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Informal Institutions and Leadership Behavior: A Cross-Country Analysis

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Abstract

In today's increasingly turbulent environment, recognition of the institutional differences between countries is needed for the development of leaders. Although the current debate has evolved to more complex levels, knowledge about personal leadership and sociocultural context is still underdeveloped. This chapter attempts to empirically examine the effects of informal institutions on leadership using panel data models. Through a sample of a balanced panel, with data from 67 observations and 35 countries, we show that institutions such as tolerance, creativity, social capital and responsibility have a positive effect on leadership behavior, while other informal institutions (e.g. power) have a negative effect. From a conceptual standpoint, it is argued that informal institutions are relevant to understand differences in leadership, considering that values, beliefs and behaviors may determine the social desirability of being a leader in one country or another. The study has also practical implications regarding education and business, in terms of promoting institutional factors to have more developed societies.

Keywords: leadership, informal institutions, sociocultural factors, self-leadership

1. Introduction

Leadership is a decisive factor for growth, when seen as the capacity to lead ourselves and others [1]. In recent years leadership development has taken on far greater importance [2–4], highlighting a growing interest in self-concept or identity in leadership [5]. Identity is defined as the culmination of an individual's values, experiences and self-perceptions [6]. Despite its importance, very few empirical studies have combined the effect of an individual's values, experience and attitudes on the ability to lead, and even fewer studies have attempted to address this effect in different development contexts [7, 8]. Bass and Bass [9] point out the need to pay more

attention to promoting and encouraging more empirical studies on leadership across cultures, considering differences in institutions, national styles, culture and performance.

Hence, this chapter empirically examines the influence of informal institutions on leadership, and especially on self-leadership. We use institutional economics [10, 11], focusing on the sociocultural approach that captures the influence of attitudes, values and norms on human behavior. The set of hypotheses proposed are assessed through a panel data model, which uses information from the World Values Surveys, International Monetary Fund and the World Bank. Throughout a sample of 67 observations from 35 countries in two waves (5-2005-2008 and 6-2010-2012), we find that tolerance, creativity, social capital and responsibility have a positive effect on leadership behavior, whereas greater power affects negatively leadership. This study contributes theoretically by extending the domain of institutional economics to the field of leadership behavior. Additionally, other managerial implications can be derived from our results. In this regard, firms and society might be interested in fostering features such networks cohesion, diversity and tolerance, creativity and responsibly managed ambitious.

Apart from this introduction, the chapter begins by discussing the relationship between institutions and leadership. The chapter then provides information on the data and our analytical approach. Results are presented for a series of models where informal institutions are the key independent variables. Finally, the conclusions consider the implications of our findings, discus potential limitations and suggest some areas for further research.

2. Theory and hypotheses development

One way of thinking about leader development is to consider self-concept or identity in leadership [12, 13]. This idea has great potential because identity transcends one-dimensional approaches such as behavioral or trait theories [5]. Self-concept or identity has also been associated with self-management in this way [14] and also self-leadership. Self-leadership is defined as "a process through which individuals control their own behavior, influencing and leading themselves through the use of specific sets of behavioral and cognitive strategies" ([15]: 270). This approach emphasizes attributes of leaders such as personality, motives, values and skills [14]. People who possess good self-leadership qualities know how to achieve high levels of self-direction and self-motivation [16]. Leadership research has noted the importance of individual identity in developing leadership skills and expertise as part of the leader development process [17]. Identity is important for leaders because it grounds them in understanding who they are, their major goals and objectives and their personal strengths and limitations [18]. Similarly, other research approaches have examined the cognitive and metacognitive skills at the core of leadership potential [19], as well as patterns of leadership skills [20]. All these approaches, involving skills, experience, learning and personality, are central to the notion of developing the expert leader [17, 18]. The literature generally considers as to how cultures and values influence leadership [21]. Schumpeter [22] predicted that leadership styles are dependent on a manager's adherence to certain values. Acknowledgement of the role of personal and cultural values is essential in order to understand the effectiveness and influences of management leadership style, particularly in cross-cultural settings [8]. Hundreds of studies have shown that a country's culture helps to explain leadership con-

struals (e.g. [23, 24]), leader behavior (e.g. [25]), relationships between leader behavior and behavioral consequences (e.g. [23]), and so forth. Evidence also indicates that leadership is associated with cultures and countries in unique combinations [8]. Alvesson and Willmott [26] argue that identity is actively created by the environment. The importance of the context in the construction of identity is of great importance in leadership [7].

