

Empirical test of a model of attitudes and stigma towards Covid-19

Francisco Rubén Sandoval-Vázquez¹, José Marcos Bustos-Aguayo², Margarita Juárez-Nájera³, Cruz García-Lirios^{4*} and Michiko Amemiya⁵

¹Professor Research, Department Political Sciences, UAEM.

²Professor Research, Department Psychology, UNAM.

³Professor Research, Department Energy, UAM.

⁴Professor Research, Department Social Work, UAEMEX.

⁵Professor Research, Department Design, UNAM.

*Correspondence Author: Cruz García-Lirios, Professor Research, Department Social Work, UAEMEX.

Received date: March 02, 2021; Accepted date: April 20, 2021; Published date: July 19, 2021

Citation: Francisco R S Vázquez, José M B Aguayo, Margarita J Nájera, Cruz G Lirios and Amemiya M. (2021) Empirical test of a model of attitudes and stigma towards Covid-19. *J. Clin Cas Repo and Stud.*, 2(4); DOI:10.31579/2690-8808/067

Copyright: © 2021 Cruz García-Lirios, This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Abstract

The objective of the document is to empirically test a structural model of the relationship between stigma and attitudes. A cross-sectional, psychometric, and predictive work was carried out with a sample of 100 students, considering their exposure to Covid-19 in their professional practices and social service. A factorial structure was found that explained 89% of the variance and the relationship between both variables, suggesting the inclusion of other variables such as the need for information, media framing, and government communication strategy.

Keywords – Covid-19, stigma, model, attitude, behavior

Introduction

As of January 2021, the SARS-COV-2 coronavirus pandemic and COVID-19 disease have infected 20 million people, sickened 10 million, and killed half a two million (WHO, 2020). In Mexico, it recorded two million infected, one million patients and 125,000 died (PAHO, 2020). The health crisis forced confinement and gradually led to a recession and economic crisis shaped by unemployment and inflation.

The SARS CoV-2 pandemic and the Covid-19 disease have killed around two million and led to under-registrations identified as asymptomatic carriers, but their effects have also been pronounced on people's attitudes to this problem, the management of governments and effects on the environment, mainly in those environments where contagion and fatality rates have been disproportionate to fatalistic scenarios, generating unusual expectations of contagion and contamination (Bustos, García & Juárez, 2020). This is the case of Mexico, where 65 thousand deaths were expected and until January 2021 there are 150 thousand victims.

Castanho et al., (2020) observed attitudes derived tourists pandemic confinement regarding the stay, reported preponderant intentions in choosing solidarity options such as hostels or family properties with respect to stay in hotels. It is about the avoidance of

contact and isolation, even when the tourist role is exercised. In other words, the stigma towards Covid-19 originates from flexible confinement.

Sorokowski et al., (2020) showed that exposure to information about SARS coronavirus CoV-2 and Covid-19 generates anxiety related and focused trial nationalities who have had a questionable epidemiological management by the number of victims. This is so because the attribution of racial or economic responsibility would be related to emotional and unfavorable attitudes towards people from a sector or group to whom responsibility is attributed in the community transmission of the coronavirus.

Ramaci et al., (2020) demonstrated that in confined and high-risk environments such as hospitals, workers develop discriminatory attitudes and stigmas that inhibit their performance. Stigma and attitudes, together with work stress, would explain the mistreatment of patients or relatives with Covid-19, although they would also explain the impact of the news frame on the decisions and actions of health professionals.

In this way, the validity of the instrument in samples exposed to risks such as hospitals suggests the observation of variables concomitant with attitudes such as stigma and prejudice, as well as the integration of

variables in a structural model to be able to establish the predictive trajectories between the variables. (Juárez et al., 2020).

Modeling the components of attitudes as predictors of stigma and prejudice towards people that are associated with decimated nationalities; the trajectories and the relationships between the variables anticipate coexistence scenarios in closed and high-risk spaces, such as professional practices and social service in public hospitals. The empirical test of the hypothesis is possible with respect to the significant differences between the theoretical relationship structure with respect to the predictive model of injury in hospitals and towards carriers of the SARS CoV-2 coronavirus (García, Carreon and Espinoza, 2021).

Are there significant differences between the structure of attitudes and stigma towards Covid-19 reported in the literature with respect to the structure observed in the present work?

