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Phubbing Behavior: Is There a Gender Difference in College Students?

Milka Elena Escalera-Chávez [a], Arturo García-Santillán [b, *], Violeta S. Molchanova [c, d]

[a] Unidad Académica Multidisciplinaria Zona Media, UASLP, México
[b] UCC Business School at Universidad Cristobal Colon, México
[c] International Network Center for Fundamental and Applied Research, Washington, USA
[d] Volgograd State University, Volgograd, Russian Federation

Abstract

When a person is ignored for other one in a social context for the focus given to the use of a mobile phone, it is called phubbing. This phenomenon is increasingly recurring in society and students are not exempt from it. For this reason, the aim of this research is to determine if there is a difference in phubbing behavior between male students and female students from the Mid-Zone Multidisciplinary Academic Unit. This study was carried out by surveying 243 Business Administration college students in the Multidisciplinary Academic Unit of the Middle Zone, whose ages range from 17 to 26 years. The test designed by Chotpitayasunondh and Douglas, (2016) was used. From this questionnaire, only those corresponding to demographic characteristics, Phubbing intensity and Phubber intensity, were taken. For the data analysis, a Bayesian analysis was used with Bayes' Theorem as a central point. The main result reported in this work reveals that the difference in Phubbing behavior between men and women is significant. This assertion is given from the data obtained from the Bayesian Factor, which measured the probability that the phenomenon occurred. Therefore, we can say that the result shows a moderate difference in Phubbing behavior between male students and female students. The value obtained from the Bayesian analysis confirms that there is a 4.959 probability of obtaining a higher average in men than in women.

Keywords: Phubbing, behavior, college students.

1. Introduction

In recent decades, there has been a significant growth in the use of mobile internet, due to the arrival of smartphones and tablets; as a result, more users access the internet from their smartphones. This social trend has modified the way of communicating, since it allows contact

* Corresponding author
E-mail addresses: agarcias@ucc.mx (A. García-Santillán)

between people from anywhere in the world, facilitating social interactions. Serrano (2014) points out, that nowadays great connectivity has been achieved, lasting longer every time, and this leads to people staying online through mobile devices and other platforms, transforming this into a social and working necessity.

Current studies show that 81 % of smartphone users navigate the Internet, from which 77 % use it to search for information, 68 % to access their applications and 48 % to view videos on their mobile. Other important data includes the fact that 72 % of smartphone users use their device while consuming other media, 93 % access the internet from their mobiles while at home and 90 % of respondents used their smartphones during their most recent social activity (Ranie, Zickuhr, 2015).

In Mexico, the National Survey on Availability and Use of Information Technologies in Households (ENDUTIH, 2017) show that mobile phones have become one of the technologies most widely used by the population. Accordingly, 42 % are owners of a mobile phone, which is used for different activities such as checking social networks, listening to music, surfing the internet and mobile banking, among others, not just to keep in touch. Of the total number of people who own a smartphone, 65 % indicated the amount of time they actively use it and the daily average time is 5 hours and 32 minutes.

The National Institute of Statistics, Geography and Informatics (INEGI for its acronym in Spanish) in 2017, reported that in Mexico the use of smartphones grew from 60.6 million in the year of 2016 to 64.7 million in 2017, while also increasing the number of users who access the internet from a smartphone. The increase went from 89 % in 2016 to 92 % in 2017. Moreover, 36.4 million of smartphone users installed applications on their phones: 92.1 % installed instant messaging, 79.8 % tools for accessing social networks, 69.7 % installed audio and video content applications, while 16.0 % used their device to install an application to access mobile banking.

Despite their advantages, it is a fact that these devices are capable of separating people (Turkle, 2012, cited by T'ng, Ho, Low, 2018). This factual behavior of society is defined as phubbing, a word defined by the Macquarie Dictionary, which shaped the expression by merging the words phone and snubbing. The dictionary describes it as an act of contempt towards someone in a social environment as a result of being focused on the mobile phone. Instead of communicating in close proximity, this phenomenon, that is increasingly frequent in all strata of society, makes phone users more determined to give more priority to the smartphone than to any situation happening in their surroundings.

Regarding students, 96.7 % have heard about the "phubbing" concept and they believe that this phenomenon will be increasingly popular because these devices have more applications every day. On the other hand, more than 70 % of college students said that they mainly use their phones to communicate, listen to music, watch videos and social networks, even though 40 % of students said they prefer face-to-face communication.

Nonetheless, it can be said that there is an increasing trend towards the use of mobile phones, making this preference the basis of phubbing. The phenomenon of phubbing occurs in both males and females. On this matter, some studies (Chotpitayasunondh, Douglas, 2018) have shown that there are significant differences between genders.

Some studies, such as the ones by Cameron & Webster (2011), Ranie & Zickuhr (2015), Abeele, Antheunis, & Schouten (2016), Misra, Cheng, Genevie & Yuan (2014), Krasnova, Abramova, Notter & Baumann (2016) and Roberts & Meredith (2017), have studied the effects of phubbing. In the works, showing that this phenomenon generates different negative reactions such as anger, poor quality interactions, dissatisfaction, loss of confidence and disappointment since people feel less close to the partner with whom they are having an interaction. Furthermore, the excessive use of the mobile phone causes various pathologies such as: lack of operating memory, eye and hearing problems, headache and back pain, poor body posture, thumb injuries and carpal tunnel syndrome.