Various theories and methods of institutional analysis are used in the different branches of the social sciences [27]. A basic premise in research on international management is that organizations are embedded in country-specific institutional arrangements that differ from country to country [28]. Leadership and management have rarely been associated with the institutional approach, however, although some of its roots are related to this perspective [29]. Drucker's earliest managerial work discusses the emergence and the importance of management as an institution [30]. Drucker recognizes the role of informal institutions as cultures, practices and values. We consider it appropriate to address this research from an institutional perspective in the light of this literature. North ([11]: 3) proposed that "institutions are the rules of the game in a society, or more formally, institutions are the humanly devised constraints that shape human interaction." Institutions can be either formal (such as political rules, economic rules and contracts) or informal (such as codes of conduct, attitudes, values, norms of behavior and conventions), reflecting the culture of a society. In this sense, "informal institutions are a part of the heritage that we call culture" ([11]: 37). Informal institutions change very slowly compared with formal institutions [31]. The values that a person is committed to are deeply rooted in their social and the sociocultural background [32]. Given the importance of culture in defining the identity of, and the aspiration to be a leader, the focus of this study based on North [11, 12] is the informal institutions that affect leadership across countries.

2.1. Informal institutions and leadership

Recent findings suggest small but significant relationships between values, attitudes, cognitive ability with leadership emergence and effectiveness [33–37] with leadership styles [37] and also with exceptional global leadership [38]. In this chapter, we focus on tolerance, social capital, creativity, power and responsibility as informal institutions that influence the determination to be a leader. These informal institutions have been included in important leadership studies and culture studies, such as the World Values Survey and Schwartz Value Survey, and have also been related in the Big Five personality model [39], which provided an adequate structure for the socio-emotional roots of leadership [35, 40].

2.1.1. Tolerance and leadership

The extant literature shows that tolerance is associated with managerial effectiveness [9]. Effective problem solving requires an ability to remain calm and stay focused on a problem. In addition to making better decisions, a leader with high tolerance is more likely to stay calm and provide confidence [14]. The opposite of this variable is neuroticism, in the Big Five factors structure of personality, and this has been positively correlated with anxiety and negatively correlated with leadership effectiveness [35]. Tolerance is especially important for executives who must deal with adverse situations. Kajs and McCollum [41] summarized the relationship between a tolerance of ambiguity and various positive leadership behaviors. The major characteristics displayed by

leaders who tend to be better at tolerating ambiguity include: being collaborative and receptive to working in a cross-cultural environment, having a tolerance for failure, taking risks and self-monitoring. The ability to identify and regulate the emotions of oneself and others is a critical skill for leadership [42, 43]. Tomkins and Simpson [44] argue that the idea of caring leadership is related to tolerance. This involves taking responsibility, balancing the need for a certainty of outcome and visibility of contribution, with the desire to encourage and enable others. It involves tolerance of complexity and ambivalence. Yao et al. [45] related complex situations and levels of stress with transformational leadership. Based on this theory the following hypothesis is presented:

H1. Favorable attitudes toward tolerance have a positive impact on leadership.

2.1.2. Social capital and leadership

Leadership could be understood as "social capital that collects around certain individuals" ([46]: 421). Leadership development is based on the development of social capital by "expanding the collective capacity of organizational members to engage effectively in leadership roles and processes" ([3]: 582). Social capital involves the relationships between individuals and organizations that facilitate action and create value [47, 48]. Leaders usually belong to more groups than do followers, and the effects of a leader's outside connections are well known [9]. McGowan et al. [49] explored the influence of social capital on entrepreneurial business leaders. Empirical support is strong for the idea that social networks contribute to a manager's strategic influence [50], and help them to leverage organizational resources for innovation [51], work engagement [52] and performance [53]. Other studies have suggested that social capital is related to transformational leadership (e.g. [54]). In the wider literature, social capital has been seen as one of the key factors in leadership development [3], and thus, the following hypothesis is formulated:

H2. Higher social capital has a positive influence on leadership.

