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Impact of the Energy Crisis on the Academic Performance and Professional Training of Undergraduate Students in the Social Work Program in Ecuador

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Abstract

This research examines the impact of the energy crisis on the academic performance and professional training of 330 Social Work students in virtual and distance learning modalities at two Ecuadorian universities. Employing a mixed methodological approach (quantitative and qualitative), with a non-experimental, cross-sectional, and observational design, the study explores how the crisis affects their preparation to intervene in vulnerable contexts. The results show that the crisis significantly hinders access to virtual education and digital resources, negatively impacting attendance, assignment submission, and study time, exacerbating educational inequalities. Effects are also observed in pre-professional internships, generating stress, demotivation, and even the consideration of dropping out of studies. Finally, a perceived decrease in the quality of training is evident, coupled with a lack of effective institutional support to mitigate the effects of the crisis.

Keywords: *Energy Crisis, Academic Performance, Professional Training, Ecuador.*

Introduction

Since September 2024, the recurrent power outages in Ecuador have been an unparalleled setback in the educational progress achieved after the pandemic. The energy crisis has led to the interruption of classes, limited access to digital resources and the generation of a climate of uncertainty in educational institutions. Both students and teachers are facing an increasingly complex situation, with direct consequences on their emotional well-being and academic performance, exacerbating educational gaps and highlighting pre-existing inequalities. This regression is manifested in a general way in the need for students to do their homework under candlelight or wait for long periods to complete their academic work, taking advantage of the intermittent and unfavorable time slots in which the electricity service is restored, often at the expense of hours of sleep. The current energy crisis in the country generates anxiety, frustration, demotivation and stress due to the accumulation of unfinished tasks and the failure to meet deadlines, which negatively impacts both the performance and well-being of students and teachers, who have already managed to adapt to multiple crises, including the COVID-19 pandemic

This research analyzes how energy interruptions and lack of access to technological resources,

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derived from the energy crisis, directly affect social work students of the virtual and distance modality in two Ecuadorian universities in their professional training process. Specifically, it addresses aspects such as: limitations in the realization of virtual activities, access to educational materials, connection with classes or learning platforms and the reduction of quality, both in practical and theoretical learning; both necessary to address complex social problems. This approach is pertinent, given that future professionals in Social Work need to develop critical competencies that, with the energy crisis, could be affected by technological shortcomings that not only limit access to quality university education, but also increase digital and social divides in vulnerable groups.

The general objective was to analyze the impact of the energy crisis on the academic performance, professional training and practices of undergraduate students of the Social Work career in Ecuador to be developed through the following specific objectives:

1)-. Assess how the energy crisis affects access to educational platforms,

2)-. To identify difficulties associated with the professional training of students of the social work career.

3)-. To investigate students' perceptions of educational quality during the energy crisis in Ecuador.

Energy Crisis and Education in Ecuador

Ecuador is going through a deep multidimensional crisis, with the energy crisis as a central axis. Prolonged blackouts, derived from this crisis have a negative impact on industrial productivity, precarious working conditions and affect the education system in general. According to Molina and Landeta (2024) Added to this problem are the increase in violence linked to drug trafficking and illegal mining, the precariousness of employment, underemployment and the privatization of public services, which exacerbates the vulnerability of the popular classes. Ecuadorian politics, dominated by discourses far removed from the real needs of the population, perpetuating a cycle of political simulation that prevents addressing the structural causes of the crisis; including the lack of investment in infrastructure and labor exploitation. Overcoming this situation requires a political project that prioritizes the well-being of the majority and effectively addresses the energy crisis and its consequences.

In response to this problem, the Ministry of Education (2024) it has implemented an emergency plan that includes pedagogical guidelines applicable to all levels of the National Education System (fiscal, private, fiscal and municipal). The plan guides teachers with pedagogical activities focused on the development of learning. These guidelines promote the assignment of short tasks, which do not require access to the internet or electricity and, that can be carried out with the resources available in homes. In addition, the hours for the afternoon have been reduced until 6:00 p.m. Whereas, in the night mode, Only 50 public schools in eight provinces located in areas with stable electricity service returned to face-to-face classes as of October 2024, the other units will be incorporated into face-to-face classes progressively, maintaining, for the moment, in the non-face-to-face modality, supported by the activation of academic resources and pedagogical guides articulated to the curriculum, with the purpose of mitigating the consequences of non-face-to-face education and the real risk of learning loss in the short and medium term, by the reduction of the academic load.

On the other hand, Higher Education Institutions have also demonstrated their commitment to

the university community, by declaring a state of emergency in the face of the energy crisis. To cite examples, the ULEAM declared an emergency, limiting the anniversary celebrations to two events, restructuring the 2024-2 academic calendar (45-minute classes and compensatory schedules) and extending the application period for scholarships until November 7, these actions seek to minimize the impact on the university community (ULEAM, 2024). Meanwhile, the Faculty of Administrative Sciences of the UCE, as of October 21, 2024, implemented the 2024-2025 Contingency Plan, to guarantee the continuity of academic activities in the face of power outages. The plan contemplates; on the one hand, adaptations in face-to-face modalities (prioritizing the morning schedule and using tools such as TEAMS and Moodle in the afternoon) and remote (maintaining flexibility and access to resources on platforms such as Moodle); On the other hand, security and welfare measures are established for the educational community, a system of attendance registration and control of activities and, The Faculty's commitment to continuous monitoring, teaching flexibility and active communication, remaining in force until the electricity supply is normalized (UCE, 2024). Despite the strategies outlined, the magnitude of the crisis transcends the category of a simple inconvenience; since the interruption of the electricity supply violates the right to quality education, hinders academic and professional progress.

