Research Article

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Perception of Risk in the Face of the Pandemic

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Abstract
Security has concerned the authorities and civil society in recent years. The substrates of different societies have different perceptions of security. This document specifies the perception of security in undergraduate students by reviewing seven dimensions: territorial, national, public (government), human, public (self-protection), private and internet user. The modeling of these variables is proposed to be able to discuss the axes, trajectories and relationships reported in the state of the art.

Keywords: Pandemic, Coronavirus, SARS-CoV-2, Covid-19, Perception of Security

Introduction

Until February 2021, the pandemic has blinded the lives of three million in the world and 500 in Mexico if deaths from atypical pneumonia are added, as well as excess deaths that exceed one and a half million, with only 850 thousand expected for 2020 [1]. In this scenario, the social perception of the pandemic has been configured based on policies, strategies and mitigation programs focused on distancing and confinement, but without strict health promotion and risk prevention such as the use of masks, oximeters or ozonometer.

The objective of this work is to specify a model for the study of perceived security in the face of the pandemic, confinement and violence towards vulnerable groups such as the elderly, women and children with respect to the head of the family, civil. and health authorities.

The premise that supports this research suggests that the mitigation policy, focused on risk minimization communication, has generated a receptive bias in the audiences, indicating ambivalence, anxiety, hatred, fear, anger, hopelessness and distrust towards the authorities in different levels of administration and responsibility in attending to the health and economic crisis [2]. In this scenario of minimizing the effects of the pandemic on public health and the local economy, conflicts emerge between the rulers and those governed by the provision of screening tests, health care and vaccination [3]. It is the preamble for the negotiation between the parties involved, as well as the co-responsi-
bility observable at the polls with a differentiated vote according to the perception of the public administration in the face of the pandemic [4]. In this way, the pandemic, when considered as a risk event, a random contingency that fosters uncertainty between the rulers and the governed, is a scenario that threatens the relations between authorities and citizens, affecting trust and directing hopelessness towards conflict, but opening opportunities for entrepreneurship and innovation [5].

The contributions of the study to the discipline are 1) systematic review of the state of the art, 2) systematization of findings, 3) proposal of a theoretical and conceptual model, 4) discussion between the findings and the reviewed literature, 5) design of pedagogical sequences.

Thus, the first section reviews the theoretical and conceptual approaches that explain the phenomenon. The second section presents the results of studies related to the subject. In the third section the axes, trajectories and relationships between the variables are proposed. Decisions to tackle the problem are presented in the fourth section. The fifth section reflects on the contribution and application of study in the classroom.

Risk Perception Theory

Security has been related to public administration. It is the work of the State to protect and safeguard its population from external and internal dangers or threats. In Latin American countries, public custody is perceived as absent, due to the large amount of press coverage that exposes the aforementioned deficiency [6].

In the case of Mexico, a greater number of coverages of red notes appear in the news every day, which shows a violent face of the country. The structure of the perception of security in territorial security; National security; Public security presumes the State as attorney general. Human security and public security suggest civil self-protection. Private security and internet users represent helplessness due to the absence of the State and society [7].

Public safety events pose a threat to personal safety, property, and national defense. Mexico's security problems are like the general context of Latin America in many ways. However, Mexico is influenced by organized crime due to the levels of consumption of illegal products in the US market [8].

Public security has traditionally been understood as the function of the State that consists of protecting its citizens from illegal attacks (or crimes against) their property, physical integrity, sexual freedom, etc. The meaning of public security is inferred as security of people: inherence, inseparability, breadth and focus on justice [9]. It is stated that the perception of our reality is subjective, and that the perception of our world depends on our living conditions. The perception of reality operates from a higher order, from a mesosystem that would include both (perception and reality), and in which each one appears as elements and not as closed and independent units. The notion that: what we see might not be what is really there, has worried and tormented the entire population in every sector, class or role of our society. Different sectors of the population would have a different perception of security [10].

It can also be mentioned that the cultural stigma in the country also affects and promotes the lack of public protection, due to the general way of thinking of the Mexican population, which, compared to other cultures, is shown as lazy and with little interest. to develop in academic, professional, social aspects, among others. The public security administration is the implementation of public policies that justify the orientation of the State in the prevention of crime and the administration of justice, but only the distrust of citizens towards government action is evidenced in a growing perception of insecurity reported in Literature. in seven dimensions: territorial, national, public (government), human, public (self-protection), private and internet user [11].

