

Biosafety networks perceived in the literature from 2019 to 2023

Redes de bioseguridad percibida en la literatura de 2019 a 2023

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Abstract:

Biosafety as a risk control strategy in organizations reached its relevance during the pandemic. The objective of the study was to establish the networks of findings related to risk perceptions published in the literature from 2019 to 2023. A documentary, cross-sectional and exploratory study was carried out with sources indexed to repositories that feed the ORCID system: CrossRef, RefSeek, Semantic Scholar, World Wide Science and BASE. Centrality, grouping, and structuring coefficients were established, indicating the prevalence of the dimensions of incommensurability, unpredictability, and controllability. In relation to the literature consulted, the extension of the study to other databases such as Scopus, Web of Science and JCR is recommended.

Keywords:

Agenda, COVID-19, Delphi, Framing, Model

Resumen:

La bioseguridad como estrategia de control de riesgos en las organizaciones alcanzó su relevancia durante la pandemia. El objetivo del estudio fue establecer las redes de hallazgos relativos a las percepciones de riesgo publicados en la literatura de 2019 a 2023. Se realizó estudio documental, transversal y exploratorio con fuentes indexadas a repositorios que alimentan el sistema ORCID: CrossRef, RefSeek, Semantic Scholar, World Wide Science y BASE. Se establecieron los coeficientes de centralidad, agrupación y estructuración que indican la prevalencia de las dimensiones de inconmensurabilidad, impredecibilidad e incontrolabilidad. En relación con la literatura consultada se recomienda la extensión del estudio a otras bases de datos como Scopus, Web of Science y JCR.

Palabras Clave:

Agenda, COVID-19, Delphi, Encuadre, Modelo

Introduction

In the COVID-19 era, biosafety, understood as a scenario of decisions and actions oriented towards risk prevention and damage control, intensifies as official communication spreads in institutions and organizations (McFadden et al., 2020). In this sense, the literature published from 2019 to 2023 indicates that biosafety is an immeasurable, unpredictable and uncontrollable management, communication and risk management system (Zao et al., 2022). The dimensions of biosafety allow anticipating risk scenarios such as the pandemic and its impact on institutions or organizations. In this way, the anti-COVID-19 policies that consist of the distancing and confinement of people, are legitimized because the

biosafety dimensions suppose exceptional measures for risk events.

From the epidemiological traffic light, anti-COVID-19 policies and strategies were implemented and intensified (Robinson, Briskman & Mayar, 2021). The red color represented the maximum risk, confinement and distancing, but the green color suggested a relaxation of preventive measures (Sasaki, Ogawa & Okawara, 2022). In this way, biosafety was disseminated in the population as a risk preventive system, but the literature warns that this communication unloads the responsibility on the rulers and unmarks the responsibility of the governed.

Biosafety, built from the epidemiological traffic light and delimited by anti-COVID-19 policies, legitimizes a corporate governance system that focuses its attention on risk management. In the case of the pandemic, the management of COVID-19 was established from a top-

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down logic (Top Down), but the stigma towards health professionals and criticism of the authorities anticipated a bottom-up proposal. (bottom up).

Precisely, the systematic review of the literature allows us to establish the limits of anti-COVID-19 policies and prevention strategies in an institutional or organizational biosafety system (Khan, 2022). In addition, the emergence of participation in the containment and mitigation of the pandemic is complementary to the state-centric vision of control and management of the health crisis (Townsend & McMahon, 2021). Therefore, the discussion on asymmetric relations between authorities and the governed is the first link in the analysis of the impact of the pandemic on institutions and organizations.

Security has concerned authorities and civil society during recent years (Ruiz et al., 2023). Different society's substrates have different perceptions on security (Aguayo et al., 2023). At the time of writing, the pandemic caused by the SARS-COV-2 coronavirus and the COVID-19 disease has infected 10 million, sickened 5 million and killed 500,000 people worldwide (WHO, 2022). In Mexico, it has infected 200,000, sickened 150,000 and killed 25,000 people (PAHO, 2022). In this scenario, the perception of security is a central issue on the citizen's agenda not only due to the health crisis, but also the economic crisis (Garcia, Bustos & Sandoval, 2023).

Carreon et al., (2020) slope of the simulated and observed data suggests a fit. It then means that the dimensions of biosafety in the face of COVID-19 emerge from the context of study. In this sense, the network of meanings is oriented towards dimensions related to anger, fear, anxiety, frustration, exhaustion, depersonalization, stress, distance, confinement, opportunism and stigma (Garcia et al., 2023)

Garcia et al., (2021) explores reliability and validity of an instrument which measures security perception in society substrates by reviewing seven dimensions: territorial, national, public (government), human, public (self-protection), private and internet. Accordingly, setting values and residuals permitted the null hypothesis To have a significant relationship between the theoretical dimensions with respect to the weighted factors (Espinoza et al., 2022).