Academic Performance in Virtuality and Distance Education: Influential Factors

Academic performance in higher education is influenced by several factors (Gutiérrez et al., 2023), studying the events that affect student performance is important to understand the difficulties of staying in the study programs (Cayón et al., 2021). Several studies associate multiple factors with unfavorable academic performance, with a greater impact on virtual education, which differs from distance and face-to-face education due to its dependence on virtual platforms and teacher mediation (Al-Zawqari et al., 2022). Unlike online education, traditional distance education is based on the autonomous study of materials and the delivery of assignments, without the need for virtual platforms or synchronous classes, although it can include face-to-face exams and telephone consultations (Gray et al., 2014). In these modalities, the lower institutional accompaniment has a negative influence, especially, in the virtual mode (Paudel, 2020). Comparatively, performance in virtual courses tends to be lower than in face-to-face courses, mainly due to socioeconomic factors (Palvia et al., 2018). There is no single determining factor of student academic performance, but a multiplicity of causes. In this context, UNESCO, according to Alvarado et al.(2018), emphasizes the importance of students' socioeconomic status. Since power outages are part of the socioeconomic situation of the students' environment, they should be considered as an influential factor in the academic performance of university students (De la Cruz et al., 2024).

Regarding the above, several authors agree on the relevance of personal, family, technical, work, technological and health factors in training processes (García et al., 2016) including demotivation, lack of support, bullying, tiredness, and family and financial problems (Alarcón et al., 2016). Similarly, the lack of self-management of time, low skills in the use of technologies, the lack of institutional support, the difficulty of courses and deficient curricular designs have a negative impact (Salim & Luo, 2019); in addition to this, stress, sleep disorders, depression and burnout are also associated with poor performance (Calatayud et al., 2022; Gil & Quintero, 2021).

Other risk factors include extreme poverty, studying off-campus or part-time, and poor activity compliance (Helal et al., 2019). In addition, poor communication skills, lack of autonomy,

imposed activities, low achievement orientation, poor study habits, poor time management, low spirituality, external locus of control, and poor relationships with classmates and teachers have been identified (Padua, 2019), with achievement orientation, study habits, spirituality, and locus of control being important aspects to consider (Dabhade et al., 2021; Padua, 2019). Low socialization skills and economic problems also contribute to poor performance (Antelm et al., 2018), as well as low interaction on virtual platforms, learning styles, readiness and attitude (Jena, 2016).

Method and Design

This research adopts a mixed methodological design, integrating quantitative and qualitative approaches to achieve a comprehensive view of the phenomenon (Hernández et al., 2018). It is characterized by being non-experimental, descriptive and cross-sectional. This strategy will allow for a holistic understanding of students' perceptions of the impact of the energy crisis on their academic performance and professional training. This methodological combination, It makes it possible not only to quantify the limitations imposed by the crisis, but also to explore in depth the personal experiences of each student in relation to the difficulties and their perceptions, on educational quality and how they directly impact academic performance and professional training.

Participants

Table 1 shows the summary of the biosociodemographic profile by universities of the 320 undergraduate students of the Social Work career participating in the study.

Board 1: Biosociodemographic profile

Variables and categories		University					
		Public University		Private University		Total	
		Recount	%	Recount	%	Recount	%
Age	18-23	31	12.4%	18	22.8%	49	14.8%
	24-28	49	19.5%	21	26.6%	70	21.2%
	29-33	58	23.1%	16	20.3%	74	22.4%
	34-38	41	16.3%	12	15.2%	53	16.1%
	39-43	38	15.1%	7	8.9%	45	13.6%
	44-48	19	7.6%	3	3.8%	22	6.7%
	49-53	10	4.0%	1	1.3%	11	3.3%
	More than 53	5	2.0%	1	1.3%	6	1.8%
	Total	251	100.0%	79	100.0%	330	100.0%
Sex	Female	217	86.5%	72	91.1%	289	87.6%
	Male	34	13.5%	7	8.9%	41	12.4%
	Total	251	100.0%	79	100.0%	330	100.0%
Province of Residence	Azuay: Cuenca	6	2.4%	0	0.0%	6	1.8%
	Bolívar: Guaranda	3	1.2%	0	0.0%	3	0.9%
	Cañar:	1	0.4%	1	1.3%	2	0.6%

