Social Networks, Self-Esteem, Locus of Control, and Academic Performance in University Students From Ayacucho-Peru During the COVID-19 Pandemic

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This research aimed to verify whether there is a relationship between the use of social networks, self-esteem, academic performance, and the locus of control in university students of Ayacucho in the year 2020. Data collection was by three validated questionnaires: Addiction to Social Networks (ARS), Rosenberg Self-esteem Scale (EAR), and Rotter's Locus of Control Test. A questionnaire for general data and self-reporting of students' weighted average achieved was also used. The statistic for non-parametric samples (ANOVA) was used in the statistical package SPSS version 2.7. The results showed a stronger relationship between the use of social networks and self-esteem, and a weaker relationship with the locus of control. Regarding academic performance, no relationship was demonstrated.

INTRODUCTION

There is evidence that Facebook addiction negatively impacts self-esteem and academic performance (Busalim, Masrom, & Zakaria, 2019); however, people who receive approval from friends or significant family via social networks tend to have higher self-esteem and longer time use of social media (Wilco & Stephen, 2012). Therefore, the relationship between the use of social networks and self-esteem should be studied considering mediating elements.

Studies carried out in China (Hou et al., 2017) and Malaysia (İskender & Akin, 2010) identified that the excessive use of social networks and the internet is positively related to the external locus of control. When adjusted for this element, it is identified that there is an inverse relationship between the risk of addiction to social networks and self-control (Wilcox & Stephen, 2012; Challco, Rodríguez, Jaimes, 2016). There is also evidence that the control of the use of social networks is related to self-regulation (Rouis, Limayem, & Salehi-Sangari, 2011).

Regarding the association between psychological well-being and the use of social networks (Facebook), Valerio Ureña & Serna Valdivia (2018) found a positive ($p < .05$, .153) relationship regarding the number of photos posted and subjective psychological well-being.

The high use of social networks by university students affects academic performance negatively, mainly in students with extroverted personality traits (Rouis, Limayem, & Salehi-Sangari, 2011) Academic performance is a fundamental aspect for the professional and work success of students, since the use of social networks, self-esteem, can be related to the multiple ways of acquiring learning, therefore, it is essential to investigate aspects that act as protection or risk factors of social networks in the processes of academic performance. It is also necessary to analyze the interaction or linkage of the forms in the access of information through locus of control and how these variables interact and contribute significantly to the strengthening of learning in university students.

Inclusion Criteria

The study population comprised the university student body attending the Catholic University of Chimbote, Ayacucho, during the 2020 COVID-19 pandemic period. Informed consent was obtained through a dialog box on the online survey.

Of the 313 participants, 30 were excluded due to incomplete questionnaires, being 283 participants for the study analysis with complete questionnaires.

Methodology

The study design was observational, relational, and cross-sectional with regard to collecting and analyzing information. The population was university-aged adults aged 18 years and older and studying during the pandemic in 2020. The sample was non-probabilistic and included students who affirmed and consented to participation in this research.

We used the Questionnaire of Addiction to Social Networks (ARS) questionnaire, which explores psychometric properties of reliability and validity (Escurra & Salas Blas, 2014). This instrument was corroborated by Benites (2018) who confirmed satisfactory levels of validity and reliability (CFI = .960, RMSEA = .071). The scale has three sub-dimensions: obsession with social networks ($\omega = .86$), lack of personal control in the use of social networks ($\omega = .72$), and excessive use of social networks ($\omega = .83$).

For the evaluation of self-esteem, the Rosenberg Self-Esteem Scale (EAR) was used as adapted to the Spanish language by Atienza, Moreno, and Balaguer (2000) and composed of 10 test items (males: $r = 0.86$, $p < 0.001$; females: $r = 0.64$, $p < 0.001$) and Cronbach's alpha of 0.86 (Atienza et al., 2000).

For analysis of the locus of control, Rotter's Locus of Control Test was applied with a reliability of internal consistency Cronbach's alpha of 0.652. It also showed evidence of convergent–discriminating validity ($r = -.306$, $p = .001$) (Brenlla & Vázquez, 2009).

A questionnaire was also used to collect general data and for the student to self-report their last weighted average achieved. The latter was taken into consideration due to the difficulties in accessing information due to the COVID-19 pandemic. The statistic for non-parametric samples (ANOVA; Analysis Of VAriance) was used in the SPSS version 2.7 statistical package.

Variables
- Social Media Addiction
- Self-esteem level
- Locus of control level

- Self-reported academic performance

Analysis and Presentation of Data

Data were transferred to a Microsoft Excel 2013 spreadsheet to analyze the descriptive statistics of the sample. Data were also inserted into the statistical program SPSS version 2.7 for the regression analysis between the constant variable, addiction to social networks, and the variables self-esteem and locus of control.

RESULTS

The regression analysis verified the relationships between the use of social networks and locus variables of control and between the use of social networks and self-esteem as reported in Table 1.

