

Confirmatory Factor Analysis of the Scale That Measures Biosecurity in Light of the SDGs and COVID-19.

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Abstract:

The pandemic has been observed as a security phenomenon due to the dimensions it implies, although confirmation of these dimensions has not been carried out. The objective of this work was to compare the theoretical structure of security against empirical observations. A cross-sectional, correlational, psychometric and confirmatory study was carried out with a sample of 100 students selected for their affiliation to institutions committed to the implementation of the SDGs. The results confirm four of seven dimensions, and the extension of the model is recognized as an area of opportunity in order to confirm the remaining three dimensions. It is recommended to extend the number of items and increase the sample size to increase the total percentage of variance and adjust the empirical model to the theoretical model reported in the consulted literature.

Keywords: training; organization; violence; sexism; benevolence.

Introduction:

In the context of organizations and their relationship with the increasingly competitive environment, leaders have been pressured to establish control systems in which differences between employees are exacerbated

because, in the absence of work skills, these are intended to be replaced by acts of loyalty to the company that lead to violence against those who are considered to be the culprits of poor performance, or are not seen as part of a work group. This is how organizational violence is justified within collaborative teams, such as in the case of Higher Education Institutions, where the phenomenon is exacerbated by the emergence of technologies, devices and electronic networks. Educational problems are intertwined with the financing of vocational training (Cañoles, 2018). Regarding the budget, global vocational training is led by the United States with nearly 140 billion dollars, followed by Japan, France and Germany. Finally, Argentina and Mexico during the period from 1994 to 2007. Investment in research shows little significant differences between Australia, Korea, China, the US, France and Japan. There are significant differences between money from industry and public financing or other investment mechanisms in Germany, Canada, the US, France, Korea, Japan, Mexico, the United Kingdom and Sweden.

In the case of business financing, the differences between countries remain, although they remain constant in the period from 1998 to 2007 in Germany, Argentina, Brazil, Canada, Korea, China, the US, Spain, France and Japan (Contreras et al., 2022). In the case of Mexico, there is growing business financing that

doubled in the period of analysis. The use of available funding also remains constant, since from 1998 to 2007 higher education institutions and universities used a constant amount that has only decreased in the cases of Chile, Korea, Spain and Japan, but has increased in the cases of Brazil, Canada and the US. In the case of Mexico, a substantial increase is observed in the middle of the period that ends with a significant decrease.

Although funding has remained constant and the use of resources has increased and decreased in some cases, the differences between the number of researchers are substantial among the countries analyzed (García and Guillén, 2018). The US leads the group with nearly 1.4 million researchers, while China registered the same number of researchers in 2007, but its exponential increase denotes a low quality. Japan occupies the third place followed by Germany with 600 thousand and 200 thousand respectively. In the case of Latin America; Brazil, Mexico, Argentina and Chile occupy the ninth, tenth, eleventh and twelfth positions with nearly 100 thousand researchers in the four countries. Although until 2007 China and the US had the same number of researchers, in terms of the production of articles there is a difference of 200 thousand between both countries. Even Germany and Japan match China's production. France, Canada and Italy occupy intermediate positions and Brazil is the Latin country with the highest production. Regarding academic citations, the US sets the standard during the period from 1997 to 2008 with respect to the other countries while Mexico occupies the last places. However, despite the fact that the US leads each of the specified areas, in terms of patents it is notably surpassed by Japan and Latin countries reach 50 thousand patents from 1998 to 2007. The increase in scholarships explains Mexico's emergence in terms of patents and its null participation in the other areas. From 2000 to 2009, the amount has tripled in Mexico.

Educational problems seem to be explained by the budget amount and the financing of research in Mexico with respect to developed countries (García, 2021a). The differences between countries are not only financial, but also organizational since Japan with 20 billion dollars exceeds the number of patents in the US that invests 140 billion dollars, although the production of articles and the number of citations justifies such an amount of investment, but in terms of technological innovations, Japan is a management model for emerging countries in Latin America. Indeed,

educational, scientific and technological development seems to obey an organizational logic in which the professional training network and organizational training violence are factors that would explain the differences between countries that allocate similar investment amounts and the similarities between countries that support their production from different budgetary and financial amounts.

Violence, for the purposes of this work, consists of the differentiation between two or more actors with respect to a relationship of power and influence that configures a system of personal and organizational insecurity or security. Thus, violence in digital networks is based on prejudice, depersonalization, benevolence, harassment, subjugation, objectification, stigma and bullying through technology or devices in digital information and communication protocols (García, 2021b). Therefore, in the field of organizations, violence in digital networks is part of an asymmetric professional development process in which the differences between leaders and employees overlap with the climate of relations between employees, generating a subsystem of violence in which employees close to leaders are the beneficiaries of the vicious circle of differentiation.

The theoretical frameworks that explain organizational formative violence are: 1) theory of reasoned action, 2) theory of planned behavior, 3) theory of spontaneous processing and 4) theory of knowledge networks.

The theory of reasoned action maintains that attitudes are mediators of the effect of beliefs on intentions and behaviors. An increase in beliefs increases dispositions towards specific and deliberate decisions and actions. It is a process that goes from the general, in terms of beliefs, to the particular, in terms of intentions and actions. However, the predictive power of general beliefs is limited by the specificity and unidimensionality of attitudes. Since attitudes transmit the effect of beliefs, they delimit their indicators in dispositions likely to be carried out (Castel and Freundlich, 2010).

The theory of planned behavior warns that the effect of beliefs on behavior is mediated by attitudes and perceptions of control. In a contingent situation or event, the perception of control increases its predictive power of intentions and behaviors if and only if it interacts with specific dispositions. To the extent that the perception of control decreases, its relationship with attitudes makes a minimal effect on decisions predictable. Necessarily, the deliberate and planned

process of decision making and strategy implementation requires a perception of control consistent with the dispositions toward the object (Castro and Martins, 2010).

The theory of spontaneous processing poses attitudes as a consequence of the activation of experiences with the attitudinal object. Attitudes are associated between evaluations of objects. A negative evaluation increases the willingness and thus the spontaneity of behavior (Caykoylu, Egri, Havlovic and Bradley, 2011).

A network is a set of central and peripheral nodes around which symmetrical or asymmetrical interaction relationships are established. In the first case, the central nodes distance themselves from the peripheral nodes. The information gap between the nodes is explained by the discontinuous transfer of knowledge. In the second case, the differences between the central and peripheral nodes are reduced to their minimum expression, facilitating the exchange of information (Fuentes and Sánchez, 2010).

The theory of knowledge networks states that universities and companies are nodes of information exchange that become productive relationships through their knowledge exchanges, development of interdisciplinary projects and training flows (Adenike, 2011).

The training network theory explains collaborative relationships aimed at the balance between demands and resources in contexts of scarcity, uncertainty, insecurity and risk. The theory anticipates the emergence of factors such as trust, commitment and satisfaction that in turn determine innovation and eventually organizational happiness. Professional training networks are information and communication systems related to the development of educational competencies derived from institutional and organizational synergies. They involve technological information systems from which it is possible to build an academic or work identity whenever the nodes form consensus and co-responsibilities around scientific and technological production (Molero, Recio and Cuadrado, 2010).

