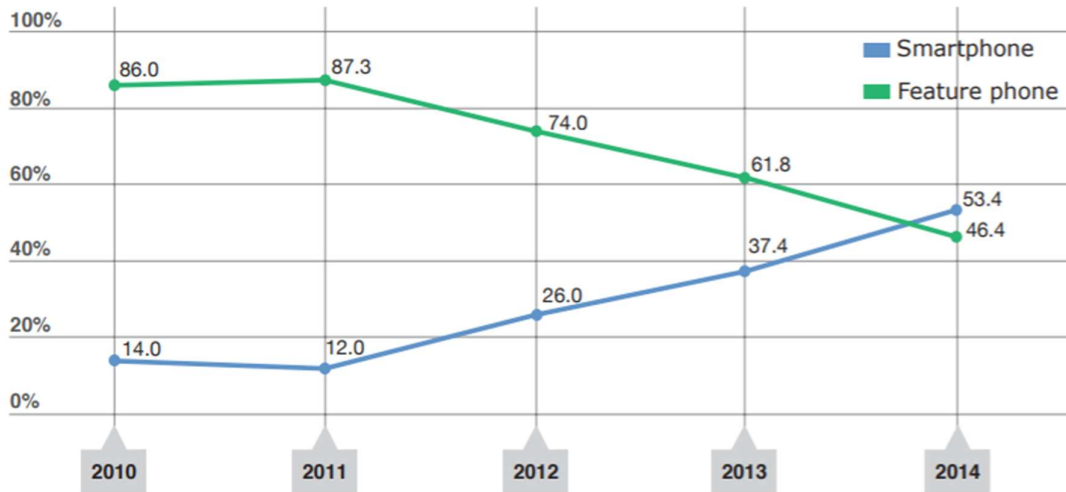


Figure 1. Smartphones vs feature phones users, 2010 – 2014 (Hand Phone Users Survey 2014, 2014)

In 2018, MCMC has conducted another research, continuity of the survey, showing that the amount of smartphone usage has continuously growing, from 68.7% in 2016 to 78.0% in 2018, while the feature phone users has dropping in this age of smartphone.

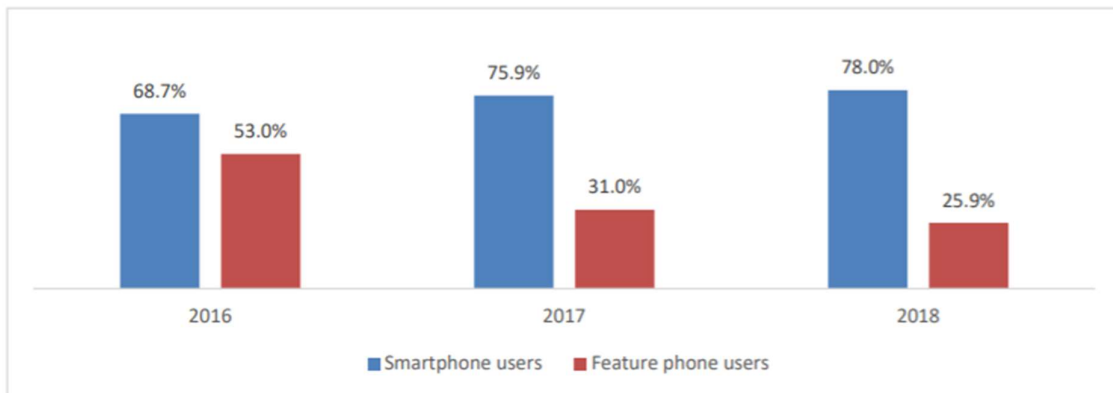


Figure 2. Smartphones vs feature phone users, 2016 - 2018 (Hand Phone Users Survey 2018, 2018)

Thus, showing that from these two surveys, the amount of smartphone users increases every year from 14.0% in 2010 to 78.0% in 2018, with the difference of 64%.

As the increasing in the technology digital, the Malaysia Government has started to implement the concept of e-learning, saying that this method could ensure that top talented teachers would not only able to teach in their classes but also nationwide, covered by New Straits Times (2019). Other than that, the state of Terengganu is leading an initiative through its e-Book program as a tool in education system, it is a part of government's efforts to improve the education system, which included reading development, writing, vocabulary development and other relevant fields of study (Roslina et al., 2012).

