Perceived Organizational Coherence Survey: Psychometric Properties in a Multicultural Sample

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Frequent changes in commerce, economy, technology, finance, and regulations demand from organizations arrangements that may trigger inner disruptive effects if employees do not identify its meaning and coherence. Therefore, coherence is becoming relevant in psychology, organizational theory, and management. The current research aims to define a conceptual framework to examine coherence perceptions in organizational settings and develop a psychometric instrument to assess them. With a sample of 2053 employees from companies in Spain, Mexico, and Colombia, and through confirmatory factor analysis, we found, according to hypotheses, a four factors model with good fit indexes. There was no convincing evidence of factorial invariance because a few items promoted this condition, although they may be modified to tune up the measure in each country. This conceptual approach and the instrument designed are novel options for looking into perceived organizational coherence.

Keywords: perceived organizational coherence, coherence judgment, structural coherence, practice - values coherence, human management coherence, authority coherence

INTRODUCTION

In changing organizational contexts, companies get used to modifying their strategies, structures, and policies to secure permanence and productivity. Such changes affect employees' perceptions and quality of working life (Sakdiyakorn et al., 2021). In this context, studying perceptions, attitudes, and feelings of people performing their jobs becomes a relevant endeavor for organizational and work psychology (Greco et al., 2022), since to survive and succeed, organizations need committed and aligned people with their objectives and strategies (Mrugalska & Ahmed, 2021). It is imperative not only accurate and evident

coherence among policies, strategies, and enterprise decisions but, critically, perception of such coherence on behalf of all stakeholders (Toro, 2018).

To achieve synchrony between a company's principles and practices and employees' and organization, the concept of coherence in organizational studies is becoming highly relevant. According to Costin and Vignoles (2020), people have the natural tendency to find meaning in life, and coherence perceptions become an important reducer of anxiety and stress from daily life at work. Research in psychology has considered the concept of coherence using different terms, like Self-Consistency Theory (Swann, 1983), Self-Discrepancy Theory (Higgins, 1987), or Emotional Coherence Theory (Thagard, 2002), being evident a noteworthy lack of consensus around a formal definition (Toro, 2020).

Something similar occurs in organizational literature. Despite the lack of conceptual concretion, the few applied studies in the field outline its relevance to the understanding of organizations. For instance, García and Ruiz (2007), in applied research in electronics and communications companies, evidenced that coherence among structure, processes, and strategies characterized competitive organizations. Leidwan and Mainardi (2010) studied cases of organizational success and found that the more successful companies accomplish greater coherence between their internal abilities and products offered to the market. In addition, Coning and Friis (2011) studied cases of success and failure in international and interinstitutional peace projects worldwide. They identified a close relationship between management coherence in processes and effectivity, efficiency and sustainability achieved by their projects.

Given the relevance of the findings mentioned and the scarce consensus about the meaning and measurement of coherence, becomes urgent in organizational psychology defining this concept in a precise and delimited way. This definition will make it possible to rely on a clear and accepted construct, necessary for researchers interested in its study, easing the development of theory, measurement, and assessment. It will also be easy to compare studies and understand their reach and effects on individuals, groups, and organizational behavior. The current research has a double purpose: to define a conceptual frame of reference for searching for coherence in organizational contexts and develop a psychometric instrument from a sample coming from three Hispanic countries.

THEORETICAL BACKGROUND

Several theories approach coherence using different terms. Self-Consistency (Swann, 1983) and Cognitive Dissonance (Festinger & Carlsmith, 1959) approach their issues as something related to coherence. The first understands consistency as a cognitive process by which a person achieves internal integration of ideas, attitudes, and feelings derived from experience and social interactions (English & Chen, 2011). Thus, personality becomes established, structured, steady, or changes. The Cognitive Dissonance Theory approaches dissonance as a lack of consistency or breakdown between cognitive elements, that produces tension. From our perspective, dissonance can be seen as a type of incoherence with motivational properties, provided it may promote actions aimed at restoring cognitive coherence through adaptive behaviors (Toro, 2020).

Afterward, Self-Discrepancy Theory focuses on the idea that discrepancies may occur as inconsistencies between the actual and ideal self, or what ought to be (Higgins, 1987). Inconsistencies may also arise between a personal perception of self and the vision of significant others. These potential discrepancies or incoherence may explain various emotional misfits and personality pathologies. Similarly, Thagard (2002) comes up with the Emotional Coherence Theory, asserting that when data or evidence are inconsistent, people tend to judge them from the higher possible consistency with their emotions, which happens because inferences about what one should do or believe are influenced not only by facts but for the emotional valence ascribed to those facts or data.

More recent inputs to this topic come from sources like Self-Verification Theory (Moore, Kim, Lee & Cable, 2017) and Coherence Theory (Gawronski & Strack, 2004; Mercier, 2012). The first considers coherence as an adaptive process consistent in that people seek to be or join contexts that permanently confirm their vision of themselves in order to feel consistent and adaptive. Likewise, Coherence Theory asserts that through space–temporal contiguity associations, people shape nets of primary cognitive

elements, thus integrating complex meanings about experience and reality. Thanks to this integration and consistency, it is possible to judge if something is true or false, right or wrong, convenient or bothersome (Gawronski & Strack, 2004; Mercier, 2012).

