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Measuring the cultural values that predominate in organizations: A dynamic multilevel linear mixed model based on genetic algorithms

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The alignment between organizational and employee values is critical in institutions that base their management on values. Hence, the human values that predominate in these organizations can be measured through the employees' values that feel the most authentic. Motivated by this point, this research relates the ten human values composing the Schwartz theoretical model with authenticity at work, with the final aim of determining the human values that predominate in the organization. To this end, three nonprofit and faith-based organizations are analyzed using a hybrid model that combines a genetic algorithm with a linear mixed model. Methodologically speaking, the underlying model is estimated from data to theory using a genetic algorithm (global optimization) to dynamically determine the best set of human values regressors (also considering interaction effects). The regressors selected explain the authenticity construct the most from two perspectives, namely, the general model (fixed effects) and the particular model (random effects).

KEYWORDS
Schwartz's Theory, Organizational Values, Linear Mixed Models

1 | INTRODUCTION

Currently, different organizations and their management are faced with the task of determining the fundamental values that predominate in their organizational culture. Sometimes mission values are not the same as the values that workers perceive (Fenton and Inglis, 2007). Since their inception, values have been a central topic in social sciences research (Schwartz, 2012). Values are critical for explaining social and personal organization and change. They characterize cultural groups, societies, and individuals, promote change over time and describe the motivational bases of behavior and attitudes (Durkheim, 2005). As the relative importance of values guides action, any attitude or behavior typically has implications for more than one value (Schwartz, 2012). Moreover, employees increasingly pursue meaningful work and a fit between their positions and lives, making different scholars call attention to the intensifying search for authenticity in developed societies. Among these scholars, Grandey et al. (2012) affirm that a climate of authenticity provides a self-regulatory break from emotional work, thereby recharging work resources. Additionally, Van den Bosch and Taris (2014) mention the importance of authenticity at work in the work context (relating it to other variables such as leadership or well-being, among others) and develop an instrument to measure this construct. In this line, Knoll et al. (2015) also highlight the need for more research on authenticity in the workplace.

In this line, working in organizations that base their management on values might trigger several conflicts in those employees whose values do not fit with those of the organization or have the opposite effect on those with similar values to those of the organization; this highlights the importance of authenticity in the management of values at work. Hence, in this study, workers at nonprofit religious organizations are of particular interest (Rothschild and Milofsky, 2006). Hudson (2017) states that nonprofit organizations are more productive when members share organizational values. Thus, such organizations are an ideal context for analyzing the link between human values and authenticity, as these entities have a strong values culture (Askeland et al., 2019). Some authors, such as Hinings and Raynard (2014), argue that what characterizes faith-based institutions is the theological base of transmitting values and meaning (Puffer and Meindl, 1995). Religious organizations embody value-based cultures that promote the person (person-centered cultures) and enact a more significant overlap between employees' personal and professional lives than in other environments (Hinings and Raynard, 2014). Hence, cultural value transmission is part of these organizations' mission and shapes their operations, making them attractive to employees who identify with their foundational values. From this perspective, an essential factor in the governance of these institutions and a pivotal element in fulfilling their mission is their employees' identification with their work, i.e., employees' authenticity (Ridder and McCandless, 2010).

Some studies have already tried to determine organizational values through human values. For instance, Wetzelhütter et al. (2020), based on Schwartz's Portrait Values Questionnaire (PVQ), attempted to measure university-perceived organizational values with a sample of bachelor's students using slightly modified versions of the PVQ and the Schwartz Values Survey (SVS). Additionally, a limited number of investigations have constructed new scales to measure work values based on Schwartz's theory. Concretely, Avallone et al. (2010) developed a Work Values Questionnaire consisting of 30 items and 6 factors using items adapted from the PVQ. In contrast to Avallone et al. (2010), the adaptation of the PVQ by Consiglio et al. (2017) reproduces 10 sets of 5 value items where each item expresses 1 of the 10 basic values of Schwartz´s theory. Later, Albrecht et al. (2020) also tried to measure human values applied to work, constructing an 11-factor new scale of work values equivalent to Schwartz's model. Unfortunately, to our knowledge, extant studies have not yet developed a model that attempts to measure prevailing organizational values through the human values of workers who feel authentic, which is a key variable in this topic. Moreover, state-of-the-art manuscripts do not consider the multidimensional nature of the problem or its circular nature (as human values are similar to some and opposite to others in a circular manner, as explained in Schwartz's theory). Therefore, this article

contributes to the research community by filling in the explained gaps through a sampling scheme and a data-driven methodology ad hoc designed to address those issues.

In this line, this paper develops an approach that allows management to measure the predominant values in their culture using Schwartz's model. Those workers who report high levels of specific human values and a considerable level of authenticity at work in an organization are probably the ones who share the organization's values. Hence, this research determines the central human values of those workers who feel authentic at work. The obtained combination of values might be the predominant values in an organization's culture. This approach differs from person-organization (P-O) fit studies because it does not compare organizational and human values. Rather, it directly identifies which subjects' human values dominate or are rejected in the organization, thereby overcoming the difficulties presented by P-O fit studies (De Clercq et al., 2008). This research approach also differs from specific work values scales because its aim is not to measure workers' values but rather those of the organization through workers' values that feel authentic.

Therefore, this research also studies how to encourage employees' authenticity among based-value organizations and whether employees' intrinsic values promote authenticity, covering different gaps. On the one hand, it contributes to management research, where there is still a lack of research on human values (Adams, 2016). On the other hand, although some studies have demonstrated that values relate to relevant outcomes in the job field, such as job choice and satisfaction (Pope et al., 2014), this research has not identified any extant study that relates human values individually to authenticity at work, specifically considering their dynamic structure. Finally, there is a growing need for empirical research on authenticity in the workplace (Knoll et al., 2015).

To conclude, and resume, the contributions of this work are mainly as follows. First, it approaches a novel P-O fit strategy because it manages to identify the human values of the individuals promoted by the organization, thereby overcoming the difficulties encountered when comparing two different scales. The strategy moves from individual to organizational values using the single scale of human values. Second, this investigation addresses the query of Schwartz's interrelation of values, as explained in the theoretical framework, using a hybrid model that incorporates a genetic algorithm within the estimation part of a linear mixed model to determine the regressors dynamically. The absence of a theoretical model that operationalizes the phenomena motivated us to implement a data-based model that creates the model from data. The algorithm can determine a reduced set of regressor variables that, combined with the corresponding interactions among input variables, explain the construct under study the most. Third, the results confirm Schwartz's model's dynamic and circular character. Fourth, the multilevel approach allows for distinguishing the common values within several entities (fixed effects) and the specific characteristics of the institutions analyzed in the study.

The structure of this paper is as follows. First, the theoretical framework will be presented, aiming to explain the concepts and history of human values and authenticity and their interrelationship. Then, the methodology will be explained, with a focus on the sample, data collection process, measures and methods used. Third, the results are presented in the discussion and conclusions sections. Finally, theoretical and practical implications, as well as future research lines and limitations, are presented.

2 | THEORETICAL FRAMEWORK

The main goal of this research is to measure the main cultural values of an organization through the human values of its workers who feel authentic using Schwartz's model. To this end, the framework of this research reviews the theoretical concepts of human values, authenticity, and the relationship between them in the following paragraphs.