2.1.3. Creativity and leadership

Creativity, the generation of new ideas, and innovation, the translation of these ideas into new products or services [55], have become critical concerns in most organizations [56]. Creative thinking skills have been associated with leadership in generating ideas [57], and also with leader performance [58]. Phelan and Young [59] specifically point out the importance of creative self-leadership, which refers to a reflective internal process by which an individual consciously and constructively navigates their thoughts and intentions toward the creation of desired changes and innovations. Creativity has shown significant relationships between self-leadership [59], transformational leadership [60, 61] and authentic leadership [62]. Creativity has also been widely investigated in different contexts. Also, recent studies have reported a significant relationship between leadership and creativity in China (e.g. [63]), India (e.g. [64]), Norway (e.g. [65]) and South Korea [66]. Thus, we formulate the following hypothesis:

H3. Favorable attitudes toward creativity have a positive influence on leadership.

2.1.4. Power and leadership

Podsakoff and Schriesheim [67] have pointed out that the French and Raven taxonomy is the most widely accepted conceptualization of power. This taxonomy included the coercive

power-threat of punishment; reward power-promise of monetary or non-monetary compensation; legitimate power-drawing on one's right to influence; expert power-relying on one's superior knowledge and, referent power based on the target's identification with the influencing agent [68]. Power can be associated with social power, social status, prestige authority, wealth and preserving public image [69]. Many definitions of power involve the ability of one actor to overcome resistance in achieving a desired result. The ability to control others is important and power will be actively sought through the dominance of others, and control over resources [70]. Lockyer and McCabe [71] explored the dysfunctional consequences of the use of fear by leaders. There is considerable agreement in the psychotherapy literature that particular values as power are detrimental. For example, Strupp [72] explained that values of power, conformity, tradition and security are often considered unhealthy values. In contrast, values such as autonomy, responsibility and fairness to others are considered healthy values for leadership. Schwartz [69] found that power values correlated negatively with life satisfaction. In fact, servant leadership theory [73] rejects power as a genuine value of leadership. According to the previous literature the following hypothesis is formulated:

H4. Greater power has a negative influence on leadership.

2.1.5. Responsibility and leadership

Various studies found responsibility to be related to leadership. Leadership were seen to rate somewhat higher than followers on dependability, trustworthiness and reliability in carrying out responsibilities. A significant correlation has been found between conscientiousness and leadership [9]. Generally, leaders perceive their responsibilities to be broader and more far-reaching than other group members [74]. Individuals high in personal initiative and responsibility have a need to develop their own goals and to proactively shape the future, even in the face of substantial resistance [34]. One approach related to this concept involves the internal locus of control. People with a strong internal locus of control orientation believe that events in their lives are determined more by their own actions than by chance or uncontrollable forces. Research suggests that a strong internal locus of control is positively associated with managerial effectiveness [14]. Voegtlin [75] considered responsibility an important dimension of leadership. Based on this theory the following hypothesis is presented:

H5. Favorable attitudes toward responsibility have a positive influence on leadership.

2.2. The moderating role of the level of development on the relationship between informal institutions and leadership

Hofstede [23] consistently tested for the moderating effect of wealth or economic development between his cultural dimensions and many types of outcomes [8]. National wealth has been seen as an integral part of a country's culture [76]. Many studies take the view that gross national product per capita is a reflection of a society's natural resources, as well as its effectiveness in managing its external adaptation and internal integration challenges [77]. National wealth has a reinforcing effect that can help facilitate the relationship between culture or informal institutions, and other national features. Signals can thus be seen for successful and failed nations. Peters [78] suggested a number of determinants which signal nations that fail. These determinants are related to the informal factors analyzed in this study: the subjugation of women (related to tolerance);

restriction on the free flow of information (related to social capital); low value of education and innovation (related to creativity); domination by a restrictive religion, family or clan (related to power) and inability to accept responsibility, and low prestige attached to work (related to responsibility). Leadership development is handicapped by these same national sings [79].