Studies from the psycho-physiology perspective deserve mention. In this vein, McCraty (2002, 2011) and McCraty & Zayas (2014) understand coherence as a mood or state of harmony, coordination, and synchronism among cardiovascular, endocrine, and nervous systems, that are autonomous but interdependent. Those integrated systems lay down consistencies with psychological states to promote a sense of balance, wellbeing, self-confidence, peace, and inner harmony. Coherent psychological states, in turn, trigger harmony and balance in the social contexts in which people behave. When equilibrium or consistency among those processes and states are disturbed, people undergo anxiety, stress, depression, and other psychological and behavioral drawbacks like addictions or suicide (Bullis, Bøe, Asnaani & Hofmann, 2014).

From a different perspective, an approach to organizational coherence asserts that the issue is not a psychological process but a property of social or labor life. It consists of a systemic, interdependent alignment of facts o doings whose coincidence offers order, integrates, coordinates, harmonizes, and allows to predict facts that originally were independent (Leon, 2009). Along the same line, Ramos and Jordao (2013) studied the relationship of work stress and perceptions of coherence between personal and organizational values of employees from public and private organizations. They found that the greater convergence or fit between values, the lower the stress levels in both types of organizations.

In macroeconomic analysis, Ennen and Richter (2009) revised a comprehensive sample of studies carried out in various types of organizations to explore conditions under which they could attain complementarity, understood as the effect produced by integrating different elements to the achievement of an outcome. When complementarity occurs, the product or outcome exceeds the sum of individual values delivered by each isolated element. The study concluded that the greater the complementarity, the better the functional design and organizational performance. In other words, a better coherence by using resources contributed positively to the performance of assessed organizations.

In an educational institution, Heggena and Terumb (2013) examined the relationship between coherence in the educational process and two results: students' future engagement with professional activity and professional identity. Findings displayed significant and positive correlation among coherence measures and assessed outcome criteria.

Consideration of described studies allows the appraisal of two common linkages among them. Firstly, the various theoretical approaches converge in the understanding of coherence as the fact of consistency and harmonic entailment of different elements, whose integration becomes necessary for perceptions of balance, understanding of reality, or adoption of adaptive behaviors. Secondly, coherence or incoherence has distinct dimensions, contexts, and expressions that make them complex to study and explain. In this regard, Toro (2018) suggests three levels of analyses of coherence: As a cognitive process searches for the entailment of various elements of information and their cognitive and behavioral effects; as a psychological state explores the harmonization among physiological processes, thoughts, emotions, behaviors, and their manifestations and outcomes, either personal or social; as a cultural feature searches for states of convergence among norms, believes, policies, practices, and other collective processes, such as organizational phenomena.

Toro (2015, 2018) outlines four central issues concerning the coherence concept and its relationship to their measurement in organizational contexts: (1) In known cases, only desirable outcomes occurred. (2) Studies assume coherence as the intentional convergence or integration of diverse elements that set up a synergy to favor desired concepts, outcomes, or effects. (3) Coherence in organizations is actively produced and should be managed, fostered, and kept. (4) It is a matter of degree and no of all or nothing. Departing from mentioned conceptual elements, we approached the design of a measurement instrument intended to identify diverse expressions or indicators of coherence in organizational contexts.

Coherence Judgment Concept

It is a subjective cognitive process that enables people to identify and value convergence and harmony of inner or outer realities (Gawronski y Strack, 2004; McCraty, 2011; Mercier, 2012). People may judge as coherent or incoherent something that it is not, which happens because judgments about the coherence of any reality include subjective assessments, based not only on facts and their context but also on meanings attributed by the person experiencing them (Toro, 2015). From the different studies mentioned earlier, we could appreciate that coherence is, rather than a property of facts, a thinking pattern that enables people to understand and assess whether particular facts are believable, trustworthy, and veracious, thus enabling people to behave consistently and adaptively (Toro, 2013, 2015, 2020). In this semantic context, we put forward the coherent judgment concept as:

> "Cognitive process by which people assess the degree to which diverse information elements articulate with each other according to an idea or integrating principle, or otherwise a unique element is consistent with such an idea or principle. It assesses the truthfulness, credibility, or reliability of facts and situations. This way of thinking represents the integration of elements of everyday experience with cognitive, affective, and behavioral traces left by previous experience, expectancies, and future interests. A coherence judgment has several properties: (1) subjectivity; (2) inclusion of contextual social, historical, and cultural elements; (3) capability to give personal sense to every experience; (4) supporting the personal sense of identity using, preserving, and integrating different life experiences; (5) securing a perception of personal congruence, and consistency of answers to environmental demands; (6) adaptation" (Toro, 2018, p. 42).

Survey Design Criteria

The survey design draws from the following criteria: (1) Provided that an organization is a complex social reality, it is necessary to adopt a conceptual model that allows a clear and differentiated vision of relevant analytical dimensions. (2) To achieve a measurement with relevant meaning in organizational psychology, the concept of coherence judgment should enable a specific approach to organizational reality. (3) To integrate those focal elements, drawing up items related to a specific dimension of organizational reality and coherence judgment. Thus, it will be possible to gain a measure of coherence as a cognitive phenomenon across all organizational processes. (4) It will be required to construct or elect an analytical model to identify and integrate relevant dimensions of organizational reality.

