BJRS
BRAZILIAN JOURNAL OF RADIATION SCIENCES

doi.org/10.15392/2319-0612.2024.2768
2024, 12(4B) | 01-18 | e2768
Submitted: 2024-09-08
Accepted: 2025-03-09

Study of Organizational Management through Implicit and Explicit Association Measures in Public and Private Management

Martins[a]*, M. P. S. ; Sabundjian[a] G.

[a]Instituto de Pesquisas Energéticas e Nucleares

Correspondence: penhamartins@yahoo.com.br

Abstract: This study aims to identify the main characteristics of organizations regarding employees' perceptions, paradigms and prejudices regarding organizational management. Although the Institute of Energy and Nuclear Research (IPEN-SP) and the University of Rio Verde (UniRV - GO) were chosen to conduct this research, this study will present the results of the application of a questionnaire (explicit test) only to a group of IPEN employees. The topics addressed in this research were: bureaucracy, organizational participation, and innovation, among others. Due to the cultural diversity in Brazil and consequently in companies, there are several models of organizational management. However, for the scope of this study, two models are considered: participatory management, focused on innovation, and autocratic management, in which the manager makes decisions unilaterally, without the participation or consultation of employees. These two management models were chosen to stimulate the behavioral profile of employees, that is, it is a way of understanding and identifying the employee's reaction or positioning in a specific situation. The methodology used as a data collection instrument involves the Implicit Association Test (IAT) (unconscious) and explicit (conscious) which is done through a questionnaire. This paper will only present the explicit association test (questionnaire) that was applied to IPEN employees. To apply the implicit association tests, the FreeIAT software will be used, although its application will be done in the next phase of this work as described in this article. The first results of the explicit association test (questionnaire) demonstrate, through the calculation of Cronbach's alpha, its high consistency and reliability.

Keywords: organizational culture, organizational climate, organizational management, neuroscience, implicit memory.

BJRS
BRAZILIAN JOURNAL OF RADIATION SCIENCES

doi.org/10.15392/2319-0612.2024.2768
2024, 12(4B) | 01-18 | e2768
Submitted: 2024-09-08
Accepted: 2025-03-09

Estudo da Gestão Organizacional por meio de Medidas de Associação Implícita e Explícita na Gestão Pública e Privada

Resumo: Este trabalho tem o objetivo de identificar as principais características das organizações quanto às percepções, paradigmas e preconceitos dos colaboradores em relação à gestão organizacional. Embora tenham sido escolhidos, o Instituto de Pesquisas Energéticas e Nucleares (IPEN-SP) e a Universidade de Rio Verde (UniRV - GO), para a realização desta pesquisa, neste trabalho serão apresentados os resultados da aplicação de um questionário (teste explícito) apenas para um grupo de colaboradores do IPEN. Os temas abordados nesta pesquisa foram: burocracia, participação organizacional e inovação, entre outros. Devido à diversidade cultural no Brasil e consequentemente nas empresas, existem vários modelos de gestão organizacional. Porém, para o escopo deste trabalho, são considerados dois modelos: a gestão participativa, focada em inovação e a gestão autocrática em que o gestor toma decisões unilateralmente, sem a participação ou consulta aos colaboradores. Esses dois modelos de gestão foram escolhidos para estimular o perfil comportamental dos colaboradores, ou seja, é uma forma de entender e identificar a reação ou posicionamento do colaborador diante de uma situação específica. A metodologia utilizada como instrumento de coleta de dados envolve os Testes de Associação Implicita (TAI) (inconsciente) e explícita (consciente) que é feita por meio de um quesitonário. Neste trabalho será apresentado apenas o teste de associação explícita (questionário) que foi aplicado aos colaboradores do IPEN. Para a aplicação do teste de associação implicita será utilizado o software FreeIAT, embora estaja descrito neste artigo a sua aplicação será feita na apróxima fase deste trabalho. Os primeiros resultados do teste de associação explícita (questionário) demonstram, por meio do cálculo do alfa de Cronbach, a sua alta consistência e confiabilidade.

Palavras-chave: cultura organizacional, clima organizacional, gestão organizacional, neurociência, memória implícita.

SBPR

1. INTRODUCTION

Good public management is essential for the effective and sustainable development of scientific and technological research. Public administration plays a crucial role in ensuring that resources earmarked for research are allocated efficiently, transparently and directed to strategic areas that can bring economic, social and environmental benefits to society. Stands out some essential aspects of the importance of this management.