The premise that supports this study is that the pandemic has impacted on environmental social awareness, generating attitudes towards the environment (Bustos et al., 2020). In this scenario, emerging emotional, affective, cognitive and intentional structures that may be the result of deliberation, planning and systematic protection of nature as well as the product of an attachment to the place of origin or a sense of identity that is activated noting the return not animals to public spaces (Garcia et to the., 2020) . It is a dual phenomenon in which people develop cognitive ambivalences, or hopelessness in the face of the imminent change in the relationship between humanity and animal and plant species (Carreón et al., 2020). Such attitudes would be related to the stigma towards groups identified as pollutants and asymptomatic of the Covid-19 disease (Molina et al., 2020).

Method

Design. An exploratory, cross-sectional and correlational work was carried out with a sample of 100 students ($M = 26.31$ $SD = 4.21$ age ; $M = 10'412.45$ $SD = 951.26$ monthly income) of a public university in central Mexico, considering prolonged confinement (stay in one place on March 15 2020 to 15 January 2021) , and intensive use of electronic technologies, devices and networks. The selection criteria of the sample were access to the Internet via a mobile device, laptop or desktop computer in closed spaces not s and open access to Internet.

Instrument. The scale of attitudes towards the pandemic (EAP-12) was constructed, which includes 12 statements around three preponderant variables ; emotional-affective-sentimental ("The coronavirus affects consumers ") , 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 likely" to 5 = "quite likely".

The scale of Stigma towards Covid-19 Carriers (SCC-20) was constructed which includes 20 items related to the attribution of economic responsibility ("Covid-19 is a disease of the poor"), the attribution of racial responsibility ("Covid-19 is a disease of Orientals "), the attribution of migratory responsibility ("Covid-19 is a disease brought by migrants "), the attribution of political responsibility ("Covid-19 exposed the ineptitude of populist governments") and the attribution of age responsibility ("Covid-19 is a disease of the old"). Each item is answered with one of five options ranging from: 5 = "Totally agree" to 0 = "Not at all agree".

Procedure. The invitations were sent to the institutional emails of the respondents. Once the requests were received , the informed consent was sent, highlighting ; 1) the identification of the main person in charge of the project, 2) the objectives and open access to the results, 3) the clarification that it was a study with academic and non-profit purposes, 4) the absence of payment for answering the questionnaire , 5) as well as the guarantee of confidentiality and anonymity both in the coding and in the interpretation of the answers. The EAP-21 and a sociodemographic data questionnaire were also attached.

Analysis. The data were processed in the Statistical Analysis Package for the Social Sciences (SPSS) version 23.0. Analysis of mean, standard deviation, Crombach's alpha, Bartlett test, KMO and exploratory factor analysis of principal axes with promax rotation were carried out, considering the requirements of normal distribution, reliability, adequacy, sphericity, validity, linearity, normality. and independence for the structures of trajectories and relationships between the variables to test the null hypothesis of significant differences between the structures reported in the literature with respect to the observations made in this work.

Results

Table 1 shows the values of the scales which show a trend towards the option "quite probable" for the dimensions of attitudes and "totally agree" for the dimensions of stigma towards Covid-19. In other words, the sample surveyed seems to corroborate the reports in the literature regarding the fact that attitudes towards Covid-19 and the stigma towards carriers of the virus are related, but are different from the findings reported in unconfined samples where the variables are not related.

R	M	SD	A	F1	F2	F3	F4	F5	F6	F7	F8
r1	4.12	1.25	,732	,651							
r2	4.34	1.46	,744	,572							
r3	4.31	1.67	,721	,304							
r4	4.25	1.87	,745	,453							
r5	4.92	1.56	,765		,456						
r6	4.03	1.43	,776		,453						
r7	4.90	1.23	,784		,562						
r8	4.62	1.25	,735		,549						
r9	4.43	1.13	,735			,562					
r10	4.30	1.25	,724			,543					
r11	4.18	1.67	,754			,623					
r12	4.49	1.45	,713			,547					
r13	4.45	1.34	,756				,612				
r14	4.42	1.26	,723				,603				
r15	4.71	1.45	,714				,572				
r16	4.40	1.46	,724				,435				
r17	4.72	1.01	,762					,542			
r18	4.89	1.23	,745					,564			
r19	4.75	1.35	,735					,657			

r20	4,56	1,82	,772					,650			
r21	4,54	1,34	,781						,546		
r22	4,32	1,32	,720						,641		
r23	4,37	1,24	,781						,675		
r24	4,98	1,09	,706						,549		
r25	4,60	1,89	,752							,621	
r26	4,12	1,67	,761							,543	
r27	4,37	1,43	,780							,564	
r28	4,63	1,76	,782							,542	
r29	4,23	1,24	,775								,546
r30	4,31	1,28	,763								,620
r31	4,32	1,90	,751								,657
r32	4,36	1,71	,704								,548

