

## Tolerance and adaptation to virtual classes due to the pandemic among university adolescents

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### ABSTRACT

After the pandemic, the Ministry of Education proposed the teaching of virtual classes, a measure that generated adaptation processes. The present research aimed to determine the relationship between tolerance to frustration and adaptation to virtual classes due to the pandemic in adolescents from a public and private university. A study was carried out Prospective cross-sectional correlational study, the sample made up of 86 students from a private and public university, the survey and instrument technique were used, a Likert scale questionnaire applied via Google Docs, applied to students who have developed face-to-face classes and later they have held virtual classes. The tolerance to frustration in adolescents of the Private University of Huancayo Franklin Roosevelt and the National University of Huancavelica is medium and the adaptation to virtual classes is in the process of adaptation. There is a direct average correlation between tolerance to frustration and adaptation to virtual classes in adolescents from a public and private university in a pandemic; with a Spearman's Rho value of 0.634 and a p. bilateral significance value of 0.000. The Peruvian educational system was not yet prepared for virtual education, finding many deficiencies. We recommend carrying out multicenter studies, which allow the outcomes of this change in educational modality to be compared in various regions.

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## 1. INTRODUCTION

According to the United Nations Educational, Scientific and Cultural Organization, 70% of the world's students are affected by the pandemic; likewise, through the International Institute for Higher Education in Latin America and the Caribbean (IESALC), it states that classes adapted to the COVID-19 context are not a change in modality, rather they are an emerging adjustment, using Information Technology and Communication (ICT) to face the situation; meaning that the training processes become virtual, but without modifying face-to-face classes: time, activities, feedback, schedules and content [1], leading to the question of how prepared are students and teachers to receive/teach virtual classes with a face-to-face approach?.

In Mexico, the situation at the preschool, primary, secondary, upper secondary and higher levels presents a total of 37,589,960 students who have been affected, this number is affected due to the fact that it is established that the school year continues virtually [2].

On March 16, 2020, Peru entered the list of countries that established quarantine as a control measure against COVID-19, likewise; In order to avoid the loss of the 2020 academic year, the Ministry of Education proposed the execution of academic activities through virtual classes [3], a measure that generated adaptation processes in all public and private institutions at all educational levels; with the aim of providing quality education [4], virtual classes are not a new teaching methodology but their application was very limited [5].

According to the situation and measures of the Ministry of Education, university students had to generate the processes of adaptation to virtual classes; being two fundamental aspects such as technical and pedagogical [6]. The educational system is the one that experienced the most changes, implementing virtual (online) education globally [7]. Likewise, they had to face situations such as: stress, frustration and university desertion [8], [9].

Many difficulties have been evidenced in the development of virtual classes, many students expressed discomfort with the virtual class modality; for example, 18.57% are dissatisfied, 17.14% stressed, only 10% were comfortable and 7.14% felt well [10]; because various needs are evident, such as infrastructure, due to the need to have a computer or mobile device with a camera, microphone, and Internet connection, it must be kept in mind that this can represent a limitation for many students. 26.6% of the students identified themselves with situations related to the difficulty of access, Internet connectivity [11] and high levels of distraction [12]. Likewise, there are students who, due to conditions of physical space or the fear factor of exposing themselves on camera, become a gray icon in the list of students on the platform, so that their learning is limited and they fulfill the tasks in order to comply with the demands of the teacher [13].

Tolerance to frustration is an ability that all human beings manage to establish to a greater or lesser extent [14], it is the ability to resist difficult, adverse, stressful events, in which the individual delays his response or impulse, and continues despite setbacks, in this sense, an important point for understanding frustration tolerance is based on its relationship with emotional regulation [15].

Frustration generates an expectation, it is an emotional situation common to the entire species, it is the sensation that is experienced when faced with the possibility of being able to achieve an objective, a goal [14]. There could be frustration when they have to face rules and situations that they perceive as a barrier to their freedom and needs [16]; the more intense the motivation to achieve the goal, the greater the frustration experienced if it is not achieved [17].

Studies have shown that tolerance to frustration is possessed by few people, in one study it was observed that 87.38% of primary school students have a very intolerant level of frustration, and only 0.97% are very tolerant [18], in the same way in another study they found that 77% of higher level students have a medium level, a high level reached 12% and a low level corresponded to 11% tolerance to frustration [19], likewise a study carried out in Riobamba Ecuador in adolescent students shows a high level of tolerance to frustration (60%), while a minimum percentage shows a low level of tolerance to frustration (6.7%) [20].

While the ability to adapt is a matter of attitude that the human being must constantly face; however, there are many people who show resistance to change by affecting their comfort zone [21]. The objective of the study is to determine the tolerance to frustration due to adaptation to virtual classes due to the pandemic in adolescents from a public and private university. Therefore, through the study, we hope to intervene in the factors that cause frustration in virtual class.