Proposal for Analysis of Coherence in Organizations

After considering different psychosocial models for organizational analyses, we found two proposals akin to the criteria described here. The first is the model suggested by Toro (2002) that considers five interrelated dimensions: Technological, Economic, Organizational, Social, and Personal. The other, by Bolman and Deal (2013), identifies four analytic frames: Structural, Human Resources, Political, and Symbolic. We adopted this second model because of its more general, inclusive, and distinct categories. Nevertheless, there is no evidence of quantitative coherence assessments in this realm. We offer below an overview of core ideas belonging to each frame.

Structural Framework

It concerns some principles that prompt and account for strategies and practices that evidence the way the organization is shaped:
- An organization's purpose is to reach goals by efficiently achieving outcomes.
- Achievement of efficiency and effectiveness needs process differentiation, which implies task specialization.
- A complementary integration strategy is also needed, achieved through coordination and control, whose purpose will be integrating elements created by the division of labor and specialization.

- Rationality in the management of workplace issues is prevalent.
- The structure design considers goals, technology, economic context, and personnel readiness.
- Failures and inefficiencies are a consequence of drawbacks in structural design.

We understand this dimension as a social device intended to secure the achievement of specific aims in an organized, coordinated, predictable, and efficient manner.

Human Resources Framework

Bolman and Deal (2013) put forward two central concepts to describe this framework: Humans and organizations have different but complimentary needs. Organizations need talent, competence, engagement, and loyalty from people, and people need pay, recognition, and opportunities for their labor and personal life. Such needs and interdependence demand fit between people and company, given that both entail diverse consequences. Understanding and handling these reciprocal needs are basic managerial tasks in human resources management.

Fit means setting up work conditions, relationships, economics, and opportunities to meet personnel's motivation. Authors suggest that fit happens according to how an organization becomes accountable for employees' needs and how working conditions allow the expression of abilities and people's productivity. Failures in this fit process cause impairments, conflicts, and counter-productive behavior. A permanent search for fit among employees' interests and those of the organization is central for optimum functioning.

Political Framework

Organizations are collectivities existing and functioning due to complex games of power and influence, diverse interests and political agendas, potential or actual conflicts, and coalitions and arrangements that, altogether, ascertain their dynamic and their success or failure (Bolman & Deal, 2013). In this context:
- Organizations are coalitions of diverse individuals and groups of power: employees, managers, shareholders, providers, and other interest groups differing in beliefs, values, information, interests, and perceptions of reality.
- The most important decisions involve the allocation of scarce resources and decisions about who obtains what.
- Scarce resources and permanent differences of opinion lead to conflict centrality in daily issues, and power becomes an essential strength to succeed.
- Targets, strategies, and decisions arise from negotiation.

Individuals and groups seek to balance their strengths or surpass their opponents to achieve what they look for, and alliances improve individual and collective power.

Symbolic Framework

According to Bolman and Deal (2013), the following assumptions describe this framework:
- The most important is not what happens but what it means to people and groups.
- Events and actions have as many interpretations as different ways of experiencing them have people from which uncertainty and ambiguity may stem.
- It becomes possible to solve the confusion, find a way, and support confidence through symbols.
- Events and processes are emblematic like myths, heroes, rituals, ceremonies, or stories. They help people find sense, enthusiasm, and emotion.
- All those elements become a part of the culture that links the organization, integrates people, and helps the company to reach its ends.

In brief, events, actions, practices, and other elements of the social and organizational environment band together with mindsets, visions, and collective senses that help interpret reality and legitimize behavior.

Variable Definition and Items Wording

We assumed four categories of realities to asses. In the wording of each item, we included two actual contents: (1) reference to facts inherent in the specific dimension and (2) reference to the person's perceived coherence. By doing so, we design a final survey with 34 selected items and the following variable definitions:

- Structural Coherence. Perception of consistency among person's behavior and demands of goals, job design, efficiency, productivity, or use of technology.
- Values and Praxis Coherence. Perception of consistency between customs and individual's behavior. Appreciation made of people at work. The symbolic framework incorporates various organizational cultural contingencies. Nevertheless, we favor perceived recognition and appreciation because it is particularly relevant for Hispanic people at work (Gelfand, Bhawuk, Nishit and Bechtold, 2004; Hofstede and Minkov, 2010; Toro, 1996, 2005).
- Human Resources Coherence. Perception of administrative processes or practices that foster fit between people's and organization's needs or interests.
- Power and Authority Coherence. Perception of consistency between events of authority, power, or influence and allocation of timely and fair resources to work.

Culture as Determining Factor

Cultural factors are scarcely considered when designing and validating organization measurement instruments (Nadeem, Kayani, and Nayab (2018). This consideration is relevant when designing surveys or tests in Spanish because countries differ significantly in economic, political, historical, and organizational cultures. Examples of such differences are accounted for by Hofstede and Minkov (2010) in a comparative analysis of organizational cultures in different countries and in the Study of Global Culture, Leadership and Organizations by House, Hanges, Javidan, Dorfman y Gupta (2004), where authors reported significant differences among Spain, Mexico and Colombia in Collectivism, Power Distance, Future Orientation, and Uncertainty Avoidance. It is imperative, therefore, to examine the differences in measurements provided by the new survey.

METHOD

Participants

A sample of 2053 participants from the cities of Almería (Spain) 60%, Tlaxcala (Mexico) 14% and Medellín (Colombia) 25% validly answer the survey. The only condition to participate was to have been linked to a formal job in a public or private organization during the last year, and were characterized as follows: Gender, female 50%, and male 50%. Age, between 18 and 30 years 48%, and over 31years 41%. Working experience, from 1 to 4 years 44%, from 6 to 10 years 15%, and more than 16 years 40%. Linked to public organization 30%, and to private 52% (Not reported by 18%). According to Power Analysis, a sample of 400 cases were suitable for $\alpha = .95$ in t Test and ANOVA.