Digital media provided a transformative change in reading and with increasing amount of digital information available and the increasing amount of time that people spend reading electronic media, the digital environment has begun to influence people's e-reading behaviour which including the children (Liu, 2012).

### **Problem Statement**

Since early age of children's development, parents teaching has been influencing our children's behaviour based on how they were raised (Johari and Mamat, 2011). The children are developing with their behaviour from their parents, as they observe and learn from their family members, following their behaviour and thoughts (Alizadeh, et al, 2011). Showing that there's a link between parenting and child behavioural development. It was shown that reading behaviour influence greatly by the children's parents as children get their ability to read and understand what they are reading may linked to their teaching from the parents (Miller and Warshauer, 2014).

For the behaviour of e-reading on children, not much researches were done to support the statement that parents' behaviour can influence their children on e-reading behaviour. Majority of the research are done on general reading behaviour (van Bergen, et al, 2015; Hume, et al, 2015). Second, most of the researches are mainly done on college students but not all students are inclusive (Zhang and Ma, 2011).

It was suggested that some children are motivated by the desire to gain social approval from others like being popular or fitting into a group, or avoid social mistreatment like being teased or made fun of (Coleman, 1961). It was demonstrated that children as young as 4-years-old are expose to peer pressure, showing sensitivity towards their peers as one of their primary social reference group and already happened in preschool years (Haun and Tomasello, 2011).

Just like the parents' influence case, not enough studies were done so influence of peer on a child's e-reading behaviour. Researchers have shown children show more cooperation with their peers, especially in classroom setting that implements electronic texts in the teaching methods, but theory based (Chau, 2018; Miller and Washauer, 2014). Merga (2014) said in her limitation that there were few similar studies to draw upon to support this methodological validity. These researchers have concluded that the peer influence may affect a child's reading behaviour but in theory, lacking in support from research.

Technology has been used in our daily life, benefiting us. The advance in digital technologies are changing texts and tool that we once used, before it was transform into a digital format, and of this transformation, it has brought its' benefits into our e-reading behaviour (Rainie, et al, 2012). The Information and communications technology (ICT) through the search engines or internet offers, one can instantly access to any information that was needed and it can be done through our personal electronic device, convenient of us (Siagian and Maryanti, 2018).

As technology have changes the way of digital reading, there are still few similar limitations concluded by other researchers. Biancarosa and Griffiths (2012), Beetham, et al. (2007), both argue that there are no instructional tools that was used to show their effectiveness in convenient. A study shows that children enjoy learning to use app structure or features, and has it linked to e-

reading, theoretically, and wasn't strong enough for evidence (Ghalebandi and Noorhidawati, 2019).

## Research Objectives

The research objectives of the study:

- (i) To identify the relationship between parents and children's e-reading behaviour;
- (ii) To identify the relationship between peers and children's e-reading behaviour;
- (iii) To identify the relationship between technology and children's e-reading behaviour.

## Scope of Study

The focus of this study is to identify the relationship between the parents, peers, and technology and children's e-reading behaviour regardless of positive or negative. Total of 1,460 participants are the students from a secondary school, where the age group are between 13 – 17 years old. ABC Model of Attitude will be the theory focus in our research as it has the relation to the behaviour of an individual.

There will be limitations for the study. The result from the study may not be applicable to many other schools or other educational institution as this study was focus on the specific school in a state. Due to the nature of my study, the study will not reach out to certain country, and may not be applicable in western country as Malaysia is in Southeast country, results may not be applicable for other country. Second, the current study only shows the influence from the parents, peers, and technology have on children's e-reading behaviour, and have no take other factors like environment, government, teachers, etc into account. Three factors may not enough to support the study.

## Significance of the Study

The significances of the study is:

- The result from the study allow the school's authority to have the idea of what influence the literacy interest of their student.
- The result from the study allow the school's authority to consider the possibility of digital education being used as educational tools.

## Literature Review

### Conceptual Definition:

#### Definition of Children's e-reading behaviour

The definition of e-reading is the process of extracting information from a text that is in a digital format (Ghalebandi, and Abdullah, 2016). As the world is becoming more digital, online reading in this century may include the use of different reading platforms (Kucirkova, and Littleton, 2016). Digital books have change the way of reading for the adult and children and it was

suggested that one third of children ages 9 - 17 would read more books for fun if they had access to e-books, including children who already have interest in general reading (Larson, 2012). Some school may start to use e-reading as their source of teaching as this e-reading behaviour is also a possible improvement tools for improving literacy in children (Zeidler, 2015).

