

# Personality And Nomophobia In High School Students In The Context Of Virtual Education By Covid 19

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## Abstract

Due to the remote classes as a result of the pandemic, it became evident the increase in the use of cell phones in students, this brought with it alterations in the behavior of students and psychological consequences such as the development of stress, anxiety, depression, among others. However, these effects do not develop to the same extent in all individuals since factors such as personality influence them. Thus, the present study aimed to determine the relationship between personality and nomophobia in virtual education students in the context of the pandemic. The research was of basic type, with an explanatory level, non-experimental, causal correlational design. The population was 328 students and the sample consisted of 104 students. The instruments used were: the nomophobia questionnaire NMP-Q (20 items) and the Eysenck personality inventory (49 items). According to the results obtained, the relationship index between personality and nomophobia is 0.815, and there is a significance of 0.000, which is less than 0.05, so the null hypothesis is rejected, concluding that personality and nomophobia are related in a high significant way.

**Keywords:** Adolescents, Mobile phone use, Virtual classrooms, Smartphone.

## INTRODUCTION

In this scenario, behavioral patterns have been drastically affected, and as a result of the pandemic context, the use of cell phones has increased considerably, so that in Peru, for internet consultations, individuals have increased the use of these devices from 93.7% to 95.4%<sup>21</sup>. Technology has revolutionized the lives of all people, changing the way of interaction and socialization, so cell phones or Smartphones; multimedia, multitasking devices with internet connection via 3G, 4g or Wifi networks; are an indispensable tool for the daily life of the individual<sup>36</sup>. It is usually used among adults as a work tool and young people tend to use it very frequently to make calls, take pictures and access applications such as Whatsapp, Facebook, Instagram, among others; these devices have had a great impact on the society of the 21st century, so that more than 4.32 million individuals use their cell phones to access the internet<sup>40</sup>.

In this sense, although the cell phone is essential in the daily life of individuals as it is part of their intimate and daily life, using them as a means of communication, to take pictures, interact in social networks, listen to music, watch videos, among others<sup>20</sup>, the misuse of these could become nomophobia<sup>1</sup>; this term originated from the English phrase "No mobile phone phobia" and is considered a mental condition that originates from the fear of being disconnected from the connectivity provided by the mobile phone<sup>41</sup>. Nomophobia is defined as the irrational fear of being without a cell phone permanently or momentarily, this disease is caused by the panic of being disconnected, generating fear of going out without this device or even being without a cell phone at home<sup>31</sup>. This context is increasing over the years as it is intensifying in homes, schools, universities and jobs, resulting in interpersonal problems, detachment from reality and even poor academic performance<sup>27</sup>.

In relation to the above, individuals who suffer from this phobia present symptoms such as aggressiveness, instability, difficulty concentrating and anxiety; these symptoms are more evident when the user has a low battery, is in an environment without coverage or forgets their cell phones<sup>17</sup>. Most young people have this addiction, manifesting in them problems of self-esteem, poor interpersonal skills, attention deficit, among others<sup>37</sup>. In summary, these devices can become determinant for the identity of individuals and so essential that they could generate emotional attachment and dependence, this problematic use has many psychological repercussions, which have been a focus of interest for the scientific community, where the diagnostic criteria for these addictions have been discussed<sup>19</sup>, the reasons for considering the use of cell phones as an addiction, and the reasons for considering the use of cell phones as an addiction. The reasons

for considering the use of cell phones as an addictive behavior are related to the excessive time of use and the attention given by users, even substituting other activities with a consequent loss of control<sup>13,35,9</sup>.

On the other hand, it is relevant to take into account that in pandemic contexts, the most predisposing factors to suffer psychological alterations are the individual's personality, family background and life experiences<sup>26</sup>; this, together with the fact that, as a consequence of this scenario, many individuals have increased the use of their mobile phones to keep in touch, study, entertainment, among others<sup>15</sup>. This, together with the fact that as a consequence of this scenario, many individuals have increased the use of their cell phones for keeping in touch, studies, entertainment, among others<sup>15</sup>; and that, in the educational area, the United Nations recommended the implementation of online resources and the use of mobile devices as a support for teachers and students, thus increasing the likelihood that individual users will develop nomophobia<sup>29,5</sup>.

In view of the above, the present study hypothesizes that personality and nomophobia have a significant relationship in virtual education students in the context of pandemic; understanding personality as the dynamic organization within the individual of those psychophysical systems that determine their characteristic behavior and thinking<sup>2</sup>.

## MATERIAL AND METHOD

The research was of a basic type since its purpose was to increase knowledge and theories<sup>14</sup>; it was non-experimental since there was no deliberate manipulation of the variables<sup>17</sup>. In addition, it sought to determine the correlation between the variables personality and nomophobia, so it was causal correlational. According to the methodology, the research is hypothetical deductive since hypotheses were created to explain the phenomenon<sup>7</sup>. Regarding the general hypothesis, it was stated that personality is significantly related to nomophobia in virtual education students in the context of pandemic, the specific hypotheses stated that personality has an incidence in the dimensions of nomophobia (resignation to comfort, not being able to communicate, not being able to access information, and loss of connection) in virtual education students in the context of pandemic.

