



## Exploratory Factorial Model of Perceived Safety in the COVID-19 era

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### ABSTRACT

The perception of the police action in the face of Covid-19 was the objective of this work. A cross-sectional, psychometric and correlational study was carried out with a sample of 100 students, considering their participation in the public health system as social servants or professional practitioners through a platform. A four-factor structure was found that explained 63% of the total variance, although the findings are only applicable to the sample, and its extension to other scenarios is recommended.

**Keyword:** *Agenda, Covid-19, Police, Perception, Security*



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### 1. Introduction

As of this writing, the SARS-CoV-2 coronavirus pandemic and the Covid-19 disease have claimed the lives of a million people, although the ministries of health recognize a wide margin of under-records when considering the atypical cases of pneumonia and asymptomatic patients as sectors that would significantly increase the effects of the health crisis (Martínez and Rodríguez, 2020: p. 3). In such a scenario, the policies of confinement and social distancing have reduced not only the number of infections and the sick but have also saved lives through the public health service and the avoidance of crimes; robberies, kidnappings and homicides, although cases of domestic violence have increased, the perception of security seems to have increased (Soiza, Scicluna & Thomson, 2021). Studies on risk society, specifically on uncertainty and insecurity, have been carried out for decades.

In the 1980s, The Theory of Diffusion of Innovations explained the compatibility of technological advances and the lifestyles of potential users of the nascent information society (Haynes et al., 2020). Security was understood as the minimization of costs and the maximization of benefits (Xing et al., 2021). Such risk control and management implied a communication oriented towards certainty based on the balance between contingencies and resources.

In the 90's, the Internet emerged and the risks were observed in grooming and sexting as extensions of human trafficking and extortion (Pacheco et al., 2018: p. 3). The theories of acceptance of technology and adoption of electronic commerce explain the adjustment of computer skills to technological advances in order to reduce

or expand the risks and rights to the protection of honor, privacy and image of people, freedom of expression, the right to information and the protection of intellectual property (Rico, 2012: p. 332).

In the first decade of the century, the substantial increase in informative content impacted on addictive behavior associated with the search for an identity in the diversity of contacts and user profiles (Arab and Díaz, 2014: p. 8). Models of acceptance and adoption of technology, Internet and social networks are merged with models of diffusion of innovations in order to establish comprehensive predictions of the impact of content on people's decisions and actions.

In the second decade of the century, systematic and meta-analytic reviews established axes, trajectories and relationships between the explanatory variables of risk events and their dissemination in traditional communication media with respect to electronic media, mainly social networks led by Twitter (Hütt, 2012: p. 122). It is about the culture of computer security that lies in the search for information and access to learning communities, but with wide exposure to harassment (Arellano, 2017: p. 4). Security is associated with privacy and e-trust indicated by the protection of passwords for access to social networks (Rodríguez and Benedito, 2016: p. 32). The security associated with technology is not only perceived indirectly but at a distance by younger users compared to users of home devices (Castillejos et al., 2016: p. 61). This is so because confidence in technology is associated with the computing skills of users.

Therefore, the objective of this work is to show the differences between public perception and mediated perception regarding the security experienced and that learned through the media and electronic networks such as Twitter, considering the health crisis and policies of confinement and social distancing. Are there significant differences between the structure of the perception of public insecurity with respect to the perception of the news broadcast on Twitter?

The premise that guides the present research warns that there are significant differences between the structure of direct perception with respect to the structure of mediated perception (Al Khames et al., 2021). This is so because the media and social networks are technologies and devices for the construction of the public agenda (Desai & Aronoff, 2020). In other words, the axes, themes and relations of debate between political and social actors, as well as between public and private sectors, are legitimized in networks such as Twitter, influencing public opinion regarding the performance of their government and institutions.

## **2. Method**

The sample consisted of 100 students ( $M = 21.3$   $SD = 3.2$  years and  $M = 8'967.56$   $SD = 456.78$  monthly income) from the National Autonomous University of Mexico, considering their social service and professional practice in public hospitals, as well as their registration in the Microsoft Teams virtual classroom system and platform to access the survey. The survey was applied at the beginning of the 2023-I semester. Respondents accessed the project page: [www.academictransdisciplinarynetwork.es.tl](http://www.academictransdisciplinarynetwork.es.tl) in order to answer the questionnaire. In capturing the surveys, the strategy of confronting the double capture of each questionnaire was used, comparing the similarities and differences. In cases where there were many differences, it was decided to delete both captures from the same questionnaire. Finally, the majority of unanswered questionnaires were also deleted from the final capture and the corresponding analyzes.

Perception of police action. It is the degree of crime prevention and police intervention in an area that is perceived as high risk by its citizens based on police tours and the capture of suspected criminals (Health et al., 2021). Perception of public insecurity. It is the degree of personal suspicion towards alleged assailants based on their actions towards passersby, houses or businesses (Polack et al., 2021).

Mediated perception of police action. It is the degree of transparency or corruption, efficiency or incompetence, effectiveness or negligence of the police, disseminated in the media (Moffitt & Ziliak, 2020). Mediated perception of the government. It is the degree of government enforcement through its institutions against organised crime that is disseminated in the media (Cai et al., 2021).