Instrument

Exploratory Factor Analysis (EFA) conducted with the initial 46-items scale evidenced a four data-pooling, according to hypothesis in the theoretical frame of reference. Deficient items were removed or improve in the final version, with 32 items, and administered to the sample reported earlier. It was mainly formed by items containing positive statements related to work events and organization arrangements. Every dimension had a plural number of items to be valued according to an estimated frequency scale related to the judged issue.

Procedure

All people who voluntarily agree to participate received a link in their e-mail to access the survey. Participants found a written informed consent explaining the purpose of the research, use of collected information, confidentiality, anonymity, and liberty to interrupt participation at will, if decided.

Data Analysis

We conducted initially EFA and after items improvements, and by means of Statistics Program JASP (v 0.6), we verify the models fit by means of CFI, TLI, NFI, RFI y RMSEA indexes. We examine, then, the survey factorial invariance to check every construct equivalence among countries. According to Van de Schoot, Lugtig and Hox (2012), Configural Invariance explores whether different groups have the same factorial structure; Metric Invariance inspects if compared groups have equal factor loadings; Scalar Invariance values whether factor loadings and intercepts are similar among groups. We used Cronbach's Alpha to value reliability, and found values greater than .70, considered suitable (Bonett, & Wright, 2015).

RESULTS

Table 1 exhibits that each factor comprised highly consistent items with their own variable content, and according to definition. Each variable had item-test correlations according to variations in the ranks displayed in the Table 1 and Figure 1 (Total sample).
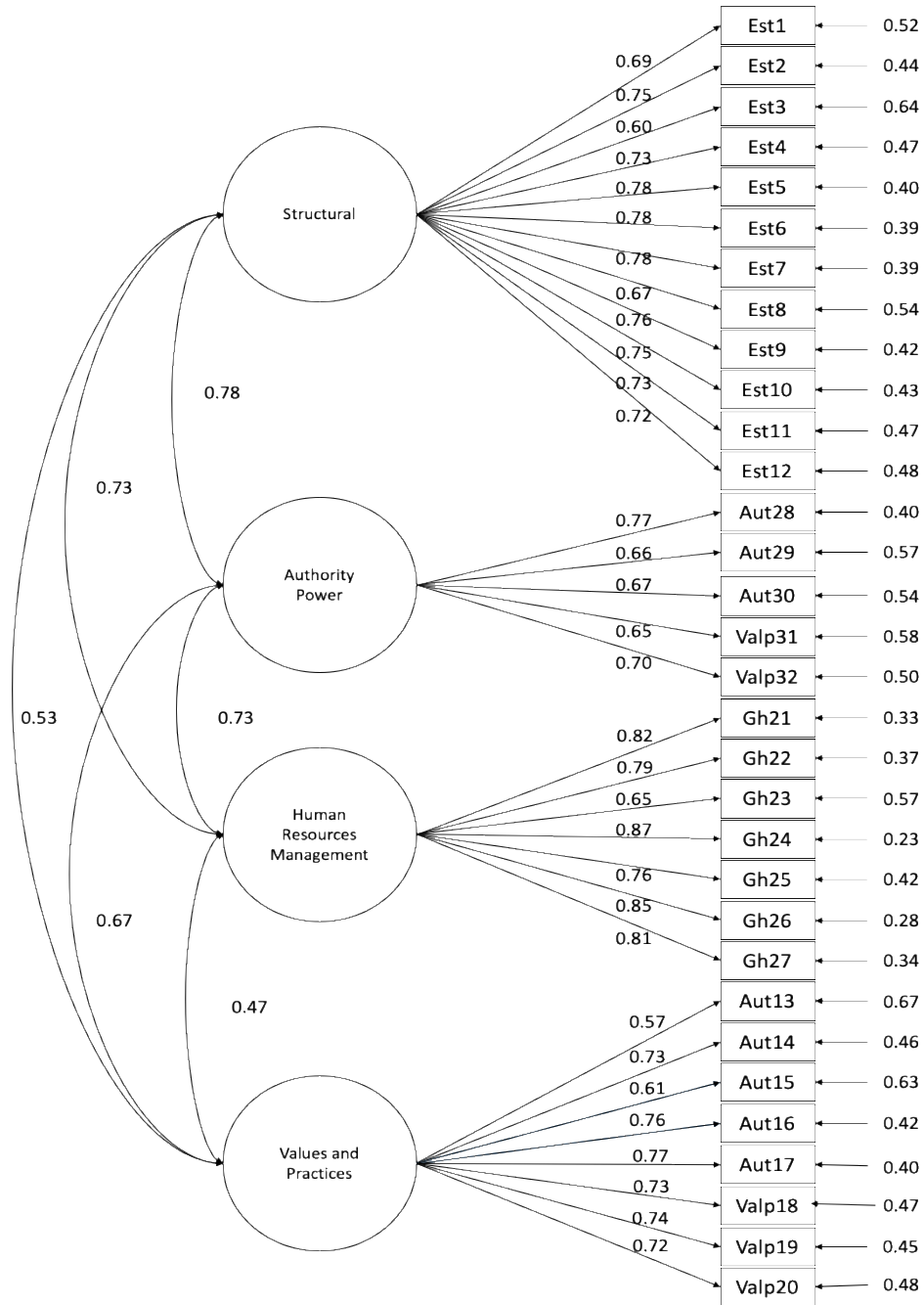
TABLE 1
ITEM -TEST CORRELATIONS RANKS AND ITEMS FACTORIAL LOADS
BY COUNTRIES