Mexico can be seen from various areas such as economic, historical or social. In this sense, there are other sub-scopes (or subscales in the social sphere) such as health, public safety, education, environmental awareness, among others. As mentioned above, different sectors of the population have a different perception of social security (or subscales). In the case of undergraduate students, as their academic training gives the possibility of generating critical thinking, this population sector can generate a solid perception that affects the context of society [12].

Risk Perception Studies
The theory of perception of security refers to convergent dimensions with respect to trust between the rulers and the ruled. In this way, the central premise of the theory is that citizens have unfavorable or positive expectations of their authorities in charge of law enforcement and crime prevention, as well as so-

cial rehabilitation [13]. In this sense, security is a socio-political phenomenon, but reduced to media expectations of the government's action, as well as mistrust or empathy for its strategies, programs or policies in terms of safeguarding the integrity and dignity of its governed, thus as private. public property and interests.

The dimensions of this perception of security have been structured in socio-spatial terms such as the territory or in social issues such as the nation, but with emphasis on the situation of sectors, strata or groups such as the so-called citizens and citizen security, as well as particular interests such as private security and on the Internet [14].

Territorial and national security have traditionally been the most approached from the sociology of risk to account for the impact of climate change on sea level and coasts, as well as risk events derived from droughts, frosts, fires, floods or earthquakes. in vulnerable areas, the trafficking of species or the appearance of epidemics due to the invasion of animal territories [15].

The so-called biosafety focuses on food as the main indicator of the level of health in the face of a health or environmental crisis [16]. In this sense, territorial or national security should have specialized in the public sphere because each sector or social stratum demanded different needs according to contingent situations. The citizenship of this security gave way to the individualization of expectations and resources, giving rise to both personal and virtual self-protection, with the emergence of cybersecurity.

There are more differences between biosafety and cybersecurity, but both are fundamental for the rule of law, the administration of justice, the prosecution of crime, social rehabilitation and collective pacification [17]. From a traditional perspective, both dimensions are observable as complementary, but from a progressive approach they are assumed as concomitant. In other words, the effects of climate change are increasingly linked to identity theft, extortion or co-optation, since the niches of environmental and social deterioration that originate cybercrime use them for extortion and fraud. Or, based on cybersecurity, data on robberies, kidnappings or homicides in situations of natural disaster or health contingencies are observed in real time.

Modeling of Risk Perception
From the theoretical, conceptual and empirical review, the relationships between the variables were modeled [18]. In this way, territorial and national security are concomitant given their level of generality in the protection of the country, as well as the multilateralism involved in international or regional pacification measures. In the cases of public and citizen security, both share the imperative of safeguarding common goods that, although public, can be established as socially and environmentally available for future generations. In this sense, private and digital security are also similar in terms of preventing crimes that threaten the dignity and integrity of the individual and not of society.

The theoretical relationships between perceptions of security are consistent with the observed data [19]. This is so because the in-

strument is presumed to measure all seven security dimensions, as well as their consistency when applied to scenarios and samples. Furthermore, safety as a multidimensional phenomenon suggests levels of measurement that are concomitant with each other, reflective and with errors attributed to the variance of the responses.

The concomitant hypotheses allude to the covariances between the dimensions of the phenomenon, as well as to the explanation of its trajectory structure if a new specification or modeling arises when testing the hypothesis [20].

The reflective hypotheses allude to the relationships between the factors with respect to the indicators, suggesting the structuring of the phenomenon, as well as the convergence of the responses to the items that measure each feature of the dimensions [21].

Measurement error hypotheses refer to inexplicable variations in the estimation of the structure of concomitant and reflective relationships. In addition, it suggests the probable incidence of other factors and indicators not included in the model [22].

Method
Given that the perception of risk is a transversal phenomenon, associated with other expectations and not yet explored in terms of its dimensions, a documentary, transversal, exploratory and retrospective work was carried out with a selection of sources indexed to national repositories such as Class, Conacyt, Latindex,

Redalyc and Scielo, considering the search by keywords, as well as the publication period relative to the pandemic threshold from 2019 to 2022 (see Table 1).