The study population consisted of 328 students from an educational center located in Lima, the type of sampling was random, students enrolled in the year 2021 were taken into account, excluding those who did not attend regularly for health or connectivity reasons. The sample consisted of 104 students.

The survey technique was used and the instrument for the personality variable was the Eysenck personality inventory (49 items), validated by Anicama<sup>4</sup>. For the nomophobia variable, the Yildirim and Correia questionnaire<sup>41</sup> was used, which considered four dimensions: renunciation of comfort, loss of connection, not being able to access information and not being able to communicate.

## RESULTS AND DISCUSSION

For the results, inferential statistics were used through Spearman's nonparametric Rho statistic, presenting a confidence level of 99% for the general and specific hypothesis test.

In relation to the general hypothesis, Table 1 shows the relationship index between personality and nomophobia, which is 0.815, and also has a significance of 0.000, which is less than 0.05; therefore, it is affirmed that there is a positive and significant relationship between personality and nomophobia. Thus, a personality with negative traits will be more prone to develop this addiction, in this sense, it is convenient to positively strengthen the personality of the students so that they regulate and manage their emotions and impulses in a better way.

**Table 1** Correlation between personality and nomophobia in education students.

		Personality	Nomophobia
Spearman's Rho	Personality	Correlation coefficient	1,000
		Sig. (bilateral)	.815**
		N	104
	Nomophobia	Correlation coefficient	.815**
		Sig. (bilateral)	.000
		N	104

The results obtained in relation to the dimensions of the nomophobia variable are presented below:

According to Table 2, there is 0.770 as the value of the relationship between personality and the dimension of not being able to access information, and it can also be seen that there is a significance of 0.000. Therefore, it is explained that there is a significant relationship between personality and the dimension of not being able to access information in virtual

education students in the context of pandemic. That is, if the student has a strong personality, he/she will be able to positively manage the impulses generated by not being able to access information from his/her cell phone.

**Table 2** Correlation between personality and the dimension not being able to access information.

			Personality	Dimension not being able to access information
Spearman's Rho	Personality	Correlation coefficient	1,000	,770**
		Sig. (bilateral)		,000
		N	104	104
	Dimension not being able to access information	Correlation coefficient	,770**	1,000
		Sig. (bilateral)	,000	
		N	104	104

Regarding the dimension renounces comfort, according to Table 2, we have 0.830 as the value of the relationship between personality and the dimension, it can also be visualized that there is a significance of 0.000 which is less than 0.05; confirming that there is a significant relationship between anxiety and the dimension renounces comfort in virtual education students in the context of pandemic. That is, if the student has negative personality traits, he/she will not manage in a positive way the impulses generated by giving up the comfort provided by the cell phone.

**Table 3** Correlation between the personality and the comfort relinquishment dimension

			Personality	dimension waives the need for comfort
Spearman's Rho	Personality	Correlation coefficient	1,000	,830**
		Sig. (bilateral)		,000
		N	104	104
	dimension waives the need for comfort	Correlation coefficient	,830**	1,000
		Sig. (bilateral)	,000	
		N	104	104

Regarding the dimension not being able to communicate, according to Table 3, there is 0.734 as the value of the relationship between personality and the dimension, in addition it can be seen that there is a significance of 0.000 which is less than 0.05, so it is affirmed that there is a significant relationship between anxiety and the dimension not being able to communicate, in virtual education students in the context of pandemic. That is, if students have a positively strengthened personality, they will be able to positively manage the impulses generated by not being able to communicate through the cell phone.

**Table 4** Correlation between personality and the dimension of not being able to communicate

			Personality	Dimension not being able to communicate
Spearman's Rho	Personality	Correlation coefficient	1,000	,734**
		Sig. (bilateral)		,000
		N	104	104
	Dimension not being able to communicate	Correlation coefficient	,734**	1,000
		Sig. (bilateral)	,000	
		N	104	104

Finally, for the loss of connection dimension we have 0.50 as the value of the relationship between personality and the loss of connection dimension, and it can also be seen that there is a significance of 0.000, which is less than 0.05. Therefore, a significant relationship between anxiety and the loss of connection dimension is confirmed in virtual education students in the context of pandemic. Therefore, if students have a positively strengthened personality, they will be able to optimally manage the emotions and impulses produced by the loss of connection to their cell phones.