Efficient Allocation of Resources: Efficient public management ensures that funds earmarked for research are distributed in a fair and strategic manner. This involves identifying national priorities, promoting areas of research that have the potential to drive technological development and innovation, and funding projects that provide solutions to relevant problems in society. Poor management of resources can lead to a lack of progress in critical areas or to duplication of efforts, wasting public money [1].

Transparency and Accountability: Transparency in public management is vital to maintaining the trust of the population and the scientific community. When funding processes are clear and fair, this encourages the participation of more researchers and institutions, creating an environment of healthy competition and innovation. Furthermore, accountability ensures that funds are used for their intended purposes, preventing corruption and misappropriation of resources [2].

Creating Incentive Policies: Good public management also involves creating and implementing policies that encourage research and innovation. This may include granting grants, creating partnerships between the public and private sectors, and promoting training programs to train new researchers. Well-designed policies encourage the creation of an environment conducive to research, facilitating scientific and technological advances [1].

Long-term Sustainability: For research to have a lasting impact, planning that considers the long-term sustainability of projects is necessary. Public management must ensure that research projects not only begin but can also be maintained until completion, with positive impacts on society. This includes providing continued resources and institutional support for research initiatives. [3]

Integration between Research and Public Policy: Public management must promote the integration between research results and public policies. This means that scientific discoveries should be used to inform policymaking, contributing to the resolution of social problems and improving the quality of life of the population. An example of this is the use of health research data to develop disease prevention policies [4].

The dynamics and evolution of organizations require closer alignment of their objectives with people management. Employee participation in decision-making is essential to achieve unity between employees and the organization, thus increasing sustainability, performance and organizational competitiveness [5]. The challenges and opportunities that arise due to cultural, political and technological factors in organizations directly impact the mission, strategy and organizational structure [6]. Although there are several models of organizational management, this paper will focus on two models: participatory management, focused on innovation, and autocratic management in which the manager makes decisions unilaterally, without the participation or consultation of employees. These two management models aim to influence employee behavior, thus predicting their responses to specific challenges and stimuli. This approach allows for a deeper understanding and identification of how employees are likely to react or position themselves in a given situation. However, for innovation to evolve within organizations, certain factors must be present, including the characteristics of an innovation-oriented culture. This includes clear and open communication, encouraging the expression of opinions, sharing knowledge, and tolerance for human error, among other factors, as described in Table I, [7, 8, 9].

Table I: Parameters between participative management (culture of innovation) and autocratic management (standard culture)

CATEGORY	Participative Management	Autocratic Management
POWER RELATIONSHIP How power is organized and distributed in the organization and the formal relationships established between leaders and followers.	• Participative management • Low hierarchical distance • Decentralization • Valuing knowledge at all hierarchical levels • Encouragement of autonomy • Entrepreneurial behavior • Commitment and involvement • Supportive relationship between leader and subordinate • Freedom for innovation	• Autocratic management • High hierarchical distance • Centralization of power • Power inequality • Paternalistic stance – leader • Spectator stance – led • Transfer or dilution of responsibility • Leader/follower interdependence relationship
AVERSION TO UNCERTAINTY How you deal with risk, uncertainty and error.	• Low level of formalism • Little bureaucracy • Avoid blame culture • Freedom to take risks • Freedom to make mistakes • Risk tolerance • Know how to deal with ambiguity	• Formalism – maximization of risk aversion and control of uncertainty, greater need for predictability of things, which translates into an excess of laws, norms and rules • Fear of making mistakes • Ease of dealing with ambiguity in the “Brazilian way”
FLEXIBILITY AND PLASTICITY How people and organizations deal with change.	• Recognition of the importance of innovation • Challenge and belief in action Trust and openness • Dynamism and orientation towards the future • Organizational structure: autonomy and flexibility Reconhecimento da importância da inovaçã.	• Ability to adapt and adjust to different situations • Tolerance for breaking rules • Creativity • Easy assimilation of foreign practices and customs resulting from miscegenation Capacidade da adaptação e ajuste a diversas situações
CONFLICT MANAGEMENT How negotiations, conflicts and decision-making are managed.	• Conflict tolerance • Challenging work • Freedom to take risks • Degree of interaction between functions • Space for debates, accepting conflict • Confidence and openness to accept criticism, listen better and open	• Low tolerance for conflict • Valuing relationships, which facilitates group work • Demonstration of emotions and feelings • Cordiality – difficulty saying no • Discomfort with open
COMMUNICATION How interactions and exchange of significant information occur in the organization.	• Clear and open communication • Space for expressing opinions • Assertiveness • Face-to-face communication • Two-way, symmetrical communication • Many opinions conveyed and considered	• Low participation in decision-making processes • Asymmetric communication • Informal communication • Prolixity
INTERPERSONAL RELATIONSHIPS How individuals relate to each other in everyday life.	• Recognition of efforts and achievements • Existence of clear criteria for judging innovation	• Personalism - importance of personal/relative interests to the detriment of collective/social interests • High degree of trust in a network of friends/relatives to solve problems • Obtaining or distributing
RESULTS ORIENTATION How you plan the process and manage time.	• Market orientation • Clear, defined and shared objectives • Focus on results • Time to develop tasks • Focus on identifying talent, recruiting, developing, training and encouraging and recognizing throughout the organization	• Recognition of the importance of adopting superior operational and management standards • Need to look for performance • Short-term orientation • Focus on the task and the process • Inefficient time management
THEORETICAL APPROACH	• Godoy (2009)	• Hofstede (1991); Tanure (2010)