Table 1: Sample Descriptive

| | Risk perception | | | |
	2019	2020	2021	2022
Class	5	5	7	3
Conacyt	6	9	6	6
Latindex	7	6	3	9
Redalyc	4	8	4	7
Scielo	5	7	6	8

Source: Elaborated with data study

The Abstract Analysis Inventory (IAR-20) was used, which includes questions related to the relevance of the background, objectives, designs, results, discussion and conclusions with respect to the object of study.

Expert judges validated the inventory using the Delphi technique, which consists of three phases: a qualifying phase where the judges assigned a zero to non-relevance and 1 to relevance. A second phase where the judges compared their grades with respect to the general average. In the third phase, the judges reconsidered their initial qualifications, or else, they reiterated their criteria (see Table 2).

Table 2: Judges Descriptive

Sex	Age	Income	Adscription	Index
Male	46	34'782.00	Psychology	44
Female	56	43'782.00	Anthropology	32
Male	49	41'367.00	Sociology	26
Female	50	47'657.00	Biology	31
Male	61	47'904.00	Psychology	20
Male	55	57'891.00	Economy	42
Male	40	39'762.00	Sociology	18

Source: Elaborated with data study

The judges were contacted through institutional mail. The objective of the project and the main responsible parties were reported, as well as their participation through a confidentiality agreement. The information was captured in excel and processed in JASP version 14.

Statistical tests were carried out to establish the networks of findings in accordance with the theory of risk perception, which suggests that they are configured in three dimensions related to measurement, prediction and control. Therefore, the centric distribution and clustering parameters were estimated. At the end, the coefficients of polynomial relationships between the findings reviewed in the literature were estimated according to the equation of Durand & Kemer [23].

The roots were used ai ($i=1..,n$) of a real univariate polynomial of degree n $Px=anxn+an-1+..,a1x+a0$ with real and complex

roots, given their real coefficients.

The Durand-Kemer algorithm was used as an iteration method for the simultaneous calculation of the complex or real roots of the polynomial.

$$Px = \alpha_n\chi^{n-1} + \cdots + \alpha_1 x + a_0 \ (a_n =/= 0)$$

$$x_i^{(k+1)} = x_i^k = \frac{P\left(x_i^{(k)}\right)}{a_n\Pi\left(x_i^{(k)} - x_j^{(k)}\right)}$$
$$j = 1$$
$$j =/= i$$

Results
The centrality parameters suggest that the findings reported in the literature fall within a threshold of measurement, prediction and perceived control of the risks associated with the pandemic.

That is, the network of findings consulted in the literature and examined in the present work is consistent in terms of the three dimensions observed. It means then that the research agenda is structured from the three dimensions, although the dispersion of results suggests a fourth dimension that the literature identifies as perceptions or expectations of trust in science, technology or the authorities that manage and handle risks (see Figure 1).
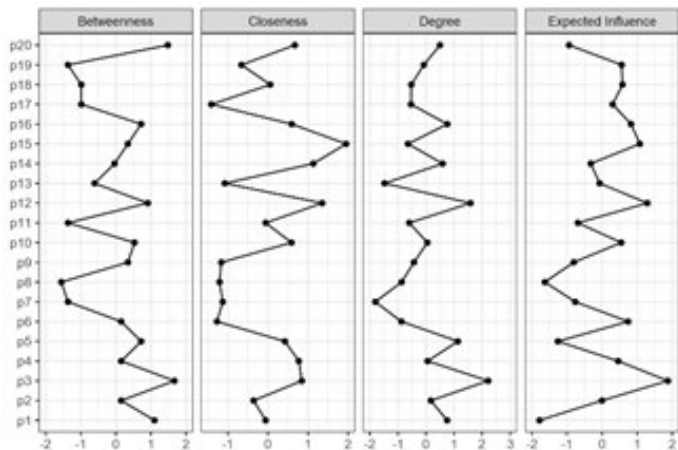

