

## USES OF FACEBOOK AND ACADEMIC PROCRASTINATION IN GENERAL STUDIES STUDENTS AT A PERUVIAN UNIVERSITY

Alicia Taipe-Quispe<sup>1</sup> , Yulissa Heredia-Mamani<sup>1</sup> , Osbaldo Turpo-Gebera<sup>1</sup> ,  
Juan-José Igartua<sup>2</sup> 

<sup>1</sup>Universidad Nacional de San Agustín de Arequipa (Peru)

<sup>2</sup>Universidad de Salamanca (Spain)

[ataipeq@unsa.edu.pe](mailto:ataipeq@unsa.edu.pe), [yberedia@unsa.edu.pe](mailto:yberedia@unsa.edu.pe), [oturpo@unsa.edu.pe](mailto:oturpo@unsa.edu.pe), [jigartua@usal.es](mailto:jigartua@usal.es)

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### Abstract

The incidence of consumption on Facebook around the world and its implications for university students is something that has necessarily been studied in the scientific literature (Gil-Flores, De Besa-Gutierrez & Garzón-Umerenkova, 2019). Fewer and far between are works focused on the study of social networks and academic procrastination in a population, particularly with a non-traditional teaching methodology (General Studies), even though this knowledge would allow us to obtain a profile of university students and identify their possible actions that could derive in academic problems. As a matter of fact, its importance has enabled the present study to analyze the relationship between the motivations for using Facebook and academic procrastination, and consequently determine the resulting correlation with certain indicators of use, satisfaction with Facebook and academic procrastination. For this purpose, the Facebook Usage Questionnaire was used (Igartua & Rodríguez de Dios, 2016), in addition to the Academic Procrastination Scale (Domínguez-Lara, Villegas & Centeno, 2014), with a sample of 150 students in their first year at a public university. In this manner, the results agree, showing a clear relationship between the motivations of “entertainment” and “virtual community” with moderate levels of procrastination, corresponding to greater implication with this social network. Significant differences in terms of gender and age are shown, which allows for a better understanding of the behavior pattern of these variables.

**Keywords** – Motivations for facebook use, Procrastination, University students, General studies.

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## 1. Introduction

### 1.1. University Context

The adaptation of students to the university system constitutes a critical period, and one that generates concern in terms of the high student dropout rates and attrition. This situation is a worldwide phenomenon, and it presents new challenges for higher education, researchers and public policy representatives (Pierella,

Peralta & Pozzo, 2020). In this sense, it is assumed that the education in undergraduate studies must be inclusive, based on interdisciplinary learning and the development of critical thinking skills. A clear example is what is offered by the training program known as General Studies (GS), which has emerged as a response to remedy the shortcomings identified in the transition process of students during their early years at the university (Turpo-Gebera, Hurtado-Mazeyra, Delgado-Sarmiento & Mango, 2020).

In turn, it is hoped that students will know how to manage their learning resources (study habits, achievement orientation and locus of control) (Padua, 2019) and face the contextual demands of this new instructional model (Michavila & Esteve, 2011), otherwise this performance may be affected by a series of obstacles that prevent them from achieving their academic and personal goals.

This situation has been mentioned by Condori and Mamani (2016), observing that students with inadequate time management are vulnerable to problems with the use of different virtual reality tools, particularly with regard to leisure aspects (online games) and socialization (social networks) (Fernández-Villa, Alguacil, Almaraz, Cancela, Delgado-Rodríguez, García-Martín et al., 2015); this is because they form part of a medium that provides them with immediate satisfaction and can cause the continuous need for virtual experiences (Varchetta, Frascchetti, Mari & Giannini, 2020). This effect is preceded by factors such as how they were raised as children and past experiences, the use of cognitive functions, the use of the Internet or social networks and other categories (Ramos-Galarza, Jodán-Guerrero, Paredes-Núñez, Bolaños-Pasquel & Gómez-García, 2017).

At the same time, the arrival of the COVID-19 health crisis brought about confinement in various sectors, education among them, with new implications and changes in educational policies, in order to continue to be able to offer students a quality education (Bayda & Sutliff, 2020). Simply put, meeting the learning and socio-emotional development needs of students became a challenge. In this situation, the use of the social networks has gained strength and prominence in the educational sector, because of the functionalities they offer. A clear example of this is Facebook, thanks to the tools it has for cooperative work, instructor guidance, creating groups and more (Flores, Lopez & Rojo, 2022). This result is reinforced by the great charm the social networks have for students, as well as a positive effect on their neuro-psycho-biological and social processes (Arab & Díaz, 2015): a feeling of belonging, improved emotional state and meeting their needs for communication (Rocha, Amador & Álvarez, 2015). As a matter of fact, their high level of current consumption (86.9%) confirms this argument (Fernández de la Iglesia, Casal, Fernández-Morante & Cebreiro, 2020). In spite of the positive aspects, they also potentially have some adverse consequences: emotional problems, health problems, psychosocial problems, reduced academic performance, student dropout (Andreassen, 2015) and an active stance of academic postponement (Velásquez, 2021).

## **1.2. Motivations for Using Facebook**

The popularity of social networks has been affording users notable audience-attracting capacity (Marín & Sampedro, 2021), in a general sense, as they are associated with entertainment and fun (Ballesta-Pagán, Lozano-Martínez, Cerezo-Máiquez & Castillo-Reche, 2021). Recently, We Are Social and Hootsuite (2020, cited by Andrade-Vargas, Iriarte-Solano, Rivera-Rogel & Yunga-Godoy, 2021) claim that the social networks with the most users today are: YouTube, Facebook, Instagram and Twitter.