	Quicksilver						
	Carchi: Tulcán	0	0.0%	1	1.3%	1	0.3%
	Chimborazo: Riobamba	8	3.2%	1	1.3%	9	2.7%
	Cotopaxi: Lacatunga	1	0.4%	0	0.0%	1	0.3%
	The Gold: Machala	21	8.4%	1	1.3%	22	6.7%
	Esmeraldas: Esmeraldas	3	1.2%	2	2.5%	5	1.5%
	Guayas: Guayaquil	103	41.0%	45	57.0%	148	44.8%
	Imbabura: Ibarra	2	0.8%	5	6.3%	7	2.1%
	Store: Store	5	2.0%	0	0.0%	5	1.5%
	Los Ríos: Babahoyo	15	6.0%	6	7.6%	21	6.4%
	Manabí: Portoviejo	15	6.0%	1	1.3%	16	4.8%
	Morona Santiago: Macas	2	0.8%	1	1.3%	3	0.9%
	Napo: Tena	3	1.2%	1	1.3%	4	1.2%
	Orellana: Francisco de Orellana	0	0.0%	2	2.5%	2	0.6%
	Pastaza: Puyo	1	0.4%	1	1.3%	2	0.6%
	Pichincha: Quito	31	12.4%	4	5.1%	35	10.6%
	Santa Elena: Santa Elena	10	4.0%	4	5.1%	14	4.2%
	Santo Domingo de los Tsáchilas: Santo domingo	15	6.0%	0	0.0%	15	4.5%
	Sucumbíos: Nueva Loja	3	1.2%	3	3.8%	6	1.8%
	Tungurahua: Ambato	1	0.4%	0	0.0%	1	0.3%
	Zamora Chinchipe: Zamora	2	0.8%	0	0.0%	2	0.6%
	Total	251	100.0%	79	100.0%	330	100.0%
Area of Residence	Urban	175	69.7%	63	79.7%	238	72.1%
	Rural	76	30.3%	16	20.3%	92	27.9%
	Total	251	100.0%	79	100.0%	330	100.0%
Academic	Sixth	0	0.0%	4	5.1%	4	1.2%

Level	Seventh	2	0.8%	11	13.9%	13	3.9%
	Eighth	82	32.7%	54	68.4%	136	41.2%
	Ninth	167	66.5%	10	12.7%	177	53.6%
	Total	251	100.0%	79	100.0%	330	100%

Source: Prepared by authors

The distribution of the population studied (Table 1) shows that 251 (78.4%) of the students correspond to students from a public university and the remaining 79 (21.6%) from a private university. Participants in the age range of 29-33 predominate with a representation of 22.4%. However, the analysis of the data on the age variable allows us to determine that almost 60% are between 24 and 38 years old. Female participants prevail with 87.6%. A very significant concentration of students (44.8%) reside in the province of Guayas, in Guayaquil, and most of them 72.1% reside in the urban area. In terms of academic level, more than half (53.6%) of students are in the ninth cycle.

Information Collection Technique and Data Analysis Procedure

The study uses the survey as an information collection technique and the questionnaire as an instrument. The questionnaire entitled "SURVEY ON PERCEPTION OF THE IMPACT OF THE ENERGY CRISIS ON UNDERGRADUATE ACADEMIC PERFORMANCE IN SOCIAL WORK STUDENTS" is made up of 41 questions (36 closed "Yes/No" answers and 5 open answers (6,14,39,40,41)) subdivided into 11 sections.

The procedure for the application of the survey began after obtaining the corresponding approval, in addition to the necessary coordination, the students were informed of the academic purpose of the study and, guaranteeing the anonymity of their answers and following the pertinent ethical principles, their consent for informed, conscious and voluntary participation was requested. The necessary permissions were given for access to the survey on the Google Forms platform.

The data was processed in the EXCEL computer program and through the use of descriptive statistics (means, percentages) the results were interpreted.

Results

Figure 1 illustrates the quantitative analysis of the results of section II, on access to technological resources, reveals a significant problem for social work students. 96.1% report difficulties with the use of devices such as computers and phones, due to constant power outages. This situation is aggravated by interruptions in internet service, which affect 96.7% of participants, hindering their access to online educational resources. More than half of the students (52.7%) experience an inconstant electricity supply in their localities, which generates a greater dependence on the availability of energy. In addition, a large majority (87.9%) lack alternative means of energy, such as external batteries or generators, to continue their studies during power outages. These data show a marked vulnerability in access to technology and connectivity, negatively impacting the learning process.

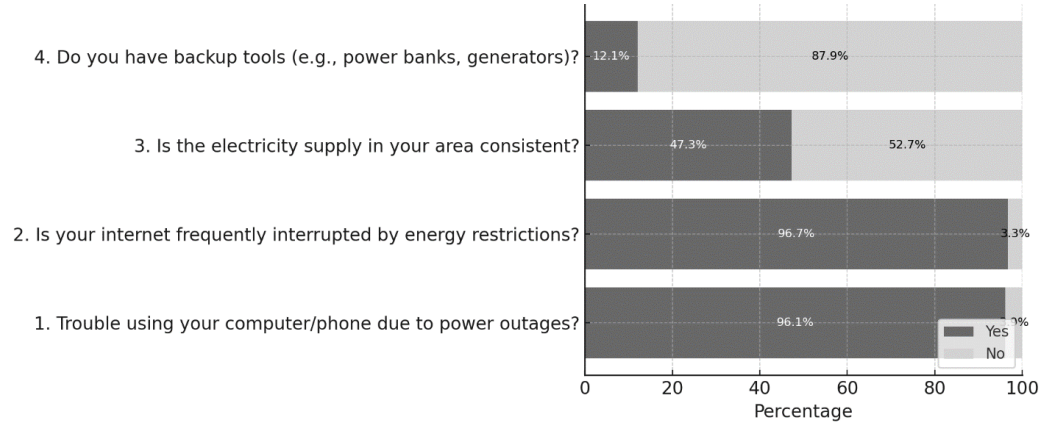

Figure 1: Access To Technological Resources During the Energy Crisis

Source: Prepared by authors

Figure 2 shows the opinions of the students in relation to the number of hours they experience due to planned power cuts. 46.7% of students experienced planned power outages between 4 and 9 hours per day, while 41.8% endured between 10 and 15 hours without electrical service. 2.7% suffered cuts of more than 15 hours a day.

