

Theory of Social Systems, Pandemic and School Graduation: the Case of BUAP BRE, a Socio-Psychological Approach.

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ABSTRACT

This article presents the result of a case study about the degree obtention process of the first cohort of students of the Bachelor's Degree of Renewable Energy Engineering (BRE) program of the Autonomous University of Puebla, which is based on the theories of social and historical-cultural systems. The objective was to identify and understand the most important situations and decisions that make it easier for young university students to complete vocational training careers. The functionalist method was used with a quantitative approach. The emergence of the SARS-CoV-2 pandemic increased late desertion to 97% in the 2013-2020 cohort.

Keywords: Efficiency, trajectories, expectations, pandemic.

RESUMEN

El artículo presenta el resultado de una investigación de caso sobre el proceso de titulación de la primera cohorte de estudiantes del programa de Ingeniería en Energías Renovables de la Benemérita Universidad Autónoma de Puebla, la cual se sustenta en las teorías de los sistemas sociales e histórico-cultural. El objetivo fue identificar y comprender las situaciones y decisiones más importantes que facilitan a los jóvenes universitarios concluir las carreras de formación profesional. Se utilizó el método funcionalista con un enfoque cuantitativo. La emergencia de la pandemia SARS-CoV-2 incrementó la deserción tardía hasta 97% en la cohorte 2013-2020.

PALABRAS CLAVE: Eficiencia, trayectorias, expectativas, pandemia.

1. Introduction.

This research addresses the egress of students from the first generation of the Bachelor's Degree of Renewable Energy Engineering (BRE) educational program, whose process coincided with the emergence of the COVID-19 pandemic, a situation that affected a great number of educational programs, especially those generations that are in the terminal phase. The confluence pandemic-egress clearly showed the vulnerability of the academic organization to control terminal efficiency (graduation rate) in the face of a high-risk environment for public health.

The importance of this study for the Autonomous University of Puebla (BUAP) and the Faculty of Electronic Sciences (FES) has to do with the historical moment through which this professional degree is going through, since, with the

gress of the first generation 2013-2020 the educational program will participate for the first time in the evaluation of its internal efficiency by the Teaching of Engineering Accreditation Council (CACEI, 2019) in order to obtain recognition of excellence in the country and maintain the quality levels achieved at the University.

The research on BER's 2013-2020 cohort showed that obtaining the degree in the current context requires maintaining effective internal communication that provides confidence and stability to its members, guiding students to the completion of the training process.

2. Argument

2.1. Late desertion

One of the problems present in higher education institutions and especially in engineering and technology is the low rate of students graduating from the university of up to 40% (Romo and Hernández, 2006). Currently, the BRE educational program (BUAP, 2017) at BUAP's Faculty of Electronic Sciences will give its first results and its efficiency will be evaluated by CACEI (2019), and, in case of obtaining low rates, it would affect accreditation and thus the promise of providing citizens with 100% of high-quality academic programs in 2021 (Esparza, 2017).

Negative results can manifest as the inefficiency of organizational functioning, which has already been studied by various researchers and assigned multifactorial causes. Likewise, the approach to these school phenomena also presents its own difficulties, since the same determination of indicators to measure internal efficiency in universities show inaccuracies (Cuéllar and Bolívar, 2006; López, Albíter and Ramírez, 2008; Meneses, 2010; Cabrera, 2013).

In this study, it is assumed that the low rate of graduates is a form of late desertion (Meneses, 2010) which manifests itself in students who complete the totality of the academic credits required to complete their professional training, but who postpone the obtaining of the university degree.

Secondly, in addition to recognizing that the University has the pressure to make its services efficient accordingly with public policies, secondly, apart from recognizing that the University is pressured to create efficient services accordingly to public policies, the obtention of a degree concerns the elaboration of careers or trajectories generated by the student's expectations that arise from their vocational training and their insertion into the work market (Maza, 2018b). Obtaining the degree in the subjective sense (González, 2010) constitutes an experience of satisfaction of achieving the end of a university career and inclusion of the group of colleagues and professional specialists with social recognition and membership of new labor organizations and confidence in the future (Luhmann, 2005).