2.1 | Human values

The first attempt to define values was made by Rokeach (1973), who describes values as goals within the social environment that individuals pursue to satisfy their needs. Later, drawing on this author's concept, Schwartz (1992) defined values as guiding principles and cognitive representations of universal necessities in the theory of human values. Schwartz (1992) considers values as beliefs that drive desirable goals and actions and guide individuals in evaluating activities, other people, events, or policies. Hence, human values embrace the perceptions of what is right and desirable and lead to attitudes and behaviors (Schwartz, 2006). Schwartz (1994) explains that values are "ordered by importance relative to other values to form a system of value priorities."

In the theory of human values, Schwartz (1992) differentiates ten fundamental motivational values. He groups them into four higher-order constructs, establishing two large bipolar dimensions: self-transcendence (benevolence and universalism)-self-enhancement (achievement and power) and openness to change (hedonism, self-direction, and stimulation)-conservation (conformity security and tradition). On the one hand, while self-transcendence refers to high levels of concern for the wellbeing of others, self-enhancement regards the particular interest of each person and the development of their maximum potential. On the other hand, openness to change encourages movement and living new experiences, while conservation motivates individuals to maintain their current situation and resist anything that involves transformation.

Schwartz (2006) explains that these ten values interact, following a hierarchy of priorities, to distinguish and characterize everyone. Hence, the most relevant characteristic of this theory is its dynamic structure. This dynamic determines a network of relations between values, which is a system common to different cultures. Actions expressing these values have practical, psychological, and social consequences that could either conflict or be compatible with pursuing other values. For instance, hedonistic values are consistent with self-direction values but likely to conflict with traditional values. Later, the author corroborated the human values theory (Schwartz, 2012, 2014). Many samples across more than 80 different countries (Schwartz, 1992, 1994, 2012) have been used to corroborate the discriminant validity, predictive validity, reliability, and structural configuration of Schwartz's theory. Although Schwartz (2012) proposed additional subcomponent values within the 10-factor model, the 10-factor model remains the most used and widely cited (Albrecht et al., 2020).

The concept of value in the social sciences has suffered from a lack of consensus. Numerous studies have corroborated the reliability and use of Schwartz's model of human values. For instance, recently, Hanel et al. (2018) has proved its reliability; by comparing it to various values models such as the Basic Value Survey (Gouveia et al., 2009) and the Social Value Orientation scale (Van Lange et al., 1997), the authors conclude that the Portrait Value Questionnaire (Schwartz, 2012) is the best human values model for predicting behavioral outcomes such as prosocial behavior, mental health, and pro-environmental behavior. Moreover, Davidov et al. (2008) provides clear support for the proposed structure through confirmatory factor analyses (CFAs), and research has shown cross-cultural validity of the dimensions as predictors of organizationally relevant attitudes and behaviors (Kozan and Ergin, 1999). De Clercq et al. (2008) affirm in a meta-analysis that their findings suggest that the Schwartz (1992) value model might be an appropriate comprehensive framework for studying supplementary person-organization fit. These authors also highlight the difficulties in the literature that attempts to measure the person-organization fit. Hence, even though Kluckhohn (2013) note that values could also be described on a cultural level, this research uses Schwartz's theory of human values to measure the cultural values that predominate in an organization. Values measured at the individual level in workers who act authentically should represent the values that predominate in an organization's culture.

2.2 | Authenticity at work

From a philosophical and psychological perspective, Harter (2002) interprets authenticity as acting consistently with oneself, while de Carvalho Chinelato et al. (2015) extend such honest acting to describe the concept as "thoughts, emotions, needs, desires, preferences and beliefs about oneself, resulting in actions consistent with these experiences". From an empirical approach and in the business literature, authenticity is still a recent research topic (Ariza-Montes et al., 2019); thus, there is a growing need for related research (Knoll et al., 2015).

Rogers (1995) centers authenticity on the individual and understands it as an attitude that enables the entire functioning of human beings. In addition, Sheldon et al. (1997) argue that authenticity is not a trait; rather, it is a state, and the degree of authenticity that people feel will partly depend on the role they fulfill and the context in which they find themselves. Therefore, employees' authenticity will depend on the congruence between individuals and their work environment.

The most approved theory among scientific researchers, which is also very acceptable for investigations in the work area, is the study of Wood et al. (2008). These authors consider authenticity to be a multidimensional construct composed of authentic life, accepting external influence, and self-alienation. The first dimension refers to acting according to one's values and beliefs. The second concerns the degree to which others' thoughts and actions influence one's self. Finally, the self-alienation dimension consists of the incongruence between the personality of a human being and an experience, which brought to the field of work, which would mean that workers would not know who they are at work. Hence, maximum authenticity at work should be achieved when a worker experiences a high feeling of authentic living and a soft sense of accepting external influence and self-alienation.

Hence, state-based conceptualizations argue that authenticity depends on the degree of fit between people and their environment (Van den Bosch and Taris, 2014). This reasoning suggests that if a work context fits better with an employee's personality, this worker will feel more authentic.

2.3 | Relationship between Human Values and Authenticity at work

Although some researchers have studied human values related to other variables in different fields of scientific research, there is still a lack of studies, mainly in management research (Adams, 2016). These values affect the behavior and attitudes of individuals when they are activated (Verplanken and Holland, 2002). Among the attitudes and behavior of individuals who have been studied concerning the ten fundamental values are attitudes such as job satisfaction, commitment to the organization, and trust in institutions and behavior such as consumption, moral and religious behavior. The more accessible or important values are, the stronger their links to behavior are. Additionally, situations can activate values. For instance, a job offer can activate achievement, and a car accident could trigger security (Schwartz, 2006).

Concretely, regarding the attitude of authenticity, its importance underlies generating healthier entities. Authenticity is beneficial for individuals and collectives and helps them find a meaningful job (Reich et al., 2013). When individuals feel forced to perform acts contrary to their thoughts and beliefs, they develop different psychopathologies (de Carvalho Chinelato et al., 2015). Hence, based on the research work of Schwartz (2006), this research will relate individuals' human values and their attitude of authenticity at work. McCarthy (2015) considers that individuals' authenticity depends on the consistent pursuit of self-transcendence. He holds that people have an instinct for self-transcendence and are universally called to authenticity. Additionally, related to authentic leadership theory, Michie and Gooty (2005) reveal that honest leaders who feel respect and compassion for others act more authentically without emotional conflict. This description of the characteristics of authentic leaders aligns with Schwarz's

self-transcendence dimension (benevolence and universalism). Therefore, self-transcendent values may lead to a work context of high consistency between values and behaviors.

As previously explained, Schwartz (2006) argues that these human values interact between each other. Later, this author (Schwartz, 2014) reiterates this idea, explaining that values form a continuum that can be partitioned according to research aims. The theory of human values explains that these interactions between the values of the continuum are circular. This means that the circle that forms the motivational continuum orders the values according to the compatibility and conflict present among the motivations they express. Authors can choose the number and sets of values to study, guided by the parsimonious idea of the congruence and conflict among values that form the circle. This idea would mean that just one value or some values of a dimension (but not all of them), even together with other dimensions' values, could be the ones that lead to authenticity at work.