Increasing development and increasing complexity tend to propel societies in the direction of higher income, better education, and more political and economic participation [80], as well as smaller power distances in organizations [24]. These elements of more developed and advanced societies tend to empower subordinates, and thus makes top-down decision making and close supervision in organizations less important and less effective [24, 80]. It has been suggested that some kinds of leadership, such as autocratic, will be seen as less effective and attractive in richer countries [81]. Hofstede [24] consistently tested the effect of economic and social conditions on the structure and functioning of a country's institutions or a country's identity; however, there have been few studies considering the moderating role of contextual factors in leadership [82]. Thus, the following hypothesis is formulated:

H6. The level of development of countries will positively moderate the relationship between informal institution and leadership behavior.

3. Methodology

3.1. Data and variables

Data for this study were taken from the World Values Survey (WVS) worldwide network of social scientists focused on the study of the changing values. Six waves of the WVS have been published that enquire into the basic values and attitudes of individuals, and thus this database is an excellent proxy for informal institutions. Following Inglehart and Baker [83], who analyzed aggregated nation-level data and carried out three waves of representative national surveys, we used data from the most recent WVS data bases, Wave 5 (2005–2008) and Wave 6 (2010–2012). These databases also contain the greatest number of countries with data in two or more periods of time. Our final sample consists of a balanced panel, with data from 67 observations and 35 countries.

3.1.1. Dependent variable

This variable was measured with an item in the WVS that represents leadership. This variable collects the degree of self-control and freedom, an important prerequisite for self-leadership [9]. Freedom or autonomy is related to identity and leadership [84] in order to consider that the freedom or the autonomy of the actor is the origin and the destination of their action [85]. This variable is measured by country using a Likert scale (1 = "none at all" to 10 = "a great deal of choice").

3.1.2. Independent variables

Five independent variables were considered in this study. These variables are in line with the Schwartz dimensions for studying informal institutions. Schwartz [71] used the 'Schwartz Value Inventory' (SVI) for a wide survey of over 60,000 people to identify common values that

acted as 'guiding principles for one's life'. Informal institutions were operationalized through tolerance, social capital, creativity, power and responsibility, as follows. *Tolerance*: Percentage of individuals in a country who define tolerance as an important quality. *Creativity*: The respondents were questioned about the importance of coming up with new ideas and being creative, and doing things in one's own way. This variable measures the scale by country using a Likert scale (1 = "not like me" to 10 = "very much like me". *Social capital:* Percentage of respondents who belong to a professional organization by country. *Power:* The respondents were asked about the importance of being rich, having a lot of money and expensive things. This variable measures the scale by country using a Likert scale (1 = "not like me" to 10 means "very much like me"). *Responsibility*: Percentage of individuals who define hard work as an important quality, by country.

3.1.3. Control variables

Although we were interested in developing an institutional model, other factors may also influence leadership behaviors. Control variables were included to ensure that the results were not unjustifiably influenced by such factors: education level, the gross domestic product (GDP) at purchasing power parity (PPP), labor force and control of corruption. The data was obtained from the WVS. *Education*: While the level of education and the leadership have been positively associated [86], there are few studies that have used education as a demographic variable in their examination of leadership. Vecchio and Boatwright [87] found that persons with higher levels of education and greater job tenure expressed less preference for leadership structuring (task-oriented behaviors). This control variable was obtained from WVS and was controlled through elementary education. *Gross domestic product (GDP) at purchasing power parity (PPP) per capita* was a measure of the development of countries. Leadership is strongly correlated with wealth and other indices of socioeconomic status [88]. The data source used for the GDP-PPP variable was the International Monetary Fund World Economic Outlook database. *The labor force participation rate* is the proportion of the population aged 15–64 that is economically active: all people who supply labor for the production of goods and services during a specified period. The source of this variable was the International Labour Organization's Key Indicators of the Labour Market Database. *Control of corruption:* This indicator captures perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as the "capture" of the state by the elite and private interests. Values were between −2.5 and 2.5 with higher scores corresponding to better outcomes of institutions [89].