In the school framework, the sociopsychological situation (Martín, 1998) is presented as a negotiation between the interests of the organization (fulfillment of the curriculum) and the expectations of students (insertion into the professional field) that is resolved with decisions by young people (Ortiz, 2003) regarding the acceptance of one of the alternatives offered by the university (which subjects, type of social service, where to do professional practice, what type of degree, etc.) whose options at each moment of the election constitute functional equivalences that serve, in the same way, to advance on the career path.

The possibilities to decide are fixed in certain school expectations that when updated set up paths and observation of the future in the present (Luhmann, 2005), while at the same time arises the obligation to make new decisions that facilitate or inhibit the obtaining of the title and the insertion of work to initiate other social and life journeys.

From this interpretation of the problem, the objective of the study was to understand the social and psychological behavior of the cohort, as well as to identify the conditions and decisions that have the greatest impact on the degree obtention of students of the FCE's BER career, generation 2013-2020.

2.2. The BER educational program

The Bachelor's Degree of Renewable Energy Engineering was created in 2013, based on the call for a Global Compact by the United Nations (UN), the declaration of the Sustainable Development Goals (SDGs) in 2015, and the needs of higher education in the 21st century that led to the establishment of the 2030 agenda by UNESCO (2017). It emphasizes cooperation between different countries to promote inclusive and sustainable education with higher quality. BUAP's response to this global call and for the continuous changes that were required at the time, still active, was to open this educational program to offer an alternative of training of professional skills in the development and innovation of technologies and processes for the use of renewable energy resources in a sustainable manner (BUAP, 2017).

Knowledge in the field of these new technologies in renewable energy began to develop in different European countries and in the Americas, and in Mexico, universities and institutes of technology offered the population careers addressing related topics. The Bachelor's Degree of Renewable Energy Engineering arose from the synergy of various sciences and technologies, promoting a multidisciplinary approach with a comprehensive theoretical-practical content within the framework of the Minerva University Model (BUAP, 2007).

2.3. Sociopsychological approach

The professional qualification process is a topic related to the terminal efficiency of one of the most important activities of universities, which is teaching. The university is considered a social organization whose function is the training of qualified professionals in the performance of specialized knowledge in a specific productive field, performance of this work allows the illusions or expectations of students, probably originating in the family, to be preserved, improved or disappointed.

As a result of an organizational and a symbolic-emotional involvement in the educational phenomenon, the subject of degree obtention is addressed by articulating both the social and the psychological dimensions, providing two complementary and relevant perspectives in the complex framework of communications and the effects that can influence people's lives, their expectations, elections and their trajectories (careers) when actively participating in these academic spaces.

Thus, by intertwining systemic sociology and historical-cultural psychology, it is possible that the data of the university school administration (with income figures, egresses, degrees, averages, disappropriation), be enriched with the daily factors of social and personal life, the interests, desires and fears of the people who form the social and psychic systems in the school.

2.4. The Perspective of Social Systems Theory (SST)

The educational organization according to Luhmann (1997), is a type of social system that results from the functional specialization of modern societies, through communicative operations in various topics. Luhmann (2005), in his theory of social systems (SST) explains that, in evolutionary terms, social reality became increasingly complex when growing and developing, but contemporary societies can only withstand a great deal of their diversity in a differentiated way, so that the world can only be interpreted through functional systems, thereby trying to reduce complexity.

This theory indicates that there are three types of social systems: interaction, organization and society; and that they all operate through communication, so its basic elements are information, therefore, we are not talking about an ontological substance but a logical and inferential process in which the issuance of a message is related to its understanding and then its acceptance or rejection (Luhmann, 1998, 2009).

This recurring communicative process is possible due to distinction schemes with codes that orient between binary possibilities, for example: choose a positive alternative or a negative alternative (+/-), there is no middle ground. These values enter the selection because they have an identity (person, object, event) that is compared and different from the other (Luhmann, 1998).

People, with the purpose of reducing complexity and understanding the message, resort to symbolically widespread means of communication, consisting of logical structures of language encoded and set by experience to be accepted by all. The universal validity of these media (medium) serves as criteria in specific selections. Examples of these means include power, scientific truth, love, art, values (Corsi, Esposito and Baraldi, 2006).