In particular, Facebook has experienced growth in use since 2004 when its first digital version was presented by creator Mark Zuckerberg (Rahmani, Kor, Ghayoumi & Shams, 2021), “with more than 2.27 billion active users per month and 1.15 billion active users every day” (Rajesh & Rangaiah, 2020: page 1). It has quickly expanded in universities and other collectives, as it is considered to be the most popular social network in the world (Merino, 2020). This result is the product of the variety of functions it offers, depending on the objectives of each person, whether it is to share texts, images or multimedia files, add friends, create profiles, photo albums and more (Torres, 2008; Scotti, 2015). In fact, it is perceived as the most complete virtual tool, with an approval rating of 77.33% over its competitors (Benito & Fernández, 2011).

Its presence has had considerable notoriety in different social contexts (Rodríguez-Illera, Martínez-Olmo, Rubio-Hurtado & Galván-Fernández, 2021), especially in the lives of Peruvian Internet users, becoming a national trend (98%) with a large number of users in recent years, during the COVID-19 quarantine (Ipsos, 2020; Ipsos, 2021), with a significant incidence in the youth population (Bacallao-Pino, 2016; Jara, 2021).

Current research intends to understand the analysis of user behavior and its implications, as starting with their early works, Crespo, Elgueta and Rizzo (2009) manage to offer a categorization of the motivations that would explain the use of this virtual system by young people. This is the main reason why Facebook has become fashionable, characterized in women by social pressure and the need to maintain emotional ties, and in men, by more of a focus on entertainment than on social aspects. Subsequently, Igartua and Rodríguez de Dios (2016) show how the level of satisfaction with this virtual system increases with use, which is guided in essence by an interest in entertainment. Later, we see the perception that Internet users have of this social network, as they feel that they can express themselves freely and interact with one another (Cunha & Magano, 2019). This reinforces the motivating factor that it serves to maintain friendships and meet new people, as well as opening up spaces to look for different information and learn new things (Raza, Qazi, Shah, Qureshi, Qaiser & Ali, 2020).

As such, focusing on analyzing the relationships that exist behind the use of Facebook can demonstrate a reasoning with regard to the flow of the motivational structure in the Peruvian context, particularly bearing in mind the conditions of use in university students, in order to understand its repercussions. Given that this social network offers positive experiences and is free of physical and mental stress, it increases the likelihood of greater involvement (excessive use of Facebook); in fact, the evidence suggests a relationship with addictive disorders, for the main reason that it permits escaping from stress and finding social support and relief, according to the study by Brailovskaia, Margraf and Köllner (2019) in the United States and Germany. It is important to mention the meta-analysis by Marino, Gini, Vieno and Spada (2018) with a sample of 27,867 participants, as it contributes to explaining the phenomenon of problematic Facebook use, finding a relationship with individual factors such as neuroticism and scrupulosity. This would seem to constitute a greater propensity of use, perceiving it as a means to regulate the user's emotional state and low levels of emotional stability.

### **1.3. Factors Associated with Academic Procrastination**

In recent years, procrastination has been perceived as a psychological phenomenon with an increasingly greater prevalence in today's society, accompanied by harmful, chronic effects on health.

Its definition originally dates back to the work done by Busko (1998, cited by Chan-Balazar, 2011), as an irrational tendency to delay the start of a task, postponing it until the last moment or exceeding the established time limit; wasting time or avoiding its performance (Garzón-Umerenkova & Gil-Flores, 2017b). Accordingly, people who procrastinate enter into an active process, in which they decide to abandon the responsibilities assigned to them by involving themselves in activities that offer requirements that are closer to them (Chan-Balazar, 2011; Pardo-Bolivar, Perilla-Ballesteros & Salinas-Ramírez, 2014), which certainly means a subjective discomfort, accompanied by certain instability in their way of living (Gera, Nunes, Hauck-Filho & Teixeira, 2019).

It is believed that its prevalence can be found in an academic context, in which high levels have been detected in terms of frequency and chronic occurrence (Muñoz-Olano & Hurtado-Parrado, 2017; Garzón-Umerenkova & Gil-Flores, 2017a,b). Similar data were observed in approximately 50% of the North American university population (Carranza & Ramírez, 2013), especially with regard to the transition years to higher education, with a greater tendency to have a negative influence on the learning process (Clariana, Gotzens-Busquets, Badia-Martín & Cladellas-Pros, 2012). In the Peruvian context, its involvement in the academic setting is noteworthy, observing that a large part of the students leave their academic responsibilities for the last moment (20.5%), put off work (15.09%) and postpone readings (15.86%) (Domínguez-Lara, 2018).

Its prominence is even more marked when studied during the confinement in response to the Coronavirus, during which time online learning was initiated. The study by Hong, Lee and Ye (2021) shows that students can obtain high levels of academic procrastination since they show low levels of regulated learning strategies (for example, task strategies and mood adjustment), which leads to a high perceived ineffectiveness of online learning. With regard to this learning context, according to the reports by Cheng and Xie (2021), the perceptions of university students also serve as predictors when it comes to tackling the procrastination.