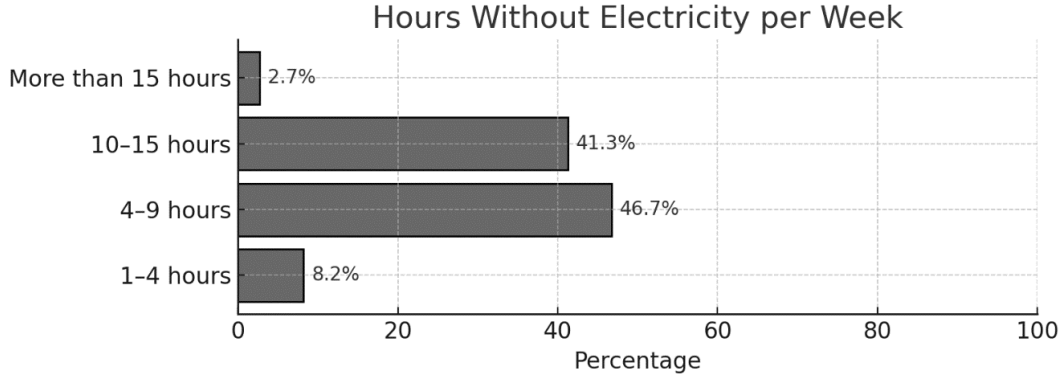

Figure 2: Hours Without Power

Source: Prepared by authors

There were 15 students affected for more than 15 hours a day. Figure 3 shows the detail of the hours of those who had these experiences (question 6). Of the 15 students affected by more than 15 hours of blackouts a day, 33.3% experienced 16-hour outages; while 20.0% suffered 24-hour outages. The main reasons were the failure to meet daily deadlines, maintenance during electricity availability schedules and the location of residence.

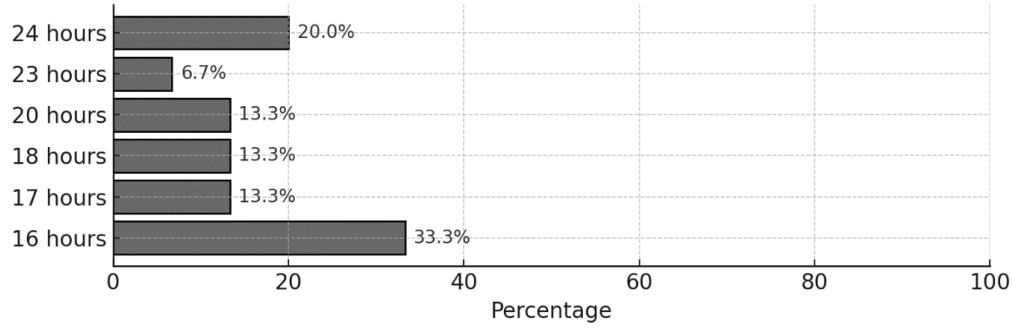

Figure 3: Incident of More Than 15 Hours Without Power

Source: Prepared by authors

Section III of the survey, on the implications of power outages on academic performance and educational continuity, shows a significant impact. 96.7% of students reported difficulties attending virtual classes due to power outages. 79.4% indicated that this situation has negatively affected the timely delivery of tasks. Even more conclusively, 97% of the students surveyed confirmed that the power cuts have led to a reduction in their daily study hours. These data show that power outages represent a considerable obstacle to academic development, interfering with class attendance, compliance with activities, and dedication to personal study.

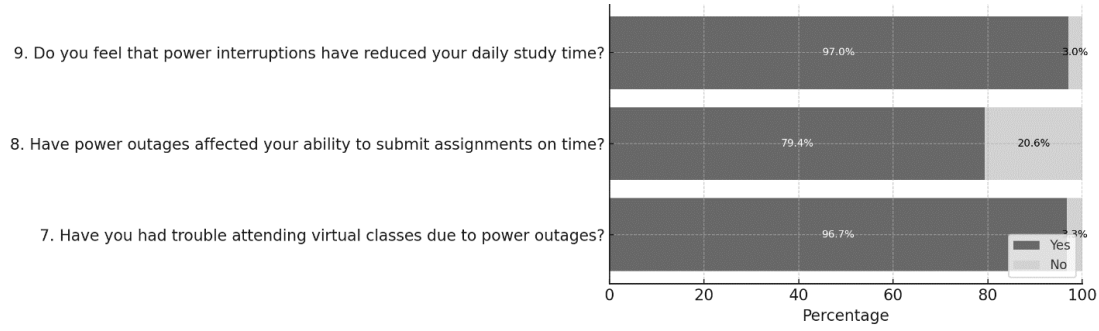

Figure 4: Academic Performance and Educational Continuity

Source: Prepared by authors

Section IV (Figure 5), on the psychosocial and emotional impact of the energy crisis, reveals a high level of stress among students (97%). 91.8% consider that it generates inequalities in learning. Although 51.2% have not considered abandoning academic activities, a worrying 48.8% have contemplated it. In addition, 87.9% of students perform other activities that are also affected. These data show that the energy crisis impacts academic performance, generates stress, perception of inequality and, in a high percentage, the consideration of dropping out of studies or other activities.