In this complex environment, social interactions occur that require a greater understanding of the "organizational culture", which will facilitate the transformations and innovations that are rooted in public and private organizations. Through this understanding,

it will be possible to achieve the objectives proposed by the organization, integrating knowledge and technical expertise with political and personal dimensions.

The aim of this study is to measure the explicit associations of IPEN employees, through a questionnaire, in order to verify what their view is regarding the organizational culture of the institution.

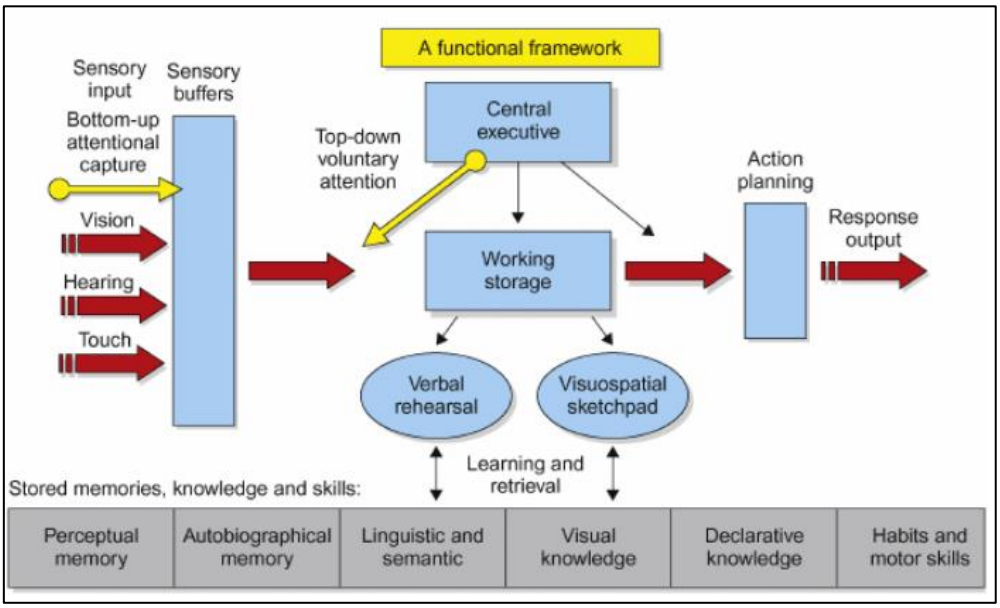
1.1. Memory functionality

This study also adopts a psychological perspective to study the relationships and interrelationships between individuals and their environment. This theoretical approach analyzes the affective and cognitive processes of individuals, exploring how they perceive and experience the organizational space in which they are inserted, with the aim of promoting a sense of social belonging[1].

An approach that integrates the aforementioned strategies is probably the most effective in increasing management awareness and influencing employee behavior. Part of this study is based on personal aspirations and psychological maturity, using explicit (conscious) and implicit (unconscious) memory techniques to assess possible biases associated with the organizational management models presented. The functionality of memory in this approach is illustrated in Figure 1 [10].

[1]The feeling of belonging refers to the psychological connection that the employee has with the company. In this scenario, the employee feels part of a community, which makes the organization more than just a professional bond..

Figure 1: Memory Functionality



2. MATERIALS AND METHODS

This study conducted an explicit association test (questionnaire) that was applied to 20 IPEN employees. This is a quantitative research study, with a Likert-type questionnaire, with levels of adherence ranging from 1 to 6. The questions were designed to address aspects of organizational management, climate and culture, and are divided into two tables: Table II contains questions 1 to 15 and Table III contains questions 16 to 30. Data collection was performed using the Microsoft tool via Google Forms.