**Table 5** Correlation between personality and loss of connectedness

			Personality	Dimension loss of connection te
Spearman's Rho	Personality	Correlation coefficient	1,000	,590**
		Sig. (bilateral)		,000
		N	104	104
	Connection loss dimension	Correlation coefficient	,590**	1,000
		Sig. (bilateral)	,000	
		N	104	104

According to the results obtained, it is affirmed that there is a relationship between personality and nomophobia in virtual education students in the context of pandemic. This is explained according to Chóliz<sup>10</sup> who states that dependence on cell phones is due in some cases because what is offered through mobile applications distances the individual from family or emotional problems, promoting repetitive behaviors that are pleasurable in their initial phases, however, later these cannot be controlled. Likewise, Viñas<sup>38</sup>, demonstrated for his study that adolescents as a consequence of the excessive use of ICTs are unfriendly, unstable, introverted and hopeless, in other words, these adolescents presented a personality profile in which negative affect personality traits prevail.

Likewise, an analysis of the relationship between addictive use and personality was performed using Young's cell phone addiction scale<sup>19,43</sup>, the personality scale<sup>24</sup>, the self-esteem scale<sup>34</sup> and the cell phone use behavior scale<sup>39</sup>, obtaining that anxiety positively predicts cell phone addiction, likewise, self-esteem inversely predicts addiction to this device; they also found that the variables academic difficulties and time management are related to addictive behavior. From this perspective, the dimensions of personality were studied with the aim of predicting the addictive behavior of some young people when using their cell phones<sup>25</sup>. The study sample consisted of 624 individuals aged 14 to 28 years, who completed a telephone survey consisting of 27 questions and was developed based on the cell phone addiction scale<sup>42,8</sup>, concluding that cell phone addiction has an inverse relationship with self-esteem, and is also directly related to sensation seeking.

Likewise, the use of cell phones and the Internet was analyzed in a sample of 337 university students, for this study two measures were developed: the cell phone abuse scale (CDS) and the Internet abuse scale (IOS)<sup>22</sup>. The Beck and Steer<sup>6</sup> inventory measures depression and the anxiety inventory. According to the results, anxiety was found to have a high correlation with excessive use of the cell phone, and it was also found that there is a differentiation with respect to gender, with women using the cell phone more than men. Similarly, in Chile, it was noted that women presented higher levels of nomophobia<sup>3</sup>. In this line, a description of the reasons that lead young people to use their cell phones was also carried out, this research took into account the dimensions of perceived risk, inconsistency with attitudes and personal relevance<sup>18</sup>.

The levels of nomophobia were measured in a group of 408 students of Isparta University and Uşak University, the level of nomophobia and personality were analyzed according to gender, telephone use by years, age, hours of use during the day, nighttime inactivity, level of education and time spent socializing with friends<sup>12</sup>. The personality inventory comprising 5 factors and the nomophobia scale were used as instruments, obtaining that there is a significant relationship between personality and nomophobia, and that personality is an indicator of nomophobia, so that if students' personality is strengthened, their levels of nomophobia will decrease. Similarly, a study in Argentina evaluated the habits related to the use of Smartphones in 419 individuals, obtaining that, for the study sample, there was a relationship between the variables of style, personality and self-esteem<sup>33</sup>.

A study conducted in Peru analyzed empirical research related to the consequences of Smartphones on psychological health and relationships in young people, and found that the excessive use of these devices causes interpersonal alterations in users, most of whom are young, negatively altering their thoughts, the way in which they interact and their behavior<sup>28</sup>. In a research conducted in Korea, the relationship between self-esteem, anxiety, avoidant attachment and smartphone addiction was analyzed in 313 young university students, who answered a questionnaire for each variable, according to the results there is a relationship between smartphone addiction and avoidant attachment, this relationship was mediated

by anxiety and self-esteem; concluding that avoidant attachment could generate anxiety and low self-esteem, this being one of the most relevant factors for the development of smartphone addiction<sup>23</sup>.

Another study set out to determine the relationship between smartphone abuse behaviors and substance abuse with the personality variable, sensation seeking<sup>30</sup>. It concluded that the relationship between the sensation-seeking personality variable is similar in young people who overuse cell phones and those who overuse toxic substances. Likewise, the patterns of cell phone use in adolescents of a secondary educational institution were evaluated, assessing their psychological and behavioral correlates and performance at school, the sample consisted of 528 students aged 12 to 19 years. According to the results, it was found that students who abuse the use of cell phones show greater symptoms of anxiety, depression and low self-esteem<sup>32</sup>.

## CONCLUSIONS

According to the analysis of the results, a correlation coefficient of 0.815 and a significance of 0.000 were obtained; therefore, it is concluded that there is a significant relationship between personality and nomophobia in virtual education students in the context of pandemic. Therefore, a personality with negative traits will be more prone to develop this addiction; in this sense, it is advisable to positively strengthen the personality of students so that they can better regulate and manage their emotions and impulses.

Similarly, the relationship between personality and the dimensions of nomophobia (not being able to communicate, not being able to access information, giving up comfort and loss of connection) show a positive and high correlation. These results show the importance of proposing interventions in order to reduce the maladjusted behaviors of students, so it is recommended that educational institutions develop nomophobia prevention programs focused on the reasonable use of mobile devices, it is also important to implement mental health and emotional skills programs, keeping track of the psychological well-being of students and involving parents in this.

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