### **Definition of Parents influence**

Parents influence is defined as any opinion, attitude, or action that able to determine the child's attitudes. Parents are among the most important figures for many children's life as children are learning and rely on mothers, fathers, and other caregivers as long as they are in the parenting role, to take care of these children and shape them into a decent human (Gadsden, et al., 2016). Children's behaviour has interconnection within and across multiple diverse domains of development which result from and are affected by the positive and supportive communication with parents and other caregivers as these interactions can have a permanent effect on children's development throughout their life (Gadsden, et al., 2016). Worthman, et al. (2016) suggested that the influence from parents and caregivers are better focus on early adolescence, which aged 10 – 14, as it is the moment that parents can influence the behaviour of their children most.

### **Definition of Peer's influence**

Peer refers to the same social group that a person wants to be belonged in based on occupation, age, sex, or economic background, while peer influence refers to the one is force or pressurize into doing things by their peers (Deewan, 2018). Many individuals are exposed to the influence of peer as early as the age of 4 (Haun and Tomasello, 2011). Individual tend to choose peers who they have some similarity in behaviours, preferences and attitudes which may including academic eagerness, taste in music, political belief, style in fashion or preferred hobby (Brechtwald and Prinstein, 2011). This behaviour of choosing who to join has been characterized into two processes: the individual initially chose peers that have preferred attributes, but also become more similar to their peers over time as becoming part of them (Kandel, 1978).

### **Definition of Technological Convenience**

According to the Oxford dictionary, the definition of technology is the application of science or knowledge into functional use to solve problems or invent tools that are useful. Since the last decade, technological devices have undergone changes, for instance in 2009 the main purpose of phones was calling and messaging with a smaller display. But the mobile phone in 2019, still have the basic functions of a mobile phone, with additional like more storage space, faster processor, and instead of Short Messaging Service (SMS), instant messaging apps like WhatsApp or Facebook Messenger to send messages faster and may be cheaper than SMS. Cashless transactions so that people don't have to carry money around, online shopping without having to leave the house, books can be store digitally and can be viewed on phone any time. Technology has brought us benefits in different aspect of usage.

Reading was influence by technology conveniences in terms of accessibility to readers. E-books may cost cheaper than original print as due to the cost of producing it (Waller, 2013). Websites like ebooks.com, openlibrary.org, and amazon.com, these websites provide e-books for the

people, allowing them to have access to the e-books, and without having to carry physical book.

### **Relationship Between Parents Influence Between Children's E-Reading Behaviour**

It was to be said that the behaviour of children was influenced firstly by their parents. There are studies that show children's ability to understand what they are reading is linked to their parents' behaviour and biological genes, showing that parents play a role in helping children gain lettered skills and reading skill (Miller and Warshauer, 2014). Finding by Hume, et al, (2015) also shows that parents practices of reading had an impact on children's maturing interest in reading. Methods like pair reading, and hearing reading were found to be effective in enhancing children's reading capabilities. E-reading and printed book reading, Korat and Or (2010) said that an e-book and a printed book shown the same result of children reading both of these books and learn the same thing, but both may have different effects on adult-child interactions. Another study agree that parents' supportive attitudes have an influence on children's reading performance regardless of any platform (Abu-Rabia and Yaari, 2012). Based on these findings, it shows that the behaviour of parents can influence the children's reading behaviour which included the behaviour of e-reading.

### **Relationship Between Peer's Influence Between Children's E-Reading Behaviour**

Due to the peer influence, children's behaviour, including reading behaviour, may as well affected by their peers. A finding shows that the relationship of peer with special roles influence differently in changing youths' academic and stronger influence effects in higher grade of study, for instance, a peer with higher score in literacy can affect individual's literacy skill (Molloy, et al., 2011). Another study shows the support of young children's reading achievement is connected with the level of reading skills affected by the peers that they reported talking to or asking for their help (Cooc and Kim, 2017). Another study shows that children with high self-esteem of reading ability and high reading fluency, were specifically likely to be influenced by peers with high reading fluency positively, showing that the children tend to choose new friends based on similarity that both have (Kiuru, et al, 2017). Although books and e-books may have their own differences, they are almost identical, they both are books to be read. Hence, peer's influence can affect a children's e-reading behaviour.