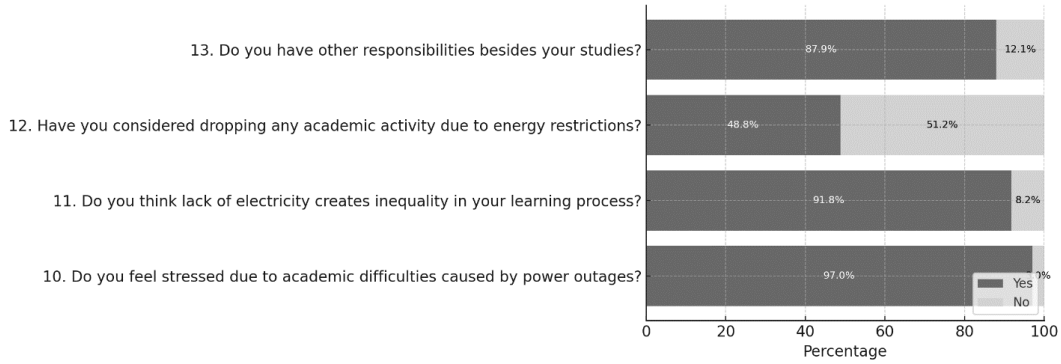

Figure 5: Psychosocial and Emotional Impact of The Energy Crisis

Source: Prepared by authors

Figure 6 describes the students' extracurricular activities, revealing a considerable burden (question 14). 81.7% work, implying a double shift. 24.1% have responsibilities in childcare, including support with schoolwork that requires technology. 18.6% combine studies with household chores, delayed by the lack of energy that prevents the use of appliances and lighting. 7.6% study languages, other careers or take training. 6.9% carry out pre-professional internships, also affected by the energy crisis. Finally, 2.4% carry out leisure activities, which are also limited by power outages. Most combine studies with activities, mainly work and family care, affected by the lack of electricity.

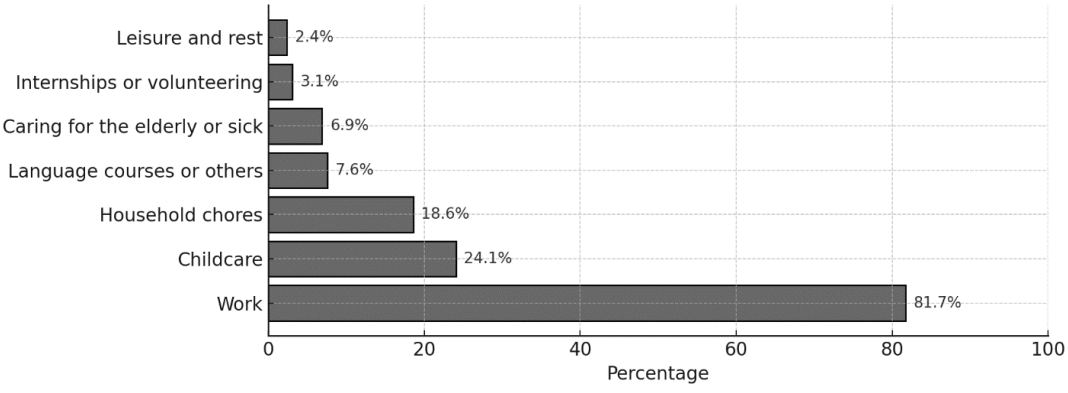

Figure 6: Extracurricular Activities in Students' Daily Lives

Source: Prepared by authors

Figure 7 shows that, although 63% of students recognize that their universities are committed to their education and offer flexibility in delivery times in the face of the country's energy crisis, a considerable 79.7% say they do not receive institutional support to mitigate the difficulties caused by the lack of energy. This disparity suggests a pressing need for universities to step up their efforts and innovate appropriate contingency strategies and plans for these types of extraordinary situations, in order for students to truly feel supported and protected.

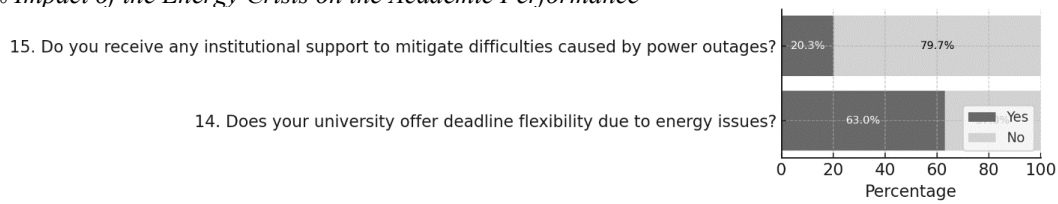

Figure 7: University Action in the Face of the Energy Crisis

Source: Prepared by authors

Section V on measures to adapt to energy constraints (Figure 8) reveals that more than half of the students, 54.2%, do not have a study schedule adapted to the hours of electricity supply. A worrying aspect is that half of the students lack alternative resources such as flashlights and portable chargers to study during power outages. On the other hand, a high percentage, 89.7%, confirm that they have had to modify their learning methods to adjust them to the restrictions imposed by the lack of electricity supply and 71% say that they have had to innovate in new learning methods in order to acquire knowledge. Taken together, these data show a lack of preparation and resources on the part of students to face the energy crisis and the need to adapt their study strategies.