Table 1. Description of the instrument

Note: Acts to the data of the study. Method: main axes, rotation: Promax. F1 = Attribution of economic responsibility (13% of the variance explained and ,704 alpha), F2 = Attribution of racial responsibility (10% of the variance explained and alpha with ,762), F3 = Attribution of migratory responsibility (7% total variance explained and alpha with ,740), F4 = Attribution of political responsibility (5% total variance explained and alpha with ,765) F5 = Attribution of age responsibility (3% Total variance explained and alpha with ,753). F6 = Emotions (19% of the total variance explained and alpha of ,780), F7 = Cognitive (17% of the total variance explained and alpha of ,765), F8 = Intentions (15% of the total variance explained and alpha of ,753). All the

items are answered with one of the five options, ranging from 0 = "not at all agree" to 5 = "strongly agree".

The reliability and validity values indicate that both scales would be consistent in different samples and scenarios, since they explain 89% of the total variance. This is so because the phenomenon is explained by a high percentage of the relationship between attitudes and stigma. In this sense, the discrimination prediction would be made from the structure of the eight established factors. To observe in detail the relationships between the factors, a Pearson bivariate correlation test was performed where significant associations are observed (see Table 2).

	M	SD	F1	F2	F3	F4	F5	F6	F7	F8
F1	23,21	16,21	1,000							
F2	28,20	17,21	,562*	1,000						
F3	27,01	14,89	,491*	,21*	1,000					
F4	21,39	13,21	,541*	,562*	,314*	1,000				
F5	20,54	18,43	,328**	,451**	,452*	,567*	1,000			
F6	28,56	10,32	,541*	,673*	,493**	,541**	,567**	1,000		
F7	20,13	14,53	,672*	,425***	,569*	,632*	,345*	,546*	1,000	
F8	21,37	16,53	,603*	,329*	,562***	,451*	,541**	,532*	,325*	1,000

Table 2. Relations between variables.

Note: Acts to the data of the study; M = Mean, SD = Standard Deviation; F1 = Attribution of economic responsibility, F2 = Attribution of racial responsibility, F3 = Attribution of migratory responsibility, F4 = Attribution of political responsibility, F5 = Attribution of age responsibility, F6 = Emotions, F7 = Cognitive, F8 = Intentions.; * p <.01; ** p <.001; *** p <.0001

The correlation values indicate that an association prevails between the variables and their factors, possible predictors of discriminatory behavior

on reported Covid-19, although the literature indicates that these associations are generated from excessive exposure to news that attribute responsibility to minority groups and sectors. Consequently, the observation of the axes, trajectories and relationships between variables, factors and indicators allowed us to investigate the phenomenon as an information structure with negative effects on confined audiences that cannot contrast the media data with their experience with Covid-19 (see Figure 1).