## 2. METHOD

A prospective cross-sectional correlational study was carried out [22], in late adolescent students of a public and private university between the months of August and December 2020. The population consisted of a total of 115 students of the professional school of obstetrics from the Private University of Huancayo Franklin Roosevelt (UPHFR) and professional school of nursing from the National University of Huancavelica (UNH). The sample was non-probabilistic for the convenience of the study due to the context of the COVID-19 pandemic, having as inclusion criteria those students whose ages were between 18 and 19 years old, who were duly enrolled in their institution and have developed face-to-face classes and Subsequently, they have taken virtual classes and who agreed to participate in the study, with a total of 86 adolescents. The hypothesis was raised: There is a relationship between tolerance to frustration and adaptation to virtual classes due to the pandemic in adolescents from a public and private university.

The data collection instrument was the Likert scale type questionnaire for both variables, modified Bar-On and Parker frustration tolerance (16 items) and adaptation to virtual classes (11 items); which were validated through expert judgment using Aiken's V statistic, obtaining the value of 0.86, 0.82 respectively,

which indicates adequate content validity and for reliability, the Cronbach's alpha was used, obtaining a value of 0.88 and 0.86 respectively, which indicates reliability of acceptable content of the proposed items.

The survey was conducted through Google Docs and had the informed consent of the participant for the respective completion. For the statistical analysis, the SPSS v.26 program for Windows 10 was used. Using descriptive statistics for data analysis and for contracting hypotheses, non-parametric inferential statistics were used, because the normality test does not apply for qualitative variables; being the statistician applied Spearman's Rho [23]. The ethical considerations of this study have received approval from the Ethics Committee of the National Autonomous University of Tayacaja "Daniel Hernández Morillo", with number 001-CE-UNT. This approval is adjusted to the objectives of the study.

### 3. RESULTS AND DISCUSSION

#### 3.1. Results

According to Table 1, it shows that 55.81% and 51.16% adolescents who present tolerance to medium frustration at the National University of Huancavelica and Huancayo Franklin Roosevelt Private University, respectively; 25.58% and 30.23% adolescents who present high tolerance for frustration at the National University of Huancavelica and Huancayo Franklin Roosevelt Private University, respectively; Likewise, 18.60% who present low frustration tolerance in both universities are evidenced less frequently.

Table 1. Tolerance to frustration and adaptation to virtual classes in adolescents from the National University of Huancavelica and the Private University of Huancayo Franklin Roosevelt

		Tolerance to frustration in adolescents of the National University of Huancavelica						Total	
		Short		Half		high			
		F	%	F	%	F	%	F	%
Tolerance to frustration in adolescents of the Private University of Huancayo Franklin Roosevelt	Short	2	2.33	8	9.30	6	6.98	16	18.60
	Half	10	11.63	22	25.58	12	13.95	44	51.16
	high	4	4.65	18	20.93	4	4.65	26	30.23
Total		16	18.60	48	55.81	22	25.58	86	100

The Adaptation to virtual classes in adolescents from the National University of Huancavelica in Table 2 shows that 62.79% and 60.47% of adolescents from the UNH and UPHFR who are in the process of adapting to virtual classes, respectively; 23.26% and 20.93% adolescents adapted to virtual classes at UNH and UPHFR, respectively; Likewise, it is evident in less frequency 13.95% and 18.60% adolescents not adapted to virtual classes at the UNH and UPHFR.

Table 2. Adaptation to virtual classes in adolescents of the National University of Huancavelica and the Private University of Huancayo Franklin Roosevelt

		Adaptation to virtual classes in adolescents of the National University of Huancavelica						Total	
		Not adapted		In process of adaptation		Adapted			
		F	%	F	%	F	%	F	%
Adaptation to virtual classes in adolescents of the Private University of Huancayo Franklin Roosevelt	Not adapted	4	4.65	6	6.98	6	6.98	16	18.60
	In process of adaptation	6	6.98	38	44.19	8	9.30	52	60.47
	Adapted	2	2.33	10	11.63	6	6.98	18	20.93
Total		12	13.95	54	62.79	20	23.26	86	100

Table 3 at the Private University of Huancayo Franklin Roosevelt and the National University of Huancavelica, there is evidence of 41.86% adolescents who have a medium frustration tolerance and are in the process of adapting to virtual classes. Likewise, there is evidence of 12.79% adolescents who have a high tolerance for frustration and are adapted to virtual classes. There is also evidence of 3.49% adolescents who have a high tolerance for frustration, who are in a process not adapted to virtual classes. In the same way, we show a 1.16% adolescent who has a low frustration tolerance, which is adapted to virtual classes. Table 4 shows that the relationship between tolerance to frustration and adaptation to virtual classes using Spearman's Rho statistician establishes a value of 0.634, which according to the decision table is read as a moderate correlation between the variables with a p. bilateral significance value of 0.000.