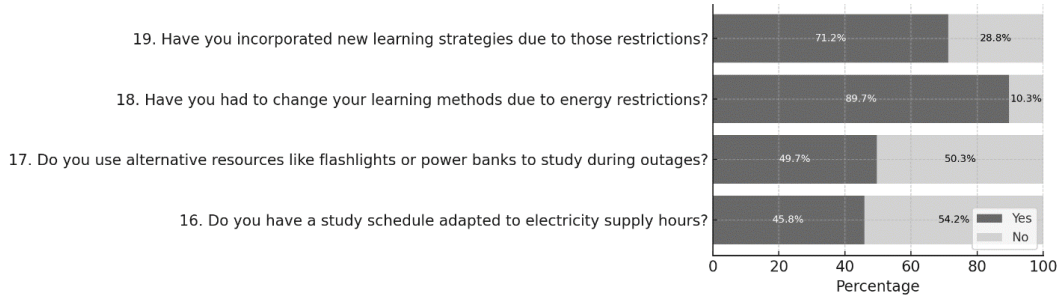

Figure 8: Adaptation To Energy Constraints

Source: Prepared by authors

Section VI (Figure 9) reveals that 93.6% of respondents have lost access to virtual classes due to lack of electricity. Although 57.9% claim to access platforms after hours, adding to this, energy problems that make it difficult to communicate with teachers and classmates. This shows that, despite the flexibility in access to platforms, the interruption of the electricity service seriously affects attendance at virtual classes and interaction between the educational community.

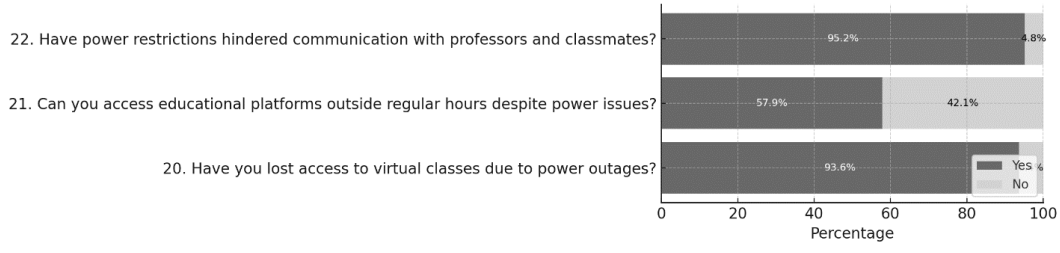

Figure 9: Impact on Connectivity and Access to Educational Platforms

Source: Prepared by authors

Section VII explores the effects of the energy crisis on academic and emotional well-being, revealing a significant impact; where 83.3% report that energy restrictions negatively affect their motivation to study. This decrease is compounded by an alarming 96.4% who consider energy difficulties to create stress in relation to their academic responsibilities. This high percentage indicates that the crisis not only interrupts activities, but also generates great psychological pressure, making it difficult to concentrate and perform. In addition, 60% consider that their academic process is less equitable compared to students from less affected urban locations. This perception of inequity is crucial, revealing that the crisis exacerbates pre-existing inequalities, putting students in the most affected areas at a disadvantage and generating a sense of injustice that negatively impacts their emotional well-being and performance. Taken together, these data show that the crisis not only interrupts access to education, but also generates deep emotional discomfort, demotivation and a clear perception of inequality among students.

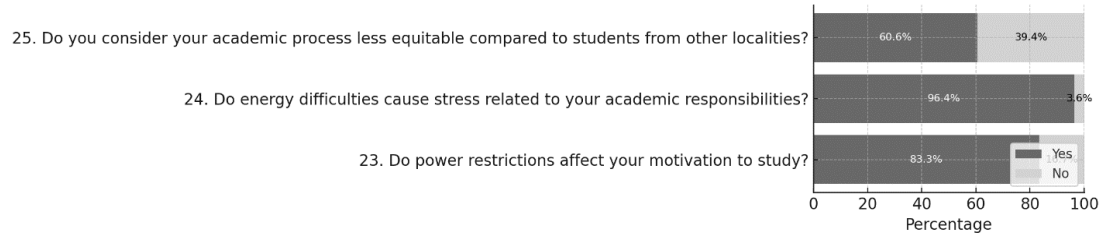

Figure 10: Effects on Academic and Emotional Well-Being

Source: Prepared by authors

Section VIII, on the perception of the impact on the quality of education, reveals a widespread concern, where 88.2% of students perceive that the energy crisis is negatively affecting the quality of their education. This perception is based on several factors. 63.3% say that the educational resources available are insufficient to face the current situation, characterized by frequent power outages that prevent access to online educational resources, which depend on the electricity service. This inadequacy, combined with the disruption of access to platforms and study materials, creates a precarious learning environment. In addition, 69.1% agree that their education is inferior compared to that of students from localities without problems or with less impact on the electricity service. This direct comparison shows a clear perception of disadvantage and inequity, students who suffer the consequences of power outages feel that they are receiving a lower quality education due to circumstances beyond their control. Taken together, these data show that the energy crisis not only interrupts the learning process, but also generates a deep concern for the quality of the education being received and a clear perception of inequality compared to other students.