3.2. Statistical procedures

In this study, given the availability of data, we started with the simplest approach to analyzing panel data, a pooled regression, which omits the dimensions of space and time of the data, calculating an ordinary least squares regression. We therefore propose the following general model:

$$Leadership_{it} = \alpha + \beta_1 \, III_{t-1} + \beta_2 \, CVi_{t-1} + \varepsilon_{it};$$ (1)

where i is county and t is time; III_{t-1}: matrix of informal institutions in country i in year t; CVi_{t-1}: matrix of the control variable in country i in wave t. Specifically, we estimated random

and fixed-effects models and we used the Hausman specification test [$X^2(7)$ = 30.73, Prob > X^2 = 0.0003] in order to verify the choice of the fixed- or random-effects model. The test suggested the use of the fixed-effects specification. We have corrected heteroskedasticity, estimating with feasible generalized least squares (FGLS).

4. Results

4.1. Descriptive statistics

Table 1 presents the descriptive and summary statistics for our measures. Some variables proved to be highly correlated, and therefore we also conducted a diagnostic test of multicollinearity (examining the variance inflation factors (VIFs) of all variables in the analyses and found that it was not likely to be a problem in this dataset. The VIFs were lower than 2.6 which is far from 5. A value of 5 indicates that a problem of multicollinearity may arise [90].

4.2. Test of hypotheses

In **Table 2**, we present the results of linear regressions with feasible generalized least squares (FGLS). Model 1 includes all the countries considered in the sample, Models 2–6 include interactions between informal institutions and the income of the counties. The Wald Chi square tests suggest that all the models are significant (p < 0.001) and have high explanatory power, explaining well over 60% of the variance of leadership. As expected, all informal factors are related to leadership behavior.

Hypothesis 1 suggests that the level of tolerance has a positive and significant effect on leadership behavior. Findings support Hypothesis 1. Hypothesis 2 suggests that social capital has a significant and positive influence on leadership. Our results support Hypothesis 2. Creativity shows a positive and significant relationship with leadership, supporting Hypothesis 3. On the other hand, as we expected, power value has a negative impact on leadership, supporting Hypothesis 4, and finally responsibility has a significant and positive influence on leadership behavior, supporting Hypothesis 5. Control variables such as low education have a significant negative impact on the dependent variable. Many studies have demonstrated that education made a difference in leadership [40, 86]. Finally, GDP-PPP has a positive significant impact on leadership. Scholars have typically argued that economic factors play a causal role in personal behavior [91]. Labor force participation has a positive effect on the dependent variable. On the other hand, the control of corruption shows counterintuitive results.

Hypothesis 6 proposed that the level of a country's development positively moderates the relationships of informal institutions with leadership behavior. Model 2 showed the interaction effect between development and tolerance. The coefficient was positive and statistically significant for tolerance, social capital, creativity and responsibility as we expected, and the coefficient of power was negative and significant. Although the main effect of tolerance was positive, the interaction of tolerance and level of development on leadership was negative and statistically significant (p < 0.001). The interaction terms show that while the level of development decreases,

Variable	Mean	Std. dev.	1	2	3	4	5	6	7	8	9
1. Leadership	7.136	0.721									
2. Tolerance	0.706	0.128	0.388***								
3. Social capital	0.054	0.046	0.275**	0.214*							
4. Creativity	4.232	0.392	0.361***	0.181	0.115						
5. Power	2.963	0.671	−0.337***	−0.359***	−0.124	0.396***					
6. Responsibility	0.527	0.225	−0.200***	−0.377***	−0.056	−0.051	0.439***				
7. Education	0.277	0.187	−0.171	−0.172	−0.063	0.278*	0.318***	0.086			
8. LnGDPPPP	9.634	0.864	0.259*	0.301*	−0.067*	−0.239*	−0.595***	−0.427***	−0.502***		
9. Labor force	68.252	10.099	0.246**	0.015	0.261**	−0.163	−0.320***	−0.098	−0.196*	0.119	
10. Control of corruption	0.379	0.996	0.213*	0.311**	0.293**	0.032	−0.399***	−0.484***	−0.351***	0.576***	0.341***

*$p < 0.1$.