These means are the form of sense that sort the experience of the world concerning possible references in the future horizon, that is, in an instant perception of the real (which is updated) with what is possible (because it is potential). The sense is only possible in social and psychic systems (with cognitive substantiation) that operate and observe themselves through a unit of the difference between the real/possible. At the same time the sense content refers to everything that can be updated by a selection that converts what was potential into reality, while sending to the depth of perception (in a background/figure relationship) the possibilities that were not updated (Luhmann, 1998, 2007). When meaning references (beliefs or scientific information) can be fixed or condensed by their success in communicative experience and then generalized to be used in other similar situations, they are called expectations, they allow to give stability to the system as it orients towards fewer possibilities without completely closing the contingency of the world. Expectations can only be presented as an interpretation of the future in the present (Luhmann, 2005; Rodríguez and Torres, 2008), and the moment a communication is updated, immediately, another expectation arises.

In particular, the education system differed from others by specializing in the subject of education, whose role (educating) is to bring about changes in the psychic environment of society.

Faced with the difficulty of the social function of educating and ensuring decisive effects on consciences, the educational organization resorts to the design of behavioral premises that must be fulfilled in order to belong to it and to set its own purposes in terms of training in specific knowledge to justify its existence and legitimize itself through academic excellence with the recognition of its efficiency (Luhmann, 1997; Paulus, 2006).

Therefore, educational activity is organized with programs using a whole pedagogical technology and premises or guidelines of behavior (Paulus, 2006) and success maintains its competence for participation in social communication.

2.5. The educational organization

The programming of educational activity involves, in the theory of social systems, the formation of organizations based on recognition rules that make it identifiable in the environment to be selected (Corsi, Esposito and Baraldi, 2006). Their communication, through decisions, is intended to train people on specific topics (professions) that contribute to the affairs of other organizations (labor, family) and thus define their identity, that is, their goals or purposes have a regulatory role to provide their participants and the organization itself with advantages in achieving positions in a social structure (Arnold-Cathalifaud, 2008).

Educational organization arises at the limits of the education system, as a generalization of rationality and forms of decisions to promote the sequence of selectivity of relationships that are systematized in certain subjects (disciplines), also by a greater interdependence between systems (education and science), and by the need to legitimize their own problems (form competencies in certain content), establish their own purposes and recruit their decision-making subjects. In this way selective behavior is structured with respect to the environment, sensitizing the choice to participate in the system (Luhmann, 1997).

The university was constituted as a type of organization whose functions are oriented to education and science, and that carries out its activities by applying programs in faculties and schools for teaching and institutes for research (Paulus, 2006). As the SST points out, organizations operate through decisions (a type of communication) that when issued create a sequence of decisions that will produce more on a recurring basis, but all limited to certain decision-making premises: a) based on a conditional educational program, b) hierarchical structure of the communicative sequence (direction-secretariats-teachers-students) and c) role membership of the people (teachers, students) that constitute the environment (Corsi, Esposito and Baraldi, 2006).

In a university, unlike the function of *science* that is guided by *true/false code*, education lacks a value that offers meaning and orients selection in communication (*more/less educated, better educated/worse educated*), where the *training* category assumed the educational function. Meanwhile, the *best/worst* code in qualification or academic activity allows distinguishing between different values to decide the behavior in the system (Ontiveros, 1997).

Thus, the academic organization formed by a founding decision (Luhmann, 1997) defines its own tasks of high specificity and is structured with the intention of achieving the highest degree of efficiency in its function of training students professionally. In this case, the BRE program's efficiency is observed in the results related to the organizational premises guiding the behavior of members, especially the process of training students, from their entry to their egress (Paulus, 2006).

2.6. People

In organizations, people are carriers of communication, not their elements, and they constitute the internal environment of the system. These participants of an academic organization hold positions determined by specific tasks that were defined above. In addition, they are guided by the premises established for the function of formal training (profession), which begins with the selection and permanence of its members (managers, teachers, students), the execution of roles by hierarchies and topics; as well as the issuance of decisions according to the regulations and by the correct route according to the program designed (Paulus, 2006).

In turn, people participate in various organizations such as family, school, job or church, among others, and in each produce a career. In particular, the selection of belonging to a certain academic organization implies the expectation of completing the professional career (Ontiveros, 1997), and of course following the specific conditions of the curriculum plan to stay and graduate from it.

The career in the academic organization is a process in which various positions are selected through the academic path (choose higher courses, achieve grades, social service, professional practice) also known in this text as school trajectories (Maza, 2018a). The decisions are exclusively oriented by the difference between the binary code better/worse (Luhmann & Schorr, 1990).