Scale of perception of the police in streets. It measured the degree of crime prevention in the pandemic from five response options ranging from 0 = "not frequent" to 5 = "quite frequent" with an acceptable reliability (alpha of .60). Police perception scale in hospitals. It measured the degree of suspicion of the crime in the face of the pandemic from five response options ranging from 0 = "not frequent" to 5 = "quite frequent" with an acceptable reliability (alpha of .64).

Scale of mediated perception of police in the streets. It measured the performance of the policeman on the streets in the face of the pandemic reported by the media from five response options ranging from 0 = "not frequent" to 5 = "quite frequent" with an acceptable reliability (alpha of .72). Scale of mediated perception of the police in hospitals. It measured the performance of the police in hospitals in the face of the pandemic reported by the media from five response options ranging from 0 = "not frequent" to 5 = "quite frequent" with an acceptable reliability (alpha of .80).

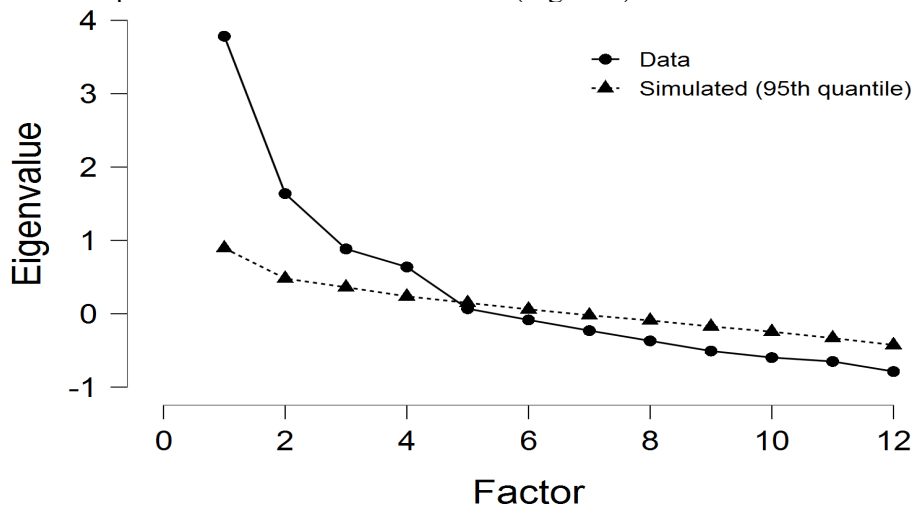
Adequacy (KMO = .687), Sphericity [ $\chi^2 = 364.279$  (66gl)  $p = 0.000$ ]. Method: Main Axes, Rotation: Promax. F1 = Perception of the Police in Streets (26.24% of the total variance explained and alpha of .60), F2 = Perception of the Police in Hospitals (14.76% of the total variance explained and alpha of .64), F3 = Media Perception of the Police in Streets (13.99% of the total explained variance and alpha of .72), F4 = Media Perception of the Police in Hospitals (8.35% of the total explained variance and alpha of .80). All the items include five response options: 0 = "not frequent" to 5 = "quite frequent".

Version 20 of the SPSS statistical program was used to capture and process the normality analyzes to meet the requirement of more sophisticated analyzes such as reliability estimated by Crombach's alpha parameter. Validity was established with the factorial weights of the item with respect to the subscale. In order to estimate the structure of relationships, the correlational and regression coefficients were measured. The observation of the structure of factors and indicators was weighted with the adjustment and residual parameters.

Values ranging between 0.30 and 0.90 were assumed as evidence of reliability, validity, correlation and covariance without spurious or collinear condition for the parameters that measure internal consistency, factorial weights, and regression and covariance coefficients. On the other hand, values greater than 0.90 were assumed as evidence of adjustment and values less than 0.008 as evidence for residual statistics.