Factors	Items	Countries		
		Spain	Mexico	Colombia
Structural Coherence	1. Everybody knows how to coordinate with others their work activities.	.58	.70	.50
	2. Job activities are made looking to draw on well-available resources.	.69	.69	.56
r = .65 a .77	3. The job's ends complement my unit's other jobs.	.51	.56	.45
	4. In my unit is clear how each job contributes to achieving the aims of the company.	.62	.61	.52
	5. The jobs' tasks are defined considering the most outstanding possible efficiency.	.73	.67	.67
	6. Is clear the relationship between each one's job and the aims of their unit.	.66	.58	.57
	7. The jobs' tasks are done, giving effect to well-defined quality standards.	.75	.63	.64
	8. The jobs' tasks are done to maximize available technology.	.65	.65	.60
	9. Everybody knows how their job contributes to a specific process or product.	.69	.70	.56
	10. Jobs tasks are designed to take advantage of time better.	.73	.71	.65
	11. Everybody knows how different jobs are related to each other.	.66	.69	.63
	12. Supervisors coordinate the different jobs effectively in my unit.	.60	.74	.69

Values and Practices Coherence r = .65 a .75	13. Some people make life difficult for others. Inv	.73	.75	.62
	14. Some bosses impose their will on others. Inv	.83	.97	.85
	15. People are discriminated against because of gender, age, race, or sexual orientation. Inv	.61	.96	.39
	16. Differences of opinion turn here into disputes or discord. Inv	.81	1.03	.77
	17. Here, there are tensions and conflicts between groups. Inv	.84	1.10	.79
	18. Mistakes are more kept in mind than people's merits. Inv	.87	.78	.80
	19. Individualism is more encouraged than collaboration among people. Inv	.82	.78	.74
	20. Little sense or utility tasks are assigned to people. Inv	.76	.75	.65
Human Resources Coherence r = .68 a .82	21. My tasks allow me to use my knowledge well.	.80	.69	.66
	22. The tasks I carry out match well with my work interests.	.89	.72	.67
	23. There are work activities that make me feel engaged with my tasks.	.58	.58	.51
	24. My tasks allow me to use my abilities well.	.85	.74	.65
	25. My company's activities help me improve my performance.	.80	.74	.60
	26. The tasks I carry out let me use my work experience.	.86	.72	.67
	27. There are working aspects that encourage my professional improvement.	.92	.72	.65
Authority or Power Coherence r = .59 a 72	28. Bosses support their personnel at work.	.79	.69	.65
	29. Some people do things to facilitate the work of others.	.60	.54	.52
	30. Everybody here is treated the same despite having a different role.	.85	.68	.59
	31. The mission is disclosed for personnel to find meaning in work.	.65	.70	.56
	32. It is usual to communicate in due time to the staff essential issues.	.69	.77	.59

Note: Psychometric analyses performed to the Spanish version.

FIGURE 1
CFA OF THE FOUR-FACTORS MODEL, THE TOTAL SAMPLE

By means of CFA we assessed three models, being the third with the best fit indexes, as may be seen in Table 2.

TABLE 2
CFA FIT INDEXES OF THREE ALTERNATIVE MODELS, THE TOTAL SAMPLE

	Model	X^2	gl	p	CFI	TLI	RMSEA	NFI	RFI
1.	Four-factor initial model	8752.44	913	.000	.85	.84	.069		
2.	One-factor final model	11496.07	495	.001	.71	.69	.010	.71	.69
3.	Four-factor final model	2830,85	489	.001	.94	.93	.049	.93	.92

With the same procedure we assessed the third model again, separated by county. Table 3 displays fit indexes, having Spain the more satisfactory, followed by Colombia and then Mexico. These findings contrast with the ones obtained with the total sample (see Table 2), more satisfactory.

TABLE 3
CFA FIT INDEXES OF FOUR-FACTOR FINAL MODEL BY COUNTRIES

Country	X^2	df	p	CFI	TLI	RMSEA	NFI	RFI
Spain	1942.36	521	.001	.93	.92	.048	.91	.90
Mexico	1237.75	521	.001	.88	.87	.069	.81	.80
Colombia	1326.61	521	.001	.93	.93	.055	.89	.89

Fit indexes minimum values: Comparative Fit Index (CFI) >.90, Tucker-Lewis Index (TLI) >.90), Bentler-Bonett Normed Fit Index (NFI) >.90, Bollen's Relative Fit Index (RFI) >.90, Root Mean Square Error of Approximation (RMSEA) < .08 (Little, 2013) o < .05 (Browne & Cudeck, 1993).

Hereafter we examined factorial invariance, with findings displayed in table 4.