Professional training networks of relationships between institutions and organizations are exposed to problems inherent to collaborative relationships. Thus, the work environment is the determining factor of agreements, accords and/or consensus aimed at organizational

development; industrial, scientific and technological, as well as the innovations of collaborative groups. This is why they are instruments for managing knowledge and innovations that allow overcoming the discrepancy between industrial growth and sustainable development (Coronel, 2010).

The theory of organizational formative violence states that the differences between productive systems that invest similar amounts of money in their processes are the result of the organizational climate; asymmetric, violent and conflictual relationships. In this sense, organizations approach the imbalance between demands and resources, but it is inequity and discretion that allow the adjustment of task relationships to the diffuse objectives of companies (Díaz, 2013).

Organizational formative violence, unlike RFP, is indicated by asymmetric and inequitable relationships between the members of the knowledge network. In this way, management is replaced by dogmas; freedoms are displaced by discretion; Opportunities give way to impositions, capabilities are reduced to their minimum expression in the face of kinship and co-responsibilities are inhibited by attributions of guilt (Guillén, Lleó and Perles, 2011).

Organizational formative violence would be the result of the interrelation between relative and simple majorities and minorities that, at the time of innovating, increase or decrease their participation in the construction of an organizational climate. This is how professional formative networks are power groups that, by centralizing their decisions, generate formative dissent and with it the discussion for consensus or, the use of violence as a persuasive or dissuasive instrument of knowledge management and technological innovation (Carreón, 2011).

Organizational formative violence warns of the emergence of an organizational climate that materializes in power discourses in which differences, conflicts and disagreements are symptoms of discretionary management, or indicate consensual management, but relative to the influence of the majority over minorities. It anticipates the emergence of conflicts that would explain the increase in creativity rather than trust, initiatives and personal efforts rather than trust and group commitment, as well as pragmatism rather than satisfaction aimed at innovation, but also towards conformity (Tayo and Adeyemi, 2012).

Studies on organizational violence have focused their interest on the deliberate, planned, systematic and improvised process of professional training focused on formative violence such as mobbing, bullying, stalking and trolling in electronic networks in which employees of an organization interact. Organizational studies show that the work environment is a preponderant factor in explaining collaborative relationships between employees and managers (Molero et al., 2018). In this sense, workplace violence has been identified as a factor adjacent to vocational training since it involves interpersonal and task conflicts that inhibit productivity and competitiveness. Within the framework of the relationship climate and workplace violence, this study is inserted in the discussion about sexism as an inhibitory factor of productive relationships (Borjas, 2010).

Although educational institutions and profit-making organizations pursue common goals, the discrepancy between responsible professional training and productivity unrelated to sustainability is preponderant in the disagreements and conflicts between academic and business actors (Vargas, 2011).

However, business financing that promotes the specialization of knowledge and technological innovation encourages scientific production towards the optimization of natural resources and thereby disseminates a labor identity contrary to the values of equity, altruism or biosphere. These are asymmetric relationships in which verticalism, sexism or ostracism are indicators of an organizational field of power from which management, production, quality and innovation of knowledge are controlled (Cuesta, 2012).

In the educational organizational field, professional training is the process around which it is expected to develop the skills that will allow the student to enter the labor market. In this sense, collaboration agreements between universities and companies are aimed at adjusting the skills and knowledge of students to the requirements of the local and global market. This implies symmetrical relationships between participants since trust, cooperation, commitment, satisfaction and ease are indicators of entrepreneurial training (Gargallo, 2010).

In contrast, when asymmetrical relationships prevail over the members of a network, mistrust, selfishness, dissatisfaction and stress emerge as a limiting paradigm of task and collaborative relationships. The

analysis of the meanings around the knowledge network by teachers shows a work environment of asymmetrical relationships. Around which the absence of professional entrepreneurship is a factor to consider to evaluate the effectiveness of the professional internship program (Gil, 2010).

The theoretical frameworks that explain the behavior of knowledge networks through information and communication technologies have established as determining factors the value principles, beliefs about information and the normative principles of the socialization of the Internet and electronic devices. The relationship between these variables with respect to technological behavior has been established based on the assumption that attitudes, perceptions and intentions are mediators of the impact of values, beliefs and norms on the use of a technological device (Long, 2010).

Innovation is an effect of the exchange of information between research and technology projects and the strategic planning of knowledge. In this sense, a knowledge network implies the collaborative participation of specialists and technologists around a productive-technological activity. Therefore, the configuration of a network is carried out based on the organizational-collaborative structure between universities and industrial sectors (Borjas, 2010).

In terms of organizational networks, two types of knowledge converge: codified and tacit. The first refers to productive relationships in which communication of procedures, recruitment and training are responsible for implementing the mission and vision of the organization among human resources (Cerrón, 2010). The second type of knowledge is articulated from the exchange of procedures not written in a manual, but transferred by the most experienced staff to the new staff. These are beliefs and values around the execution of tasks, the use of technical equipment and production-distribution procedures (Coronel, 2010).

Both types of knowledge symbolize the construction of an organizational-labor-technical culture around which trust is fundamental. The absent trust factor supposes that the configuration of a network could not be carried out since collaborative learning requires a distribution of responsibilities where those who do not follow the labor dynamics or organizational climate are excluded (Cuesta, 2012).

In this sense, knowledge networks require three conditions to survive: horizontal power, redistributed among the members of the network and the burden of responsibility, oriented to each and every one of the members of the network. The solution to the problems that arise after the configuration of the network is in the network itself. Therefore, decisions are established through a mechanism of induction rather than selection (Díaz, 2013).

An essential factor in the network are translators who possess skills and knowledge about the needs of operational staff and the requirements of administrative staff in relation to strategic planning of goals. If we consider the different languages between the growth needs of a company and basic research, translators are essential since their transdisciplinary training and their theoretical-applied experience are a link between businessmen, administrators and staff (Gil, 2010).

Self-efficacy is a perception and/or belief motivated by personal or impersonal trials of success and failure carried out deliberately or discursively. Since self-efficacy refers to failure, but mainly to success, even in spite of those failed trials that incite achievement, the perception and belief of self-efficacy is based on the achievement of expected objectives rather than on competitiveness, recognition or vicarious learning. If self-efficacy is a system of perceptions and beliefs focused on success, then the group to which the self-efficacious agent belongs or wants to belong is related to success. Because groups are diverse, self-efficacy varies as a function of this diversity. A competitive group attributes success to one of its members when he or she has surpassed previous achievements, which were certainly set by the group. In this sense, the concept of self-sufficiency seems to be a good fit for the influence of a group on the objectives, system and achievements of an individual (Anwar and Norulkamar, 2012).

If self-efficacy is a system of perceptions that encourage achievements by delimiting effective capabilities, self-sufficiency would also be a system of perceptions and beliefs, but unlike self-efficacy, these would be oriented towards the execution of a procedure or technology. The factors that drive self-efficacy would be identical in the case of self-sufficiency. If competitiveness, recognition and vicarious learning drive self-efficacy, then self-efficiency would also have that drive (Arnau and Montané, 2010).