Table II: Questionnaire Organizational Management – Question 1 to 15

Question Number	Affirmation
1	The institution's organizational structure facilitates effective internal communication between different areas (administrative and employees).
2	The institution has clear governance mechanisms that involve everyone's participation, increasing the chance of success in its activities.
3	There is a clear commitment to equity and inclusion at all levels of the organization (sector, management, and department).

Question Number	Affirmation
4	Decision-making strategies are efficient and have a positive impact on the quality of teaching and research.
5	Financial resources are allocated transparently and effectively to support core teaching and research activities.
6	The institution demonstrates financial management that ensures its long-term sustainability.
7	Significant investments are regularly made in infrastructure and technology to improve teaching and research.
8	There is a financial transparency policy that allows easy access to information by all employees of the institution.
9	The institution is successful in attracting and retaining high-quality faculty and staff.
10	Are there effective continuous professional development programs available for all employees.
11	Performance assessments are used as an effective tool for the professional development of staff.
12	The work environment promotes the inclusion of its collaborators
13	The teaching methodologies adopted by the institution promote innovation and student engagement
14	Research is integrated into teaching in a way that enriches the educational experience of students.
15	The institution offers adequate infrastructure to encourage research by students and faculty.

Table III: Questionnaire Organizational Management – Question 16 to 30

Question Number	Affirmation
16	There are agreements for research and teaching with other institutions, both national and international.
17	Extension programs effectively contribute to the institution's positive social impact.
18	The assessment of the social impact of extension activities is carried out regularly and used to improve the institution (professionals and students).
19	Social inclusion and sustainable development policies are clearly integrated into the institution's activities.

Question Number	Affirmation
20	The institution is at the forefront of adopting new research and teaching technologies.
21	Innovation and creativity are encouraged at all levels of the organization.
22	There are strategic partnerships with the private sector to promote innovation and entrepreneurship among its employees.
23	The institution has effective strategies to promote its internationalization.
24	International exchange programs are accessible and promoted among students and faculty.
25	There are incentives for scientific publications co-authored with researchers from foreign institutions.
26	There are well-established mechanisms for assessing the quality of teaching and research.
27	Feedback from students, permanent and temporary employees is systematically collected and used to improve the institution.
28	Institutional self-assessment processes contribute significantly to continuous development.
29	The institution is well prepared to face the current challenges of teaching and research.
30	There are clear plans to adapt to future changes and trends in the institution's education and research.

The 20 IPEN employees who participated in the survey varied in terms of gender, age and position, as can be seen in Tables VIII and IX in the results section.

This paper will only present the results of the explicit test, while the second stage, which is the application of the implicit test, presented below, will be published in a future paper.

After applying the explicit association test, using the previously presented (A widely used implicit test is the Implicit Association Test (IAT), which is used to measure implicit (unconscious) attitudes [11, 12, 13, 14, 15]. The IAT is a chronometric procedure that assesses the strength of participants' associations through response times [11]. Based on the analysis of response latency, it is proposed that exposure to an object to assess behaviors

related to values, attitudes, and norms can activate automatic mental reactions that influence response speed. This facilitates behavioral responses, such as key presses, when two concepts are strongly associated. Consequently, the IAT does not rely on intentionality and is capable of measuring attitudes and beliefs that individuals may be resistant to or unable to consciously articulate [11]. The most widely used tool for performing the IAT is the FreeIAT software, which allows the comparison of any two pairs of categories based on their associative strengths: A1 versus A2 (target categories) and B1 versus B2 (attribute categories). The concepts within each pair must be antagonistic and easily identifiable. Thus, the test was structured using the categories of participatory management and autocratic management, as illustrated in Tables IV and V [16].

The calculation of implicit association is performed by determining the difference between the number of responses in congruent (A) and incongruent (B) blocks, as outlined in the following Eq. 1:

$$IAT = A - B \tag{1}$$

This difference in average response latency between pairs (A and B) reflects the relative strength of the underlying association [17].

Table IV: Target Category Stimuli

PARTICIPATIVE MANAGEMENT	X	AUTOCRATIC MANAGEMENT
Participation		Centralization
Interaction		Authority
Collective		Individual
Collaboration		Dependency
Commitment		Unknown
Information		Obscure
Universal		Particular
Emotional		Neutral
Specific		Diffuse
Achievement		Assignments

Table V: Attribute Category Stimuli

GOOD	X	BAD
Courage		Cowardice
Loyalty		Betrayal
Creativity		Destructive
Peace		Tragedy
Security		Horrible
Joy		Sadness

To account for variability in scores due to differences in processing speed among participants, [18] proposed a more refined method for calculating this score: the D score. Specifically, the TAI scores derived from Equation 1 are divided by the standard deviation of all individual response latencies in both blocks. This method is described by Eq. 2:

$$Score\ D = \frac{(A - B)}{Standard\ Deviation} \quad (2)$$

Thus, upon completion of the test, each participant is assigned a *D* score ranging from -2 to +2. Scores close to -2 indicate a very strong implicit attitude against the research object, while scores close to +2 denote a very strong implicit attitude in favor of the object [18, 19].