TABLE 4
TEST OF INVARIANCE AMONG COUNTRIES, FIT INDEXES

Invariance	X^2	gl	p	CFI	TLI	RMSEA	ΔX^2	Δ gl	Δ p	Δ CFI	Δ TLI	Δ RMSEA
Configural	4506.72	1563	<.001	.92	.92	.054						
Metric	4710.21	1623	<.001	.92	.92	.054	203.49	60	<.001	0	0	0
Scalar	5491.65	1683	<.001	.90	.90	.059	1281.44	60	<.001	.002	.02	.005

Factorial invariance analyses differed significantly in X^2 and degrees of freedom although not in the other fit indexes. Some authors consider that X^2 tends to reject reasonable models with big samples and fails to reject poor models with small samples (Kline, 2010; Millsap & Cham, 2012; Little, 2013). Obtained findings do not evidence invariance clearly. Because of that we examined possible differences among descriptive measures by means of ANOVA.

TABLE 5
DESCRIPTIVE STATISTICS OF COHERENCE FACTORS BY COUNTRY

Coherence	Spain		Mexico		Colombia	
	Mean	SD	Mean	SD	Mean	SD
Structural	4.04	.69	4.09	.70	4.50	.56
Human Resources	3.77	.86	4.06	.74	4.53	.63
Authority and Power	3.53	.83	3.13	.94	4.04	.73
Values and Practices	3.65	.80	3.63	.77	4.36	.62

To make sure of differences among countries in Structural Coherence, we calculated ANOVA, resulting $F(2,2) = 100.93$, $p = .001$, $\eta^2 = .06$, showing significant differences (see Figure 2) with a very small effect size. Similar results were obtained in Human Resources Coherence, $F(2,2) = 97.12$, $p = .001$, $\eta^2 = .12$ (see Figure 3); Authority Coherence, $F(2,2) = 112.21$, $p = .001$, $\eta^2 = .08$ (see Figure 4); Values and Practices Coherence, $F(2,2) = 113.12$, $p = .001$, $\eta^2 = .12$ (see Figure 5)
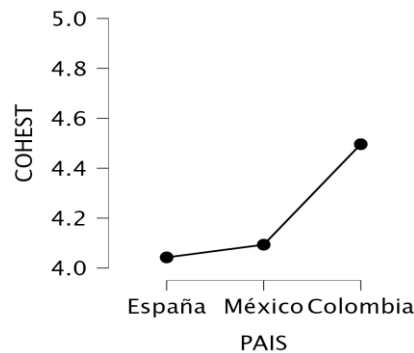
FIGURE 2
STRUCTURAL COHERENCE MEANS BY COUNTRIES

FIGURE 3
HUMAN RESOURCES MANAGEMENT COHERENCE MEANS BY COUNTRIES
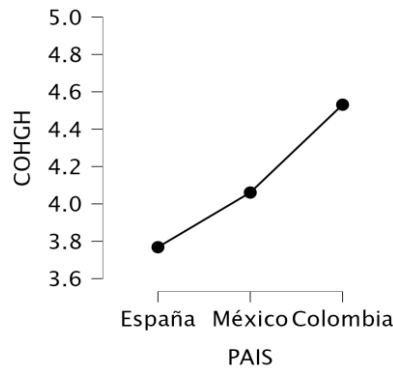
FIGURE 4
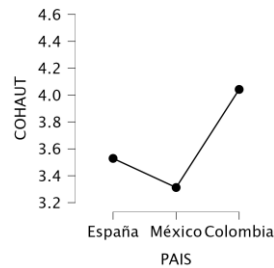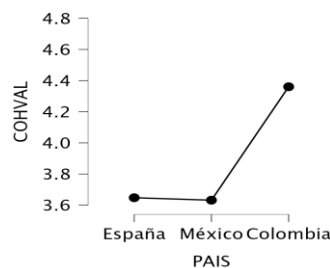**AUTHORITY AND POWER COHERENCE MEANS BY COUNTRIES**

FIGURE 5
VALUES AND PRACTICES COHERENCE MEANS DIFFERENCE BY COUNTRIES

Variance analyses reflect significant differences with small effect sizes, where data from Colombia slightly surpass the other two countries. Differences may be affected by sample sizes, provided that big samples tend to find significant small variance differences (Field, 2013). Nevertheless, previous analyses suggest that differences found do not support the measurement invariance among countries.

DISCUSSION

The theoretic Bolman and Deal's (2013) frames of reference provided support to four constructs used here to look at different coherence contexts in organizations. Such concepts do not deplete organizational complexity but allow the identification of relevant dimensions of companies functioning and, for the first time, the development of a way to measure perceived coherence in every one of these organizational categories of realities.

There is not up to day available information of studies assessing perceptions of coherence of such entrepreneurial realities. The current research advanced in this direction putting forward a formal concept of coherence, as a cognitive process by which people interpret and validate the meaning of what they see and experience at work. Such judgements are significant regulators of behavior, and adaptive answers to labor conditions (Toro, 2018). Available data suggest that the measure does not have the necessary invariance to use it without suitable local adaptation, although the majority of items were psychometrically wright in the three counties. Only few items may need contextual adaptation to the specific culture: in Spain items 20, 30; in Mexico 18,20; in Colombia 18, 20, 27

Results obtained do not necessarily represent these three countries organizational culture, although in the sample were represented diverse types of jobs, performed in different contexts and companies, that were not under the control of our research plan. In the case of complementary or following studies it is desirable to register and control contextual conditions like type of industry or business, organization size, geographic location and demographic variables like seniority, genre, age, or education. Such differentiations will allow better interpretations of results.

The Bolman and Deal's model includes in each frame a wide sample of organizational facts and realities. It was necessary the selection of a few facts to use as indicators of every frame, so that every outcome should be restricted to the content of factor's definition. The consideration of answers given to each item may help to reach the meaning of the obtained outcome. Later developments of this survey could identify sub-categories that allow the measurement of more specific issues in each frame.