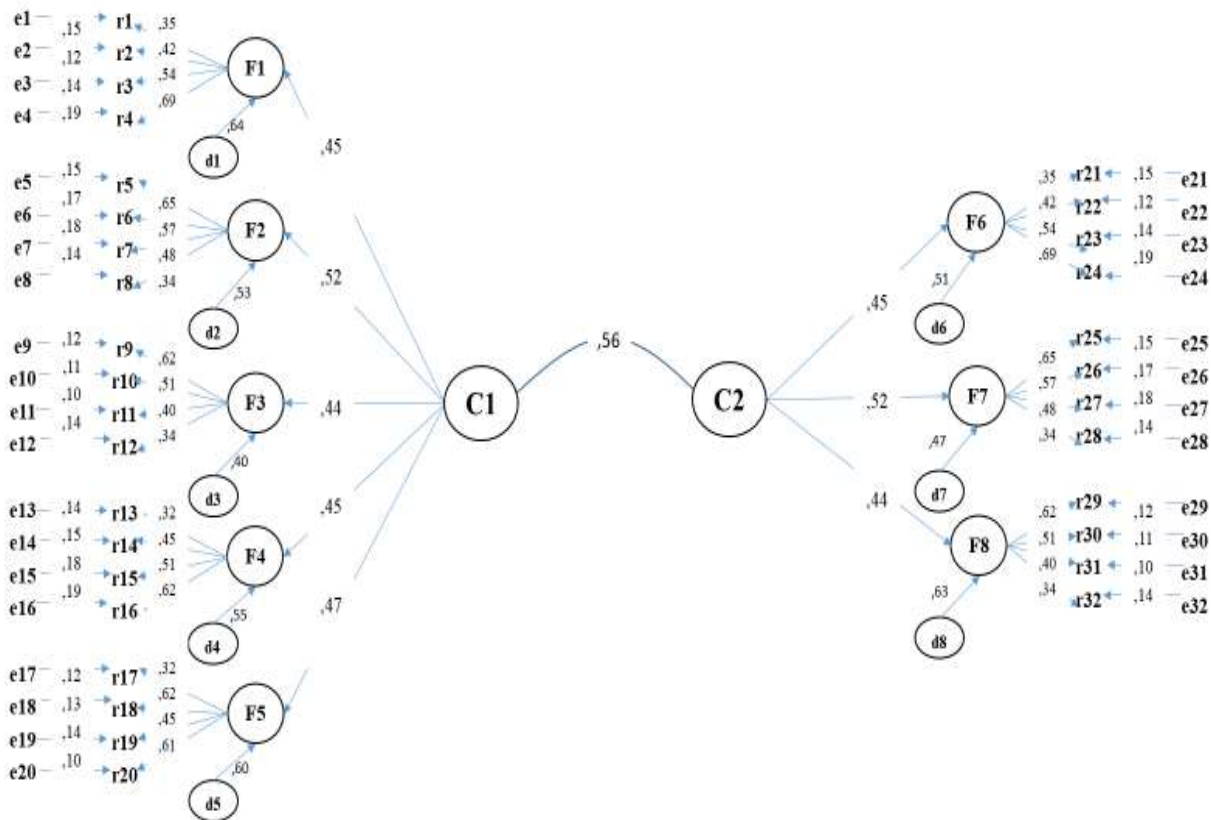


Figure 1. Structural equation modelling

Source: Elaboration with data study; C1 = Stigma, C2 = Attitudes, F1 = Attribution of economic responsibility, F2 = Attribution of racial responsibility, F3 = Attribution of migratory responsibility, F4 = Attribution of political responsibility, F5 = Attribution of age responsibility, F6 = Emotions, F7 = Cognitive, F8 = Intentions; r = Indicator, e = Error measurement indicator, d = Disturbance measurement factor; → relation between factor and indicator, ← relation between error and indicator, ∩ relation between constructs.

The structure of the model warns that the phenomenon of stigma and the attitude towards Covid-19 are related, but the values of the disturbance between the constructs and the factors suggest that these may be influenced by other antecedent variables. The literature indicates that the information about the pandemic released in the media influences their attitudes and stigma, but in relation to a structure of the determinants of prejudice.

The fit and residual parameters [$\chi^2 = 256,76$ (40gl) $p > .05$; CFI = .997; GFI = .995; RMSEA = .007] suggests the non-rejection of the null hypothesis regarding the significant differences between the reflective trajectory structure subtracted from the literature with respect to the observed relationship structure.

Discussion

The contribution of the study lies in the empirical test of a model of stigma and attitudes that the literature identifies as part of a structure of media influence on the discrimination of Covid-19 carriers. Two scales were validated that explained 89% of the total variance, suggesting the extension of the work to other lines of research related to the structure of prejudice. The relationship between both variables indicates research lines related to samples in unconfined, but closed and high-risk spaces

such as hospitals where students develop professional practices and social service.

The relationship between attitudes and stigma explains part of the process of influence of the media on audiences, although being associated with other cognitive variables, attitudes would moderate this process. In the case of stigma, the proposed scale measures five dimensions that could diversify as news about the SARS CoV-2 coronavirus and Covid-19 intensifies. the empirical test of this hypothesis could be carried out on the effect of newspaper articles on readers and their avoidance behaviors of contact with people who are attributed responsibility for the pandemic.

Consequently, the contrasting of a model for the study of the media phenomenon of Covid-19 and its effect on contact avoidance, social isolation and confinement could explain why the samples studied in low-risk closed spaces are developing attitudes and stigma towards carriers of the SARS CoV-2 coronavirus.