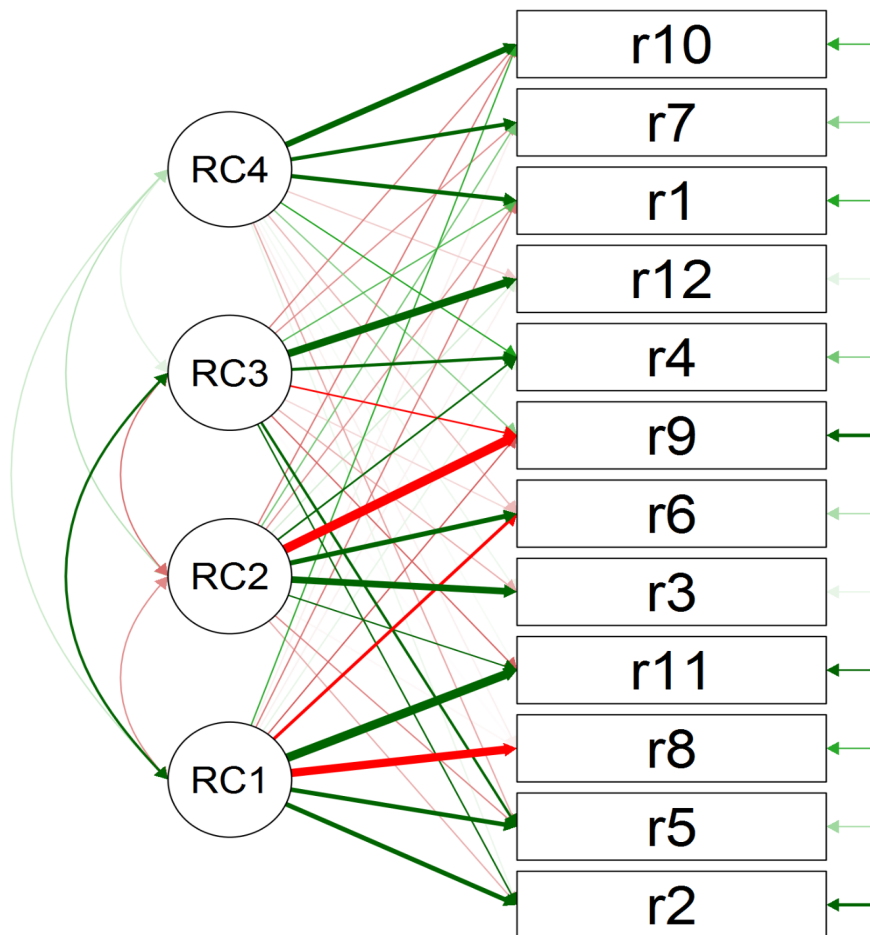
### 3. Results

The four factors that explained 63% of the variance and are related to the direct and indirect perception of public security with respect to security derived from police and government action, as well as their mediated versions. That is, both the direct and the media phenomena are considered as part of a public agenda in six out of 10 people to whom the instrument is applied. Once the structure of reliability and validity that demonstrate the viability of the instrument for its application in other contexts, settings and study samples had been observed, the structure of relationships between the factors was established in order to anticipate the axes and trajectories of relationships between indicators and factors (Figure 1).



**Figure 1.** Scree plot of perceived safety in the COVID-19 era  
Source: Elaborated with data study.

The structure of relationships between the factors reveals trajectories between them that would explain why security is a central axis and theme of the public agenda. It is a factorial composition of experiences and learning through filtered data in the media. The convergence of the indicators reveals that the SARS-Cov-2 pandemic and the Covid-19 disease have impacted on confinement and social isolation in such a way that both the information and the experience of the risk event are associated. In order to corroborate these assumptions, a structure of axes, trajectories and relationships between factors and indicators was estimated (see Figure 1).



**Figure 2.** Exploratory factor model of perceived safety in the COVID-19 era

Source: Elaborated with data study. RC1 = Unpredictable, RC2 = Immeasurable, RC3 = Uncontrollable, RC4 = Unmanageable

The structure notices the influence of other indicators and factors. The relationships between these variables corroborate 63% of the total variance explained from the exploratory factor analysis. In other words, the perception of security is structured around direct and indirect perceptual factors that in turn bring together responses to stimuli from police or government action. Each factor is reflected by the responses of the respondents regarding the performance of the State and law enforcement agencies in the face of the pandemic. The adjustment and residual parameters [ $\chi^2 = 13.24$  (24gl)  $p > 0.05$ ; GFI = 0.997; CFI = 0.995; RMSEA = 0.000] suggest the non-rejection of the premise that there are significant differences between the security mediatization structure with respect to the direct perceptual structure.

#### 4. Discussion

The contribution of this work to the state of knowledge about security in the Covid era was the validity of an instrument that measures the direct and indirect perception of the police. Four factors were established, two direct and indirect, about the performance of the police against Covid both on the streets and in hospitals (Bitler, Hoynes & Schanzenbach, 2020). Such results are only applicable to the analysis sample, but they suggest the extension of the work to other contexts, scenarios and samples in order to contribute to the validity of the instrument.

In relation to studies of public security and its mediatization, which warn the construction of a public agenda focused on the containment of crime rather than on crime prevention, the present work has shown that a structure of perceptions prevails around the police action differentiated by its preventive and reactive strategy in hospitals with respect to the streets (Sadoff et al., 2021). In other words, the public perception of the police in the face of the pandemic is organized around the differences between what they witness and what they receive on Twitter. These differences are generated and configured in this way because the police action is divided into two zones, one of no risk and the other of risk with respect to civil protection.

Therefore, future research related to risk communication will allow us to see the place of the police in the State's policies, strategies and programs in the face of the pandemic, confinement and social distancing (Wang, 2021). Such findings will open the discussion around the effectiveness of mitigation and containment of the pandemic with the support of law enforcement agencies.

## 5. Conclusion

The objective of this study was to establish the differences between the perception of the police in the face of the pandemic considering their actions in the streets and hospitals, as well as the dissemination of their actions on Twitter. The results suggest the non-rejection of the hypothesis of significant differences between the perceptual structures, although only applicable to the surveyed sample, they suggest the extension of the research. The instrument will allow citizen evaluation of police performance, as well as the mitigation and containment strategy of the pandemic based on social distancing and confinement, as well as preventive measures for the use of face masks and antibacterial gel.

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