Hernandez et al., (2022) shows the relationships between the indicators and the twelve established factors. The pandemic directly impacted emotions. The model includes negative relations between the factors but positive relations between the factors with respect to the indicated ones (Bustos et al., 2020).

In other words, the pandemic impacted organizations and institutions from the epidemiological traffic light, but its effects on group leaders can be analyzed from group learning networks in the face of the

health crisis (Patmisari, McLaren & Jones, 2022). Therefore, the systematic review of the literature will explain the asymmetric relationships between those who follow the official guidelines and those who improvised an innovative response to COVID-19, as is the case of entrepreneurship.

Given that the literature associates anti-COVID-19 policies and preventive strategies with confinement and distancing, it is valid to ask whether in such scenarios leadership was reduced to a minimum expression in the sense of biosafety (Higashida & Ranaweera, 2021). Even if the literature warns that the risks are immeasurable, unpredictable and uncontrollable, it would be pertinent to question the scope and limits of leadership in its different institutional or organizational scenarios against the new coronavirus SARS CoV-2.

In this way, the findings reported in the literature published from 2019 to 2023 can be reinterpreted based on the impact of the pandemic on leadership (Marovatsanga & Garrett, 2022). The anti-COVID-19 mitigation and containment policies, the confinement and distancing strategies, as well as the preventive measures of anti-pandemic devices would mediate the relationship between the health crisis and institutional and organizational leadership.

More specifically, if the leaders were undermined in their functions within institutions and organizations, then it would be convenient to find out if the groups most violated in their rights have been impacted by the health crisis (Ali, Drolet & Chilanga, 2022). The literature suggests that confinement and distancing impacted job functions, but further reduced underemployment and labor informality (Zavis et al., 2021). In this sense, it is necessary to inquire about the impact of the pandemic on those who are in a situation of economic vulnerability.

Precisely, the objective of the present work is to specify a model for the study of the 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.

What are the networks of meanings around biosafety in migrant workers from central Mexico in the face of the pandemic?

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) methodological approach, 5) diagnosis of the problem, 6) discussion between the findings and literature reviewed, 7) 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. In the fourth section, the decisions to approach the problem are presented. In the fifth section, the results

Method

A documentary, cross-sectional and exploratory study was carried out with a non-probabilistic selection of sources indexed to national repositories: CrossRef, RefSeek, Semantic Scholar, World Wide Science, BASE, considering the period from 2019 to 2023, as well as the search by keywords; "safety", "biosafety" and "COVID".

The Delphi inventory was used, which includes questions related to the relevance of the findings reported in the literature regarding job security (Sandoval, Bustos & Garcia, 2021). Expert judges on the subject were selected from their h-index of citations in academic google (Najera et al., 2020). The criteria of the judges allowed them to evaluate the findings sought in the literature.

The judges were contacted through their institutional mail (Garcia & Bustos, 2021). Respondents were informed about the project and those responsible (Garcia, 2021). The confidentiality and anonymity of their answers were guaranteed in writing (Lirios, 2021). The protocols for studies with humans recommended by the ethics committee were followed (Carreon et al., 2020). The Helsinki protocol was used to carry out the investigation. The study followed the guidelines of the American Psychological Association (Aguayo et al., 2022).

The judges coded their responses using a Likert scale ranging from 0 = "not at all in agreement" to 5 = "quite in agreement". The data was captured in excel and processed in JASP version 15. Non-parametric statistical coefficients were used. Centrality and grouping were estimated, as well as the network of relationships, considering a learning of the biosafety protocols reported in the literature.

Results

Figure 1 shows the prevalence of the study of rose bushes as an interconnecting node among the other studies carried out from 2019 to 2023. In other words, the centrality coefficients suggest that the structure reaches first-order nodes on which second-order nodes are configured. This is so because biosafety is a policy that underlies plain safety.

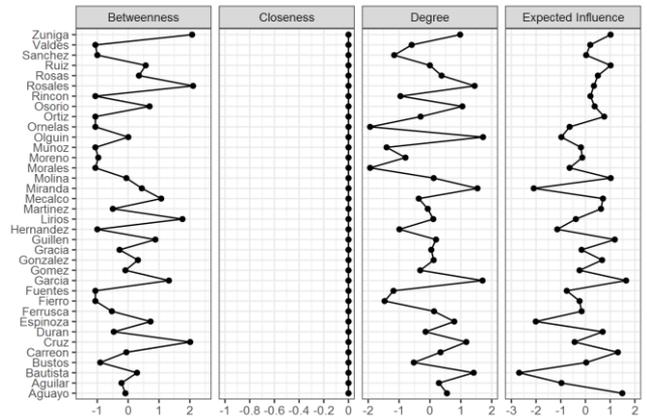


Figure 1. Centrality of perceived biosafety in the literature from 2019 to 2023

Figure 2 shows the convergence of the studies based on a central node. It is appreciated that the work of Ortiz et al., (2023) is a mediator of the relationships with the other studies. It means then that the axis of incommensurability begins on the dimensions of uncontroversiality and unpredictability.