### **Relationship Between Technology Influence and Children's E-Reading Behaviour**

The advent of technology has brought in benefits into our aspect of life, easing our life, for instance, we can read the latest news about Covid-19 on our phone with just few clicks and have access to the internet. Because of the benefits, government in Terengganu has start their first e-books, giving out 25,000 students that aged 11, a laptop each, to replace their heavy school bags as a preparation for the coming of e-books, reported by The Star (2009). This idea of replacing books with eBooks comes after the launching of e-books at University Malaysia Terengganu. Governments see it as a potential long-term investment to improve the education system, and hoping that will do the same to other state.

Since then, e-books have been sees as a trend in education due to its positive effect to the learning environment (Roslina et al., 2013). Ghalebandi and Abdullah (2016) have found that tablet and

iPads played an important role in children's motivations when using it as a reading medium due to the device popularity. In another study done on the students of University of Malaya, shows that those who are the e-books users find e-books ease to be used and the main use of it are for writing assignment or project work, showing many respondents prefer to use e-books as textbooks and reference source (Roesnita, 2013).

## Research Hypotheses

Based on these reviewed literature, three hypotheses can be produced:

- 1) There is an impact of parents influence on children's e-reading behaviour.
- 2) There is an impact of peers' influence on children's e-reading behavior.
- 3) There is an impact of technology influence on children's e-reading behavior.

## Theory and Conceptual Framework

There is a need to understand on how are the parenting style from the parents affect the behaviour of a child's e-reading, to understand how peers influence the behaviour of a child's e-reading behaviour, and how are the benefits functions of smart devices change the behaviour of a child's e-reading. From these understanding, we can learn that the impact from these variables may or may not affect directly or indirectly to a child's e-reading behaviour.

ABC Model of Attitude was founded by Thomas Marshall Ostrom in 1969, his model is an early model that used to understand the process of attitude formation (McSporrán, 2017). Ostrom (1969) describe attitude as an acquired habitude to respond in a constantly evaluative manner toward an object or class of objects. ABC Model suggests that attitude has 3 elements which are Affect stands for the individual's feelings about an attitude object, Behaviour stands for the individual's intention towards and attitude, and Cognition stands for the beliefs an individual has about the attitude object.

ABC Model of Attitude has its' part in this study as the concept of this theory is that social psychologists believe that attitudes have something to do with social behaviour (Wicker, 1969). Attitudes are believed that it directly influenced behaviour, Allport (1935) said that an attitude is a neural or mental state of preparation, affected by the experiences, direct or indirect influence on individual's response to all situations and objects to which it is related.

Applying the theory into this study, the attitude of a child can be affected by their parents or peers in the past based on experience, influence by their interaction with others, and influence from external sources. This changes their way of thinking, doing, and feeling towards an object or attitude. And from this, it may show that the influence from external variables affect the e-reading behaviour of a child (Jain, 2014).

Table below contained a table showing the independent variables and dependent variable. The three independent variables are the impact that may affect children's e-reading behaviour.