It is within people and from their positions in the careers (organizational and/or personal) where the operation of "observing" both events of the psychic and social system is carried out, in which the structural coupling or adaptation of one system to the other occurs. By perceiving information one system can irritate the other (Luhmann, 2009) and trigger an interior intrapersonal communicative chain, each of the processes with its own elements, whether communications or thoughts limited to the subject, such as a decision on the modality of degree obtention and/or the feeling of interest in its uniqueness.

2.7. Historical-cultural theory

Just as consciences are the environment of organizations, the latter are the environment of the former, so when there is an update of communication (decisions) and/or a sequence of events (attribution of communications) an interpretation is made by the psychic system (thought or feeling) directed by the subjective sense, which for individuals can represent interests and values. This reflective observation consists of an operation of distinction of the system itself (ego) and its environment (alter and organization) thus a judgment or evaluation of the environment that allows selecting between different options (Guedes and Álvaro, 2010; Del Cueto, 2015; Maza, 2018b).

These higher psychic processes (Vygotsky, 1979) originate from social and historical activities that are culturally rooted and internalized through language. As follows, in the evolutionary process social communication is transformed into an inner language and conceptual thinking (Vygotsky, 1995) that is the result of associations and connections of signs, to form a media system that allows the relationship of the individual with his environment and a cognitive tool for the abstraction of the world.

Therefore, language is the medium that allows an interpenetration (Luhmann, 2009) between social and psychological systems, then morphing into a unit of exchange that makes it feasible to participate at the same time in a communication as a communicative social event and a logical and affective experience. Observation (perception) also implies an awareness of being in the future of the present and invoking the possibility of continuity of potential actions by negotiating desires, needs and interests according to the conditions of the world.

According to the above, communication through language integrates with thought both logical and emotional aspects producing processes of subjective, symbolic-emotional sense, since it is through words that the lived experience is expressed (González, 2009). This interpretation of thought that articulates concepts and feelings allows us to understand the construction of the meanings that permeate decisions in organizations and the selections between them.

3. Methodology

This case study describes the behavior of the 2013-2020 cohort of the BRE program, recognized for its founding importance and the primary role of training professionals who are groundbreaking and a parameter of valorative distinction for the following generations of egressed students from BUAP, creating with this the need for a set of decisions to improve terminal efficiency (Martínez, 2006; Bisquerra, 2009).

A quantitative approach was used in this research, so surveys were applied at two points in the last school year; the analysis was carried out through the functional method or constant comparison, which requires the differentiation of daily events where similarities are observed between heterogeneous phenomena qualifying them as functional equivalences (Luhmann, 2005). Derived from the above, it was decided to establish the distinction between the behavior of the cohort and the procedures designed in the educational program.

The first application of the questionnaire was carried out in person in 2019, the second questionnaire was digitized and e-mailed, and it was applied a year later in 2020. This second part was concluded by phone calls in the autumn school period.

The times and forms were executed this way due to the health emergency caused by the pandemic of COVID-19 and its consequent social confinement. The analysis of the data obtained with the surveys was carried out through the SPSS statistical program, version 21, where, by the evaluation of Cronbach's Alpha coefficients, it gave an index of 0.910 internal consistency (Maza, 2018b).

3.1. Analysis parameters

The behavior of the cohort is assessed according to the parameters defined by the organization so that the responses refer to *positivity/negativity* (*better/worst* measures in subsequent cases) compared to what is required by the curriculum.

The operating premises establish the following entry requirements: admission exam with a score greater than 550 points, having accredited high school and acceptance of the conditions for the permanence and egress of the program.

Permanence is possible if they personally attend the classes, for a minimum of 5,504 hours during the period of 3.5 to 6.5 years as an active student, take 59 subjects (social service and professional practices), as well as finish at least 321 credits out of the 336 available to gain the right to obtain the degree of engineer in renewable energies.

The egress begins with the choice of one of the modalities to obtain the degree (average, thesis, diploma with thesis) and continues with the approval of a thesis by a jury or the accreditation in case of high scores and the completion of administrative procedures in the offices of the Directorate of School Administration (DSA) to receive the degree and professional certificate.

4. Results

The results show some situations (positions) and conditions (traits) that are present in the cohort, school trajectories were taken into consideration, adscriptions to possible alternatives defined by organizational premises, expressions of *satisfaction/disappointment* of the expectations of the vocational training process and aspirations in relation to transit to labor organizations.