**$p < 0.05$.

***$p < 0.01$.

Table 1. Descriptive statistic and correlation matrix.

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
Independent variables												
Tolerance	1.234***	0.337	13.140***	2.931	1.349***	0.345	1.268***	0.351	1.605***	0.368	1.754***	0.330
Social capital	3.146***	0.712	3.239***	0.645	−10.215	10.007	3.035***	0.814	4.007***	0.685	2.590***	0.647
Creativity	1.102***	0.096	1.068***	0.088	1.078***	0.089	1.376	0.952	1.046***	0.093	1.006***	0.091
Power	−0.344***	0.051	−0.367***	0.048	−0.319***	0.053	−0.354***	0.060	−1.409**	0.721	−0.324***	0.047
Responsibility	0.302*	0.160	0.318**	0.147	0.287*	0.157	0.331**	0.161	0.286*	0.146	−5.175***	1.474
Interactions												
LnGDPPPP × tolerance			−1.173***	0.283								
LnGDPPPP × social capital					1.366	1.002						
LnGDPPPP × creativity							−0.027	0.096				
LnGDPPPP × power									0.118	0.078		
LnGDPPPP × responsibility											0.557***	0.156
Control variables												
Education	−0.449*	0.184	−0.628***	0.177	−0.339*	0.188	−0.481**	0.205	−0.346*	0.188	−0.439**	0.201
LnGDPPPP	0.244***	0.047	0.991***	0.187	0.123	0.085	0.347	0.399	−0.175	0.251	−0.193*	0.114
Labor force	0.008**	0.004	0.012**	0.004	0.011***	0.004	0.008*	0.004	0.008*	0.004	0.013***	0.004
Corruption	−0.235***	0.032	−0.221***	0.027	−0.221***	0.032	−0.229***	0.031	−0.207***	0.025	−0.182***	0.030
Constant	−0.363	0.689	−8.012***	2.179	0.517	0.842	−1.436	3.906	3.407	2.214	3.606***	1.082
Wald X^2	697.83		2046.39		513.49		605.84		850.27		1041.08	
Observations	67		67		67		67		67		67	
Countries	35		35		35		35		35		35	
R^2	0.613		0.614		0.646		0.633		0.613		0.696	

Note: The first column of each model corresponds to the estimation, while the second is the standard error. *$p < 0.1$.

**$p < 0.05$.

***$p < 0.01$.

Table 2. Linear regressions with feasible generalized least squares (FGLS).

leadership behavior is more sensitive to informal institutions such as tolerance. In other words, this negative interaction term indicates that the relationship between tolerance and leadership is stronger when there is a lower, rather than higher, level of development. This is in line with leadership literature that emphasizes the importance of tolerance and stress management in leadership, especially in times of crisis or ambiguity [8].

Although not fully synonymous, the intolerance of ambiguity (an individual cognitive state) and uncertainty avoidance (a behavioral phenomenon) are concepts that are likely to be positively related [92]. In Model 3, we presented a model with the interaction terms between social capital and development. In this model, the coefficients are positive and statistically significant for tolerance, creativity and responsibility. Otherwise, they are negative and statistically significant for power and not significant for social capital. The interaction of social capital and development with leadership was not significant. In Model 4, tolerance, social capital and responsibility were positive and significant and power was negative and significant. Contrary to expectations, the direct effect and interaction term for creativity and the level of development is not significant. Similar results have been found in studies such as Dubinsky et al. [93]. They argue that contradictory results could be explained because creativity intelligence seems vague or unformulated. Similarly, Model 5 presented the interaction term between power and development. Although the main effect of power was negative and significant, the interaction of power and development on leadership was not significant. Finally, in Model 6, we can see the interaction of responsibility and development with leadership. Although the main effect of responsibility was negative and significant, the interaction effect of power was positive and significant. This interaction means that countries with high levels of development experienced a stronger positive impact of responsibility on leadership. As we can see, all models confirm the importance of informal institutions, especially when these institutions are moderated by the development of countries. In Model 6, R^2 increases with respect to Model 1 indicating that in terms of R^2, it is a better model and it explains 70% of the total variation of leadership. Our results do not support Hypothesis 6, since not all informal institutions were significant when are moderated with level of development.