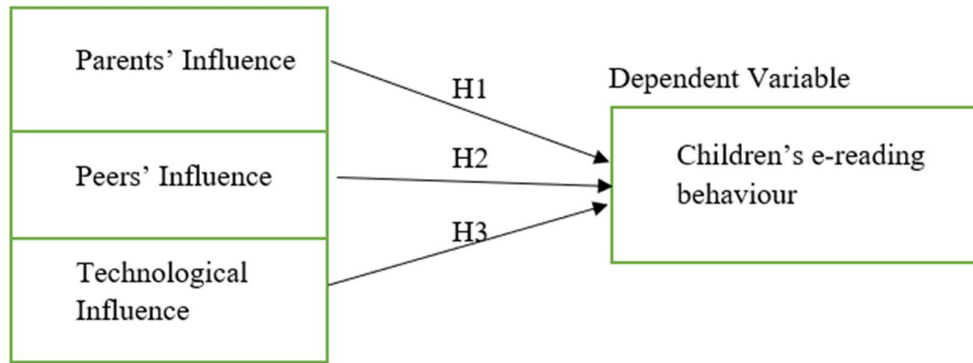


Figure 3: Factors effect children's e-reading behaviour

### Research Methodology

Research design is a systematic procedure for conducting a study and to develop research-based solutions to complex problems in educational practice or to develop or validate theories about learning processes, learning environments and other relation (Plomp, 2013). Quantitative research will be used in the research, as it deals with quantifying and analysing variables in order to get results which involving utilization and analysis of numerical data and answer questions with specific statistical tools like SPSS (Apuke, 2017). Quantitative are particularly strong at studying large groups of people and making generalizations from the studied sample to broader groups beyond the sample (Holton and Burnett, 2005). Quantitative analysis will be applied into this study, to serve the purpose in examining whether or not factors consist of parents' influence, peers' influence, and the technological convenient have impact on children's e-reading behaviour.

In order to generalize from a random sample and avoid sampling biases or errors, a random sample needs to be of sufficient size (Taherdoost, 2017). A statistical analysis is used to determine the sample size based on the population size. Figure 3 shows the determined size for sample to represent the population based on Krejcie and Morgan table. The target group for this study will be the children below the age of 18 years old from a secondary school which contain around 1,460 students.

According to the table, using 1,500 of students as the target population, this determined that our sample is 306 which is needed in order to meet the statistically significant. A total of 306 questionnaires will be administered to the target population.



	Variance of the population P=50%				Variance of the population P=50%		
	Confidence level=95% Margin of error				Confidence level=99% Margin of error		
Population Size	5	3	1	Population Size	5	3	1
50	44	48	50	50	46	49	50
75	63	70	74	75	67	72	75
100	79	91	99	100	87	95	99
150	108	132	148	150	122	139	149
200	132	168	196	200	154	180	198
250	151	203	244	250	181	220	246
300	168	234	291	300	206	258	295
400	196	291	384	400	249	328	391
500	217	340	475	500	285	393	485
600	234	384	565	600	314	452	579
700	248	423	652	700	340	507	672
800	260	457	738	800	362	557	763
1000	278	516	906	1000	398	647	943
1500	306	624	1297	1500	459	825	1375
2000	322	696	1655	2000	497	957	1784
3000	341	787	2286	3000	541	1138	2539
5000	357	879	3288	5000	583	1342	3838
10000	370	964	4899	10000	620	1550	6228

Figure 4. Krejcie and Morgan Table, 1970

### Factor Analysis

Factor Analysis is a method of helping researchers in assess on how well are the survey tool measure the establishes of interest, where the survey tool will be changed based on participant’s feedback until it is constructed in a much more appropriate way that is suitable for the study (Norton, 2018). According to Isaac and Michael (1981), suggest that pilot study should be done with 10 – 30 participants for the validity test. In this research, factor analysis will be conducted on a pilot test of 30 participants, and made necessary adjustment based on their feedback for the test to be valid and reliable.

Exploratory Factor Analysis (EFA) will be used for the study as it generally used to locate the factor structure of a measure and to study its internal reliability (Newsom, 2005). According to Hair, et al. (2010), EFA is used to establish a structure of latent dimensions among the observed variables reflected in the items of an instrument. Kaiser-Meyer-Olkin (KMO) test and Bartlett’s Test of Sphericity will be involved to measure the sampling suitability to determine the factorability of the matrix or data set (Zulkepli, et al., 2017). For KMO, the index ranges from 0 to 1, with equal to or greater than 0.6 to be considered as suitable for factor analysis otherwise data collection will be needed, and Bartlett’s Test of Sphericity need to be significant with  $p < 0.05$  to be acceptable for factor analysis (Tabachnick, et al., 2007).

### Reliability Test

Reliability test is the consistency of the measurement over a course of a time, the test will be considered as reliable if a person who retook the test and get a similar score as the first time (Trochim and Donnelly, 2001). It is crucial to implement reliability test on the study as it can

help to reduce the errors during the analysis of responses to questionnaires (Christodoulou, et al., 2015).