Phubbing is a behavior increasingly present among students, as well as in society in general. This behavior can become a standard of conduct that can be detrimental to the training of students, as more and more young people make use of the benefits of smartphones. These benefits stir them to their particular interests and therefore, there is a high demand for smartphones and a very high possibility of engaging in phubbing behavior. Because of the former, the purpose of this study is to

determine if there is a difference in phubbing behavior between male and female students of the Multidisciplinary Academic Unit of the Middle Zone.

2. Methods

The study is approached from the deductive-hypothetical paradigm; it is of non-experimental design because there is no manipulation of the independent variables (X) to modify the dependent effect (Y). According to its temporality, data collection, analysis and scope, it is cross-sectional, correlational and explanatory. The reason why the hypothetical-deductive method was implemented is given from the data obtained from the college students, since it was possible to create assumptions that explain whether there is a difference in relation to gender regarding phubbing behavior.

Therefore, the hypothesis to be tested is: H0: There is no difference in phubbing behavior among male and female college students. H1: There is no difference in phubbing behavior among male and female college students.

Type of study. According to the characteristics of the sample, and considering that it is a non-experimental design, the study begins as descriptive and concludes as explanatory, since it is focused on explaining whether there is a difference in relation to gender between phubbing behavior among students.

Participants. The type of sample used is non-probabilistic, because the choice of cases depended on probability, but on causes related to the characteristics of the investigation. 243 students from the Bachelor of Administration of the Multidisciplinary Academic Unit of the Middle Zone, whose ages ranged from 17 to 26, were surveyed during the semester from January 2018 to July 2018. This higher education institution is located in the city of Rioverde, San Luís Potosí, México.

Instrument-Test. To obtain the data, the test designed by Chotpitayasunondh and Douglas, (2016) was used, which is integrated into seven sections: Intensity of Phubbing, Intensity of being Phubber, Perceived norms of the Phubbing Phenomenon, Scale of self-control (BSCS), Internet Addiction (IAT), Smartphone Addiction (SAS-SV) and Fear of Missing (FoMOS). From this questionnaire, only those corresponding to demographic characteristics, Phubbing intensity and Phubber intensity, were taken.

The questionnaire contains items to measure the frequency with which one subject ignores another for the use of a cell phone. Items are rated as: (1) never, (2) less frequently, (3) once a week, (4) 2 or more times a week, (5) once a day, (6) 2 to 3 times a day, (7) 4 to 5 times a day, (8) 6 to 9 times a day, (9) 10 or more times a day. Due to the small number of participants in some response categories, the nine categories were reduced to four (less frequently, less than once a day, 1–3 times a day and 4 or more times a day).

On the other hand, to measure the length of time that a person ignored someone else to answer a cell phone call, it was measured using items within the following range: (1) less than 15 min, (2) 15–30 min, (3) 30–60 min, (4) 60–90 min, (5) 90–120 min, (6) 2–3 hours, (7) 4–6 hours, (8) more than 6 hours. Again, due to the low frequency of some options, we reduced the duration categories by just four (less than 15 min, less than an hour, between 1–2 hours, and more than 2 hours). The phubbing frequency and the phubbing duration were added together to create a score for the overall phubbing behavior.

Statistic procedure. To measure data, the Bayesian methodology was used. This statistic method is based in the interpretation of subjective probability and has the Bayes theorem as central idea.

$$P(H \mid D) = \frac{P(D \mid H) \cdot P(H)}{P(D)}. \quad (1)$$

Where:

P (H1) = Probability of the difference or association hypothesis (veracity).

P (H0) = Probability of no difference or no association.

P(H/D): Probability (hypothesis/data)

P(D/H): Probability (data/hypothesis)

P(H): Probability hypothesis
P(D): Probability data

Bayes' theorem provides a natural way to test hypotheses. The alternative hypothesis assumes that: H1: There is a difference in phubbing behavior between male and female students and the null hypothesis H0: There is no difference in phubbing behavior between male students and female students. The subsequent probabilities of H1 and H0 are directly compared in favor of H1 over H0 as P (H1 | D) / P (H0 | D). To do this, Bayes' theorem is used (Equation 1).

$$\underbrace{\frac{P(H_1 \mid D)}{P(H_0 \mid D)}}_{\text{posterior odds}} = \underbrace{\frac{P(D \mid H_1)}{P(D \mid H_0)}}_{\text{Bayes factor}} \cdot \underbrace{\frac{P(H_1)}{P(H_0)}}_{\text{prior odds}} .$$

Specifically, the subsequent probabilities are equal to the prior probabilities multiplied by an update factor. This update factor is equal to the ratio of probabilities P (D | H1) and P (D | H0), and is called the Bayes factor (Jeffreys, 1961). Intuitively, the Bayes factor can be interpreted as the weight of the evidence provided by a D data set.