Gil-Flores, De Besa-Gutierrez and Garzón-Umerenkova (2019) recently show a relevant contribution to understanding the motivations university students have for procrastinating, indicating three important reasons: poor time management, evaluation-related anxiety and the lack of willingness to complete a final work (laziness). Based on these results, the report by Visser, Korthagen and Schoonenboom (2018) indicates that certain learning characteristics of students with a high level of procrastination (choice of curriculum, participation in study activities, ways of reacting to failure, self-perception and study results) can have a negative influence on their academic performance. This could be affected by the attribution of procrastination to the fear of failure and the lack of motivation, which means a lower level of self-efficacy and an attributional academic style, understood as the way in which they understand and explain the events that occur during their studies (Visser, Korthagen and Schoonenboom, 2015).

As a matter of fact, there is abundant literature that shows the influence of these factors, which act dynamically, on the emergence of this phenomenon during the learning framework. Their analysis is frequently associated with emotional problems, impulse control and personality aspects. As the result of poor academic performance, there is a greater tendency to use drugs and a high incidence of suicidal behaviors in university students (Dewitte & Schouwenburg, 2002; Muñoz-Olano & Hurtado-Parrado, 2017; Gómez-Romero, Tomas-Sábado, Montes-Hidalgo, Brando-Garrido, Cladellas & Limonero, 2020).

The overall objective of this study is to analyze the relationship between the Motivations for using Facebook and academic procrastination in General Studies students, due to the great impact that the social networks have on the world. This is even truer of the digital platform Facebook, as it is one of the networks most commonly used by adolescents and young people in the Peruvian context, which can cause distraction and delays in their academic responsibilities. This negative effect is better explained in those students who have certain personal characteristics (impulsiveness, errors in self-regulation processes, the tendency towards solitude, search for excitement, dependence on others, etc.) (Gil-Flores et al., 2019; Rajesh & Rangaiah, 2020), which make them more vulnerable to putting off their academic activities, disregarding the value of future rewards in favor of an immediate alternative, producing great psychological malaise derived from the consequences. The evidence shows that first-year university students can show a greater tendency to procrastinate, due to the transition from secondary school or baccalaureate studies to higher education (Clariana et al., 2012).

The following specific objectives are developed:

1. Analyzing the motivational structure of Facebook use, indicators of consumption and satisfaction.
2. Finding out the level of academic procrastination and its dimensions.
3. Determining the relationship between the motivations for Facebook use and academic procrastination, according to the sociodemographic characteristics of age and gender.
4. Determining the correlation of consumption and satisfaction indicators of Facebook with academic procrastination according to age and gender.

## **2. Method**

### **2.1. Sample**

The participants of reference for this study were 150 first-year students in the College of Education Sciences at San Agustín National University in Arequipa, each of whom already had a Facebook profile

and were academically trained as per the guidelines for General Studies, according to the New university Law No. 30220 (Article 41). 35% (n=52) were male and 65% (n=98) were female, with ages between 17 and 40 years, grouped according to age ranges: under 18 years of age (n=30), 18-19 (n=69), 20-25 (n=39) and 25-40 (n=12). The research sample was a convenience (non-random) sample applied to the group.

## 2.2. Design and Procedure

The research was based on the analysis of the incidence and relationship of both variables at a single time, according to Hernández-Sampiere, Fernández-Collado and Baptista-Lucio (2014). To this end, a Google form was self-administered to the group. It consisted of informed consent to the purposes of the study, a questionnaire on the uses of Facebook and the Academic Procrastination Scale, which were intended to analyze the influence of consumption behavior and reasons for using Facebook among young university students who were studying the first cycles of General Studies. The intent was to determine the tendency to put off homework or other academic responsibilities, taking into account the teaching and learning context rooted in the global health crisis. Data collection was coordinated with the pertinent authorities in order to apply the evaluation instruments, requesting authorization in order to ultimately obtain the corresponding responses.

## 2.3. Instruments and Variables

For the *first variable*, the Questionnaire on Facebook Usage was used, which was created and adapted from the work by Igartua and Rodríguez de Dios (2016), an instrument for which the work by Sheldon (2008) was the main preliminary study, validated in different educational centers of the Spanish university student population. This questionnaire consists of three large sections: motivations for Facebook usage, which contains 20 items divided into categories according to 6 factors: entertainment, virtual community, coolness, relationship maintenance, company and self-expression, which have 7-point Likert-type response options ranging from 1=totally disagree to 7=totally agree; the second section targets how Facebook is used (number of contacts, hours and minutes during which the respondent is connected to this network), and finally, the last section measures the level of satisfaction with Facebook, with responses that range from 0=not at all gratifying to 10=very gratifying; the scores in the latter block were combined to create a Facebook satisfaction index (Igartua & Rodríguez de Dios, 2016).

The normative data from this test indicate that the motivational construct associated with Facebook use is both quality and pertinent, according to the factor analysis of the principal components (with varimax rotation); similarly, of mention are the internal consistency values (Cronbach's alpha), with the entertainment factor being .82; the virtual community .79; relationship maintenance .85; company .56 and self-expression .64.