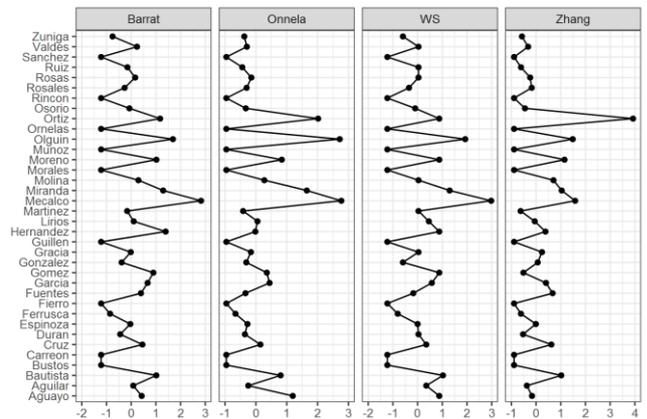


Figure 2. Clustering of perceived biosafety in the literature from 2019 to 2023

Figure 3 shows the relationship structure between the nodes. The prevalence of three dimensions related to incommensurability, unpredictability and uncontrollability is observed. The structure of the network indicates a learning that goes from the risks assumed as unpredictable to uncontrollable.

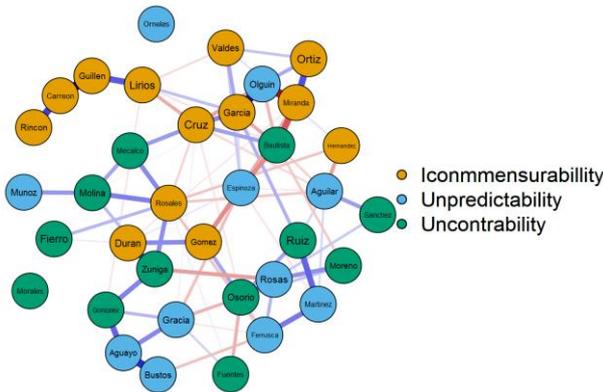


Figure 3. Network of perceived biosafety in the literature from 2019 to 2023

Discussion

The contribution of the study on perception of biosafety to the state of the art lies in the establishment of relationship networks in the period from 2019 to 2023. A centralized, grouped and structured structure was found that reflects discernible learning by the dimensions of incommensurability and uncontrollability (Guillen et al., 2021). . In other words, the literature consulted suggests that perceived biosecurity is represented as an omnipresent risk event (Bermudez et al., 2021). In this sense, the representation structure of the pandemic surpasses the anti-COVID-19 policies of confinement and social distancing (Perez et al., 2021). This is so because even when the State mitigated and controlled the pandemic with no other strategies than distancing or confining people, research indicates that perceptions of risk increased (Molina et al., 2020). Therefore, the amplification of the study to anti-COVID-19 policies is recommended, as well as the perception of the performance of the authorities at different levels.

Conclusion

The objective of the study was to establish the network of findings published in the pandemic and on the occasion of biosafety associated with COVID-19. The results highlight three dimensions alluding to the risks represented as uncontrollable, unpredictable and immeasurable. The implications for anti-COVID-19 policies revolve around the amplification of risk and the social representation of confinement and distancing strategies as regulators of communication, management and damage control.

The findings of this paper indicate that top-down risk communication can coexist with an opposite model:

bottom-up. In this sense, the vulnerable groups that were unemployed and implemented cooperation strategies to face the economic crisis caused by the pandemic demonstrated a participation that crystallized in a contribution to the management and control of the crisis. In fact, the epidemiological traffic light that regulated distancing and confinement did not prevent the undertaking of the vulnerable groups. Even the immeasurability, unpredictability, and uncontrollability of the risks associated with COVID-19 did not inhibit cooperative biosafety networks in institutions or organizations.

According to the analysis of the findings reported in the literature, institutions and organizations made progress in learning about the pandemic through strategies adjusted to the epidemiological traffic light, but also based on knowledge and communication skills. Therefore, participation was a factor for the mitigation and containment of the pandemic, an ideal complement to the anti-COVID-19 devices and the anti-pandemic strategies disseminated by the ruling party.

In this sense, the Top Down (top down) and Bottom Up (bottom up) visions complemented each other because they had a common problem: the mitigation and containment of the pandemic. Both processes were reported in the literature as opposing and complementary factors, even when the risks were not considered, anticipated or controlled.

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