At this point, it is essential to seek the relationship between human values to explain which of them are most likely to show a combined effect on the attitudes and behavior of workers. This study describes the links between individuals' human values using the theoretical model of Schwartz (2006). First, the dynamic principle that organizes the structure of the circle of human values is based on the foundation of relations of compatibility and antagonism between values that intervene simultaneously in decisions. In his research, Schwartz (2006) presents numerous examples of studies that relate basic values to different attitudes and behaviors in individuals. These results show that when a value shows a positive correlation, and the nearest values in the circle also present positive correlations, the opposite value presents a negative correlation. For example, in a study of collaborative behavior (Schwartz, 1996), the values of benevolence present the strongest positive link with cooperative behavior, while the values of power present the strongest negative link.

Hence, Schwartz (2006) assumes that values form a continuum in terms of motivations that explains the circular structure. Concretely, this author describes the motivations that are common to two adjacent values. First, the common reason for universalism and benevolence is that both prioritize others and relate to overcoming selfish interests. Second, the common point for benevolence and tradition is the importance of dedication to the group of belonging. Third, benevolence and conformity require normative behavior that facilitates relationships with loved people. Fourth, conformity and tradition need the subordination of the person to the expectations imposed by society. Fifth, the motivation shared by tradition and security is to perpetuate the social arrangements that exist and ensure security. Sixth, conformity and security emphasize the order and importance of harmonious relationships. Seventh, security and power involve avoiding threats by controlling relationships and resources. Eighth, the common motivation for power and achievement is the search for social recognition. Ninth, achievement and hedonism highlight personal satisfaction. Tenth, the common point between hedonism and stimulation is that both search for exciting sensations and pleasant emotions. Eleventh, stimulation and self-direction are motivated by intrinsic interest in novelty and mastery. Twelfth and last, self-direction and universalism share the motivation to rely on personal judgment and be comfortable with diversity. Hence, the closer two values are to each other on this circle, the more similar the corresponding motivations are, the more distant the two values are, and the more antagonistic the motivation behind them is. This idea of the continuum has important implications. On the one hand, the domain of values can be divided into more or less fundamental values according to the needs and objectives of the research. On the other hand, as basic values are organized in a circular structure, their relationships with any other variable follow an integrated pattern.

A second principle of the theory of human values is based on the type of interest that motivates the different values. The values that correspond to self-enhancement and openness to change (self-direction, stimulation, hedonism, achievement, and power) deal mainly with how individuals' interests are expressed. On the other hand, the values that correspond to self-transcendence and conservation (universalism, benevolence, tradition, conformity, and security) deal primarily with the type of social relationships individuals have and the impact on others. Schwartz (2006)

explains that universalism and security are in contact with these two groups of values. They deal with the expression of personal interests and the objectives they achieve.

A third principle that embodies the structure of values lies in the relationship between values and anxiety. Individuals seek to avoid conflict (conformity), maintain existing order (tradition and security), and curb threats (power). The values that correspond to self-enhancement and conservation help manage the anxiety generated by the world's uncertainty and society. On the other hand, the values that correspond to self-transcendence and openness to change (universalism, benevolence, hedonism, stimulation, and self-direction) express motivations from which anxiety is absent. However, achievement can fall into these two categories, as individuals can control their anxiety by succeeding socially and can confirm their sense of competence by this success.

Additionally, Schwartz (2006) explains that the interaction of these values also depends on the sociodemographic situation of individuals, such as age, level of education, gender, and income. Life circumstances make individuals express specific values more easily than others. People increase the level of importance they assign to the values they can achieve without difficulty and decrease the level of importance they assign to the values they cannot reach (Schwartz and Bardi, 1997). For instance, individuals whose work allows them freedom of choice may give more importance to self-direction at the expense of conformity (Kohn and Schooler, 1983), while people who suffer a challenging economic situation or social disruption may place more importance on power and security than those who live in relative comfort and safety (Inglehart, 1997). Schwartz (2006) explains that adjacent values of the circle express similar links with sociodemographic variables. These links between values and sociodemographic variables decrease in both directions along the circle, from the nearest associated value to the furthest value.

When these human values are congruent with organizational values, both individually and while interacting, they may significantly affect authenticity at work. Hence, in the research model, significant individual and combined effects of human values on authenticity will traduce it being the predominant value in the culture of organizations.

To conclude, the individual study of human values and authenticity constructs impedes classical statistical techniques, as those techniques assume statistical independence among the model's inputs. This point motivates the methodology proposed in the study. The model should dynamically determine the best set of regressors for both the fixed effects and random effects out of the total ten main effects and 45 first-order interactions (for each part). This combinatorial optimization problem is addressed by estimating the parameters of the baseline linear mixed model through a two-stage integer genetic algorithm. The integer genetic algorithm aims to associate a subset of regressors to each part of the final regression algorithm (fixed effects and random effects).

3 | RESEARCH METHODOLOGY

3.1 | Sample and data collection

Data come from 3 nonprofit and faith-based organizations devoted to general and professional education. Specifically, Entity 1 trains people from families with lower income levels to gain access to the labor market, while Entities 2 and 3 are schools that prepare students to succeed in higher education studies. The sample is composed of 270, 148 and 319 subjects belonging to Entities 1, 2, and 3, respectively. The total population sizes for the three institutions are 470, 420, and 1000 individuals for Entities 1, 2, and 3, respectively. Those population sizes result in a margin of error lower than 5% for Entities 1 and 3 and a margin of error of 6.36% for Entity 2 (95% confidence level). The existing proportions in the populations for the two demographic variables considered for the stratification (seniority in the institution and gender) were also respected in the corresponding samples. This point and the lower margin of errors associated with the three samples justify the representativeness of the samples used in the study.

First, a Google Forms questionnaire was sent by email to target institutions' members, accompanied by an explanation of the goals of this study. Before participating in the investigation, all the individuals gave their informed consent. Replies were saved in Google Forms and then transferred to a spreadsheet in Google Drive. The analysis was performed according to the Declaration of Helsinki. In addition, XXX University's ethics committee approved the investigation. Data collection was carried out for the third organization in 2016 and the other two organizations in 2019. The authors did not collect data from the COVID period, aiming not to introduce bias in the conclusions due to the significant differences between the two types of samples.

3.2 | Measures

Schwartz's Value Survey is a verified tool for measuring fundamental human values. It has been tested with 200 samples from over 60 countries and is included in the World Values Survey and the European Social Survey. It has been confirmed in the sociological field and other areas, such as architecture and human-computer interaction. This research uses the reduced version of the PVQ (Portrait Value Questionnaire). It comprises 21 items, while the original questionnaire was designed with 57 items. This questionnaire includes the ten basic values distinguished by Schwartz (1992), classifying them into the four previously explained higher-order constructs. Each item describes an individual with whom the respondent could feel as though they identify or not. Higher punctuation symbolizes a higher level of likeness. Schwartz and Rubel (2005) has confirmed the validity and reliability of the PVQ in diverse environments, achieving reliability indices ranging from 0.37 to 0.70.

Based on this idea and on the three-factor structure of Wood et al. (2008), workers will feel more authentic in a context that fits better with their personality. Van den Bosch and Taris (2014) developed an instrument to measure authenticity as a state in the work context, namely, IAM Work. This instrument adapts the authenticity survey designed by Wood et al. (2008). This questionnaire, composed of 12 items, evaluates three identified dimensions: authentic living, self-alienation, and accepting external influence. The last two dimensions are recoded to be consistent with the first subscale, in which high punctuation represents a strong level of authenticity. Van den Bosch and Taris (2014) has demonstrated the scale's reliability (authentic living: 0.81; self-alienation: 0.83; and accepting external influence: 0.67).