Attitudinal psychological studies have focused on their conceptualization, formation, activation, accessibility, structure, function, prediction, change, inoculation, identity and ambivalence. Attitudes have been defined based on affective and rational dimensions. Both dimensions are the result of experiences and expectations. This implies their structure: unidimensional or multidimensional, which is configured by exogenous and endogenous factors. That is, when attitudes activate decisions and behaviors, they cause a peripheral, emotional, spontaneous, heuristic, and ambivalent process. In contrast, when attitudes transmit the effects of values and beliefs on intentions and actions, they are endogenous mediators of a central, rational, deliberate, planned, and systematic process (Berdecia, González, and Carrasquillo, 2012).

Psychological studies have shown significant differences between attitudes toward people and attitudes toward objects. The former refer to stereotypes or attributes, and the latter refer to evaluations or dispositions. In both, ambivalence is an indicator of change when beliefs and evaluations interact, forming negative and positive dispositions toward the object. Conflicts are formed within the components formed by beliefs toward the object. Resistance to persuasion is a consequence of attitudinal ambivalence. If the environment threatens the formation and function of attitudes, these will adapt the individual to contingencies. Thus, attitudes have two essential functions: selfish and utilitarian (Cardon, Gregoire, Stevens and Patel, 2013).

Attitudinal change refers to emotions and affects that result from individual actions and for which people feel responsible. It also refers to the social influence that teaching groups exert on students. Or, the reception of persuasive messages oriented to central reasoning, or persuasive messages directed to peripheral emotionality. In general, the attitudinal system is sensitive to the instability of the object and to cognitive variations that affect the consistency, stability, prediction, competence or morality of the individual (Celik, Turunc and Begenirbas, 2011).

The consistent change of attitudes is related to its multidimensional structure resulting from majority pressure. The diversity of dimensions implies a consistent construction of attitudinal change. That is, attitudes assume a function of internalized responses to constant situations framed by the mass media (Chiang, Méndez and Sánchez, 2010).

Attitudinal change is related to the deterrent principle of inoculation. Before the attack of persuasive messages, the perception of threats, risk and uncertainty is induced. In general, overexposure to persuasive messages induces high elaboration and thus persuasion. The massive emission of persuasive messages, the motivation and the consequent management skills can lead to helplessness. That is, when faced with the wave of information, people reduce their perception of control and tend to believe that events are incommensurable, unpredictable and uncontrollable. Or, individuals form an identity that consists of identifying with an administrative group in reference to a teaching group. In the process of helplessness, the individual constructs the change in attitude and its reinforcement of hopelessness. In the identity process, it is the group that influences the person's attitudinal change. Helplessness is a process of self-validation or self-fulfilling prophecy. In contrast, identity is a convergent validation of group norms (Chinchilla and Cruz, 2010).

The social influence of the teaching group or administrative group refers to majority norms and minority principles oriented towards attitudinal change. The influence of the majority encourages individual conformity and minority principles, conflict and attitudinal change. Recently, the style of the minority has turned out to be the most permanent factor of social influence and attitudinal change. That is, the construction of majority consensus seems to have an ephemeral effect and the construction of dissent seems to offer a constant change (Díaz, Hernández and Roldán, 2012).

Studies of attitudes towards behavior have focused on its ambivalence. People try to balance favorable and unfavorable information towards that dispositional object by maintaining ambivalent attitudes. That is, attitudinal objects are part of the environment in which people find themselves and their need to order, predict and control it. Therefore, although the attitudinal object is consistent with their perceptions, values and beliefs, people must contrast these objects with the behaviors associated with them (Figueiredo, Grau, Gil and García, 2012).

Education is a system of knowledge networks that configure a teaching-learning cycle. At the beginning of the educational cycle, knowledge networks are just a preliminary project. Production strategies are guided by an emerging rather than a dominant paradigm. It is

about the plausibility of theories because knowledge is barely supported by ideologies. The second stage of the educational cycle is peer evaluation, which consists of adjusting the projects to the policy of the administrative group. Later, in the third stage, the diffusion of knowledge is observed in institutional academic spaces (Fuentes, Herrero and Gracia, 2010).

Studies on knowledge networks warn that group formation and project planning are as important as trust and identity around an organization, institution or university. Group formation has its origin in the social psychological processes of categorization, comparison, representation and social identity around which conflict and change are the foundations of knowledge networks (Galindo and Echavarría, 2011).

Conflict precedes change. These are asymmetrical relationships between members of a group in reference to members of another group considered to be alien to the common interests of a group. Conflict emerges when the differences between groups are evident. Conflict emerges when one of the students transgresses the practice regulations affecting knowledge transfers. Since teachers-researchers are responsible for managing and training students in their insertion into the mission and vision of organizations, they must ensure compliance with the regulations and sanction those who violate the rules of collaboration (Holden and Karsh, 2010).

Another type of conflict is that related to innovation, defined as the influence of a minority that persists in its actions with the intention of persuading or dissuading an administrative group. It underlies the interior of the organization or the university; it is the conflict in which the students involved perceive a greater use of their capabilities and resources. Consequently, they demand greater management and training to achieve objectives focused on administrative-technological innovation (López and López, 2011).

On the other hand, change is a consequence of conflict. It is a process in which conversion precedes persuasion that activated a conflict and a central or peripheral attitude of need for cognition. Attitudinal change around the questioning of convictions refers to a dissuasive process in which information can be rationalized or emotive. In the first case, the need for cognition can cause a dissonance in which the information does not match expectations. In the second case, the information causes emotions that increase

expectations towards the informational-attitudinal object (Morales, Ariza, & Muñiz, 2012).

In this sense, change is also synonymous with conversion in which attitudes towards an object cause a modification of the individual's behavior towards the group (Ríos, Téllez, & Ferrer, 2010). In the case of knowledge networks, conflict and change are essential processes to understand the barriers and facilities of knowledge transfer between symmetrical and asymmetrical groups around the information of an object, process, institution or organization (Rodríguez, Retamal, Lizana and Cornejo, 2011).

Individuals establish categories, comparisons, identities and representations about themselves in relation to members of a group and in reference to other individuals belonging to other groups (Rojas, García and García, 2011). By establishing parameters of comparison, conflicts within an academic group can be transferred to conflicts between organizational groups. This is the first step in delimiting the identity or belonging to a group (Shrrof, Denenn and Ng, 2011).

Intra- and inter-group categorization consists of a set of perceptions around the resources, skills and capacities within a group in reference to another group. If perception is the biased ordering of objects, groups and their individuals bias their assessments when evaluating their actions and those of others. This is the case of the attribution bias around which individual perceptions attribute their achievements to their abilities and attribute their failures to the abilities of others (Sobrados and Fernández, 2010).