4.1. Income and sociodemographic profile of the population

The demand of the population to enter the career on this first occasion managed to exceed 100 applicants, but only 88 young people were accepted (Esparza, 2013), as a result of the score of the admission exam in that year. From this enrolled population that in this research constitutes the universe of study, a sample of 23 participants was obtained in the first survey applied in January 2019, corresponding to 26%, who pointed out that they had a majority score between 600 and 800 points (Table 1 and Figure 1).

The group surveyed in spring 2019 consisted of young people mostly between the ages of 23 and 24, however, there were a student aged 22, two aged 25 and one aged 27, located at the limits of precocity and advanced age (Figure 2). The group consisted of 29 women and 59 men, corresponding to 39% and 61% respectively, following the trend of masculinization (Lorenzo, Alvarez-Lires, Alvarez-Lires and Serrallé-Marzoa, 2016) as a result of the influence of gender stereotypes in choosing the technoscientific professions (Figure 3).

People usually get in or get out from organizations, so systems may interpenetrate and share information in such a way that they can irritate each other, which happens among students who constantly attend to the affairs of school, family and job (Luhmann and Schorr, 1990). Through the observation of the different situations and experiences about formative aspects, love and economic production, central themes may emerge to guide students' decisions to remain or leave the academic organization, as well as establish the times available to participate, and get a position for themselves in the appropriate spaces in the academic career (Table 1).

The information indicates that family and work situations influence decisions for internal mobility, such as the number of subjects, class schedule, or the social service location (Luhmann and Schorr, 1990). In this case, it is relevant that 78% remain in school (without temporary pauses), with very good performance in 100% of young people, but also with an adequate score of curriculum progress (90% of the credits), which translates in good results for the program.

It is important to point out that, in this analysis, the external conditions that have an impact on the expectations of student achievement are based on the financial support they receive from their family (91%). The economic activities of the father, who in most cases has a business of their own (Figure 4) and a high level of education: bachelor's, postgraduate and high school (Figure 5), induce and shape the students the interest in increasing their cultural capital (Bourdieu, 1979).

On the other hand, 68% of students perform or have performed a work activity for various reasons. Although only 21% had a high level of professional relationship, the impact of work on the career was positive in 53% of young people.

With the information on career paths and conditions for participation in family and work organizations, the following school paths were identified which articulated according to the predominant characteristics of the group (table2): school travel, economic dependence and work experience.

Each of these routes can be considered important for the degree of positivity to enter, remain and graduate from the University so that the routes expressed here constitute functional equivalences (Luhmann, 1997) because they all allow to obtaining professional accreditation and the confidence to obtain a well-paid job.

4.2. Second survey (follow-up)

The second phase of fieldwork was impacted by health contingency, which led to the closing of all academic and administrative activities at the university, for at least a month and a half, which caught by surprise and immobilized both teachers and students. This paralysis deferred school decisions (temporary dimension) and focused them on health prevention among university students. With the official social distancing program, all school activities in the country were suspended.

In this second contact, the follow-up of the surveyed group included those who participated in the first survey reaching a collaboration of 19 young students, corresponding to 83% of a theoretical sample (Trinidad, Carrero, Soriano, 2006). This approach detected 3 students (one man and 2 women) who obtained their degrees between spring and fall this year. Two of the young people were placed on a Continuous-Non-Working-Dependent trajectory (CNWD) and a student in the Continuous-Working-Dependent (CWD), in all three cases the level of parent schooling was undergraduate. The expectations of teachers and parents regarding their professional projects of students and children (respectively) were very positive and academic feelings among the participants were of safety, one of them already works and the others are in the process of inserting themselves into the labor field. Everyone has the aspiration to continue with graduate studies.

Despite the postponement of the degree by the pandemic, they complied with the regulations of permanence at the University, which is observed by the 84% who achieved the total credits required, and in the case of the delay of the degree, 64%, it was largely due to the pandemic (Table 3). This shows that the organization is affected by the environment, by changing times and terms, updating decisions and producing new sequences in communication (Paulus, 2006).

The cohort had a dropout of 97% of its population, as a result of the pandemic, which corresponds to 57% more than the overall average of students who leave the engineering and technology careers (Romo and Hernández, 2006). It is important to note that 15 students completed the thesis without having graduated and 84% of the surveyed young people had their total credits completed.