In order to measure the *second variable* being studied, the Academic Procrastination Scale (EPA: Busko, 1998) was applied, as adapted by Domínguez-Lara et al. (2014) in a sample of Peruvian university students. It consists of 12 items with five Likert-type response options (Never, Rarely, Sometimes, Almost always and Always) for both dimensions: Postponement of activities (items 1, 6 and 7) and Academic self-regulation (items 2, 3, 4, 5, 8, 9, 10, 11 and 12). For the rating, these same authors developed a scale, defining the cut-off points at a high level (>Pc 75) and a low level (<Pc 25), respectively, in each dimension evaluated. Furthermore, in a more pragmatic manner, with regard to the Postponement of activities, scores above nine would indicate a high level and those below seven would be indicative of a low level; meanwhile, in Academic self-regulation, scores above 35 would indicate a high level and below 27 would indicate a low level. Likewise, the psychometric properties of this instrument indicate good support for its applicability in a university context, obtaining adequate values for both the overall scale and for each dimension, according to the optimal indicator of reliability of .80 and .90 (Campo-Arias & Oviedo, 2008), and a good fit of the instrument to a two-factor model that validates its construct according to confirmatory factor analysis (Domínguez-Lara et al., 2014).

### 3. Results

First of all, Table 1 shows the acceptable reliability values for both study variables and as the result of the application (N=150). With regard to the “Motivations for Facebook Use”, a good level of reliability is observed ( $\alpha = .899$ ), with the exception of a minimal indicator for the “company” motivation ( $\alpha = .316$ ). On the other hand, in relation to the “Procrastination” instrument, there is adequate internal consistency according to the analysis of its dimensions “Postponement of activities” ( $\alpha = .760$ ) and “Academic self-regulation” ( $\alpha = .823$ ).

Instrument	N	N of items	Cronbach's
			Alpha
<b>Motivations for Facebook Use</b>	150	20	.899
Entertainment	150	5	.897
Online community	150	4	.747
Coolness	150	4	.713
Relationship maintenance	150	3	.906
Company	150	2	.316
Self-expression	150	2	.618
<b>Procrastination</b>	150	12	.558
Postponement of activities	150	3	.760
Academic self-regulation	150	9	.823

Table 1. Summary of the reliability of the applied instruments

#### 3.1. Motivations for Use, Variables of Use and Satisfaction with Facebook

The analysis of the first objective regarding the motivations of Facebook use according to Figure 1 shows that most of the participants have an average interest (50,7%) in use during their free time, among the most relevant motivations for which are the dimension of entertainment (44.7%), company (43.3%) and self-expression (42.7%), as well as a minority of respondents who showed a high interest in the entertainment dimension (33.3%). Conversely, it is observed that the least appealing motivations for low-level use of this social network are: coolness (77.3%) and forming part of a virtual community (54.7%).

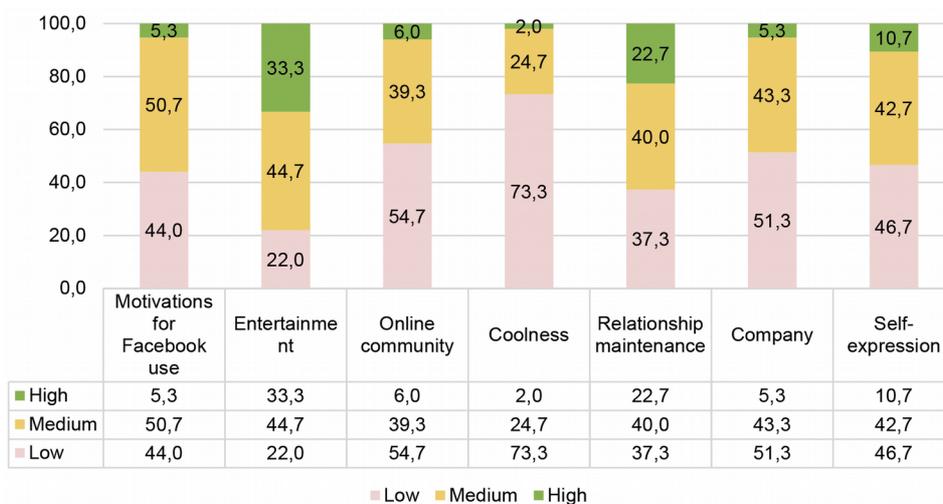


Figure 1. Percentage distribution of the levels with regard to the reasons or motivations for Facebook use in general and according to dimensions

With regard to Facebook use and satisfaction, descriptive and correlational information are shown. As it can be seen in Table 2, the mean number of contacts is around 497, with the most frequent value being

100 contacts (mode), and connecting on average for around 3 hours per day, with a typical connection being for around 21 minutes. Accordingly, it could be inferred that the participants would be connecting to Facebook around nine times per day. Finally, the satisfaction with Facebook use indicates a value of 5.02, slightly above the theoretical midpoint of the scale, which corresponds to a value of 5.

According to Table 3, the number of contacts has a positive association with satisfaction with Facebook (Rho=0.250,  $p < .001$ ). Likewise, the time dedicated each day is positively associated with the duration of the connection and satisfaction with Facebook (Rho=0.244 and 0.253,  $p < .001$ ).

	O	Mean	Mode	SD	Minimum	Maximum
No. of contacts on Facebook	150	497.17	100	633.57	1	3761
No. of minutes per day you connect to Facebook	150	3.19	1	4.02	1	30
No. of minutes of a typical connection to Facebook	150	21.35	1	33.22	1	180
Satisfaction with Facebook	150	5.02	7	1.99	1	10

Table 2. Descriptive data on the use and satisfaction with Facebook

	Minutes/day	Minutes/connection	Satisfaction with Facebook
No. of contacts on Facebook	.116	.021	.250**
No. of minutes per day you connect to Facebook		.244**	.253**
No. of minutes of a normal connection to Facebook			.116

\*\*The correlation is significant at the 0.01 level.