Cronbach’s Alpha, or coefficient alpha is used in the survey, to demonstrate that test and scales that have been established or adopted for research projects are appropriate for the purpose (Taber, 2018). It is to provide a measurement on the internal consistency of a test or a scale, with number expressed in between 0 and 1 (Tavakol and Dennick, 2011). The reliability can be described by a total of  $n$  measurements where  $n$  measurements may reflect  $n$  raters, occasions, alternative forms, or questionnaire items (Bonet and Wright, 2015). According to George and Mallery (2003), the rules of thumb for Cronbach’s Alpha: “> .9 = Excellent, > .8 = Good, > .7 = Acceptable, > .6 = Questionable, >.5 = Poor, and < .5 = Unacceptable.” If poor reliability was showed in the scale, the individual items from the scale need to be re-examined and made proper adjustment, or a complete changed is needed (Santos, 1999). Cronbach’s Alpha will be conducted when running a pilot test on reliability of the questionnaire where 30 participants will be a part of the test and necessary adjustment will be made based on the data collected from Cronbach’s Alpha test.

### Data Collection

Methods of data collection may include making direct contact with the participants and providing the questionnaire in a paper form and be received immediately once it was done. Other methods will be used to support the data collecting may include having the questionnaire to be coded into a QR code, and be distributed throughout the school. The staffs will be asked to assist in asking the students to scan the QR to do the questionnaire online, or finish up the questionnaire during the class on paper that we will provide them with. The questionnaire will also be available in online platform, by using Google Form, and this form can be sent via email into their student’s mail by asking the help of school’s authorities. The questionnaire will be accessible for 7 days, 24 hours starting from the day when we provided the test, and once the time is up, the data will be recorded into a spreadsheet.

### Data Analysis

Data will be collected from the questionnaires once the participants have finished the questionnaire, and be analysed. The data analyses are according to the objectives of the data. The data will be analysed by using Statistical Package for Social Science (SPSS) and be supported by the summarization.

Objectives	Analysis
To identify the relationship between parents and children’s e-reading behaviour.	Descriptive statistics and inferential statistics. Multiple Regression Analysis

To identify the relationship between peers and children’s e-reading behaviour.	Descriptive statistics and inferential statistics. Correlation and regression linear.
To identify the relationship between technology on children’s e-reading behaviour.	Descriptive statistics and inferential statistics. Correlation and regression linear.

### Hypotheses Analysis

Hypotheses analysis will be the next step in procedure to accept or reject statistical hypothesis (Kolawole, 2017). The main idea of hypothesis analysis is to decide whether the data sample is typical or atypical towards comparing the population while assuming the formulated hypothesis is true about the population (Emmert-Streib and Dehmer, 2019).

### Multiple Regression Analysis

Multiple regression analysis is a statistical tool that used to analyse how multiple independent variables are connected to a dependent variable, and use it to create a much more powerful and accurate prediction about their relation once these multiple variables are identified with relation with dependent variable (Gani, et al., 2015). Multiple regression analysis will be applied into the study as the dependent variable is predicted by three independent variables.

The model of multiple regression is formulated as:

$$y = \beta_0 + \beta_1x_1 + \beta_2x_2 + \dots + \beta_px_p + \varepsilon$$

The  $X$ 's represent the independent variables, and the  $Y$  represent the dependent variable,  $\beta$ 's represent the estimated regression coefficients,  $\varepsilon$  represent the error or residual, and  $p$  is a number of predictors, regressors, or IV (Uyanik and Güler, 2013).

The suitable value for  $R^2$  to be fit as a model is the value must be over than 0.5, otherwise the outcome data cannot be described by the model (Hamilton, et al., 2015). P value in multiple regression analysis will be measured as well, the statistical significant for each of the independent variables where the p value is below 0.05, the null hypothesis will be rejected, showing that the p value is a good fit (Dhakal, 2018). The correlation coefficient will also be accounted, with its range from -1 to +1, while the prefix represents the direction of the correlation and the number represent the strength of the correlation, the higher the number of coefficient represent a stronger correlation (Gogtay and Thatte, 2017).

### Conclusion

One of the major ethical issues is the informed consent in conducting research or as according to

Armiger (1977), a person is voluntarily, knowingly, and intelligently, and in a conscious mind, gives his or her consent. Participants must be informed by the researchers about the nature of the experiment, how participants are to be assigned to control groups and treat, available alternate treatment and compensation or reward of participation (Gajjar, 2013). Since our participants are under the legal age of adult, children do not have the authority to participate in the research freely, unless the requirement of requesting parental consent has been approved by relevant authorities, so as the child's acknowledgement (WHO, 2018). The identity of the participants must be kept in confidential or anonymous (Fleming and Zegwaard, 2018). The data in this study will be collected ethically where the participation is approved by the children's parents and collected data will only be used for the purpose of this research.

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