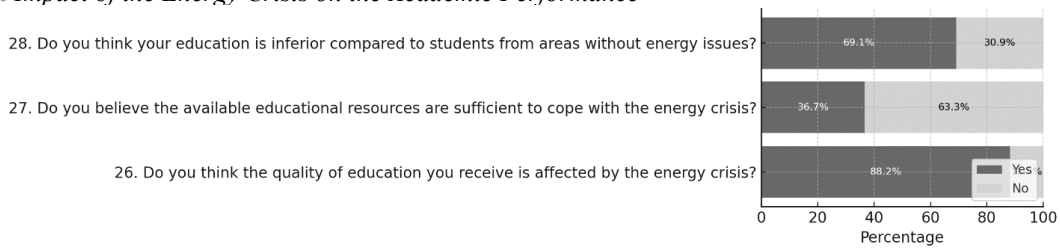

Figure 11: Perception of the Impact on the Quality Of Education

Source: Prepared by authors

Section IX discusses the perception of the impact of the energy crisis on academic achievement, revealing a clear connection between power outages and student performance. 95.5% of those surveyed believe that the energy crisis has made it difficult to fulfill tasks and projects, demonstrating the direct interruption caused by power outages in academic work. This difficulty translates into a tangible impact on grades, as 74.5% consider that the current conditions of power outages are directly related to the decrease in their grades. This perceived high correlation between the energy crisis and low grades underscores the frustration and helplessness felt by students. In addition, 82.4% believe that they could perform better academically in conditions different from the current ones, characterized by constant power cuts. This statement reinforces the idea that students hold the current situation responsible for their academic performance, evidencing that power outages not only make it difficult to complete tasks, but also limit learning potential and academic performance. Taken together, these data show that the energy crisis has a significant negative impact on academic performance, affecting students' homework achievement, grades, and learning potential.

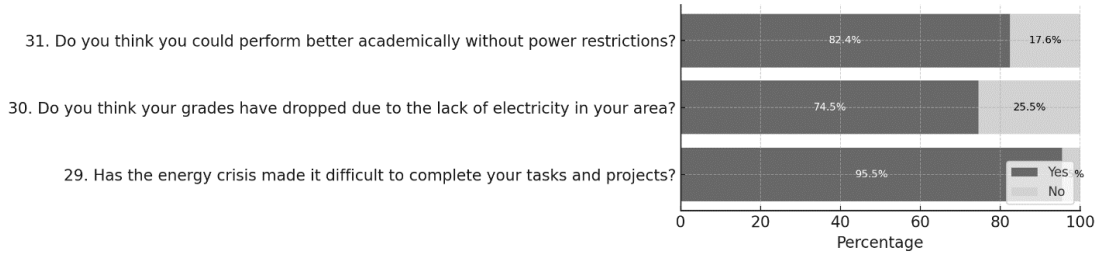

Figure 12: Perception of the Impact on Academic Performance

Source: Prepared by authors

Section X explores the perception of the impact of the energy crisis on educational continuity, showing a strong connection between power outages and the disruption of academic activities. 95.2% of those surveyed directly blame the energy crisis for the effects on their attendance at classes or academic activities. Although almost 60% of students have not considered temporarily abandoning their studies, a worrying 42.4% have valued it. This high percentage underscores the seriousness of the situation and frustration at the lack of solutions. In addition, 57.0% denounce the lack of effective alternatives to guarantee educational continuity. This forceful criticism reveals a lack of adequate response from institutions or authorities, aggravating the situation and generating helplessness among students, who see their academic future compromised. Taken together, these data show that the energy crisis not only affects class

attendance, but also generates a serious threat to educational continuity, with a high percentage of students considering dropping out of school and a clear perception of a lack of effective measures to mitigate the effects of the crisis.

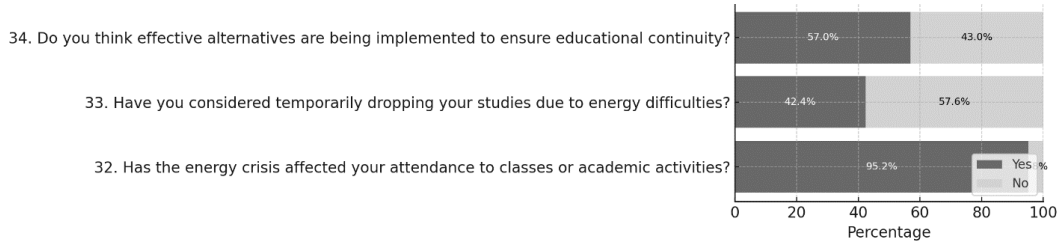

Figure 13: Perception of the Impact on Educational Continuity

Source: Prepared by authors

The study, through section XI (Figure 14), reveals a marked emotional and motivational impact on students due to the energy crisis. Almost all of the respondents, a resounding 93.0%, confirm that they feel stressed and anxious in the face of the academic difficulties that this situation entails. This high level of stress and anxiety is reinforced by the fact that a large part of the students, 64.8%, consider that their motivation to continue their studies has decreased considerably in the face of the adverse conditions generated by the continuous power cuts. This decrease in motivation is a worrying indicator, it can negatively affect academic performance and permanence in the educational system. In addition, a significant 83.6% of students perceive that the current situation generates inequality in their educational process, which suggests that the lack of constant access to electricity widens the gap between those who have alternative resources and those who do not, affecting equity in learning. These data show that the energy crisis not only impacts access to education, but also generates deep emotional discomfort, demotivation and a clear perception of inequality among students.