Páez, Lozano, Dávila, (2011) point out that the Bayesian inference -by using the Bayes theorem – allows assigning to priori, probabilities about events that are not necessarily random in nature. In this way, it is necessary to know the occurrence of some event in some experiment, which would allow reformulating the probability (subjective probability). Therefore, these probabilities can be fine-tuned by using Bayes' theorem.

3. Discussion and results

Table 1 shows the descriptive statistics, in which the 95 % interval can be observed, indicating that we are 95 % sure that the difference in the mean phubbing behavior of 0.2759 is in the range of -0.1991 and 0.7510; therefore, it is considered to be in an acceptable range. In the table we have the Bayes factor (BF = 4.959), which is the measurement of the relative probability between two hypotheses, indicating that the data occurred 4.959x is more likely to occur in hypothesis H1 than under H0.

Table 1. Independent sample test of Bayes factor (Method=Router)

Phubbing	Means differences	Standard grouped error differences	Bayes factor	t	df	Sig. (bilateral)
	0.2759	0.24886	4.959	1.109	240	.269

Subsequent distribution characterization for independent sample mean

Phubbing	Subsequent Mode	Mean	Variance	95% Credible range Lower limit	Upper limit
	0.2759	0.2759	0.059	-.1991	.7510

Source: own

Now, in Figures 1 and 2 it shows the histograms of the distributions generated from the analysis. Because we use a non-informative prior, the probability of recording and subsequent distributions is similar.

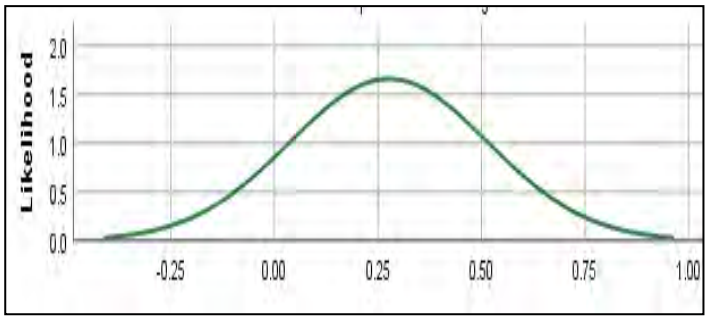

Fig. 1. Histograms of the mean distribution of the total Phubbing prior
Source: own

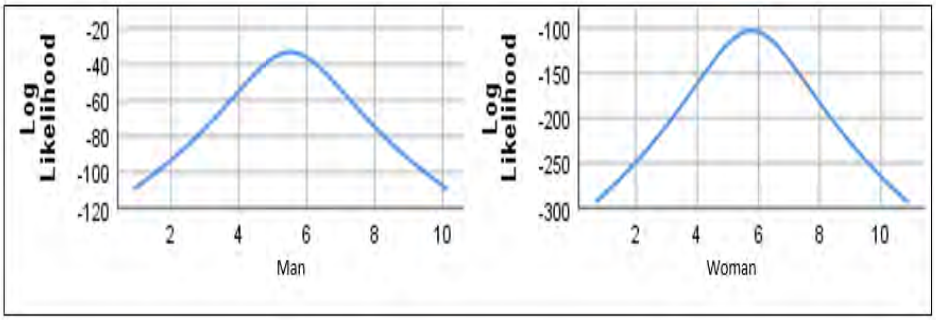

Fig. 2. Histograms of the mean between man and woman
Source: own

Figure 1 shows the previous distribution value of the mean difference (.254) between men and women of the Phubbing variable. Similar way in Graph 2 shows the distribution of the means difference between men and women a priori of the Phubbing variable, a difference between them is observed. The evaluation by the method of maximum likelihood tries to find the most probable values of the parameters of the distribution for a set of data, maximizing the value.

In summary, we can say that following our Bayesian analysis, we may say that the most probable difference between mean phubbing behavior is .2759; however, our Bayes Factor = 4.959, indicates that there is moderate evidence for H1, meaning that the alternate hypothesis is a more likely explanation for the data than the null. In other words, the difference in phubbing between men and women is significant, thus proving there is a difference between genders.

4. Conclusion

The objective of this research was achieved since it was possible to determine the prevailing difference in phubbing behavior between male and female students of the Multidisciplinary Academic Unit of the Middle Zone.

In the carried-out analysis, the Bayesian Factor (4,959) measured the occurrence probability of the phenomenon that was studied. As a consequence, the result indicates that there is moderate evidence of a difference in phubbing behavior between male and female students. It is important to point out that the complementary graphs offered by the Bayesian analysis show a moderate difference between the groups. Accordingly, the Bayesian analysis reports that there is a 4,959 probability of obtaining a higher average in men than in women.

The results are similar to previous studies done by Chotpitayasunondh & Douglas, 2018 and T'ng, Ho & Low, 2018, who have proven the significant differences between men and women.

It is recommended to analyze students from different careers and profiles, because it would allow us to determine if the effects of phubbing cause different negative reactions among students, as they are not being considered by the people with whom they are interacting face to face. Additionally, it also important to do this type of study to measure the magnitude of this behavior, derived from the current social trend because often, due to lack of knowledge, strategies cannot be set in place to avoid undesired effects on students.

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