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ATTITUDES TOWARDS COVID-19 ERA

José Marcos BUSTOS-AGUAYO
Universidad Nacional Autonoma de Mexico
E-mail: marcos.bustos@unam.mx
ORCID ID: 0000-0003-3423-596X

Francisco ESPINOZA-MORALES
Universidad de Sonora
E-mail: francisco.espinozamorales@unison.mx
ORCID ID: 0000-0002-4552-5893

Cruz GARCÍA-LIRIOS
Universidad Autonoma del Estado de Mexico
E-mail: cgarciali@uaemex.mx
ORCID ID: 0000-0002-9364-6796

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Abstract: *The SARS CoV-2 coronavirus pandemic and the COVID-19 disease impacted the educational system and Higher Education Institutions (HEIs). University institutionalism, understood as academic, professional and labor regulations, can be explained from its attitudinal dimensions. In this way, the provisions against or in favor of anti-COVID-19 policies, consisting of distancing and confinement, anticipate risk scenarios of contagion, illness and death. Attitudes towards anti-COVID-19 institutionalism predict scenarios of stigma, entrepreneurship, innovation, training or performance. The importance of attitudes, as long as they are measured as anti- or pro-confinement and distancing dispositions in the face of pandemic, lies in their explanatory capacity for risk exposure behaviors. Therefore, the diagnosis of attitudes in students selected for professional practices and social services in public health institutions will allow us to appreciate the intentions and decisions of exposure to risks associated with the health crisis. The objective of the present work was to specify a model for the study of attitudes towards the effects of the pandemic on the environment. An exploratory, cross-sectional and correlational work was carried out with 100 students, considering their confinement and intensive use of electronic technologies, devices and networks. A factorial structure was found that explained 35% of the total variance, although the research design limited the results to the study setting, suggesting the extension of the work towards the contrast of the proposed model.*

Keywords*: information, theory, model, attitude, behavior*

Introduction

As of this writing, the pandemic caused by the SARS-COV-2 coronavirus and the COVID-19 disease have infected 10 million people, sickened five million, and killed half a million. In Mexico, 200,000 have been infected, 50,000 have fallen ill, and 25,000 have died (WHO, 2020) . The health crisis has forced confinement and gradually led to a recession and economic crisis reflected in unemployment and inflation.

The anti-COVID-19 policies, consisting of the distancing and confinement of people, generated unfavorable attitudes towards government authorities (Carreon et al., 2020). In the educational field, the distance and asynchronous teaching strategies were an extension of the anti-pandemic policies. In this sense, the academic community; teachers, students and administrators faced a change in training management that reoriented the objectives, tasks and goals. The transition from the face-to-face classroom to the virtual classroom generated

provisions against or in favor of the management system. Therefore, the study of the attitudes of the parties involved became relevant as the pandemic intensified and spread.

The pandemic reached phases of distancing and confinement, both minimum and maximum depending on the anti-COVID-19 policy and the epidemiological traffic light (Sanchez et al., 2022). The red color signified a strict regulation of the flow of people in public and private spaces, as well as the intensive use of anti-COVID-19 devices such as masks, gloves, a face shield, gel alcohol, or an oximeter. The green color was translated as a permissive scenario of free movement of people with anti-COVID-19 devices and immunized.

In the educational field, the epidemiological traffic light defined the strategies of deregulated or intensive confinement and distancing, but the transition from face-to-face to virtual management was less conflictive than the return to the face-to-face system (Sandoval, Bustos & Garcia, 2021). Precisely, in this phase, the present work proposed to observe the dispositions of the parties involved. The literature from 2019 to 2022 notes a growing willingness as the pandemic intensified. In addition, attitudes predict specific, deliberate, and systematic behaviors.

The relationship between attitudes towards the pandemic and risk behaviors in a scenario of return to face-to-face management involves dimensions of analysis that the literature identifies as affective, cognitive and intentional variables (Garcia, 2021). It is a structure of provisions where it is possible to appreciate the impact of the pandemic through anti-COVID-19 policies on attitudes towards the return of face-to-face management.

The literature warns of the prevalence of the three affective, cognitive and intentional dimensions of attitudes towards the pandemic (Aguayo et al., 2021). Even factorial structures that explain between 67% and 74% of the variance are reported, but the dependency relationships between these dimensions are not modeled with respect to the return to face-to-face management.

In the case of the student community, studies of attitudes towards the pandemic have focused on stigma as an effect of media coverage of anti-COVID-19 policies (Coronado et al., 2022). In this way, the modeling of the dimensions of attitudes regarding the behavior of exposure to risks of contagion, illness or death in the face-to-face classroom and university academic spaces is relevant.