Table 3. Spearman's Rho correlations between the indicators of use and satisfaction with Facebook

### 3.2. Academic Procrastination

Figure 2 shows the levels of procrastination and their dimensions, respectively: Postponement of activities and Academic self-regulation.

In a general sense, young university students in General Studies show an average level of procrastination of 44.7%, followed by a low level of 31.3% and a high level of 24.0%. With regard to its dimensions, it is observed that there is a higher percentage of participants who obtain a moderate level (54.7%) for *Postponement of activities*, while the score for *Academic self-regulation* is situated at a high (49.3%) and medium (43.3%) level.

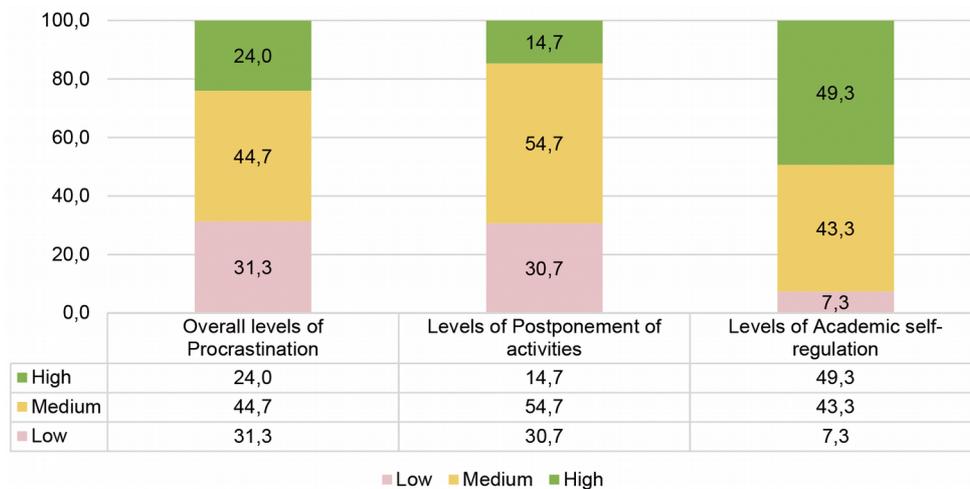


Figure 2. Percentage distribution of the levels of procrastination in general and by dimensions

### 3.3. Analysis of Motivations for Facebook Use and Academic Procrastination

In order to meet our overall objective, the first part of the statistical processing is focused on using the CHI2 test to demonstrate the relationship that exists between the “motivations for use” and “academic procrastination,” while simultaneously in the second part, the behavior of the variables was analyzed: indicators of use and Facebook satisfaction with procrastination by means of Spearman’s Rho correlation.

The analysis of Table 4 and Figure 3 shows that among the most relevant motivations for using Facebook, the dimension “*entertainment*” is related to the “*overall levels of procrastination*,” as its p-value of 0.025 is below the level of significance of 5% (0.05); in other words, when there are moderate and high levels of Facebook use for reasons of entertainment, there are also moderate levels (34%) of procrastination (Table 8). Likewise, the “*virtual community*” motivation is related to the “*levels of Postponement of activities*,” with a p-value of 0.024, which is below the level of significance of 5% (0.05); this evidences that the participants who show a low and average interest in using Facebook for reasons related to the virtual community have average levels of Postponement of activities (54%).

Motivations for Facebook Use	Procrastination		
	Overall Levels of Procrastination	Levels of Postponement of activities	Levels of Academic self-regulation
Overall Levels of Motivations for Facebook Use	.459	.177	.404
Entertainment	.025	.081	.073
Virtual community	.262	.024	.092
Coolness	.827	.116	.260
Relationship maintenance	.525	.081	.301
Company	.094	.282	.098
Self-expression	.208	.625	.775

Table 4. CHI2 test for the relationship between the Motivations for Facebook use and procrastination

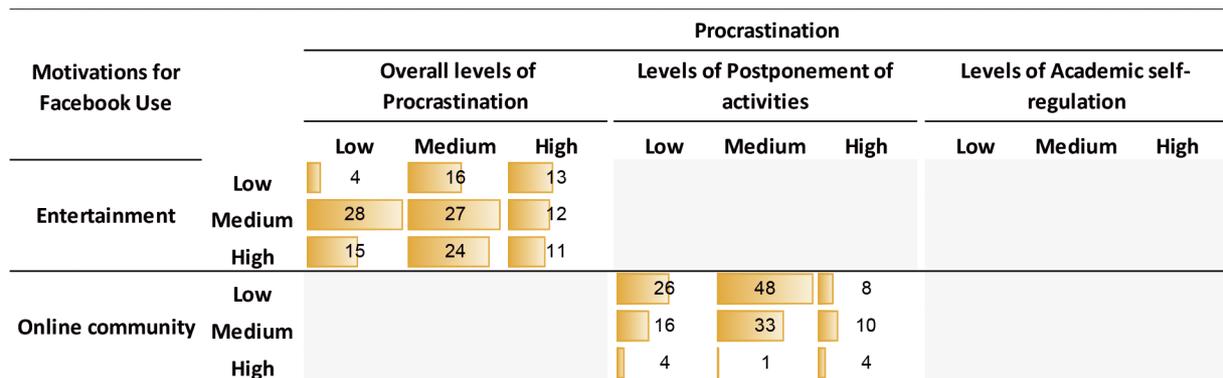


Figure 3. Chi2 test for the relationship between the motivations for Facebook use and procrastination in general and by dimensions