Of the surveyed group, 53% started to work after the first survey, after completing 90% of the credits necessary to graduate, however, only 31% carried out an activity that relates to their profession. 16% of university students who were delayed, the expectation of obtaining 100% of the credits in the short term and graduating immediately. It emphasizes that 89% said that they were satisfied with the theoretical training received, but 52% responded dissatisfied with the practical skills they developed.

95% of the group expressed complacency in meeting parents' expectations of the students' professional project and 90% of their personal goals. These social expectations in the SST (Luhmann, 1998) are known as expectations of expectations and play an essential role in narrowing or regulating possible selections and decisions (career choice, striving to pass subjects, time spent working) according to the expectations of parents (*ego/alter*), stabilizing the family structure around the subject of the profession of its members.

While 63% are satisfied with academic preparation for their profession, 95% express the uncertainty they have with the future of work. This problem of trust, evidenced by responses of uncertainty, insecurity, impatience and anguish, shows that the job insertion of students from the cohort 2013-2020, became a difficult and uncertain transition due to the timelessness of the transition from a student role to a professional role.

Among the most important decisions are the vocational choice (Figure 6) based on economic aspects and the realization of social service in school (Figure 7). Many students belong to families engaged in business and many of them aspire to work in the private sector with ideas that could promote innovation, as shown by the decision to do professional internships in private companies (Figure 8), calculating gaining experience or even getting jobs. Another choice

between equivalent options is the graduation modality (Figure 9), with a preference for the one that requires a certificate and a thesis.

5. Conclusion:

The three cases of academic success resulted from continuous school paths whose trajectory is characterized because the transit in the school is carried out without abandonment.

A condition of economic dependence of the students is observed on the family to be able to study; the motivation of the positive expectations of parents and teachers in the professional project that encourage continuous school paths, and the decision to experience some type of job during the career.

The pandemic adversely affected the degree obtention process, however, because the limits of organizational function are very clear, even with the health and economic crisis academic activities continued later. The condensation of the decision structure and its attribution to management roles (rectory, the direction of academic units) guides the sequence of administrative and academic actions.

Currently, the professional choices of graduates are expressed in the *work/graduate* dichotomy, the circumstances force them to choose between staying at the University or entering a labor organization. This is a choice that has little to do with the rules of the University and much to do with work, so *study/work* becomes a bifurcation that rarely manages to be solved with the university's own mechanisms.

At this time the egress and the degree obtention correspond to one of the situations that most affects the organization since it was found that the administrative procedures act against the University's graduation rates. In other words, the same regulatory procedures (times for formalities) provoke precisely what is to be avoided (desertion), this administrative and bureaucratic deficit (Ontiveros, 1997) also implies that the conditions of operation and continuation of the communicative process (on qualification) interrupt the link and there is a problem of condensation in the award of negative results (direction or student) in this case, when decisions cannot be understood (where the problem is) or applied (who and what to decide).

The manifestations of dissatisfaction with the training of practical skills and the relationship that the University maintains with the job market, the level of uncertainty to find a job is high and students point out being disadvantaged in the development of professional experience (52%).

The problem of uncertainty in training requires pedagogical intervention (Ontiveros, 1997), first with social and psychological research and then with vocational guidance practices to reduce insecurity and promote well-being in the new reality post-COVID-19. This is a proposal for a new curriculum intention that promotes emotional health as part of the comprehensive training of students whose professional well-being needs deepened with the events that occurred due to the COVID-19 pandemic, where the emphasis was established on the issue of health and self-care in the school's agenda.

The monitoring of students of this generation would provide information on the effect of university decisions that were made around the immobilization of academic procedures, the abandonment of practical activities in laboratories, the extension to the submission dates of 15 completed thesis and with it, the selections of *deserting/remaining* in the academic organization according to the capacity that the University has to implement or offer as functional equivalences or alternatives of successful career outings in the immediate future to those who are awaiting the new dispositions.

The management of the risk of late dropout by the academic organization is now of greater relevance as the chances of desertion increased with the risk of coronavirus infection. From now on in the "new normal", new communication strategies will have to be generated to reduce the uncertainty of the future and provide members of the University with greater confidence in the benefits they obtain by their membership and permanence in the organization.