After categorization and comparison, identity underlies. These are decisions about belonging based on biased attributive judgments. If a student perceives greater possibilities for personal growth in a group to which he does not belong, he will decide to change or convert his ideas to those of the favored group. In this sense, the knowledge network would be the one mostly favored by individual judgments and attributions. At this point in the group formation process, two types of reference are built: teaching group and administrative group (Teh, Chong, Yong, and Yew, 2010).

The administrative group builds its identity by underpinning the abilities of the teaching group. That is to say, the constitution of a knowledge network is not only carried out from the perceptions of capacity of the members of a group, but also from the perceptions of

incapacity of the teaching group (Vargas and Arenas, 2012).

To the extent that an administrative group biases its value judgments, it transfers its conflicts to the teaching group. The perceptual bias becomes an attributive bias and ends up as a selective bias. By focusing the bias on the teaching group, the individual of the administrative group builds a network of representations around which the capacities, resources and limits of the administrative group are interpreted in reference to the teaching group (Yáñez, Arenas and Ripoll, 2010).

The representation of the teaching group's competencies supposes an evaluation of their behaviors by the individual and their teaching group. It is a set of emotions and cognitions around the causes of the actions of the teaching group in comparison to the actions of the administrative group. That is, individuals only want to observe acts that contradict the administrative group and try to minimize their effects on people's decisions (Zampetakis and Moustakis, 2013).

To the extent that the individual has contact with the teaching group, his or her emotions and cognitions about the actions of the teaching group increase. Precisely, from these experiences it is possible to infer attitudinal processes that explain the exclusion of the teaching group because they are attributed with different resources and capabilities compared to the administrative group (Yuangion, 2011).

In this exclusion process, there is an underlying emotive-cognitive-behavioral consistency that explains the differences between the groups. If the administrative group excludes the members of the teaching group, then it will have shown a high consistency that threatens the consistency of the administrative group. Therefore, individuals who belong to an administrative group tend to see significant differences with respect to the teaching group and its members. The consistency of the administrative group is biased when compared to the teaching group since a biased idea can only be a prejudice rather than an argument (Prada, 2013).

In the field of knowledge networks, the consistency of the administrative group and the teaching group are incompatible. For a knowledge network to work, an administrative group is required that can link its knowledge with a teaching group that is inconsistent in its emotions, cognitions and actions. For this reason, the transfer of knowledge from the administrative group

would justify the synergy of the groups because it would correct the inconsistency of the teaching group. This process can also be observed if the administrative group is inconsistent, and the teaching group is consistent (Orantes, 2011).

However, individuals who perceive emotional-cognitive-behavioral inconsistency around the production of knowledge in their administrative group end up migrating to the teaching group since this will allow them greater personal growth. This migration process is of an emotional-cognitive nature since emotions around the teaching group produce aversion to the administrative group, affinity and adhesion to the teaching group (Omar, 2010).

Translators, those who have the knowledge, capacities and skills to manage synergies between the administrative group and the teaching group, tend to look for data that corroborate their knowledge management. However, inaccessibility to the teaching group impedes knowledge management, the formation of synergies and the transfer of knowledge. If individuals have restricted access to a teaching group, they can blend in with the administrative group and fall into the assumption of natural compatibility of the knowledge of both the teaching group and the administrative group. The consequence of this compatibility will be the inhibition of the knowledge network and its development into corruption, simulation or nepotism around the production and transfer of knowledge. That is, an increase in inaccessibility to the teaching group increases the probability of failure of organizational, scientific and technological programs between the administrative group and the teaching group (Medina, 2010).

Translators, as knowledge managers, are mediators of the relationships between teachers and students. When the organizational climate between the administrative group and the teaching group becomes ambiguous and adverse rather than transparent and loyal, those involved in knowledge networks manipulate information to pursue their interests, translators must persuade both groups of the unsustainability of their relationship. It is not enough to diagnose group differences; it is also essential to reduce risks and uncertainty by enhancing the benefits of each link and node in the knowledge network (Manning, 2010).

However, affective-behavioral consistency between both groups implies creativity, which introduces an

innovative dynamic to both groups. It is a flexible organizational climate in which ideas are enhanced around the production and transfer of knowledge. Since knowledge networks are diverse, heterogeneity is necessary in each link or node for the production and transfer of knowledge. To the extent that the organizational climate is soft, trust and identity increase within both groups (Long, 2013).

Trust and identity are the result of a type of persuasive information known as belief, and the organizational environment in which beliefs are disseminated is known as attitude toward the knowledge network, its members and processes. An increase in information related to the network increases certainty, production and transfer of knowledge. In contrast, a decrease in information inhibits group relationships. Therefore, collaborative and innovative relationships have an impact on productivity, however, stress such as exhaustion, depersonalization or frustration can emerge as a result of increased productive demands (Gil, 2010).

However, part of the professional training process is only explained because there are underlying barriers in organizations that inhibit development (Padial et al., 2012). In this sense, organizational ambivalence and violence are external to professional training. Therefore, knowledge management involves training networks that innovate in adverse and contingent situations but also underlie the conflicts and asymmetries inherent to the organizational climate.

Thus, professional training is indicated by conflicts arising from the degrees of organizational discretion. As this intensifies, inequality materializes in monopolistic habitus, but a reduction to its minimum expression generates consensus in senior management. Discretion is the discursive heritage of senior management, persuasion or dissuasion are the product of monopolistic or consensual fields. That is, discretion as an antecedent of monopolistic habitus anticipates training violence since it suppresses innovation and generates conformity and obedience, verticalism, sexism and ostracism (Carreón, 2013).

However, more recent research has shown that the socialization of information in knowledge networks spreads its effect on perceptions of utility and risk, as well as on attitudes linked to anxiety and addiction to networks, the main determinants of behavior. Thus, technological behavior is determined by the processing of information around a knowledge network. This

effect, when mediated by collaborative decisions, increases the predictive power of beliefs about task and interpersonal relationships in an organization (Adenike, 2011).

For their part, collaborative intentions involve attitudes of trust, perceived capabilities, and informational beliefs that, when interrelated, determine decision-making favorable or unfavorable to a knowledge group. However, the process of knowledge construction would not be feasible without the formation of attitudes of trust in which collaborative groups disseminate information that will be categorized into learning tools or motivation oriented to the achievement of objectives and goals (Cerrón, 2010).

In parallel, perceived capabilities complement the formation of information categories, since they involve skills and knowledge around the construction of a professional training network. However, some studies suggest that professional training and the construction of a network are different processes, since they involve selfish values that contradict altruistic values. They involve a series of group norms around which individuals are professionally trained, or, alternatively, are emotionally oriented when forging an identity. However, it is the socialization of information that will determine the behavior of an individual in a collaborative group (Gargallo, 2010).

As a review, the state of knowledge has explained the organizational performance of collaborative groups and networks in situations of scarcity, uncertainty, insecurity and risk (Rojas et al., 2019). Individuals and groups develop climates of trust, enhance their work commitment and approach life satisfaction, but they also implement creative management and innovative processes in response to the contingency.