With regard to whether there were any statistically significant differences according to gender, the data in Figure 4 show that women are the gender that has the strongest relationship to the tendency to postpone their academic obligations when it comes to using Facebook for reasons of *entertainment* (53%). However, when motivation to use this social network is low, according to the dimensions of *virtual community* (53%) and *coolness* (69%), better academic self-regulation levels are obtained. Furthermore, men who turn to Facebook with less frequency for reasons of *coolness* show an average level for the Postponement of the activities dimension (34%).

Overall Levels of Motivations for Facebook Use			Procrastination									
			Overall levels of Procrastination			Levels of Postponement of activities			Levels of Academic self-regulation			
			Low	Medium	High	Low	Medium	High	Low	Medium	High	
Entertainment	Female	Low				11	13					
		Medium				15	18	6				
		High				7	19	9				
Virtual Community	Female	Low							3	17	35	
		Medium						2	19	15		
		High						2	2	3		
Coolness	Male	Low			7	27	4					
		Medium			6	5	2					
		High						1				
	Female	Low						4	25	43		
		Medium						2	13	9		
		High						1		1		

Figure 4. Counts for significant Chi2 tests for the relationship between the motivations for Facebook use and procrastination in general and by dimensions, according to gender

The age range is another significant finding from the CHI2 test in Figure 5, in which 18-19-year-olds stand out for their moderate tendency (56%) to put off their academic activities until the last minute for reasons related to the virtual community, as well as presenting better levels of self-regulation in order to maintain their study pace (52%). On the other hand, when the use of this social network is low, mediated by the motivation of coolness, the Postponement dimension presents with a low (24%) and medium (43%) degree, accompanied by a medium (26%) and high (42%) level of self-regulation. Finally, another group of young people between 20 and 25 years of age state that they have an average interest in navigating this online site for reasons of maintaining relationships, and in turn demonstrated a medium level of Postponement of activities (35%).

Overall levels of Motivations for Facebook Use			Procrastination								
			Overall levels of procrastination			Levels of Postponement of activities			Levels of academic self-regulation		
			Low	Medium	High	Low	Medium	High	Low	Medium	High
Virtual community	18 to 19 years	Low				15	15	2	3	12	24
		Medium				9	24	2	1	15	12
		High							2		
Coolness	18 to 19 years	Low				13	18	6	4	18	29
		Medium				9	21	1	1	9	7
		High							1	1	
Relationship maintenance	20 to 25 years	Low			2	8	1				
		Medium			2	15	3				
		High			5	2	1				

Figure 5. Counts for significant Chi tests for the relationship between the motivations for Facebook use and procrastination in general and by dimensions, according to age range

### 3.4. Indicators of Use, Satisfaction with Facebook and Procrastination

With regard to the results obtained in Table 5 by means of Spearman’s Rho correlation among the indicators of use, such as satisfaction with Facebook and procrastination. As the first result that evidences a clear negative correlation between “minutes/day” and “Academic self-regulation,” it is indicated that the

more time per day that young people spend connected to the social network Facebook, the lower are their levels of self-regulation (value of  $-.167$ ,  $p < .005$ ). A second result emerges between “minutes/connection” and “Postponement of activities,” where it can be observed that as the minutes of a typical connection increase, the tendency to postpone activities also increases (value of  $.168$ ,  $p < .005$ ). With regard to the association between “satisfaction with Facebook” and “procrastination,” the data show a positive value of  $.179$ . In other words, having higher levels of satisfaction with the social network Facebook evidences a clear incidence of procrastination; just the opposite is also true: the association between “satisfaction with Facebook” and “Academic self-regulation” shows a negative correlation of  $-.202$  ( $p < .005$ ).

	Minutes /day	Minutes/co nnection	Satisfaction with Facebook	Direct score Procrastination	Postponement of activities	Academic self-regulation
No. of contacts on Facebook	.116	.021	<b>.250**</b>	-.041	.017	-.045
Minutes/day		<b>.244**</b>	<b>.253**</b>	-.144	.129	<b>-.167**</b>
Minutes/connec tion			.116	.037	<b>.168*</b>	-.045
Satisfaction with Facebook				<b>-.179**</b>	.112	<b>-.202**</b>
PD Procrastination					-.082	<b>.874**</b>
Postponement of activities						<b>-.521**</b>

\*\*The correlation is significant at the 0.01 level.\* The correlation is significant at the 0.05 level.

Table 5. Spearman’s Rho correlations between the indicators of use and satisfaction with Facebook and procrastination

In turn, Table 6 shows the comparisons according to gender and the Spearman’s Rho correlation. The differences occur with regard to the male gender, which presents a closer association, with a value of  $.309$  ( $p < .005$ ), between “minutes/connection” and “postponement of activities,” indicating that as male students dedicate more time to a typical connection to Facebook, their postponement of activities behavior also increases. Female students, in turn, show two indicators with a positive and a negative correlation. Their behavior is oriented in the sense that as the time in “minutes/day” increases, the levels of “Postponement of activities” also increases (value of  $.222$ ), while on the other hand, if we consider “satisfaction with Facebook,” a deficit in “Academic self-regulation” occurs (value of  $-.202$ ).