Conclusion

The objective of this work was to contrast the relationship between attitudes and stigma reported in the literature with respect to its structure observed in the present work. The results indicate the non-rejection of the hypothesis regarding the differences between the findings of the literature with respect to the results of the present study, suggesting the extension of the work towards the prediction of contact avoidance, isolation, and social confinement.

Regarding the differences between unconfined samples that develop the stigma towards infected with Covid-19 and confined samples that develop this stigma from the reception of the information available in the media, this work warns: 1) The process the influence of media information on the

coronavirus in isolation and social confinement could be explained not only from stigma but from attitudes; 2) Being a consistent structure in the face of media information regarding the pandemic, attitudes anticipate discriminatory intentions and actions; 3) the relationship between stigma and attitudes can be diluted if the attribution of racial, migratory, economic, political and age responsibility is repeatedly clarified.

In this way, the research lines concerning the relationship between attitudes and stigma could be reddened with the inclusion of variables that measure; a) the need for information from the audiences, b) the news frame of the media, c) the state's social communication. Such a management model could reorient public health policies regarding the prevention of contagion.

References

1. Bustos, JM, Juárez, M. & García, C. (2020). Perception of security against Covid-19. *Academic Research Without Borders*; 13 (32), 1-26.
2. Bustos, JM, Juárez, M., García, C., Sandoval, FR & Amemiya, M. (2020). Psychosocial determinants of the reactivation of tourism. *Tourism and Social Development*; 29 (13), 1-23
3. Carreón, J., Bustos, JM, Bermúdez, G., Espinoza, F. & García, C. (2020). Attitudes towards the pandemic caused by the SARS CoV-2 coronavirus and Covid-19. *Invurnus*; 15 (2), 12-16
4. Castanho, R. A., Couto, G., Pimentel, P., Sousa, Á., Carvalho, C., Batista, M. G. (2020). The Impact of SARS-CoV-2 Outbreak on the Accommodation Selection of Azorean Tourists. A Study Based on the Assessment of the Azores Population's Attitudes. *Sustainability*; 12, (23): 1-14.
5. García, C., Carreón, OI & Espinoza, F. (2021), Index of framing of social entrepreneurship in the confinement caused by the coronavirus SARS CoV-2 and the disease Covid-19. *Journal of Geography Environmental and Earth Science International*; 10 (1), 1-12
6. García, C., Juárez, M., Bustos, JM, Sandoval, FR and Quiroz, CY (2020). Specification a model for study of perception risk. *Gestao , Educac ao e Tecnologia Ambiental*; 24 (43), 1-8.
7. Juárez, M., Bustos, JM, Carreón, J. and García, C. (2020). The perception of risk in university students in the face of the spread of the SARS CoV-2 coronavirus and the Covid-19 disease. *Journal of Psychology*; 8 (17), 94-107
8. Molina, HD, García, M., García, ML, Carreón, J. and García, C. (2020). A statistical approach to the behavior of the Covid outbreak in mainland China. *Tepexi*; 7 (4), 3-16
9. Panamerican Health Organization (2020), Statistic the coronavirus SAR S-CoV-2 and the disease Covid 19 in the Americas. New York: PAHO
10. Ramaci, T., Barattucci, M., Ledda, C., Rapisarda, V. (2020). Social Stigma during COVID-19 and its Impact on HCWs Outcomes. *Sustainability*; 12 (9) , 1-13.
11. Sorokowski, P., Groyecka, A., Kowal, M., Sorokowska, A., Bialek, M., Lebuda, I., Dobrowolska, M., Zdybek, P. and Karwowski, M. (2020). Can Information about Pandemics Increase Negative Attitudes toward Foreign Groups? A Case of COVID-19 Outbreak. *Sustainability*; 12 (12) : 1-10.
12. World Health Organization (2020). Statistics of the SARS-CoV-2 coronavirus and the Covid-19 disease in the world. Geneva: WHO



This work is licensed under Creative Commons Attribution 4.0 License

To Submit Your Article Click Here: [Submit Manuscript](#)

DOI: [10.31579/2690-8808/067](https://doi.org/10.31579/2690-8808/067)

Ready to submit your research? Choose Auctores and benefit from:

- ❖ fast, convenient online submission
- ❖ rigorous peer review by experienced research in your field
- ❖ rapid publication on acceptance
- ❖ authors retain copyrights
- ❖ unique DOI for all articles
- ❖ immediate, unrestricted online access

At Auctores, research is always in progress.

Learn more www.auctoresonline.org/journals/journal-of-clinical-case-reports-and-studies