5. Discussion and conclusions

The current research integrates insights from the leadership literature and proposes institutional economics (particularly sociocultural approach) as a fresh perspective to advance leadership research, especially when we link leadership with the construction of an individual and collective identity. This study contributes to a better understanding of the mechanisms through which informal institutions such as cultural values, attitudes and practices influence leadership. Although informal factors such as tolerance, creativity, social capital, power and responsibility were found to be important predictors of the decision to be a leader, their effects are somewhat complex. Our results demonstrated that the level of country development exercise a complex pattern of the effects on the relationship between informal institutions and leadership behavior. This is one of the few studies that aim to integrate the study of leadership under an institutional approach.

From a conceptual perspective, the results confirm what scholars have long pointed out the importance of sociocultural factors in the decision to be leader [8]. Our study therefore provides insights regarding the informal factors that may strengthen leadership in the current complex environments. This study emphasizes that one of the most important approaches to understanding leadership is self-leadership [12] from a sociocultural perspective. Before a person can lead others, they must be able to lead and navigate by themselves, to attain desired behaviors [94]. A more recent approach found similarity between self-leadership and authentic leadership [95], reflecting the notion whereby an individual is "the master of his or her own domain" ([96]: 293). Therefore, for leadership to flourish, it is important to consider the context in which a person develops.

Practical implications can be drawn for education and business, regarding the informal factors to be studied and promoted in order to have more developed societies. Schools and organizations prepare new generations of leaders through strategies to encourage and promote rational thinking leaders, responsibility, social capital, acceptance and tolerance for diversity or complex situations. It is also important to understand how power can be exercised and leadership endorsed in various contexts. One recent approach, in line with these ideas, is mindfulness in leadership [97]. This approach suggests that leaders who navigate multiple demands develop and display certain personal and social qualities, such as tolerance [98] and creativity [99, 100]. The intention of the current work was to expand the leadership development concepts and ideas that make groups and organizations more psychologically safe [43].

Leadership is a complex and dynamic process [101], and therefore, this study should be interpreted in light of its key limitations. This analysis was conducted at country level; future research should integrate multilevel analysis [102] that includes individual, relational and collective levels [103, 104]. An individual self-concept might focus on traits that distinguish someone from others in the sociocultural environment. Relational or interpersonal self-identities are based on relationships between the individual and important others. Finally, collective self-concepts are those in which an individual defines the self in terms of membership of important groups or organizations [5]. This future research can take lessons from the sociocultural approach, specifically the cultural-cognitive dimension [27]. This dimension explains that internal interpretive processes are shaped by external (environmental) or cultural frameworks and that individual behavior depends on the interpretation of their contexts and the consensus within the group of reference [105]. Future research therefore needs to examine this topic in a longitudinal study that includes more periods of time or to use qualitative methods that may yield novel or unanticipated findings [106]. Future studies may provide more knowledge by exploring the effect of the context on leadership, incorporating the role of informal institutions, and not only trying to identify attributes that may (or may not) be universally endorsed or effective in different environments. Although leadership literature has considered national cultural contexts (defined by geography or cultural traits), few authors address topics related to micro cultures or individual identity obtained through a way of seeing the world and the context in which it was developed. Finally, due to the close relationship between leadership and entrepreneurship, to expand this study toward the analysis of the influence of leadership styles on entrepreneurial activity could contribute to the current debates on the leadership research [107, 108].

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Conflict of interest

We have no conflicts of interest to declare.

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