	Minutes/ day	Minutes/ connection	Satisfaction with Facebook	PD Procrastination	Postponement of activities	Academic self-regulation
<b>Male</b>						
No. of contacts on Facebook	.268	.191	.227	-.157	.079	-.158
Minutes/day		<b>.276*</b>	.225	-.165	-.031	-.122
Minutes/connection			-.021	-.081	<b>.309*</b>	-.199
Satisfaction with Facebook				-.242	.051	-.231
PD Procrastination					-.111	<b>.893**</b>
Postponement of activities						<b>-.508**</b>
<b>Female</b>						
No. of contacts on Facebook	.024	-.067	<b>.243*</b>	.018	-.019	.015
Minutes/day		<b>.211*</b>	<b>.280**</b>	-.116	<b>.222*</b>	-.179
Minutes/connection			.178	.054	.123	.003
Satisfaction with Facebook				-.151	.135	<b>-.202**</b>
PD Procrastination					-.052	.866**
Postponement of activities						-.501**

\*The correlation is significant at the 0.05 level (bilateral). \*\*.The correlation is significant at the 0.01 level (bilateral).

Table 6. Spearman's Rho correlations between the indicators of use, satisfaction with Facebook and procrastination by gender

With regard to the mapping of the age range in Table 7, the university students aged 18-19 years show significant differences in the correlation of “minutes/connection” and Postponement of activities, with a value of .269 ( $p < .005$ ). Accordingly, the youngest students show a greater frequency to postpone their academic obligations if they remain connected for a longer period of time to this social network. The group of 20-25-year-old students shows the greatest predisposition to present low levels of Academic self-regulation as their satisfaction with Facebook increases, with a value of -.403.

	Minutes /day	Minutes/c onnection	Satisfaction with Facebook	PD Procrastination	Postponement of activities	Academic self-regulation
<b>Students under 18 years of age</b>						
No. of contacts on Facebook	<b>.486**</b>	.096	<b>.491**</b>	-.011	.059	-.100
Minutes/day		-.012	<b>.367*</b>	-.047	.138	-.104
Minutes/connection			.113	-.019	.096	-.121
Satisfaction with Facebook				.199	.267	.063
PD Procrastination					.059	<b>.822**</b>
Postponement of activities						<b>-.475**</b>
<b>18-19 years of age</b>						
No. of contacts on Facebook	.099	.015	.170	-.102	.025	-.078
Minutes/day		.228	.192	-.100	.164	-.136
Minutes/connection			.104	-.002	<b>.269*</b>	-.104
Satisfaction with Facebook				-.189	-.055	-.118
PD Procrastination					-.066	<b>.868**</b>
Postponement of activities						<b>-.498**</b>
<b>20-25 years of age</b>						
No. of contacts on Facebook	.037	-.033	<b>.329*</b>	.010	.124	-.038
Minutes/day		.199	.220	-.267	.097	-.227
Minutes/connection			.115	.260	.012	.205
Satisfaction with Facebook				-.308	.282	<b>-.403*</b>
PD Procrastination					-.133	<b>.879**</b>
Postponement of activities						<b>-.557**</b>
<b>25-40 years of age</b>						
No. of contacts on Facebook	.004	-.036	-.268	.227	-.215	.255
Minutes/day		<b>.705*</b>	.335	-.170	.285	-.199
Minutes/connection			.218	.046	.257	-.071
Satisfaction with Facebook				-.365	.570	-.515
PD Procrastination					-.412	<b>.915**</b>
Postponement of activities						<b>-.705*</b>

\*\*The correlation is significant at the 0.01 level (bilateral).\*The correlation is significant at the 0.05 level (bilateral).

Table 7. Spearman's Rho correlations between the indicators of use, satisfaction with Facebook and procrastination by age range.

#### 4. Discussion and Conclusions

Nowadays the use of the Internet and social networks has greatly increased, often generating excessive use, which negatively affects the physical, psychological and social conditions of people, primarily young people (Estrada, Zuloaga, Gallegos & Mamani, 2020). This is particularly true in the academic context during the first few years of university life, stemming from a process of academic adaptation that is affected if the

students do not have socioemotional support, academic support, identification with the professional vocation and emotional stability (Duche-Pérez, Paredes-Quispe, Gutiérrez-Aguila & Carcausto-Cortez, 2020). It is for this reason that in this study a relationship was determined to exist between the motivations for Facebook use and academic procrastination in university students pursuing a degree in General Studies, having determined their consumption behavior and satisfaction with this social network.

In response to our first objective, it was found that the majority of university students show an average interest in Facebook use (50.7%), followed by a low level (44.6%) and a high level (5.3%), motivated by reasons of entertainment, virtual community and coolness. This result corresponds to that of the study conducted in Spain (Igartua & Rodríguez de Dios, 2016), where students recognized that relationship maintenance, the desire to form part of a virtual community and entertainment constitute the main motivations for using Facebook. This information has a significant impact as it shows that the university students prefer this social network to strengthen their social circle (Raza et al., 2020). The research by Rajesh and Rangaiah (2020) shows a positive relationship between solitude and addiction to Facebook and intensity of its use.