The current study provided evidence of content and construct validity. New studies may measure other variables like psychological wellbeing, organizational climate, organizational citizenship behavior, counter-productive behavior, commitment or engagement, burnout, boredom, job satisfaction, job performance, leadership or organizational productivity. New studies may help discover how coherence perceptions can be related to, be precursors, or even consequences of those psychosocial issues. Based on such results it is also possible to identify strengths or weaknesses that can inspire intervention or improvement strategies, if necessary. For now, the actual conditions of this survey also allows an initial approach to exploring levels of perceived coherence on behalf of diverse stakeholders, with reference to four key aspects of working life and organizational functioning.

REFERENCES

Bolman, L.G., & Deal, T.E. (2013). *Reframing Organizations. Artistry, Choice & Leadership* (5 Edition). San Francisco, CA: Jossey-Bass

Bullis, J.R., Bøe, H.J., Asnaani, A., & Hofmann, S.G. (2014). The benefits of being mindful: Trait mindfulness predicts less stress reactivity to suppression. *Journal of Behavior Therapy and Experimental Psychiatry*, *45*(1), 57–66. https://doi.org/10.1016/j.jbtep.2013.07.006

Coning, C., & Friis, K. (2011). Coherence and Coordination. The Limits of the Comprehensive Approach. *Journal of International Peacekeeping*, *15*, 243–272. Retrieved from http://archives.cerium.ca/IMG/pdf/coning.pdf

Costin, V., & Vignoles, V.L. (2020). Meaning is about mattering: Evaluating coherence, purpose, and existential mattering as precursors of meaning in life judgments. *Journal of Personality and Social Psychology*, *118*(4), 864. https://doi.org/10.1037/pspp0000225

English, T., & Chen, S. (2011). Self-concept consistency and culture: The differential impact of two forms of consistency. *Personality and Social Psychology Bulletin*, *37*(6), 838–849. https://doi.org/10.1177/014616721140062

Ennen, E., & Richter, A. (2009). The Whole Is More Than the Sum of Its Parts - Or Is It? A Review of the Empirical Literature on Complementarities in Organizations. *European Business School Research Paper*, Series 09–07. Retrieved from https://mpra.ub.uni-muenchen.de/15666/

Field, A. (2013). *Discovering Statistics Using IBM SPSS Statistics* (3rd Ed.). Sage.

García, P.M., & Ruiz, M.J. (2007). Configuraciones organizativas en sectores dinámicos y hostiles: Adecuación al contexto sectorial, coherencia interna y resultados. [Organizational configurations in dynamic and hostile sectors: Adequacy to sectorial context, inner coherence and results]. *Cuadernos de Economía y Dirección de la Empresa*, *10*(32), 111–147. http://doi.org/10.1016/S1138-5758(07)70093-2

Gawronski, B., & Strack, F. (2004). On the propositional nature of cognitive consistency: Dissonance changes explicit, but not implicit attitudes. *Journal of Experimental Social Psychology*, *40*(4), 535–542. https://doi.org/10.1016/j.jesp.2003.10.005

Gelfand, M.J., Bhawuk, D.P., Nichii, L.H. & Bechtold, D.J. (2004). Individualism and Collectivism. In R.J. House, P.J. Hanges, M. Javidan, P.W. Dorfman, & V. Gupta, *Culture, Leadership, and Organizations. The GLOBE Study of 62 Societies*. Sage.

Greco, L.M., Porck, J.P., Walter, S.L., Scrimpshire, A.J., & Zabinski, A.M. (2022). A meta-analytic review of identification at work: Relative contribution of team, organizational, and professional identification. *Journal of Applied Psychology*, *107*(5), 795–830. https://doi.org/10.1037/apl0000941

Guzmán, M., Rivera, D., Garrido, L., Contreras, P., & Yárnos, S. (2019). Estructura factorial, invarianza métrica y propiedades psicométricas de la versión chilena del cuestionario de perdón a la expareja. [Factorial Structure, Metric Invariance and Psychometric Properties of the Chilean Version of the Questionnaire of Forgiveness of the Former Partner]. *Revista Iberoamericana de Diagnóstico y Evaluación*, *52*(3), 41–52. https://doi.org/10.21865/RIDEP52.3.04

Heggena, K., & Terum, L.I. (2013). Coherence in professional education: Does it foster dedication and identification? *Teaching in Higher Education*, *18*(6), 656–669. https://doi.org/10.1080/13562517.2013.774352

Higgins, E.T. (1987). Self-Discrepancy: A Theory Relating Self and Affect. *Psychological Review*, *94*(3), 319–340.

Hofstede, G., & Minkov, M. (2010). *Cultures and Organizations. Software of the mind* (3rd Ed.). New York: McGraw-Hill.

House, R.J., Hanges, P.J., Javidan, M., Dorfman, P.W., & Gupta, V. (Eds.). (2004). *Culture, Leadership, and Organizations. The Globe Study of 62 Societies*. Sage.

Kline, R.B. (2010). *Principles and practice of structural equation modeling* (3rd ed). New York: Guilford Press.

Leindwan, P., & Mainardi, C. (2010). The Coherence Premium. *Harvard Business Review*, pp. 1–8.