3.3 | Method

3.3.1 | Parameter estimation for the Linear Mixed Effect Model

The parameters of the linear mixed model (LMM) will be estimated through an adaptation (ad hoc for this study) of the distribution-free, iterative procedure proposed in Peng and Lu (2012). Thus, for each cluster C_i, $1 \leq i \leq m$, the following equation is defined:

$$\mathbf{y}_i = \mathbf{P}_i\boldsymbol{\beta} + \mathbf{Z}_i\mathbf{b}_i + \boldsymbol{\epsilon}_i, \tag{1}$$

where $\mathbf{y}_i \in \mathbb{R}^{n_i}$ is the vector with the desired outputs, n_i is the sample size of the i-th group ($N = \sum_{i=1}^{m} n_i$ is the total sample size of the problem), $\mathbf{P}_i \in \mathbb{R}^{n_i \times p}$ is the design matrix associated with the fixed effects (where p is the number of variables included in the fixed effects set), $\boldsymbol{\beta} \in \mathbb{R}^p$ is the vector of fixed effects parameters, $\mathbf{Z}_i \in \mathbb{R}^{n_i \times z_i}$ is the design matrix associated with the random effects (where z_i is the number of variables included in the random effects set of C_i), $\mathbf{b}_i \in \mathbb{R}^{z_i}$ is the vector of random effects parameters, and $\boldsymbol{\epsilon}_i \in \mathbb{R}^{n_i}$ is the vector of random errors

that are independent of $\mathbf{P}_i$, $\mathbf{Z}_i$ and $\mathbf{b}_i$. For ease of reference, let $\mathbf{y} = (\mathbf{y}_1, \mathbf{y}_2, \ldots, \mathbf{y}_m) \in \mathbb{R}^N$, $\boldsymbol{\epsilon} = (\boldsymbol{\epsilon}_1, \boldsymbol{\epsilon}_2, \ldots, \boldsymbol{\epsilon}_m) \in \mathbb{R}^N$ be $N \times 1$ vectors and $\mathbf{P} = (\mathbf{P}_1, \mathbf{P}_2, \ldots, \mathbf{P}_m) \in \mathbb{R}^{N \times p}$ be the complete design matrix for the fixed effects variables. The distributional assumptions of the LMM model are as follows:

$$\begin{aligned} \boldsymbol{\epsilon}_i &\sim N(0, \sigma^2 \mathbf{I}_{n_i}), \\ \mathbf{b}_i &\sim N(0, \sigma^2 \mathbf{D}), \end{aligned}$$

where $\mathbf{D} \in \mathbb{R}^{q \times q}$ is a symmetric nonnegative definite matrix.

The initial estimate of the fixed effects coefficients (ignoring the random effects) is given by by ordinary least squares as follows:

$$\widehat{\boldsymbol{\beta}} = (\mathbf{P}^T \mathbf{P})^{-1} \mathbf{P}^T \mathbf{y}. \tag{2}$$

With this initial estimate, recall that $\mathbf{y}_i - \mathbf{P}_i \boldsymbol{\beta} = \mathbf{Z}_i \mathbf{b}_i + \boldsymbol{\epsilon}_i$ and estimate the random effect for each cluster C_i, $1 \leq i \leq m$, by least squares as follows:

$$\begin{aligned} \widehat{\mathbf{b}}_i &= (\mathbf{Z}_i^T \mathbf{Z}_i)^{-1} \mathbf{Z}_i^T (\mathbf{y} - \mathbf{P}_i \widehat{\boldsymbol{\beta}}), \\ \widehat{\boldsymbol{\epsilon}}_i &= (\mathbf{y} - \mathbf{P}_i \widehat{\boldsymbol{\beta}}) - \mathbf{Z}_i \widehat{\mathbf{b}}_i, \end{aligned}$$

With these estimates, the following estimators of σ^2 and $\mathbf{D}$ are computed (Peng and Lu, 2012):

$$\begin{aligned} \widehat{\sigma}^2 &= \frac{\sum_{i=1}^m \widehat{\boldsymbol{\epsilon}}_i^T \widehat{\boldsymbol{\epsilon}}_i}{N - \sum_{i=1}^m z_i}, \\ \widehat{\mathbf{D}} &= \frac{\sum_{i=1}^m (\widehat{\mathbf{b}}_i \widehat{\mathbf{b}}_i^T)}{m \widehat{\sigma}^2} - \frac{\sum_{i=1}^m (\mathbf{Z}_i^T \mathbf{Z}_i)^{-1}}{m}, \end{aligned}$$

With the computation of $\widehat{\mathbf{D}}$, re-estimate the fixed effects using weighted least squares:

$$\widehat{\boldsymbol{\beta}} = (\mathbf{P}^T \mathbf{W} \mathbf{P})^{-1} \mathbf{P}^T \mathbf{W} \mathbf{y}, \tag{3}$$

where $\mathbf{W} = \text{diag}\{(\mathbf{Z}_1 \widehat{\mathbf{D}} \mathbf{Z}_1^T + \mathbf{I}_{n_1})^{-1}, \ldots, (\mathbf{Z}_m \widehat{\mathbf{D}} \mathbf{Z}_m^T + \mathbf{I}_{n_m})^{-1}\}$. Finally, iterate recomputing $\widehat{\mathbf{b}}_i, \widehat{\boldsymbol{\epsilon}}_i, \widehat{\sigma}^2$ and $\widehat{\mathbf{D}}$ taking into account the new estimates of $\widehat{\boldsymbol{\beta}}$ until convergence.

3.3.2 | Model selection via Genetic Algorithms

Problem statement

In the regression problem analyzed, the original training dataset is denoted as $\mathcal{D} = \{\mathbf{X}, \mathbf{y}\}$, where $\mathbf{X} \in \mathbb{R}^{N \times K}$ is the matrix with the input patterns, N is the sample size, K is the number of attributes in the dataset (10 in this study), and $\mathbf{y} \in \mathbb{R}^N$ is the vector with the outputs. In the first stage, the original input data, $\mathbf{X}$, are extended to include all the possible first-order interaction terms (45 in the study). Thus, the extended training dataset will be denoted as $\mathcal{D}^E = \{\mathbf{X}^E, \mathbf{y}\}$, where $\mathbf{X}^E \in \mathbb{R}^{N \times K^E}$ is the extended matrix with the input patterns, and K^E is the number of attributes in the dataset, including both the independent variables and first-order interaction terms (55 in this study), $K^E = K + \binom{K}{2}$.

In this manuscript, the matrices representing both the fixed and random effects, $\mathbf{P}, \mathbf{Z}_1, \ldots, \mathbf{Z}_m$, are dynamically determined via a genetic algorithm (GA) specifically implemented ad hoc for the study. In this context, those matrices are all subsamples of the original extended training data, $\mathbf{X}^E$, where the number of rows depends on the sample size of the clusters being analyzed, n_i, $1 \leq i \leq m$, and the columns determine the attributes included (model selection) in each random effect (per cluster) and the fixed effects. In this regard, the GA is performed $m + 1$ times, with the first one determining the variables to be included as fixed effects (p); after that, the GA is performed m more times (one per cluster) to identify the subset of regressors to be included in the random effects of each cluster ($z_1, \ldots, z_m$).