Faced with this bleak panorama, people have developed attitudes or dispositions against and in favor of the situation, the government, their jobs, their families and themselves in the face of the health and economic crisis, highlighting the emotions of anxiety, anger or fear, although also dispositions emerge to carry out actions that mitigate the effects of the pandemic, as well as strategies of entrepreneurship and supportive and fraternal collaboration before their peers (Bustos, 2020).

In this way, the theoretical and conceptual corpus that explain the appearance of attitudes towards risk events such as pandemics suggest; 1) anthropocentric and ecocentric emotions regarding health resources; 2) negative and positive evaluations regarding the health crisis ; 3) materialist and postmaterialist intentions regarding the use of health services (Hernández, 2020).

In this way, the most recent and specialized findings warn: a) anthropocentric emotions associated with the intensive use of water and toilet paper, as well as ecocentric emotions linked to the protection of visiting species of cities; b) negative evaluations of health management regarding the lack of tests, treatments, and vaccines, as well as positive evaluations regarding confinement, distancing, and the use of face masks; c) probabilities of avoiding self-care in

crowded groups, but following these health recommendations in small groups (Anguiano, 2020).

The validity and reliability of the answers to the instrument that measures the question warn; i) an internal consistency that ranges between 0.67 and 0.73 which suggests the exclusion of items to increase it; ii) the exploratory factorial composition of a structure explained between 32% and 46% of the variance, noting the inclusion of other dimensions; iii) the relationships between factors that range between 0.34 and 0.62, indicating the influence of other mediating factors such as risk perceptions and reasons for cost and benefit in the face of the pandemic (Carreón, 2020).

Precisely, the objective of the present work is to specify a model for the study of attitudes towards the pandemic, the rulers and the ruled, considering the effects of the health and economic crisis during a prolonged confinement that has lasted four months and another two are expected. months more with the expectation of a new outbreak of infections, diseases and deaths.

The hypothesis that guides the present work suggests an internal consistency higher than the indispensable minimum of 0.60, an exploratory factorial composition of three dimensions; affective, cognitive and intentional, as well as positive and significant relationships between latent and manifest variables, which reflect the dispositions towards the pandemic in students of a public university in central Mexico (Garcia, 2020). The contributions of this work to the state of the question are ; review of the conceptual and empirical theoretical framework, methodological approach to the problem, diagnosis of the phenomenon, discussion of the findings and reflection of contributions and implications (Perez et al., 2021).

Method

Design. An exploratory, cross-sectional and correlational study was carried out with a sample of 100 students (M = 24.31 SD = 3.21; M = 9'975.32 SD = 743.23 monthly income) from a public university in central Mexico. , considering the prolonged confinement, as well as the intensive use of technologies, devices and electronic networks.

Instrument. The Scale of Attitudes towards the Pandemic EAP-21) was built, which includes 21 statements around three preponderant dimensions; emotional-affective-sentimental ("The coronavirus affects consumerists"), cognitive ("The pandemic is an effect of climate change") and intentional-behavioral ("Ecologists work more in this confinement"). All items are answered with one of five options ranging from 0 = "not at all likely" to 5 = "quite likely".

Procedure. An intentional selection of 100 students from a public university was made, considering the classification of traffic lights (red = extreme risk, orange = high risk, yellow = moderate risk and green = manageable risk) for the observation of the pandemic in the State of Mexico. The invitations were sent to the institutional emails of the respondents. Once the acknowledgments were received, the informed consent was sent, emphasizing the non-payment for answering the questionnaire, as well as the guarantee of confidentiality and anonymity both in the coding and in the interpretation of the answers.

Analysis. The data was processed in the Statistical Analysis Package for Social Sciences (SPSS version 23.0) considering the requirements of normal distribution, reliability, adequacy, sphericity, validity, linearity, normality and independence for trajectory structures. and relationships between the variables in order to test the null hypothesis of significant differences between the structures reported in the literature with respect to the observations made in this study.

Results

Table 1 shows the values of normality, reliability, and validity between the variables that reflect the responses to the items that measure attitudes towards the pandemic, confinement, and government and civil action in the face of the health and economic crises.