Table 3. Tolerance to frustration and adaptation to virtual classes in adolescents from the Private University of Huancayo Franklin Roosevelt and National University of Huancavelica

		Adaptation to virtual classes in adolescents of the Private University of Huancayo Franklin Roosevelt and National University of Huancavelica							
		not adapted	%	In process of adaptation	%	Adapted	%	Total	%
Tolerance to frustration in adolescents of the Private University of Huancayo Franklin Roosevelt and National University of Huancavelica	Short	8	9.30	7	8.14	1	1.16	16	18.60
	Half	3	3.49	36	41.86	7	8.14	46	53.49
	high	3	3.49	10	11.63	11	12.79	24	27.91
Total		14	16.28	53	61.63	19	22.09	86	100

Table 4. Relationship between tolerance to frustration and adaptation to virtual classes in adolescents of the Private University of Huancayo Franklin Roosevelt and National University of Huancavelica

		GER	GENERTOL (Group)
Spearman's rho	GER	Correlation coefficient	1,000
		Next (2-sided)	.634 **
		N	0.000
GENERTOL (Group)		Correlation coefficient	43
		Next (2-sided)	43
		N	.634 **
		0.000	1,000
		43	43

\*\* The correlation is significant at the 0.01 level (bilateral).

### 3.2. Discussion

Both in the Private University of Huancayo Franklin Roosevelt and the National University of Huancavelica, 55.81% and 51.16% respectively of adolescents were found. that present tolerance to medium frustration; while there is a smaller number of 25.58% and 30.23% of adolescents who have high tolerance for frustration at the UNH and UPHFR. The sudden change in the modality of education to virtual put to the test the adaptability of students and teachers; In the study by Bautista [24], 67.9% report considerable levels of student stress, while 36.9% indicate high levels of coping. On the other hand, Lovón [8] in his study described the repercussions on the mental health of the students of a private university, dividing them into two groups: with adequate and without adequate technological resources where it was evidenced that the first group had stress due to academic overload, while the second frustration and academic desertion. The similarity and difference found between the adolescents of the UPHFR and the UNH are explained by Terriza [14], who states; " Tolerance to frustration are abilities that all human beings possess but that are achieved to a greater or lesser extent by each individual."

In relation to the process of adaptation to classes, 62.79% and 60.47% of adolescents were found to be in the process of adapting to virtual classes in both public and private universities; nevertheless; 23.26% and 20.93% of adolescents adapted to virtual classes at the UNH and UPHFR, respectively, were found in smaller numbers. In a study carried out in Albania, the majority of students who preferred education to be face-to-face, online education to a lesser extent and a combination of both environments. The findings report that Albanian students are not familiar enough with technology-based education [25].

At the National University of Huancavelica, a considerable number of 46.51% of adolescents with medium frustration tolerance and adaptation to classes were found. Coinciding with what was found by Cobeñas Cerna and Montenegro Arteaga [19] who found 77% of higher level students who have a medium level of tolerance for frustration. Where the finding of 4.65% adolescents with high frustration tolerance, who do not adapt to virtual classes, is striking, which gives rise to the fact that both variables, having a medium correlation, show the intervention of other variables to establish these processes.

In the study by Mamani *et al.* [26], it is shown that a high percentage of students are under the effects of anxiety and stress in the development of virtual education; on the other hand, Naciri *et al.* [27]. describes that there is a positive response to e-learning in terms of perception, acceptance, motivation and commitment. The rapid adaptation of young people to educational platforms and virtual learning resources could be useful for continuing studies [28]. The Covid-19 pandemic has changed not only the use of technology in education, but also educational strategies for the future [29], Said virtualization becomes more common, providing effective teaching and learning alternatives [30].

Comprehensively, both universities have 41.86% adolescents with medium frustration tolerance and are in the process of adapting to virtual classes. Facts that are similar to what was found by Cobeñas Cerna and Montenegro Arteaga [19] and different from what was found by Lorenzo *et al.* [20]. Likewise, we show a 2.33% adolescent with low frustration tolerance, but adapted to virtual classes, evidencing the intervention

of multiple variables that better illustrate these results, so much so that the motivation that each adolescent has in a particular way comes to be carved.

The relationship between tolerance to average frustration and adaptation to virtual classes is of direct average correlation, which indicates that both variables are directly proportional. And they are typical of individuals which are manifested through various actions as manifested by Terriza [14], being typical of an individual this is not decisive to establish the adaptation to events or events that must be faced, such is the case that Ventura-Leon *et al.* [15] mentions that adolescents take time to adapt to a new environment due to stigmas of belonging and since the ability to adapt is a matter of attitude, their process is individual. Finally, Mazariegos [21] mentions that adolescents take their time to adapt according to their needs; Thus, similarities are evident in both universities in relation to tolerance to frustration and adaptive capacity to virtual classes, evidencing that this process is intrinsic to the adolescent.

#### 4. CONCLUSION

The Peruvian educational system was not yet prepared for virtual education, finding many deficiencies, the study reveals that the relationship between tolerance to average frustration and adaptation to virtual classes is of direct average correlation, which indicates that both variables are directly proportional. We recommend carrying out multicenter studies, which allow the outcomes of this change in educational modality to be compared in various regions.




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