León, F.J. (2009). La lógica de los trabajadores. Un estudio sobre la racionalidad, la autonomía y la coherencia de las prácticas y los significados de los trabajadores. [Workers logic. Study on workers rationality, autonomy and coherence of practices and meanings]. *Revista Internacional de Sociología*, *67*(1), 135–160. https://doi.org/10.3989/ris.2009.i1.125

Little, T.D. (2013). *Longitudinal Structural Equation Modeling*. New York: The Guilford Press.

McCraty, R. (2011). Coherence: Bridging personal, social and global health. *Activitas Nervosa Superior Rediviva*, *53*(3), 85–102.

McCraty, R., & Childre, D. (2002). *The appreciative heart: The psychophysiology of positive emotions and optimal functioning*. Boulder Creek, CA: HeartMath Research Center, Institute of HeartMath, Publication No. 02-026. https://10.1093/acprof:oso/9780195150100.003.0012

McCraty, R., & Zayas, M.A. (2014). Cardiac coherence, self-regulation, autonomic stability, and psychosocial well-being. *Frontiers in Psychology*, *5*(1090), 1–13. https://10.3389/fpsyg.2014.01090

Mercier, H. (2012). The social functions of explicit coherence evaluation. *Mind and Society*, *11*(1), 8192. https://doi.org/10.1007/s11299-011-0095-4

Millsap, R.E., & Cham, H. (2012). Investigating factorial invariance in longitudinal research. In B. Laursen, T.D. Little & N.A. Card (Eds.), *Handbook of developmental research methods* (pp. 109–126). New York, NY: Guilford Press.

Moore, C., Kim, K., Lee, S.Y., & Cable, D.M. (2017). The Advantage of Being Oneself: The Role of Applicant Self-Verification in Organizational Hiring Decisions. *Journal of Applied Psychology*, *102*(11), 1493–1513. https://org/10.1037/apl0000223

Mrugalska, B., & Ahmed, J. (2021). Organizational agility in industry 4.0: A systematic literature review. *Sustainability*, *13*(15), 8272. https://doi.org/10.3390/su13158272

Nadeen, S., Raza, M., Kayani, N., Aziz, A., & Nayab, D. (2018). Examining cross-cultural compatibility of high-performance work practices. *International Business Review*, *27*(3), 563–583. https://doi.org/10.1016/j.ibusrev.2017.10.006

Ramos, V., & Jordao, F. (2013). Are Public Workers More Stressed Than Private Workers? The Relationship Between Work Stress and Value Congruence. *Psychology Research*, *3*(7), 396–408. https://doi.org/10.17265/2159-5542/2013.07.005

Sakdiyakorn, M., Golubovskaya, M., & Solnet, D. (2021). Understanding Generation Z through collective consciousness: Impacts for hospitality work and employment. *International Journal of Hospitality Management*, *94*, 102822. https://doi.org/10.1016/j.ijhm.2020.102822

Swann, W.B., Jr. (1983). Self-verification: Bringing social reality into harmony with the self. In J. Suls & A.G. Greenwald (Eds.), *Social psychological perspectives on the self* (Vol. 2, pp. 33–66). Hillsdale, NJ: Erlbaum.

Thagard, P. (2002). Coherence in Thought and Action. *Psychology*, pp. 1–13. Retrieved from http://books.google.com/books?id=Px0vctI8eGQC

Toro, F. (1996). *Motivos, Intereses y Preferencias de Empleados y Gerentes. Diferencias Individuales*. [Motives, interests, and preferences of employees and managers. Individual differences]. Medellín: Cincel

Toro, F. (2002). *Desempeño y Productividad. Contribuciones de la Psicología Ocupacional*. [Performance and productivity. Occupational Psychology contributions] (2 Ed). Medellín: Cincel.

Toro, F. (2005). Liderazgo Organizacional. Objeciones y quejas sobre el Apoyo del Jefe. [Organizational leadership. Objections and complaints about boss's support]. *Revista Interamericana de Psicología Ocupacional*, *24*(1, 2), 46–59.

Toro, F. (2013). Coherencia. In F. Toro, & A. Sanín (Eds.), *Gestión del Clima Organizacional. Intervención basada en evidencias*. [Organizational climate management. Evidence based intervention]. Medellín: Cincel

Toro, F. (2015). Reflexión sobre subjetividad y juicios de coherencia en el trabajo. [Reflection on subjectivity and coherence judgments at work]. *Revista Interamericana de Psicología Ocupacional*, *34*(2), 93–107. https://10,21772/ripo.v34n2a03

Toro, F. (2018). *Juicios de Coherencia en el Contexto Organizacional. Aportes para una Teoría de la Coherencia en las Organizaciones*. [Coherence judgments in organizational context. Inputs for a theory of coherence in organizations]. Doctoral Dissertation, Universidad de Puerto Rico.

Toro, F. (2020). Coherence and Dissonance: A New Understanding in Management and Organizations. *Psychology*, *11*(5), 748–762. https://10.4236/psych.2020.115051

Toro, F., Londoño, M.E., Sanín, A., & Valencia, M. (2010). Modelo analítico de factores psicosociales en contextos laborales. [Analytic model of psychosocial factors in job contexts]. *Revista Interamericana de Psicología Ocupacional*, *29*, 95–137.

Van de Schoot, R., Lugtig, P., & Hox, J. (2012). A checklist for testing measurement invariance. *European Journal of Developmental Psychology*, *9*(4), 486–492. https://doi.org/10.1080/17405629.2012.686740