The model put forward by the state of knowledge, assuming that the socialization of knowledge consists of general information beliefs, assumes general effects on each of the mediating factors of its relationship with behavior (Santos et al., 2020). Consequently, the specification of the dimensions of behavior could indicate that there are other intermediate factors with respect to socialization. These are eight indicators of technological behavior that explain the formation of a collaborative group based on information processing.

In the case of trust, technological behavior is indicated by collaborative relationships in which benefits would

not be based on costs but rather derived from an interdependence at the time of carrying out a given task. That is, professional training that involves the intensive use of technologies comes from symmetrical relationships that a group establishes to distribute skills and disseminate knowledge. These are committed relationships since, if a member does not develop work skills, then he or she will be excluded from a group that has established a culture of high productive quality. In this sense, collaboration is the result of shared objectives, while individualism would be an effect of the system of goals that rewards personal effort (Manning, 2010).

In the case of cooperation, unlike simple normative collaboration, technological behavior involves specialized skills and knowledge to fulfill purposes. This is why groups are forced to establish cooperative relationships since the group itself must exchange information, process strategies or implement techniques that involve continuous support among its members (Medina, 2010).

However, another indicator of technological behavior is empathy among its members, since intensive work and the achievement of objectives or the fulfillment of goals implies affective and emotional relationships to reduce personal conflicts to the absence of communication (Omar, 2010).

Regarding solidarity, unlike collaboration or cooperation, it involves professional training based on the dynamics of collaborative teams within the knowledge network. While collaboration and cooperation are determined by social values, solidarity goes beyond the normative or evaluative principles that unite groups; it is an awareness of scarcity and uncertainty that allows anticipating situations of shortage by sharing resources (Orantes, 2011).

Consequently, the propensity for the future is the result of supportive behaviors that anticipate risk scenarios. In effect, collaborative groups are motivated by prevention and coping strategies in the face of situations unfavorable to the groups with which they share objectives and goals (Prada, 2013).

Finally, the quintessential indicator of technological behavior is entrepreneurship or dissident spirit. In fact, the use of technology and even more so the formation of collaborative networks would not make sense if only short- or medium-term gains were pursued.

Professional training consists of anticipating scenarios of scarcity, risk and uncertainty for which knowledge groups form networks that are essentially entrepreneurial, dissident from the situations that are approaching or the catastrophes that are expected (Vargas, 2011).

Social violence was indicated by hostile sexism in which the masculine gender identity inhibits the development of the feminine gender identity. Gender identity seems to be a condition on which benevolent discourses are generated that confine the function of the feminine identity to the care and attention of the work group or work team. The specification of relationships suggests that organizational formative violence is indicated by eight factors related to prejudice, depersonalization, benevolence, harassment, subjugation, objectification, stigma and bullying that make up a climate of

relationships and tasks in which discourses emerge that reduce the merits of individuals and exalt the differences between groups (Carreón, 2014).

The theories and findings reviewed in the literature when explaining the phenomenon of formative violence in different contexts, areas and scenarios will account for the institutional and academic situation that prevails in the public university with respect to violence exercised in electronic networks and even anticipate scenarios of conflict between the actors. Although theoretical and empirical frameworks have taken into account the dependency relationships between the factors that explain organizational violence, the specificity of the interrelations in digital networks, as well as the context of the study, exceed theoretical and empirical assumptions (see Table 1)

Security Dimension	Sustainable Development Goals (SDG)	Impact of COVID-19
Health Security	SDG 3: Good Health and Well-being. Promotes universal access to good health and well-being.	The pandemic has strained global health systems, exposing inequalities in access to medical care and protective equipment.
Food Safety	SDG 2: Zero Hunger. Ensure food security and sustainable agriculture.	The pandemic disrupted food supply chains, increasing food insecurity and malnutrition in some regions.
Economic Security	SDG 8: Decent work and economic growth. Promote decent employment and inclusive economic growth.	COVID-19 caused global recessions, increased unemployment, business closures and exacerbated economic inequality.
Social security	SDG 10: Reduced inequalities. Reduce inequality between and within countries.	The pandemic exacerbated pre-existing inequalities, affecting vulnerable sectors such as women, migrants and informal workers the most.
Environmental Safety	SDG 13: Climate action. Combating climate change and its impacts.	The temporary reduction in emissions during the pandemic showed the positive impact of reducing human activities, although it was a temporary phenomenon.
Educational Security	SDG 4: Quality education. Ensure inclusive and equitable quality education.	COVID-19 has caused schools and universities to close, severely impacting access to education, especially in developing countries.

Housing Security	SDG 11: Sustainable cities and communities. Ensure access to safe and affordable housing.	The pandemic highlighted the importance of adequate housing, with many facing difficulties due to lack of space and inadequate living conditions in lockdown.
Water and Sanitation Safety	SDG 6: Clean water and sanitation. Ensure access to safe drinking water and adequate sanitation.	Limited access to safe drinking water and adequate sanitation has worsened during the pandemic, complicating hygiene measures needed to control the spread of the virus.
Occupational Safety	SDG 8: Decent work and economic growth. Fair and safe working conditions.	COVID-19 created additional risks for essential workers, especially in healthcare, transportation and agriculture, who were exposed to the virus.
Digital Security	SDG 9: Industry, innovation and infrastructure. Promote resilient and innovative infrastructure.	The pandemic accelerated digitalization, but also highlighted gaps in technological access, especially in less developed regions.

Table 1: Comparison of the dimensions of security around the SDGs and COVID.

This work is part of the administration discipline, an area of institutional studies, but includes concepts related to the psychology of organizations such as entrepreneurship, the sociology of work for the case of human capital and labor economics for the case of knowledge networks.

Therefore, the objective of this work is to review the studies on security in electronic networks in order to compare the theoretical structure with the observations of this study.

Are there significant differences between the theoretical structure of security with respect to the observations of this study?

This work suggests the propensity for violence in social digital networks contrary to the state of the art in which

security is multidimensional with respect to the reduction of dimensions in Intranet.

Method:

Design. A cross-sectional, confirmatory, psychometric and correlational study was carried out with a sample of 100 students enrolled in institutions committed to the SDGs in the context of the pandemic. The sample was selected based on exposure to safety and the pandemic in the environment of professional practices and social service in public health institutions.

Instrument. The Security Scale around the SDGs was used (see Annex A). It includes the dimensions: 1) Health, 2) Food, 3) Economic, 4) Social, 5) Education, 6) Residence, 7) Digital (see Table 2).

Dimension	Conceptual Definition	Operational Definition	Instrument	Sample	Psychometric properties
Health Security	Conditions that guarantee access to health services, prevention and medical care in the face of disease risks.	Degree to which the university implements health protocols, distributes protective materials, and communicates prevention measures.	Self-administered survey based on health safety standards (adapted from WHO).	Students and teachers at public universities (n=500).	Cronbach's alpha ≥ 0.85 . Factor analysis: a single factor explains >60% of the variance.