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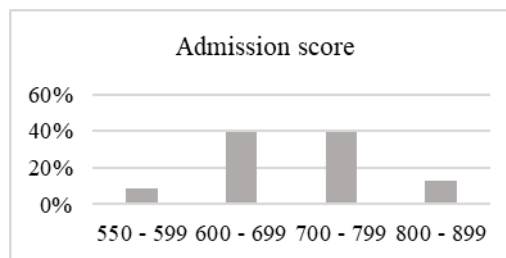
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Table 1. Admission score

	550 - 599	600 - 699	700 - 799	800 - 899	Total
2013	2	9	9	3	23
	9%	39%	39%	13%	100%



Note: Those who scored over 550 were accepted. The average ranges from 600 – 800 points.

Figure 1. A generation with a good score.

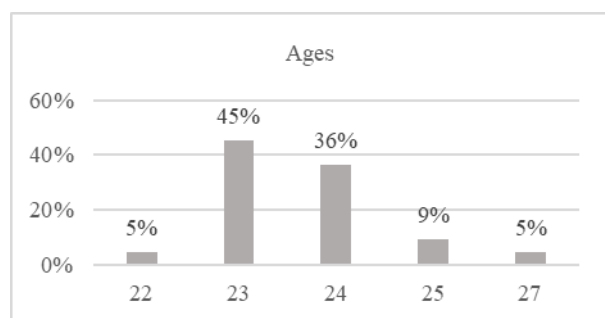


Figure 2. Student ages fluctuate mainly between the ages of 23 and 24

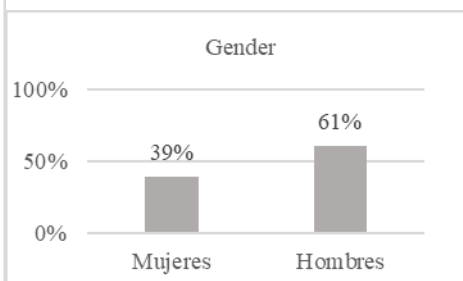


Figure 3. Masculinized career.

Table 1. Favorable influences.

<i>Positive situations*</i>		2013 (%**)
<i>School</i>	Academic path (continued)	78
	Performance (up average, more than 8)	100
	Curriculum Feed-SS and PP(credits: 90%)	96
<i>Family</i>	Economic dependence (with parents)	91
	Parent economic activity (wage earner and self-employment)	89
	Parent Schooling (Higher)	50
<i>Labour</i>	Work experience	68
	Relationship to the career (high)	21
	Impact of work (positive)	53

Note: symbology= *only the most favorable conditions; **higher percentages.
 Source: Adapted from Maza, 2018a; 2018b.

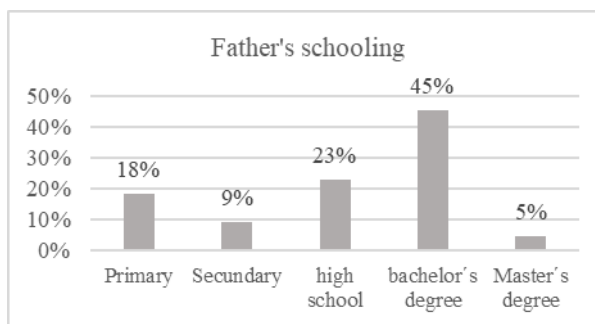
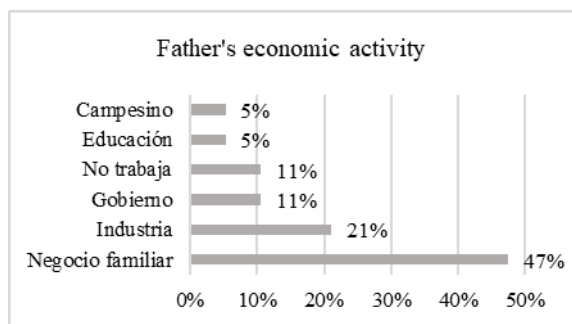


Figure 4. *Businesses are the main productive activities of parents.*

Figure 5. *Bachelor's degree is the parent's main educational level.*

Table 2. School trajectories of the 2013-2020 ERE cohort.