Figure 1: Centrality Parameters
Source: Elaborated with data study

If centrality establishes a three-dimensional agenda, the grouping coefficients suggest that the three dimensions configure main nodes from where perceptions are related and reconfigured according to proximity or distance from other expectations. The literature recorded the impact of the pandemic in such a way that the findings are grouped around the three dimensions of risk measurement, prediction and control (see Figure 2).
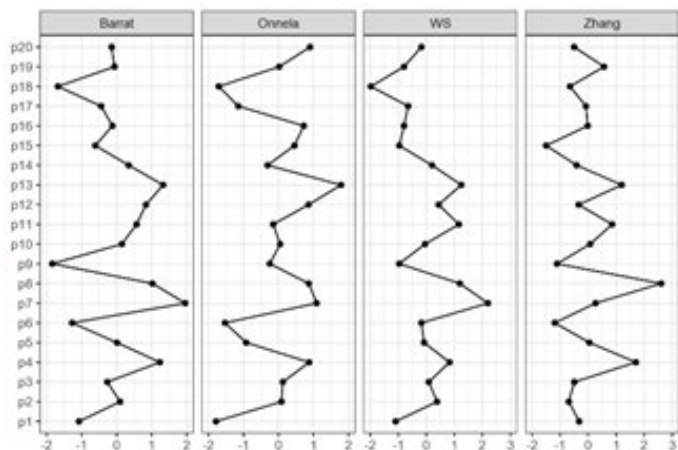
Figure 2: Clustering Parameters
Source: Elaborated with data study

The structure of the network of findings presents trajectories of proximity and distance in accordance with the process of measurement, prediction and control of risks associated with the pandemic. The input of findings is processed in expectations where the most significant relationships are appreciated. The information outputs also suggest positive and significant correlations but limited to the risk control expectations (see Figure 3).
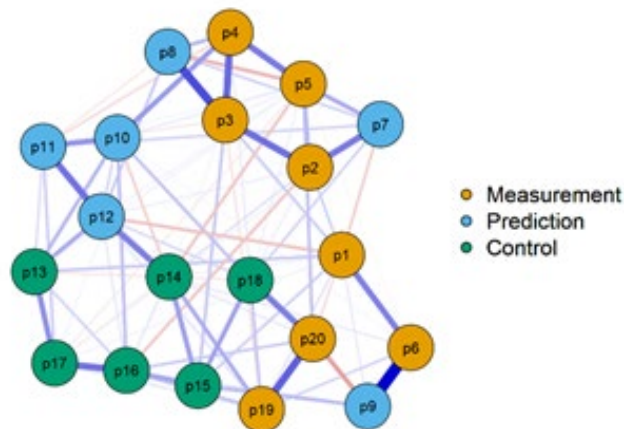
Figure 3: Network
Source: Elaborated with data study

Discussions

In relation to the theory of perception of security, which raises nine dimensions related to territory, nation, citizenship, public, private, human and internet, this work questioned perceived security as a factor that reflects the perceptual security structure. The lines of study referring to the dimensions of human security will allow us to warn of conflict scenarios between the governors and the governed, as well as the emergence of citizen and private security.

Regarding security studies where a continuous coercive and persuasive state stands out in its relationship with citizens, this work has discussed human security as a dimension that explains the differences and similarities between the rulers and the ruled. The development of this dimension will allow us to notice the transition from a coercive system to a persuasive one. That is, the security attributed to the legitimate violence of a democratic government will be observed, up to the security that demarcates the regime from all responsibility and charges the citizen with the attribution of prevention by confining his expression and his property. The lines of research on the emergence of this common factor will make it possible to evaluate, accredit and certify the relationships between rulers and rulers in matters of multidimensional security.

Security is a multidimensional psychological phenomenon, as it derives from the relationships between the authorities and citizens with respect to crime prevention, the administration of justice and social rehabilitation, although other dimensions such as sector or media security communication explain the impact of policies, strategies and programs on civil decisions and actions

Conclusion

The objective of this work was to establish a model for the study of perceived security, although the design of the research limits the discussion to the research scenario, it suggests the construction of an agenda and the impact on security policies based on the opinions and expectations of the governed regarding the performance of their leaders.

In Mexico, a common interpretation or idea prevails that the country lacks security. The absence of custody is influenced by the presence of organized crime, the illegal sale of drugs and weapons, and the corruption available in each branch of government, among the main aspects. The relationships between these factors only indicate that there are other dimensions related to security. In this sense, self-control would explain the effects of state propaganda in crime prevention, law enforcement, and peace education on the lifestyles of civilian sectors.

The contribution of this study lies in the discussion of seven dimensions of security: territorial, national, human, public, public, private and digital. Studies on citizen security identify in the government's expectations the predominant factor that explains the phenomenon as an efficient, effective and effective institution, but in the present work the emergence of this phenomenon has been demonstrated from a structure of perceptions around the personal, citizen, public, human, national and territorial agenda.

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