Food safety	Physical, social and economic access to sufficient, safe and nutritious food to meet dietary needs.	Perception of the availability of accessible and affordable food in the university context during the pandemic.	Survey based on FAO indicators (scales adapted for educational settings).	Students at risk of food (n=350).	Cronbach's alpha \geq 0.80. Factor structure confirmed with RMSEA \leq 0.06.
Economic Security	Ability to access sufficient economic resources to cover basic needs without resorting to negative coping strategies.	Perception of the financial support offered by the university during the pandemic and its impact on educational continuity.	Adapted survey of World Bank economic security indicators.	Students and administrative staff (n=400).	Alfa de Cronbach \geq 0.87. CFI \geq 0.95, TLI \geq 0.90.
Social security	Equality in access to basic resources and services, mitigating social and economic gaps within a community.	Perception of equity in university policies and support for vulnerable groups during the pandemic.	Scale designed to measure equity in educational contexts (adapted from UN indicators).	Vulnerable university groups (n=200).	Cronbach's alpha \geq 0.85. Evidence of convergent validity with $r \geq$ 0.70 with respect to similar instruments.
Educational Safety	Guarantee of access to quality education without interruptions, ensuring equal opportunities in virtual or hybrid environments.	Evaluation of the educational infrastructure and technical support provided by the university for the continuity of studies.	Survey based on UNESCO educational quality standards.	Undergraduate and graduate students (n=600).	Cronbach's alpha \geq 0.90. Discriminant validity between face-to-face and virtual education confirmed.
Housing Security	Access to safe housing and adequate living conditions to protect health and well-being during critical periods such as the pandemic.	Perception of support in terms of housing provided by the university (student residences, rent subsidies, etc.).	Questionnaire adapted from healthy housing standards (WHO and UN Habitat).	Students in residences and external income (n=300).	Cronbach's alpha \geq 0.82. Exploratory factor analysis: explained variance >55%.
Digital Security	Equitable access to digital technologies, connectivity, and resources needed for online education and communication.	Evaluation of the availability of devices, connectivity and digital training offered by the university.	Survey based on ITU (International Telecommunication Union) digital inclusion indicators.	Students and teaching staff (n=500).	Cronbach's alpha \geq 0.88. Concurrent validity with correlation $r \geq$ 0.75 with respect to digital connectivity indices.

Table 2: Operationalization of the variables.

Procedure: Respondents were informed about the objectives and those responsible for the project. They were invited to a focus group session to homogenize the concepts. They were invited to a Delphi study to evaluate the reagents. The scale was applied at the university facilities.

Analysis: The data were captured in Excel and processed in Google Colab (see appendix B). The

coefficients of normality, reliability, homoscedasticity, adequacy, sphericity, linearity, fit and residual were estimated. Values close to unity, except for the residuals, were assumed as evidence of non-rejection of the hypothesis of significant differences between the theoretical structure and empirical observations (see Table 3)

Parameter	Conceptual Definition	Application in CFA	Interpretation
Factor load (λ)	It represents the relationship between an observable variable and its latent factor. It indicates how much of the variable's variance is explained by the factor.	It is calculated for each item in relation to its associated factor. It is used to assess whether items are sufficiently related to the theoretical factor.	Values ≥ 0.5 indicate an adequate relationship. Values close to 1 suggest a strong association between the item and the latent factor. Values < 0.3 are considered weak.
Chi-square (χ^2)	A statistic that evaluates the difference between the observed and estimated covariance matrix.	It is used to test the null hypothesis that observed and estimated matrices are equal.	A ppp-value > 0.05 suggests a good fit, although it is sensitive to sample size. In large samples, it can give significant results even with a good fit.
Root Mean Square Error of Approximation (RMSEA)	Measure of approximation error between the estimated model and the actual data by degree of freedom of the model.	It is used to evaluate the overall fit of the model. It is robust against the sample size.	Values < 0.05 indicate an excellent fit; between 0.05-0.08, acceptable fit; > 0.10 , poor fit.
Comparative Fit Index (CFI)	A comparative index that measures the fit of the model relative to a null model (without correlations).	It allows you to compare theoretical models with a base model without relationships.	Values ≥ 0.95 indicate an excellent fit; between 0.90-0.95, acceptable fit; < 0.90 , poor fit.
Tucker-Lewis Index (TLI)	Similar to CFI, but penalizes the complexity of the model, favoring simpler models.	It is used in conjunction with the CFI to evaluate the fit of the model.	Values ≥ 0.95 indicate a good fit. It penalizes models with many parameters compared to the CFI.
Standardized Root Mean Square Residual (SRMR)	Average difference between observed and estimated correlations in the model.	Evaluate the discrepancy between the observed correlation matrix and the estimated correlation matrix.	Values < 0.08 indicate good fit; higher values suggest a poor fit.
R-Squared (R^2)	Proportion of the variance of an observable variable explained by the latent factor.	It is calculated for each item. Indicates how well each item represents the underlying latent factor.	Values close to 1 indicate that the observable variable is well explained by the factor. Low values (< 0.5) indicate that the item has low representativeness.
Path Coefficients (β)	Coefficients that indicate the strength and direction of the relationship between latent factors (if applicable).	They are used to measure causal relationships between latent factors in a structural model.	Positive or negative values indicate the direction of the relationship. Significant values ($p < 0.05$) indicate that the relationship is statistically valid.

Table 3: Interpretation of coefficients.

Results:

The analysis of the intercepts with significant values suggests that the model predicts the distinction between the theoretical structure with respect to the empirical observable test. The values were significantly lower than 0.0001 and are assumed as evidence of prediction not due to chance.

The analysis of the covariance matrix involved suggests the empirical test of the model for the contrast of the hypothesis. The findings show a diagonal with values greater than one that are assumed as evidence of prediction between the theoretical covariance matrix with respect to the observed covariance matrix.

The analysis of the residual covariance matrix indicates the prediction of the theoretical model with respect to the empirical model in terms of the inclusion of other factors and indicators. The diagonal of the matrix shows significant values that are assumed as evidence of non-rejection of the hypothesis of differences between the theoretical and empirical matrices.

The analysis of the covariance matrix predicts the difference with respect to the observed matrix (see Fig. 1). The results indicate values close to unity that are assumed as evidence of non-rejection of the hypothesis.

health, nutrition, social and residential with their respective three indicators.

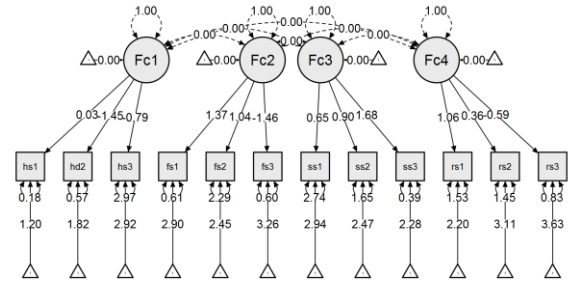


Figure 2: Confirmatory factor model of security in the context of the SDGs and COVID-19.

The fit and residual values [$\chi^2 = 704.946$ (54 gl) $p > 0.001$; GFI = 0.936; RMSEA = 0.000] suggest the fit of the proposed empirical model with respect to the logical model reported in the literature, as well as the non-rejection of the hypothesis regarding the differences between the theoretical structure with respect to empirical observations.