<i>Travel School</i>	Work Experience	Economic dependence	Type of trajectory
<i>Continue (17-77) *</i>	Working (12-71)	Dependent (10-83)	Continuous-work-dependent
		Independent (2-17)	Continuous-work-independent
	Non-working (5-29)	Dependent (5-100)	Continued-non-work-dependent
<i>Discontinua (5-22)</i>	Working (3-60)	Dependent (3-100)	Discontinuous-work-dependent
	Non-working (2-40)	Dependent (2-100)	Discontinuous-non-work-dependent

Note: Symbology= *frequencies-percentage. Source: Adapted from Maza 2018a; 2018b.

Table 3. Conditions during university graduate

Aspect	Decisions and expectations	References	%
Degree	Degree	With a degree and a professional certificate	3*
	School progress (100% credits)	100% and more	84
	Reason for delay in degree obtention	Pandemic	64
Labour	Work	Yes	68
	Degree related to the profession	Plus 75%	31
	Seniority	Minus 1.5 years	53
Academic expectations	Expectations of achievement - 100% credits	Immediate	100
	Expectations of achievement - title and certificate	Immediate-short term	79
Parent expectations	Future professional project	Satisfaction	95
	In my personal goals	Satisfaction	90
Confidence	Emotions about future work	Positive	5
	Emotions about academic preparation	Positive	63

Note: Symbology= *percentage relative to the total population. The assessment is done with the best/worst code compared to the premises of the ERE Education Program.

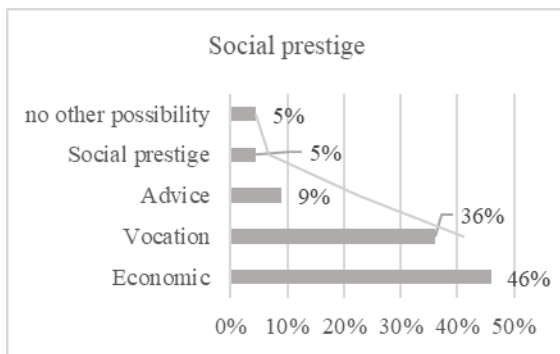


Figure 6. It is selected by economic preferences.

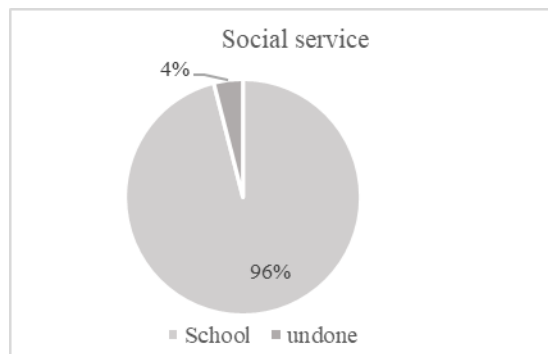


Figure 7. Almost everyone is doing social service in Autonomous University of Puebla.

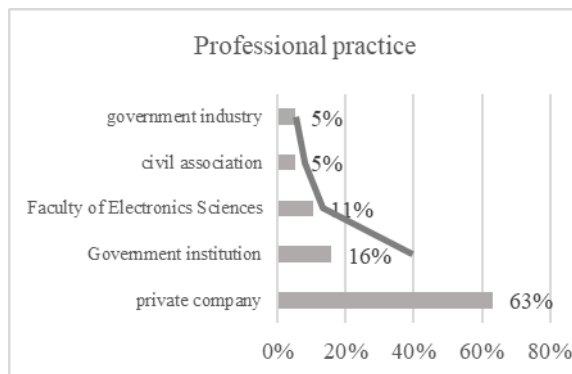


Figure 8. Professional practice is mainly done in private companies.

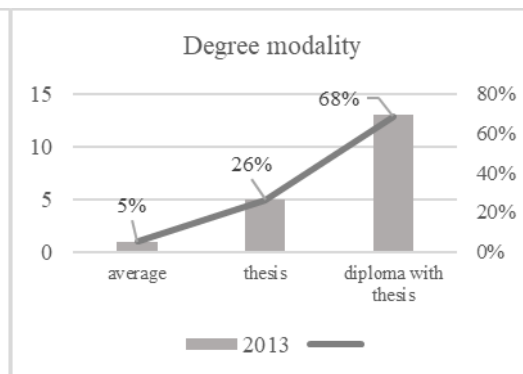


Figure 9. Few possibilities to choose from. A young man graduated on average.