Table 1. Instrument descriptions

R		M	SD	A	F 1	F2	F3
	Emotional			**.781**			
r1	The coronavirus affects consumers	4.32	1.34	.762	.365		
r2	The pandemic takes environmentalism away from people	4.15	1.45	.703	.397		
r3	Confinement is a solution to pollution	4.67	1.09	.771	.380		
r4	Wearing masks is for environmentalists	4.83	1.78	.751	.365		
r5	Asymptomatic also contaminate	4.05	1.56	.743	.387		
r6	Infected also contaminate	4.32	1.34	.702	.370		
r7	Breaking the quarantine is giving up mobility	4.34	1.21	.713	.365		
	Cognitive			**.798**			
r8	The pandemic is an effect of climate change	4.76	1.01	.743		.317	
r9	Animals and plants live with coronavirus	4.93	1.54	.715		.396	
r10	The coronavirus made it possible to reduce emissions	4.36	1.34	.703		.380	
r11	Confinement is to coexist with the species	4.16	1.55	.762		.385	
r12	Quarantine also affects species	4.30	1.76	.781		.394	
r13	The vaccine is in nature	4.19	1.80	.764		.372	
r14	Masks saturate the environment	4.03	1.25	.768		.367	
	Intentional			**.783**			
r15	Ecologists would be relevant in this confinement	4.17	1.54	.767			.360
r16	Environmentalists would contribute in this quarantine	4.15	1.61	.770			.386
r17	Recyclers would help in this confinement	4.15	1.17	.762			.369
r18	Savers would emerge in this health crisis	4.10	1.82	.751			.375
r19	Pedicabs would be essential in this pandemic	4.03	1.51	.751			.395
r20	Ecotaxis would be essential in this contingency	4.07	1.63	.703			.394
r21	Masks would contaminate in this epidemic	4.11	1.50	.732			.393

Note: Prepared with study data. Method: Principal axes, Rotation: Promax . Emotions (16% of the total variance explained and alpha of .780), Cognitive (12% of the total variance explained and alpha of .765), Intentions (7% of the total variance explained and alpha of .753). All the items are answered with one of five options ranging from 0 = “not at all in agreement” to 5 = “quite in agreement”.

Once the exploratory factorial structure of the three preponderant factors was established in relation to the 21 indicators, we proceeded to estimate the relationships between these three dimensions related to emotional, cognitive and intentional attitudes, which explained 35% of the total variance (see Table 2).

Table 2. Relations between variables

	M	SD	F1	F2	F3	F1	F2	F3
F1	23.12	13.24	1,000			1.986	.645	.532
F2	22.35	15.46	.325*	1,000			1,768	.418
F3	25.46	14.37	.478**	.541*	1,000			1,689

*Note: Prepared with study data; *p < .01; **p << .001; ***p < .0001*

The relationship structure weighs the inclusion of another factor that the literature identifies as dispositional ambivalence to account for those attitudes against and in favor of an object, which may be the case of the pandemic. That is to say, on the one hand, negative provisions are built in the face of the health and economic crisis, but unusual job opportunities are also opened up, such as messaging. In this way, the possible emergence of this fourth factor was observed, although the adjustment of the three factors would also be an option to increase the percentage of explained variance (see Figure 1).

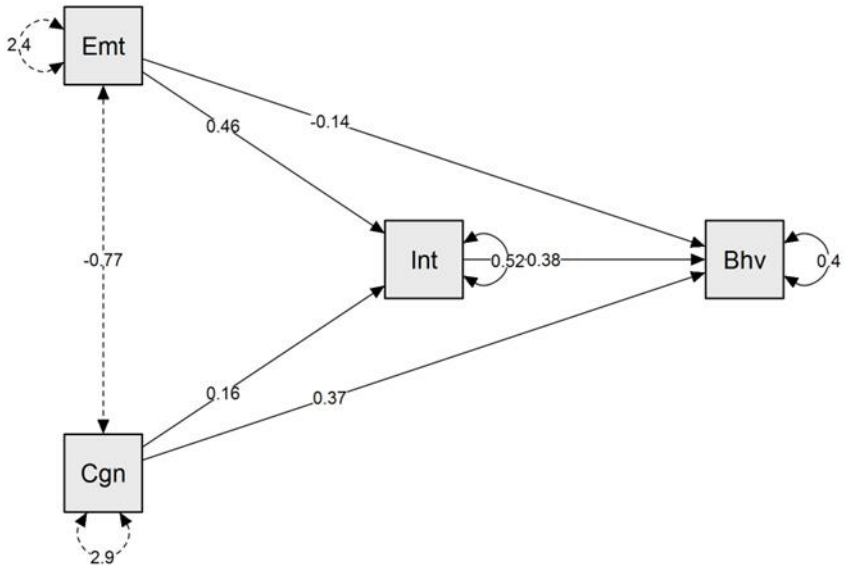

Figure 1. Factor structure reflecting attitudes
Note: Prepared with study data;

The fit and residual parameters ⌈χ2 = 234.13 (24 df) p > .05 ; CFI = .990 ; GFI = .999 ; RMSEA = .008 ⌋suggest the non-rejection of the null hypothesis regarding significant differences between the structure of reflective trajectories subtracted from the literature with respect to the observed structure of relationships.