The motivational structure of the university students has been shown to be a determinant variable when it comes to explaining consumption behavior. For this reason, when using this social network, the participants enter into an active process in which the frequency (9 times per day) and typical connection time (an average of 21 minutes) has an influence on greater involvement with this social network, given that it increases their level of satisfaction and number of contacts. This raises the issue of the consequences of excessive or even problematic Facebook use, which could trigger greater propensity toward at risk behavior and affect the students' academic responsibilities (Turel, 2015; Sánchez-Rodríguez, Ruiz-Palmero & Sánchez-Rivas, 2015).

In this sense, the results found here would mean that during the period of the COVID-19 pandemic and within the framework of virtual education, the repercussions of misuse of these technologies would have increased, among them the social networks, resulting in a positive relationship with the phenomenon of procrastination (Ramírez-Gil, Cuaya-Itzcoatl, Guzmán-Pimentel & Rojas-Solís, 2021). Accordingly, the second objective was developed in order to analyze the impact of the procrastinating behavior on university students, characterized by its high incidence (Muñoz-Olano & Hurtado-Parrado, 2017), showing a moderate (44.7%) and low (31.3%) trend for academic procrastination in this study. Its frequency is similar to that reported by Talledo (2017) in a sample of young university students in Lima, reaching a moderate level of procrastination, with 55.1%, and low levels of procrastination, with 43.7%. Within the procrastinator profile, the poor time management capacity, fear of failure and lack of motivation are some of the characteristics that would explain this result (Visser et al., 2015, 2018; Gil-Flores et al., 2019). Other variables such as perceived self-sufficiency and self-esteem have a greater influence on procrastination, according to an inverse correlation (Uribe, Alegría, Shardin-Flores & Luz-Montejo, 2020).

In contrast to the data found, the present study shows the behavior of the motivations for Facebook use variable in relation to the Academic procrastination variable in university students, concluding that the motivation of entertainment and membership in a virtual community are the most significant indicators that predispose their intensity of use (average interval), and therefore they show a moderate level of procrastination. In this sense, it has been reported that the use of social networks by first-year university students can lead to academic procrastination when its use becomes problematic (Chinaza, Ikwuka, Ugorji & Chidi, 2020), and when the student is frequently a procrastinator, causing him or her to spend a lot of time seeking sources of excitement; this is often accompanied by increased measurements indicating an Internet addiction and poor academic performance (Ramos-Galarza et al., 2017). This leads us to think that the young people in this study do not have a problematic profile in terms of Facebook use; however, the reasons for using this digital platform are statistically significant in terms of indicating a moderate level of procrastination, which could increase the risk factors if it goes ignored. When students see themselves as less competent in the face of the difficulties that might arise in online learning, they can show greater degrees of academic procrastination (Pelikan, Lüftenegger, Holzer, Korlat, Spiel & Schober, 2021).

With regard to the third objective, significant differences in terms of gender and age are shown according to the dimensions of procrastination: Postponement of activities and Academic self-regulation. The data reveal that female students are the gender that puts off their academic obligations until the last minute, when their interest in using Facebook is guided by the primary motivation of entertainment, contrary to what has been commonly indicated by different studies, as more socializing aspects tend to prevail in women (Crespo et al., 2009; Fernández de la Iglesia et al., 2020). Nonetheless, when the need is focused by social pressure in a virtual medium, the procrastination behavior of women and students 18-19 years of age varies, which would seem to indicate that this group of young people has learned to manage the perception of their self-regulatory processes better in achieving learning, when they are motivated by reasons related to the virtual community. Similarly, the reason for perceiving Facebook as a unique and special social network for making friends (coolness) produces a different effect on the procrastinating behavior, as this motivation, which is less attractive to Internet users, predisposes students to better self-regulation for the female gender and an average tendency to postpone activities for the male gender.

With regard to the postponement of activities, among the youngest students aged 18-19, they manifest a medium and low frequency to delay academic situations as the result of a regular and low use of Facebook for motivations related to the virtual community and a lower interest in its use for “coolness.” The effect of age on academic delay shows how students under age 25 procrastinate significantly more than older students (Rodríguez & Clariana, 2017).

At the same time, the final objective shows the strongest significant correlation: the level of satisfaction with Facebook and procrastinating behavior, which means that the more satisfied the students are with this social network, the more they procrastinate. This is as indicated in the study by Ramírez-Gil et al. (2021) in terms of significant relationships. In a similar manner, the work by Nuñez and Cisneros (2019) in Peru agrees with these findings, showing that as satisfaction with this social network increases, the levels of addiction and academic procrastination can also increase.

This research contributes to the knowledge of the human behavior of Internet users, more specifically, of students who are beginning their university life. It considers academic aspects related to the processes of adaptation and the challenges of organizing learning. Among the motivations for academic procrastination, recreational entertainment stands out; this in essence inhibits an assertive transition to university studies. This is true given that students prefer to spend their free time on evasive activities or to put off their academic obligations, given their greater dedication to experiences on the Facebook social network (Duche-Pérez et al., 2020). The explanation for this motivational structure has barely been researched. In this sense, further studies are necessary in different public and private institutions within the framework of General Studies. In this manner, psycho-educational programs could be provided that address factors of protection and healthy habits for using the social networks, as well as the regulation of emotions when faced with unpleasant situations. The importance of the tutor as a guidance counselor must be acknowledged, in order to promote the capacity of resilience and self-efficacy in students. The variables of the student’s personality must also be included in order to evaluate the significance of the correlation of the variables.

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