TABLE 1
RELATIONSHIP BETWEEN ADDICTION TO SOCIAL NETWORKS, SELF-ESTEEM, AND LOCUS OF CONTROL

ANOVA[a]

Model		Sum of Squares	gl	Half Quadratic	F	Sig.
	Regression	11,232	2	5,616	14,400	.000[b]
1	Residual	108,419	278			
	Total	119,651	280	-.390		

a. Variable: Use of social networks (total level)
b. Predictors (Constant): locus type, self-esteem level

It is appreciated that the variables self-esteem and locus of control are significantly related to the use of social networks.
   a. Variable:

TABLE 2
REGRESSION COEFFICIENTS AMONG THE VARIABLE ADDED TO SOCIAL NETWORKS - SELF-ESTEEM AND LOCUS OF CONTROL

Coefficients

Model		Coefficients not standardized		Coefficients standardized	t	Sig.
		B	Deviation Mistake	Beta		
	(Constant)	2,241	.171		13,079	.000
1	Level Self-Esteem	-.198	.063	-.193	-3,141	.002
	Locus type	.202	.070	.177	2,888	.004

a. Dependent variable

The relationship between level of self-esteem and addiction to social networks is stronger, where as a less intense relationship exists between addiction to social networks and type of locus of control.

TABLE 3
SUMMARY OF THE MODEL

Model	R	R square	R square tight	Standard error of the estimation
1	.306[a]	0.094	0.087	0.624

a. Predictors (Constant social networks): Locus type, Self-esteem level

TABLE 4
DISTRIBUTION OF SELF-REPORTING OF ACADEMIC PERFORMANCE AND SOCIAL MEDIA ADDICTION

Self-reported academic performance	Addiction to use of social networks					
	Low		Middle		High	
	f	%	f	%	f	%
Low	4	3.54%	18	13.04%	4	12.90%
Regular	93	82.30%	109	78.99%	25	80.65%
High	16	14%	11	8%	2	6%
Total	113	100%	138	100%	31	100%

Source: Social Media Addiction Questionnaire and Self-Reported Academic Performance

FIGURE 1
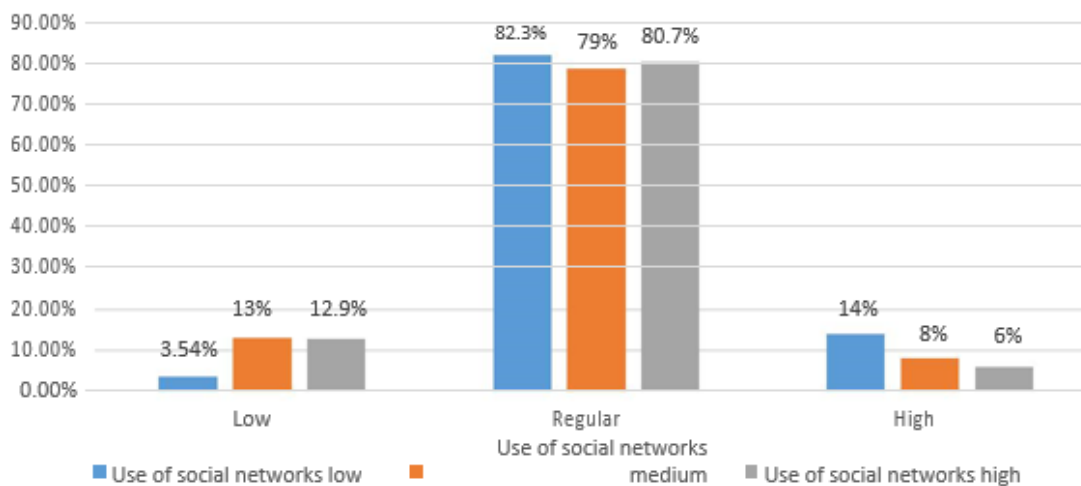**SELF-REPORTED ACADEMIC PERFORMANCE AND SOCIAL MEDIA USE**

Table 4 shows that of the total number of students with high social media addiction, 6% have high self-reported academic performance while 80.7% report a medium level and 12.9% a low level. Only 3.54% of young people with low social media addiction self-reported low academic performance.

DISCUSSION

The results of this study relate to Wilcox and Stephen (2012) with respect to the relationship between the use of social networks and self-esteem by university students, which is also corroborated by Valerio Ureña and Serna Valdivia (2018).

On the other hand, we also found a relationship between the use of social networks and the locus of control, confirming the results of Hou et al. (2017), İskender and Akin (2010), Wilcox and Stephen (2012), Challco, Rodríguez, and Jaimes (2016), and Rouis, Limayem, and Salehi-Sangari (2011).

With respect to the self-reporting of academic performance and social media use, there is no significant difference.

CONCLUSION

The relationship between the levels of self-esteem and addiction to social networks is stronger while the relationship is less intense between addiction to social networks and type of locus of control.

Regarding the self-reporting of academic performance and social media use, no significant difference is seen.

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