Discussion

The contribution of the present work to the state of the question lies in the establishment of the reliability and validity of an instrument that measures attitudes towards the effects of the

pandemic on the environment, suggesting the extension of the work towards the contrast of the model in other scenarios.

In relation to the theory of attitudes, which highlights the three emotional, cognitive and intentional components, the present work has demonstrated the prevalence of this structure of reflective trajectories in a model, but the percentage of total variance suggests the inclusion of an ambivalent factor (Garcia, 2021). This would increase the predictive power of the model. In the virtual classroom, the application of this finding in the didactic sequences will allow establishing dynamics oriented towards ambivalence; emotionality and reasoning about its effects on public resources and services.

Regarding the studies of attitudes, which highlight the hegemony of the emotional component in the face of risk events, the present work has shown that it is a multiple dimension in which indicators adjusted to anger, fear or anxiety converge in the face of the effects of the pandemic in nature (Garcia et al., 2021). These results will allow the design of pedagogical sequences related to education for sustainability, mainly in those concerning risk events.

Theoretical, conceptual and empirical frameworks seem to highlight the hegemony of cognitive dispositions to explain the emergence of attitudes in the face of risk events such as a pandemic (Garcia et al., 2022). In this sense, the present investigation has highlighted the factorial structure that explains the relationships between the affective, cognitive and intentional dimensions as a formative process of dispositions against or in favor of the effects of the coronavirus in nature.

Juárez (2020) found three cognitive subdimensions related to the incommensurability, unpredictability, and controllability of the effects of Covid-19. In this sense, the present work showed that this cognitive structure would be made up of seven indicators that measure the evaluations of the respondents with respect to their expectations in a situation of prolonged health crisis. Lines of study concerning the systematic observation of the cognitive structure will allow anticipating the organization of public and private sectors, as well as social and political actors.

Limón (2020) also observed the cognitive structure and its indicators regarding information needs regarding Covid-19 and its relationship with nature. It found that the surveyed sample attended the messages to compare information as long as the source had low prestige, or else, the contents were implausible. In the present work, it has been shown that this cognitive structure reflects rather ambivalent contents such as the generation of sanitary waste versus the reduction of carbon dioxide emissions in the atmosphere due to the confinement of people. Future areas of study related to the ambivalent structure will make it possible to anticipate conflicts between the rulers and the ruled in the face of the reduction of CO2 emissions and the increase in sanitary waste.

Molina (2020) weighed the mobility of people from the prolonged confinement of one month and the immediate lack of confinement of people, finding effects in the reduction of the use of public transport, but the increase in isolation. In the present work, an intentional factor has been established that reflects ambivalence when using polluting transport, but that users consider safe to avoid crowds. Studies associated with the saturation of people in public transport will explain the effects of policies to escalate working hours.

Pérez (2020) observed significant differences between the audiences of traditional media; television, radio and press with respect to the agenda established in social networks such as Facebook, Twitter, Instagram, YouTube, WhatsApp, Tik Tok and Periscope. The first audiences focused their interest on the content dedicated to the visits of species in confinement, but the networks announced the mistreatment of domestic animals. In the present work, the same ambivalence was observed for the information disseminated in traditional media and social networks regarding public transport as a source of infection. Subsequent research should clarify the impact of social communication policies on the attitudes of citizens.

In summary, studies of the effects of Covid-19 on nature show an ambivalence derived from the negative and positive effects of the health crisis on nature, but the factorial structure observed in this study suggests that these attitudes reflect only part of that ambivalence. Future lines of

inquiry will reveal a fourth component that the literature states as ambivalent dispositions to explain the repudiation and support of citizens towards their rulers. Such an issue seems to intensify as the pandemic drags on.

Conclusion

The contribution of this work to the state of knowledge lies in the specification of a model for the study of attitudes towards pandemic effects in nature, although the research design limited the results to the work scenario, suggesting the extension of this to a context of risk events.

In the advisory, the research provides the central elements for the construction of an environmental policy focused on the cognition of the provisions. It is about the design of pedagogical sequences oriented towards local sustainability in the management of municipal resources and services. That is to say, from the construction of a public agenda it will be possible to discern between the deliberate, planned and systematic reasoning emerging from the pandemic, the confinement and the health and economic crises.

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