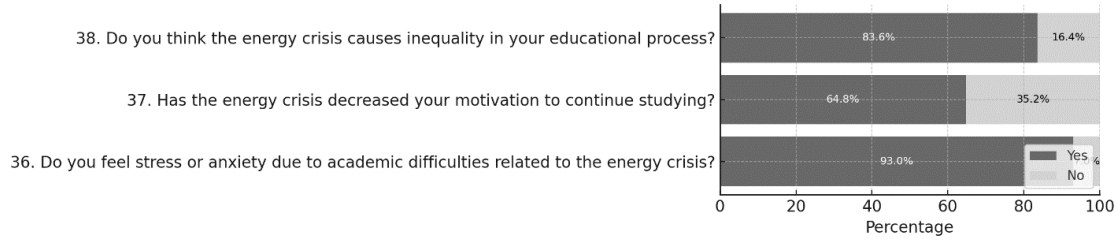

Figure 14: Perception of Emotional and Motivational Impact

Source: Prepared by authors

Energy Crisis vs Everyday Life

In section XI, three open-ended questions were asked to obtain a detailed description of the personal perception of the influence of the energy crisis on daily life (academic and personal), the challenges they have faced and the strategies used in the face of the energy crisis. After analyzing the 330 opinions of the students, it was possible to summarize:

The energy crisis negatively impacts the daily lives of students; since, the lack of electricity multifacetedly affects academic performance, especially for students in the online modality who

depend on electricity and internet for homework, access to platforms, synchronous and asynchronous classes, as well as for the review of material. Power outages interrupt these activities, leading to delays, difficulties coordinating group work, difficulty taking online exams, and a general decline in learning. Many students are forced to study at night, affecting their sleep, concentration and motivation. Power outages disrupt the daily routine, making it difficult to perform household chores, communication, and personal activities. Similarly, the impossibility of using appliances, the lack of lighting and the interruption of communications generate frustration, stress, anxiety and demotivation. In some cases, the lack of power also affects personal safety, especially in vulnerable sectors. Another important aspect is the need to prioritize activities during the few hours of light available, which generates additional stress and alters sleep and rest schedules.

For those who work and study, the lack of energy complicates time management, interrupting work activities and making it difficult to meet tasks and deadlines. The need to coordinate work schedules due to power outages and academic activities generates stress and makes it difficult to balance work and personal life. In some cases, the lack of power also affects income, especially for those who rely on electricity for their businesses. Similarly, uncertainty about the duration and schedules of power outages, along with the inability to meet responsibilities and the disruption of daily routine, contribute to a deterioration of emotional and psychological well-being, aggravated for those with additional responsibilities, such as caring for children or family members.

The main challenges faced by students due to energy constraints can be summarized as: 1) difficulties in submitting assignments on time (especially group assignments), affecting quality and evaluations; 2) less time available to study and perform tasks; 3) the need to self-educate due to the lack of access to classes and resources; the need to study at unusual times (such as early morning) and problems in coordinating meetings and group work due to the variability in the availability of energy among the members; 4) problems attending and connecting to face-to-face and online classes, including repeated interruptions during classes that decrease concentration and performance; 5) coincidence of power cut schedules with work and study schedules; 6) conflicts to coordinate and comply with household and academic obligations; 7) constant need to reorganize activities and adapt to unforeseen outages, altering daily activities; 8) inequality in access to important materials for academic development due to lack of energy and connectivity; 9) the need to move to find places with energy to fulfill academic obligations, exposing oneself to the insecurity of some localities and generating additional expenses in transportation and internet and; 10) Facing feelings of sadness, stress, demotivation, frustration and physical exhaustion.

Students' strategies for coping with energy constraints focus on: 1) downloading documents and using charged devices; 2) study at energetic times, including unusual schedules; document printing; 3) planning and carrying out activities in less time; establishment of new sleep and academic schedules; 4) maintenance of charged devices to carry out tasks; 5) contracting more internet and mobile data use; 6) Use of rechargeable lamps, flashlights, UPS, batteries, powerbanks and portable batteries for the router; 7) use of energy-efficient appliances; 8) transfer to places with energy (shopping centers, relatives' homes, permanence at work if there is an electric plant); 9) use of natural light for domestic activities; 10) adaptation to any situation and continuity of study; 11) practice of relaxation and breathing techniques, maintaining calm, and; 12) a flexible routine and organization to fulfill obligations; as well as adaptation to the schedules of power cuts to carry out household chores.

Conclusions

Through the proposed analysis, it was possible to identify that the energy crisis seriously hinders access to virtual education and digital resources. Power cuts and internet interruptions prevent class attendance, homework delivery and reduce study hours, generating a perception of inequality among students. The data collected allows us to identify the existing difficulty in communication, the performance of activities that require technology and the planning of these; On the other hand, the constant power cuts generate a high level of stress, demotivation and the consideration of dropping out of studies in a worrying number of students. Similarly, there is a decrease in the quality of education due to insufficient resources; as well as the social and emotional effects of students in the localities. The current scenario negatively impacts the lives of students in multiple dimensions: academic, daily, personal and work. Even though students have developed coping strategies, but these are not enough to fully mitigate the negative effects. Although universities show some flexibility, there is a perceived lack of effective institutional support to mitigate the difficulties caused by the lack of energy. In conclusion, the study of the impact of the energy crisis on academic performance and professional training is crucial to understand how to ensure continuous and effective education for future social workers in Ecuador.

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