Discussion:

The contribution of this work to the state of the art lies in the confirmation of a four-dimensional factor structure related to health, food, social and residential security.

The COVID-19 pandemic has had important repercussions on various aspects of society, including gender equality, food security and the achievement of the Sustainable Development Goals (SDGs). The gender impact of the pandemic and its potential long-term effects on achieving the 2030 Agenda for Sustainable Development (Carreón, 2011). The emphasis is on the health impacts of COVID-19 on SDG 3 targets (García Lirios, 2021a). The state of food security and nutrition in the world projects possible outcomes for 2030 based on current trends and considering the impacts of the pandemic on food security and nutrition.

The impacts of COVID-19 on household energy and food security in informal settlements emphasize the need for integrated approaches to the SDGs (Carreón, 2012). An implementation framework for achieving post-COVID-19 food security incorporates precision agriculture and digital technologies in the agri-food supply chain (García Lirios, 2021b). A case study on improved cookstoves and clean fuel use in households addresses issues related to food security. The resilience

	hs1	hd2	hs3	fs1	fs2	fs3	ss1	ss2	ss3	rs1	rs2	rs3
hs1	0											
hd2	0	0										
hs3	0	0	0									
fs1	.15	.52	.25	0								
fs2	.08	.79	.18	0	0							
fs3	.17	.39	.29	0	0	0						
ss1	.25	.78	.37	.57	.63	.45	0					
ss2	.11	.18	.35	.6	.37	.29	0	0				
ss3	.08	.43	.22	.77	.48	.63	0	0	0			
rs1	.2	.05	.15	.07	.04	.13	.16	.06	.05	0		
rs2	.3	.45	.13	.2	.51	.22	.23	.01	.16	0	0	
rs3	.03	.52	.4	.6	.56	.55	.38	.24	.56	0	0	0

Figure 1: Covariance matrix between indicators.

The analysis of the factor structure suggests that the empirical model fits with the logical mode reported in the consulted literature (see Fig. 2). The results show the prevalence of four factors related to the dimensions of

of the rice value chain in the context of COVID-19 sheds light on the challenges and opportunities faced by the sector during the pandemic.

A study on the impacts of COVID-19 outbreaks on lower-income groups and the achievement of the SDGs provides insights for policymakers and organizations to mitigate the effects of the outbreaks (Carreón, 2013). A systematic literature review on the adverse effects of the COVID-19 pandemic on agricultural food systems proposes strategies to build resilient and sustainable food systems to ensure global food security and achieve the SDG targets. The relationship between socioeconomic shocks, social protection, and household food security during the pandemic highlights the increased level of food insecurity resulting from the pandemic.

Overall, the reviewed literature emphasizes the importance of addressing the impacts of COVID-19 on various aspects of society, including gender equality, food security, and the achievement of the SDGs, and highlights the need for integrated approaches and resilient strategies to overcome the challenges posed by the pandemic (Carreón, 2014). Unlike the state of the art, the present work confirms four of the seven dimensions reported in the literature. Therefore, the implementation of reagents that measure the missing dimensions is suggested. The area of opportunity lies in the increase of the scale items in a larger sample than the one surveyed. It is suggested to extend the model in order to predict and confirm the dimensions cited in the literature.

Conclusion:

The objective of the present work was to compare the theoretical structure with respect to the empirical observation of the security dimensions around the SDGs during the pandemic. The results confirm four of the seven dimensions and it is suggested to extend the study in order to confirm the three remaining dimensions. Furthermore, the importance of each dimension is recognized in order to predict security scenarios in the face of the risks of a health crisis.

References:

1. Adenike, A. (2011). Organization climate as a predictor of employee job satisfaction. *Business Intelligence Journal*, 4, 151-166
2. Anwar, F. & Norulkamar, U. (2012). Mediating role of organizational commitment among leadership and employee outcomes, and empirical evidence from telecom sector. *Processing International Seminar on Industrial Engineering and Management* 2, 116-161.
3. Arnau, L. & Montané, J. (2010). Contributions on the conceptual relationship between attitude and competence, from the theory of attitude change. *Journal of Research in Educational Psychology*, 8, 1283-1302.
4. Berdecia, Z., González, J. & Carrasquillo, C. (2012). Leadership styles for organizational success: multiple case studies in companies. *Journal of Advanced Leadership Studies*, 1, 21-32.
5. Borjas, L. (2010). Entrepreneurship from the perspective of social representations: the case of Venezuela. *Ciencias Sociales*, 5, 149-165.
6. Cañoles, J. (2018). Beyond mobbing: work stories about institutional violence in a managerial organization; experience in a public institution. *Revista Sul-americana De Psicología*, 4(1), 1-45.
7. Cardon, M., Gregoire, D., Stevens, C., & Patel, P. (2013). Measuring entrepreneurial passion: conceptual foundations and scale validation. *Journal of Business Venturing*, 28, 373-396.
8. Carreón, J. (2011). The fight against organized crime in Mexico. *Barataria*, 14, 59-74.
9. Carreón, J. (2012). Emotions of insecurity determining the distrust of public authority. *Electronic Journal of Political Psychology*, 31, 52-62.
10. Carreón, J. (2013). Theories of public security and perception of crime. *Margen*, 71, 1-16.
11. Carreón, J. (2014). An exploration of the study of violence. *The Mexican case. Obets*, 8 (1), 59-78.
12. Castel, G. and Freundlich, F. (2010). Perceptions of cooperative members and non-members on job satisfaction. *Revesco*. 103, 33-58.
13. Castro, M. and Martins, M. (2010). The relationships between organizational climate and employee satisfaction in information and technology organization. *Tydskriff vir Bredyfsielkunde*. 36, 1-9.
14. Caykoylu, S., Egri, C., Havlovic, S. & Bradley, C. (2011). Key organizational commitment antecedents for nurses, paramedical professionals and non-clinical staff. *Journal of Health Organization and Management*. 25, 7-33.
15. Celik, M., Turunc, O. & Begenirbas, M. (2011). The role of organizational trust, Burnout and interpersonal deviance for achieving organizational performance. *International Journal of Business and Management Studies*. 3, 179-190.