Hence, the attributes included in the m+1 groups (m random effects sets and the fixed ones) have been determined from data to theory instead of theory to data, which is the method traditionally adopted in the social sciences. The goal is to find the best predictors from the 2^{55} potential submodels that compose the ten human values indices and the corresponding 45 first-order interaction terms that explain, first, the fixed effects (p variables are selected from the 55 possible variables) and then, the m random effects sets ($z_1, \ldots, z_{m-1}$, and z_m variables are selected from the 55 total possible ones for each of the random effects sets). As expected, the aim is to obtain a reduced set of predictors that sufficiently explain the authenticity construct under study in terms of fixed and random effects.

General overview of the Genetic Algorithm

To address this complex optimization problem, we have implemented ad hoc (in MATLAB), a straightforward GA that heuristically explores the search space and aims to find a reduced set of regressors with high explanatory power (those that when combined report a competitive R^2 statistic) to be included in the LMM within the fixed effects part and the random effects sets. The proposed GA considers a population of candidate solutions representing different subsets of regressors (independent variables and interaction elements), which evolve toward better regression models. The evolution starts from a population of randomly generated subsets of regressors. An array of binary values represents each individual. After that, a fitness value is assigned to every individual. The fitness is computed considering the number of variables included in the model and its performance. Then, different mutation and crossover operators are applied to explore the search space, and this iterative procedure is repeated during G generations. The main characteristics of the proposed GA are defined in the following subsections.

Encoding and initialization of the population

The encoding for the different solutions is an array of dimension 55 with a binary value, representing each value of the inclusion or not of the corresponding predictor or interaction term in the final equation (integer genetic algorithm, IGA). Hence, each candidate solution is defined as follows:

$$\mathbf{s} \in \{0, 1\}^{K+\binom{K}{2}}, \tag{4}$$

where $s_i = 1$ if the i-th variable is included in the model and 0 otherwise, $i = 1, \ldots, K + \binom{K}{2}$. The initial population of candidates is generated randomly, and the number of individuals during the experimentation is set to 300, as we can empirically observe that the increase in this number does not enhance (or only marginally improves) the results.

Fitness function

The fitness function of the model is the Bayesian information criterion, which weights the model's explanatory power with its complexity (measured in terms of the number of variables included in the model):

$$\begin{aligned} \min_{\mathbf{s}} \quad & f(\mathbf{s}) = I \ln(e_{\mathbf{s}}^2) + h \ln(I) \\ s.t. \quad & \mathbf{s} \in \{0,1\}^{K+\binom{K}{2}}, \end{aligned}$$

where I is the sample size of the problem analyzed (out of the $m+1$ total executions of the GA), $I \in \{N, n_1, \ldots, n_m\}$; h is the number of variables included in the model (the number of variables in the solution analyzed), $h \in \{p, z_1, \ldots, z_m\}$; and $e_{\mathbf{s}}^2$ is the error variance of the individual evaluated ($\mathbf{s}$). The first part of the equation measures the model's performance, whereas the second part measures its complexity (computed according to the variables of the regression model).

Crossover and mutation

This crossover operator creates new offspring from the set of individuals selected to be combined. In addition, the implemented crossover operator is the single point crossover with a random pairing process that assigns an equal probability to each individual. The mutation operator randomly modifies the value in a cell of the individual selected to be mutated. The mutation rate in the experiment is set to 2%.

3.3.3 | Algorithmic flow

The algorithmic flow of the proposed model, named the genetic linear mixed model (GLMM), is shown in Figure 1, where generateExtendedInputMatrix(·) is the function that generates the initial dataset with $K + \binom{K}{2}$ variables, IGA(·) is the integer genetic algorithm defined in Section 3.3.2 for the selection of the variables included in the fixed effects and the random effects, and the superscript is used to denote the iteration within the estimation procedure.

4 | RESULTS

4.1 | Univariate analysis

The descriptive results show how individuals from the three organizations achieve high mean values in certain human values (Tables 1 and 2), namely, benevolence ($\overline{x}$=0.9240), universalism ($\overline{x}$=0.9044), tradition ($\overline{x}$=0.8299) and self-direction ($\overline{x}$=0.7709) and low mean values in others, namely, power ($\overline{x}$=0.2957), achievement ($\overline{x}$=0.4088) and stimulation ($\overline{x}$=0.5772). However, these high values declared by the subjects are not those that reach a higher level of correlation with the perception of authenticity at work. The human values that have a higher correlation coefficient with the perception of authenticity are, with a negative sign, achievement (ρ = -0.1429) and power (ρ = -0.1047). These results mean that the organization's culture rejects certain values, but no one's values are perceived as an authentic experience source. At the entity level, there are particularities between entities, and certain human values seem to have a degree of positive correlation with authenticity, such as, for example, tradition and benevolence in Entity 1 and tradition and universalism in Entity 2.

GLMM($\mathcal{D}$):

Require: Training set: $\mathcal{D} = \{\mathbf{X}, \mathbf{y}\}$, where $\mathbf{X} \in \mathbb{R}^{N \times K}$ and $\mathbf{y} \in \mathbb{R}^{N}$.

Ensure: Optimized LMM: $\{\boldsymbol{\beta}, \mathbf{b}_1, \ldots, \mathbf{b}_m\}$.

$\mathbf{X}^E \leftarrow$ generateExtendedInputMatrix($\mathbf{X}$).

$\mathbf{P} \leftarrow \text{IGA}(\mathbf{X}^E, \mathbf{y})$.

$\widehat{\boldsymbol{\beta}}^{(0)} \leftarrow (\mathbf{P}^T\mathbf{P})^{-1}\mathbf{P}^T\mathbf{y}$.

for $j = 1$ until m **do**

  $\mathbf{Z}_i \leftarrow \text{IGA}(\mathbf{X}^E, \mathbf{y} - \mathbf{P}_i\widehat{\boldsymbol{\beta}})$.

  $\widehat{\mathbf{b}}_i^{(0)} \leftarrow (\mathbf{Z}_i^T\mathbf{Z}_i)^{-1}\mathbf{Z}_i^T(\mathbf{y} - \mathbf{P}_i\widehat{\boldsymbol{\beta}}^{(0)})$

  $\widehat{\boldsymbol{\epsilon}}_i^{(0)} \leftarrow (\mathbf{y} - \mathbf{P}_i\widehat{\boldsymbol{\beta}}^{(0)}) - \mathbf{Z}_i\widehat{\mathbf{b}}_i^{(0)}$

end for

$\widehat{\sigma}^{2(0)} \leftarrow \frac{\sum_{i=1}^{m}\widehat{\boldsymbol{\epsilon}}_i^{T(0)}\widehat{\boldsymbol{\epsilon}}_i^{(0)}}{N-\sum_{i=1}^{m}z_i}$

$\widehat{\mathbf{D}}^{(0)} \leftarrow \frac{\sum_{i=1}^{m}(\widehat{\mathbf{b}}_i^{(0)}\widehat{\mathbf{b}}_i^{T(0)})}{m\widehat{\sigma}^2} - \frac{\sum_{i=1}^{m}(\mathbf{Z}_i^T\mathbf{Z}_i)^{-1}}{m}$

for $r = 1$ until R **do**

  $\widehat{\boldsymbol{\beta}}^{(r)} = (\mathbf{P}^T\mathbf{W}^{(r-1)}\mathbf{P})^{-1}\mathbf{P}^T\mathbf{W}^{(r-1)}\mathbf{y}$

  for $j = 1$ until m **do**

    $\widehat{\mathbf{b}}_i^{(r)} \leftarrow (\mathbf{Z}_i^T\mathbf{Z}_i)^{-1}\mathbf{Z}_i^T(\mathbf{y} - \mathbf{P}_i\widehat{\boldsymbol{\beta}}^{(r)})$

    $\widehat{\boldsymbol{\epsilon}}_i^{(r)} \leftarrow (\mathbf{y} - \mathbf{P}_i\widehat{\boldsymbol{\beta}}^{(r)}) - \mathbf{Z}_i\widehat{\mathbf{b}}_i^{(r)}$

  end for

  $\widehat{\sigma}^{2(r)} \leftarrow \frac{\sum_{i=1}^{m}\widehat{\boldsymbol{\epsilon}}_i^{T(r)}\widehat{\boldsymbol{\epsilon}}_i^{(r)}}{N-\sum_{i=1}^{m}z_i}$

  $\widehat{\mathbf{D}}^{(r)} \leftarrow \frac{\sum_{i=1}^{m}(\widehat{\mathbf{b}}_i^{(r)}\widehat{\mathbf{b}}_i^{T(r)})}{m\widehat{\sigma}^{2(r)}} - \frac{\sum_{i=1}^{m}(\mathbf{Z}_i^T\mathbf{Z}_i)^{-1}}{m}$

end for

return $\{\boldsymbol{\beta}^{(R)}, \mathbf{b}_1^{(R)}, \ldots, \mathbf{b}_m^{(R)}\}$.

FIGURE 1 GLMM framework

	Overall		
	$\overline{x}$	sd	ρ
Universalism	0.9044	0.1299	0.0612
Benevolence	0.9240	0.1264	0.0120
Conformity	0.6511	0.2341	-0.0802
Security	0.7250	0.2264	-0.0708
Tradition	0.8299	0.1844	0.0590
Hedonism	0.6130	0.2434	0.0242
Self-Direction	0.7709	0.1809	0.0517
Stimulation	0.5772	0.2410	0.0713
Achievement	0.4088	0.2687	-0.1429
Power	0.2957	0.2076	-0.1047

TABLE 1 Univariate Analysis (overall results): mean ($\overline{x}$), standard deviation (sd) and correlation coefficient with authenticity (ρ)

	C_1			C_2			C_3		
	$\overline{x}$	sd	ρ	$\overline{x}$	sd	ρ	$\overline{x}$	sd	ρ
Universalism	0.9026	0.1281	0.0965	0.8534	0.1325	0.2029	0.9362	0.1144	0.0823
Benevolence	0.9109	0.1290	0.1458	0.9036	0.1221	0.0374	0.9518	0.1136	0.0002
Conformity	0.5864	0.2337	-0.1016	0.7119	0.2022	0.0694	0.6850	0.2370	-0.0784
Security	0.6673	0.2321	-0.1431	0.7577	0.2036	-0.0534	0.7558	0.2245	0.0071
Tradition	0.7490	0.1912	0.1794	0.8554	0.1626	0.2378	0.8795	0.1663	0.0439
Hedonism	0.6390	0.2314	-0.0125	0.6083	0.2341	0.0179	0.5896	0.2562	0.0053
Self-Direction	0.7949	0.1618	0.1273	0.7762	0.1827	0.0366	0.7589	0.1906	-0.0062
Stimulation	0.5924	0.2364	0.0601	0.6065	0.2374	0.0926	0.5545	0.2434	0.0509
Achievement	0.4318	0.2418	-0.2583	0.5006	0.2733	-0.2415	0.3517	0.2715	-0.1405
Power	0.3084	0.1998	-0.1552	0.3595	0.2183	-0.2121	0.2552	0.1984	-0.1171

TABLE 2 Univariate Analysis (results per class): mean ($\overline{x}$), standard deviation (sd) and correlation coefficient with authenticity (ρ)

4.2 | Multivariate analysis

These univariate results are limited because human values' interrelation allows us to better explain which values are perceived in the organization (Schwartz, 2006). Table 3 shows the linear mixed models obtained by the global optimization algorithm. Specifically, Table 3 presents both fixed and random effects for the three institutions under study: the traditional goodness-of-fit measures (root mean square error, R-squared and adjusted R-squared) and the set of regressors associated with each institution model (including their estimate, standard error, t-statistic, and p value). Additionally, we have included in boldface the regressors (or even the intercepts) used mainly in the Discussion section to theoretically justify the statistical results (and their connections with previous studies). The coefficient of determination displays acceptable predictive relevance to the random effects of C_1 (R-squared: 0.2145), C_2 (R-squared: 0.2301), and C_3 (R-squared: 0.2228). Additionally, this multilevel research identifies which human values are specific to the sector and the type of educational center (fixed effects) compared to the values of the entity (random effects). Therefore, multilevel analysis displays fixed and random effects. The first explains the sector's human values or combinations, and the second explains the entities' particularities.

4.2.1 | Fixed effects

The fixed effects display the common elements between the three institutions. Table 3 shows a high intercept value (0.75432). This implies that the workers surveyed feel very authentic in their work (regardless of their human values), which means that the values with higher averages are values of the organization's culture. In this research, the workers of these organizations manifest high averages and low standard deviations in the human values of benevolence and universalism, corresponding to the higher-order dimension called self-transcendence (Schwartz, 1992).

The negative coefficient of the power variable reveals that this level of authenticity can suffer if the individual reports a high score in this human value. The observed interactions show us the combined effect of a couple of human values on the level of authenticity. If that interaction contains a human value that shows a direct effect (in our case, power), the interpretation is that the other human value of the interaction exerts a moderation effect. For example, the interaction of tradition x power with a positive sign (0.28693) means that since power has a direct and negative effect on authenticity (-0.27273), if the individual shows a high level of tradition, then the negative effect of the power rating is compensated. Conversely, when the interaction does not incorporate any value with a direct

Statistical properties of the GLMM model				
	Estimate	SE	t-statistic	p-value
Fixed Effects				
(Intercept)	0.75432	0.01425	52.90443	2.4E-256
Power	-0.27273	0.08143	-3.34935	0.00085
Security × Achievement	-0.10865	0.02781	-3.90596	0.00010
Tradition × Power	0.28693	0.09251	3.10157	0.00199
Self-Direction × Stimulation	0.07461	0.02478	3.01060	0.00269
Random Effects C_1				
(Intercept)	0.04026	0.03538	1.13771	0.25638
Stimulation	-0.15436	0.05940	-2.59841	0.00994
Universalism × Tradition	0.14279	0.04283	3.33356	0.00099
Universalism × Power	-0.22433	0.09177	-2.44391	0.01525
Conformity × Stimulation	0.20286	0.08236	2.46311	0.01447
Conformity × Achievement	-0.41081	0.09503	-4.32262	2.2E-05
Achievement × Power	0.54621	0.15507	3.52221	0.00051
Statistics:				
Root Mean Squared Error: 0.07				
R-squared: 0.2145				
Adjusted R-Squared: 0.1919				
Random Effects C_2				
(Intercept)	0.01883	0.05141	0.36622	0.71477
Security	-0.16821	0.08523	-1.97363	0.05047
Universalism × Conformity	0.27057	0.07358	3.67722	0.00033
Conformity × Power	-0.76414	0.20123	-3.79734	0.00022
Security × Power	0.62214	0.19471	3.19525	0.00173
Statistics:				
Root Mean Squared Error: 0.06				
R-squared: 0.2301				
Adjusted R-Squared: 0.2082				
Random Effects C_3				
(Intercept)	-0.01224	0.03289	-0.37222	0.70998
Universalism × Hedonism	0.36894	0.10096	3.65384	0.00030
Benevolence × Conformity	-0.41567	0.09006	-4.61514	5.7E-06
Conformity × Security	0.49757	0.10525	4.72741	3.4E-06
Security × Hedonism	-0.48747	0.11927	-4.08733	5.5E-05
Statistics:				
Root Mean Squared Error: 0.08				
R-squared: 0.2228				
Adjusted R-Squared: 0.2045				