16. Cerrón, L. (2010). The role of the market in the construction of vocational training models: the commodification of the system. *Reifop*, 13, 54-63.
17. Chiang, M., Méndez, G. & Sánchez, G. (2010). How job satisfaction influences performance: a retail company case. *Theoria Magazine*, 19, 21-36.
18. Chinchilla, N. & Cruz, H. (2010). Diversity and business paradigms: a new approach. *Journal of Business and Humanism*, 14, 47-79.
19. Contreras Beltrán, V. M., Aguirre Y Hernández, F. ., Roldán Reyes , E. ., Romero Flores , E., & Cabrera Zepeda, G. . (2022). Workplace comment processor that detects mobbing through sentimental analysis. *Vínculos ESPE Journal*, 7(1), 79-87.
20. Coronel, A. (2010). Training human capital for a development investment. *Eureka*, 7, 71-76.
21. Cuesta, A. (2012). Integrated model of human and knowledge management: an application technology. *Venezuelan Journal of Management*, 57, 86-98.
22. Díaz, C., Hernández, R. and Roldán, J. (2012). A structural model of the antecedents to entrepreneurial capacity. *International Small Business Journal*, 30, 850-872.
23. Díaz, S. (2013). The human in the Theory of Organizations. *Managerial Vision*, 12, 45-57.
24. Figueiredo, H., Grau, E., Gil, P. and García, J. (2012). Burnout syndrome and job satisfaction in nursing professionals. *Psicothema*, 24, 271-276.
25. Fuentes, A., Herrero, J. and Gracia, E. (2010). Internet and social support: online sociability and psychosocial adjustment in the information society. *Psychological Action*, 7, 9-15.
26. Fuentes, F. and Sánchez, S. (2010). Analysis of the entrepreneurial profile: a gender perspective. *Applied Economics Studies*, 28, 1-28.
27. Galindo, R. and Echavarría, M. (2011). Diagnosis of the entrepreneurial culture in the engineering school of Antioquia. *Journal of the School of Engineering of Antioquia*, 15, 85-94.
28. García Heredia, F. J., & Guillén Rodríguez, S. (2018). What are the effects of workplace harassment in work environments? *Scientific and Technological Culture*, (63).
29. García Lirios, C. (2021a). Occupational risk perceptions in the Post Covid-19 era. *Know & Share Psychology*, 2(1).
30. García-Lirios, C. (2021b). Tutorial networks in the development of the research protocol. *Communication, Culture and Politics*, 12.
31. Gargallo, A. (2010). Perceptions of cooperative members and non-members on job satisfaction. *Revesco*, 103, 33-58.
32. Gil, C. (2010). Corporate communicators: challenges of competency-based vocational training in the global era. *Cuadernos*, 33, 49-59.
33. González, F., Sánchez, S. and López, T. (2011). Job satisfaction as a critical factor for quality. *Studies and Perspectives in Tourism*, 20, 1047-1068
34. Guillén, M. Lleó, A. and Perles, G. (2011). Rethinking trust as a critical factor in organizational management. *Cuadernos de Gestión*, 11, 33-47.
35. Holden, R. and Karsh, B. (2010). Technology Acceptance Model: its past and its future in health care. *Jorunal of Biomedical Informatics*, 43, 169-172.
36. Long, H. (2013). The relationships among learning orientation, market orientation, entrepreneurial orientation, and firm performance. *Management Review*, 20, 37-46.
37. López, L. and López, J. (2011). Information technology adoption models from the attitudinal paradigm. *Ebape*, 9, 176-196.
38. Manning, A. (2010). Development of the psychological climate scale for small business. *Journal of New Business Ideas & Trends*, 8, 50-63.
39. Medina, C. (2010). Organizational studies: between unity and fragmentation. *Moebio Strip*, 38, 91-109.
40. Molero Jurado, M., Pérez-Fuentes, M., & Gázquez Linares, J. (2018). Workplace bullying among nursing staff. *Enfermería Universitaria*, 13(2).
41. Molero, F., Recio, P., & Cuadrado, I. (2010). Transformational and transactional leadership: an analysis of the factor structure of the multifactor Leadership Questionnaire (MLQ). *Psicothema*, 22, 495-501.
42. Morales, A., Ariza, A., & Muñiz, N. (2012). The social entrepreneur and e-empowerment of social networks. *Journal of Public, Social and Cooperative Economy*, 75, 152-177.
43. Omar, A. (2010). Transformational leadership and job satisfaction: the role of trust in the supervisor. *Liberabit*, 17, 129-137.
44. Orantes, S. (2011). Viability of the Technology Acceptance Model in Mexican companies. An approach to the attitudes and perceptions of information technology users. *Revista Digital Universitaria*, 12, 1-15.
45. United Nations Educational, Scientific and Cultural Organization (2010) Education For All. Monitoring report. New York: UNESCO.

46. Padial Ortiz, O., & de la Iglesia Marí, M. (2012). Mobbing as a work-related disease. *Lan Harremanak - Journal of Labor Relations*, (7).
47. Prada, R. (2013). Adaptation to change and service: keys to leadership in improving productivity in organizations. *Journal of Advanced Leadership Studies*, 1, 45-50.
48. Ríos, M., Téllez, M. and Ferrer, J. (2010). Empowerment as a predictor of organizational commitment in SMEs. *Accounting and Administration*. 231, 103-125.
49. Rodríguez, A., Retamal, R., Lizana, J. and Cornejo, F. (2011). Job climate and satisfaction as predictors of performance: in a Chilean state organization. *Health and Society*. 2, 219-234.
50. Rojas, R., García, V. and García, E. (2011). The influence on corporate entrepreneurship of technological variables. *Industrial management & Data System*, 111, 984-1005.
51. Rojas-Solís, José Luis, Bernardino García-Ramírez, Brandon Enrique, & Hernández-Corona, Manuel Edgardo. (2019). Mobbing in university workers: A systematic review. *Purposes and Representations*, 7(3), 354-368.
52. Santos de Souza Gondim, L., & Silva de Souza Ribeiro, M. (2020). Cyberbullying in Latin America: a systematic review of the literature from 2012 to 2018. *PRA*, 20(26), 202-236.
53. Shrrrof, R., Denenn, C., & Ng, E. (2011). Analysis of the Technology Acceptance Model in examining student's behavioral intention to use an e-portfolio system. *Australasian Journal of Educational Technology*. 27, 600-618.
54. Sobrados, L. and Fernández, E. (2010). Entrepreneurial skills and development of the entrepreneurial spirit in educational centers. *Education XXI*, 13, 15-38.
55. Tayo, E. and Adeyemi, A. (2012). Job involvement & organizational commitment as determinants of job performance among educational resource center personnel. *European Journal of Globalization and Development Research*. 5, 301-313.
56. Teh, P, Chong, C, Yong, C., & Yew, S. (2010). Internet self-efficacy, computer self-efficacy, and cultural factors on knowledge sharing behavior. *African Journal of Business Management*. 4, 4086-4095.
57. Vargas, J. (2011). Work organization and job satisfaction: a case study in the footwear industry. *Nova Scientia Electronic Journal*. 4, 172-204.
58. Vargas, M., & Arenas, M. (2012). Entrepreneurial competencies in students of psychopedagogy at the Universidad Pedagógica y Tecnológica de Colombia. *Journal of Advanced Leadership Studies*, 1, 25-30.
59. Yáñez, R., Arenas, M., & Ripoll, M. (2010). The impact of interpersonal relationships on job satisfaction. *Liberabit*. 16, 193-202.
60. Yuangion, Y. (2011). The impact of strong ties on entrepreneurial intention. An empirical study based on the mediating role of self-efficacy. *Journal Entrepreneurship*, 3, 147-158.
61. Zampetakis, L., & Moustakis, V. (2013). Entrepreneurial behavior in the Greek public sector. *Emerald*, 13, 1-7.