TABLE 3 GLMM model obtained during the optimization process (SE: standard error of the coefficients)

effect, the interpretation is that the combination of both variables is one that shows the described effect; for example, a high security and achievement score would imply a decrease in the level of authenticity (-0.10865).

4.2.2 | Random effects

In each institution, the combination of human values related to authenticity at work is identified in the fixed and random effects. The interpretation of human values combined is the same as that expressed for fixed effects but considers all relationships as a single model.

The educational centers of Entity 1 show an initial level of authenticity higher than that presented by similar schools (Intercept=0.04026), which implies greater support for dominant values with less variability (benevolence and universalism). In this institution, individuals who value stimulation perceive a lower authenticity at work (-0.15436), but two moderation effects mitigate this direct and adverse relationship, namely, self-direction x stimulation (0.07461) and conformity x stimulation (0.20286). On the other hand, power, which has a direct negative effect on all institutions, adds to the moderating effect of tradition, which is described in the fixed effects, a positive and very intense effect of achievement x power (0.54621) that would completely nullify the negative effect of power. Likewise, there is another negative effect if the subject also reveals high scores in universalism x power (-0.22433). Finally, the model reports two cases of a combination of values that are significantly related to the dependent variable in this institution. Individuals who manifest universalism and tradition (0.14279) increase their level of authenticity at work, while those who declare conformity and achievement reduce their authenticity (-0.41081).

Entity 2 reports a similar initial level of authenticity to those of the remaining entities of the study. The model shows that security is a human value that directly and negatively affects authenticity at work (-0.16821). In this case, the model presents two human values that individually relate negatively to the dependent variable (power and security); however, the combination of these values reports a positive effect of higher value than the individual negative effect; that is, the institution promotes both values together, but not just one. On the other hand, there is an additional moderating effect reported in the fixed effects of the relationship between power and authenticity at work. The effect of conformity x power (-0.76414) reinforces this negative relationship. Finally, this institution reveals a combination of human values positively related to the dependent variable; that is, universalism and conformity reveal a positive effect (0.27057).

The third institution, similar to the second, starts from a level of authenticity at work that is similar to that of the set of entities analyzed. However, in this institution, in addition to the combinations shown in the fixed effects, four pairs of human values are observed as being related to the dependent variable. Thus, hedonism, if combined with universalism, reports a positive effect (0.36894), while if combined with security, it shows a negative effect (-0.48747). On the other hand, workers who show conformity and benevolence together feel less authentic (-0.41567); however, combining conformity and security makes workers feel authentic (0.49757).

5 | DISCUSSION AND RESEARCH IMPLICATIONS

5.1 | Discussion on key findings and diagnosis of the entities

This model presented in this research allows a diagnosis of the entities studied. First, Entity 1 maintains a central discourse that is in keeping with the human values of benevolence and universalism. Specifically, this entity is characterized by the following features:

- The exercise of power is linked to the promotion of traditions and the achievement of results; in contrast, when one who feels called to the exercise of power is concerned about the well-being of others who are not close, a feeling of frustration occurs.

- Conservative values (security and conformity) are positively linked to social or organizational recognition (achievement).
- Openness to change is not a vital feature of the organization, although it is tolerated when individuals seek to develop it in a manner that is consistent with the organization's expectations.

Entity 2 maintains the same central discourse as that of Entity 1 regarding self-transcendent values but presents its nuances in the exercise of conservative values:

- The entity does not promote security unless the individual is entrusted with the responsibility (power). This relation could be explained by the third principle of the theory of human values by Schwartz (2006), which relates values and anxiety. This principle explains that self-enhancement and conservation values help manage the anxiety generated by the world's uncertainty and society. Hence, people seek to maintain existing order (security) and curb threats (power).
- The institution promotes power from conservative keys of searching for security and respect for traditions and norms. However, the exercise of power is not compatible with meeting the expectations of others.
- The latter type of conformist individual feels authentic when sharing the dominant discourse of universalism.

Entity 3 shares the dominant discourse of the other two entities, although it has some distinct features:

- The entity accepts that individuals seek safety because they try to meet the expectations that others have about them. However, this does not seem compatible with an aspiration to happiness.
- The values of the dominant discourse show slight nuances in this entity. The entity reinforces the value of universalism if there is a search for personal gratification and joy. In contrast, people called primarily to benevolence and who wish to not engage in conflict with others experience a particular frustration; i.e., the entity cannot combine both aspirations.

5.2 | Theoretical implications

The human values that an entity desires its workers to develop within their activities require that individuals personally identify with them and that the organization allows workers to feel that those values are part of the organizational culture. This research displays a strategy of transitioning from individual human values to their visualization in the organization through authenticity at the work scale. In this strategy, the individual reports self-perceptions about their human values and authenticity experience. Other academic proposals build alternative organizational scales rated by individuals' perceptions of the entity (such as Wetzelhütter et al. (2020)). Reliability appears higher in the first approach than in alternative views.

The determination of the values of an organization is a complex issue in which it is necessary to study the interactions between them. Schwartz (2006) already described the interactions between human values. This paper confirms the continuous character of his axiological proposal. Likewise, when analyzing three entities that deploy their activities in the same sector and share a similar goal (organizations of Catholic inspiration), they are found to share some common human values but also have other distinctive ones. Therefore, the issue of how charisma is rooted in each institution requires a multilevel analysis to distinguish fixed effects from random effects.

These combinations of self-transcendent and conservationist values shown by the results are in line with the second principle of the theory of human values (Schwartz, 2006). Schwartz (2006) explains that the values that corre-

spond to self-transcendence and conservation are related, as they deal primarily with the type of social relationships among individuals and their impact on others. Previous academic evidence points out that religiosity is related to the social dimensions of Schwartz taxonomy. For conservation values, see (Schwartz and Huismans, 1995); for conservation and self-transcendence, see (Saroglou et al., 2004).

This research also allows us to draw some conclusions about Catholic-inspired nonprofit entities. First, the human values of benevolence and universalism are a central part of the discourse of the sector that we could qualify as self-transcendent, according to the higher-level dimensions formulated by Schwartz's theory. On the other hand, Schwartz (2012) studies the hierarchy of values, and benevolence occupies first place in the ranking of importance. The explanation is that this human value comes from the centrality of positive and cooperative social relations generated in the family environment, which is the environment where human values are acquired. Catholic educational centers carry out a closed defense of the family institution, so is not surprising that this value is the core of the institutional discourse. For its part, universalism is the second value in the ranking since it also aims to generate social relations with those who are not part of the group. For example, several studies have shown that feelings toward immigrants are more favorable among people who claim to have a high identification with universalism (Davidov et al., 2020) or with the dimension of self-transcendence, as shown in several waves of the European Social Survey , i.e., the second wave (2002-2003) according to (Davidov et al., 2008) and the second, third and fourth waves (2002-03, 2004-05 and 2006-07) according to (Davidov and Meuleman, 2012).

On the other hand, the low level of identification with the human value of power is generalized since it has a reduced average value and presents a negative coefficient in its relationship with authenticity. Schwartz (2012) explains that pursuing power values may harm others and damage social relations. However, there is a combined and positive effect with tradition, which reveals that there are individuals who aspire to power to maintain the rules and customs (tradition); while this does not diminish their authenticity, they do feel more authentic in the organization. This aspiration to exercise power is probably found in people with responsibility. This exercise of power does not manifest itself with a high average value, so it could be interpreted that it does not obey an institutional value but rather an exercise of responsibility. Schwartz (2012) states that power helps motivate individuals to work toward the organization's goals. There are studies in which self-enhancement values emerge as the most relevant to success in a business environment (Gaile et al., 2022). Employees in religious entities are very likely to share the religious ideology of the titular institutions. There is empirical evidence showing that religious sentiment relates to the human values of tradition and conformity (Saroglou et al., 2004).

One of the most relevant aspects of our results in theoretical terms is confirming the circular character of Schwartz's theory for this context. Following the circular reasoning of Schwartz's theory, an individual should not show high scores in two values far apart in the circle; thus, if this situation is presented, it should cause a situation of inauthenticity and therefore present a negative sign. Thus, in Entity 1, the combination of tradition x universalism and conformity x achievement show negative relationships with authenticity, and in Entity 3, it is the combination of security and hedonism. Identifying the three entities with the self-transcendence values of benevolence and universalism contrasts with the low level of identification with the human value of power that belongs to self-enhancement.

In contrast, when values are close in the circle, their interaction has meaning, as explained by Schwartz (2006); thus, we observe positive or negative effects on authenticity. Therefore, they are considered either combinations that are part of the culture or combinations that are not compatible with the culture of the organization, for example, with a positive sign, achievement x power in Entity 1, security x power in Entity 2, or conformity x security in Entity 3. These combinations show that the people who possibly exercise power recognize the achievement or seek the institution's security. On the other hand, with a negative sign, benevolence x conformity shows that it is not possible to reconcile concern for the welfare of close people and social acceptance in Entity 3.

Faced with this contrast of Schwartz's theory, we also observe some outliers in this reasoning due to specific considerations. On the one hand, human values are in opposite dimensions with positive signs in their relationship with authenticity, although they should generate situations of personal contradiction. These combinations are conformity x stimulation in Entity 1 and universalism x hedonism and security x hedonism in Entity 3.

5.3 | Practical implications

Currently, the link between ethical culture and corporate governance is a relevant research topic (da Silveira, 2022). This work also has several beneficial practical implications for the governance of values-based organizations. Gashi et al. (2017) underline the role of value management in organizations and quantify values to understand assets as the entity's human capital. First, if an organization achieves charismatic management, then the principal values of the entity should be the human values that characterize its employees who act authentically at work. For this reason, this research contributes with an instrument to evaluate their charismatic management in the workplace and help human resources align with this purpose. Second, when organizations achieve workers with a high level of authenticity, it results in a wide range of positive effects. They feel they are doing meaningful work (Reich et al., 2013), such as achieving a higher level of work engagement (Ortiz-Gómez et al., 2020) and well-being (Ariza-Montes et al., 2019).

The values that predominate in organizational culture are those expressed by its workers who feel authentic. Therefore, this research contributes to the governance of value-based organizations by identifying the principal values in their organizational culture, providing a model to identify them through the human values of workers who feel authentic in their work. On the one hand, the univariate model should be used at a descriptive level to define the profile of the subjects working in the sector. Since the intercept is very high in the case study, they are subjects with described human values who feel authentic in their work. Therefore, the profile of the workers in the sector is self-transcendent (Yahyaoui et al., 2023). The model considers benevolence and universalism as constant since they have very high averages and very low standard deviations. In other words, even though the significant relationships between benevolence and universalism with authenticity are not evident, the profile of the sector's workers is self-transcendent. On the other hand, the multivariate model is the one that will define the specific human values on which the management of organizations must work to improve the authenticity of workers.

Our empirical study also suggests interesting paths for particular organizations. An appropriate strategy for the governance of these entities that are characterized by conservative values could be to promote authenticity through those values related to conservation. If these organizations were interested in promoting greater openness to change for strategic reasons, the way to do so would be through a value of the conservation dimension, namely, conformity, thanks to the interrelation between these values.

Although this research is developed among nonprofit religious organizations, some obtained evidence could be valuable for profit-oriented institutions. For-profit firms are increasingly looking for new human resources management models that extend beyond economic motivations and allow workers to find meaning in their work. Employees are also increasingly searching for companies with cultural values similar to their own human values.

5.4 | Limitations and future research

Despite the theoretical and practical contributions, this investigation is not without some methodological limitations. First, the data obtained come from individual assessments, which means that they contain possible subjective biases in the answers. According to de Carvalho Chinelato et al. (2015), this could be improved with objective measures. Second, although the results could be extrapolated to other organizations, they are based on Catholic institutions

located in the geographic area of Spain. Third, the model was tested in Christian religious organizations. Hence, future research could try to rerun the analysis in organizations of other religions, such as Judaism, Islam, Orthodox, etc.

Fourth, our results suggest that the workers' role in the organization may influence the organization's values. For example, managers may display higher levels of self-enhancement and conservationist values to preserve the organization's viability. One possible extension of this paper is to assess the organizations' values distinguishing between employees and managers through random effects. Fifth, we tested our model on religious institutions. They are a particular setting where institutions focus on generating an organizational culture rooted in values; however, a generalization of this methodology would require exploring other frameworks. Future research could prove that this model is also valid in for-profit entities.

6 | CONCLUSIONS

This investigation contributes to the field of management research, where there is still a lack of research on human values in the work context. This research provides a model with which to measure the main cultural values of an organization through the internal human values, as defined by Schwartz, of workers who feel authentic. The relationship between Schwartz's human values and authenticity is complex, as there is not just one interaction between these values and the variable authenticity; rather, these values also interact between themselves, as Schwartz's theory explains. To this end, due to the peculiarities of the context, where the promotion of values is the institution's mission, this study is developed among three nonprofit and faith-based organizations devoted to general and professional education. Hence, in summary, the main contributions of this article are as follows:

- This paper develops a theoretical model built from data to theory based on the human values of the organization's workers who feel authentic. This approach offers an alternative method for measuring organizational values where the subject reports personal experiences and the measurements are not simply observed organizational values.
- The current article determines the human values set that both individually and combined explain the authenticity construct, which allows for identifying the human values that are promoted in an entity.
- Our empirical design uses a multilevel model that allows us to determine the fixed and random effects between the variables' model, considering their dynamic and circular structure defined by Schwartz. The multilevel approach could be very helpful for reaching conclusions about a set of institutions operating within a sector.

Data Availability Statement

The data used in the study are available upon request to the authors.

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