Table VI presents the D-score values that define the strengths of association with the target categories A1 and A2, with the indexes shown being used for positive and negative values [20].

Table VI: D-score values for strength of association

ASSOCIATION FORCE			
Indiferent	**Weak**	**Strong**	**Very strong**
until 0.15	0.15 to 0.35	0.35 to 0.65	Above 0.65

Test reliability

Cronbach's alpha coefficient was calculated after the questionnaire and the FreeIAT were administered to the experts. This calculation was made to measure the consistency and reliability of the pre-test for both the implicit and explicit tests.

The statistical software Statistical Package for Social Sciences (SPSS®) [21] was used for this calculation. Internal consistency is directly related to the level of understanding of the participants in relation to the test, validating whether or not it is structured.

The coefficient can range from zero (unacceptable) to 1 (maximum reliability), with values equal to or greater than 0.7 being considered acceptable. The values that describe internal consistency using Cronbach's alpha are presented inTable VII.

Table VII: Reliability coefficient - Cronbach's alpha

Internal Consistency	Unacceptable	Poor	Questionable	Acceptable	Good	Excellent
Cronbach's Alpha	$0,5 > \alpha$	$0,6 > \alpha \geq 0,5$	$0,7 > \alpha \geq 0,6$	$0,8 > \alpha \geq 0,7$	$0,9 > \alpha \geq 0,8$	$\alpha \geq 0,9$

3. RESULTS AND DISCUSSIONS

The questionnaire was administered to the institution's employees, with participants randomly selected regardless of their functional roles. The data collected from the survey are summarized in Table VIII, with answers to questions 1 to 15 and Table IX, with answers from 16 to 30 and will be evaluated in the subsequent analysis.

Using the results obtained in the explicit association test, the Cronbach's alpha result for this test, obtained through the SPSS software, was 0.952, as can be seen in Table X. The Cronbach's alpha value was excellent, as shown in Table VII, and reveals that the questionnaire answered by the 20 IPEN employees proved to be consistent and reliable.

Table VIII: Data Collection Result - Question 1 to 15

Participantes	Sexo	Tempo de trabalho	Cargo	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
1	Masculino	21 a 30 anos	Chefia	6	3	3	2	3	2	1	6	1	3	1	2	3	3	3
2	Feminino	acima de 31 anos	Administrativo	4	3	3	2	2	3	3	2	3	4	3	4	3	3	4
3	Feminino	11 a 20 anos	Técnico	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4	Feminino	acima de 31 anos	Técnico	3	4	5	5	1	1	1	3	2	5	2	5	3	5	3
5	Feminino	11 a 20 anos	Administrativo	3	3	2	3	2	3	4	3	3	5	5	3	4	1	3
6	Feminino	21 a 30 anos	Administrativo	4	4	4	5	4	6	4	5	4	4	5	3	3	3	3
7	Feminino	0 a 5 anos	Administrativo	3	4	3	3	4	3	3	3	4	4	4	6	3	4	4
8	Feminino	21 a 30 anos	Chefia	4	3	4	4	5	5	3	3	2	3	3	5	5	5	5
9	Feminino	0 a 5 anos	Administrativo	5	3	2	4	4	3	2	4	5	1	2	3	3	5	5
10	Masculino	0 a 5 anos	Técnico	2	3	4	2	3	4	1	5	1	2	2	3	5	4	2
11	Masculino	11 a 20 anos	Técnico	5	4	4	3	6	4	3	6	3	2	2	2	2	3	4
12	Masculino	0 a 5 anos	Técnico	4	5	5	5	6	6	6	6	4	5	5	5	6	6	6
13	Masculino	0 a 5 anos	Técnico	5	5	5	5	4	5	3	4	3	5	5	4	5	4	4
14	Feminino	acima de 31 anos	Administrativo	3	2	2	3	3	2	3	1	2	2	2	2	2	3	2
15	Feminino	0 a 5 anos	Técnico	3	3	2	3	3	3	2	3	5	3	4	4	4	4	4
16	Masculino	0 a 5 anos	Administrativo	2	4	2	4	4	4	4	1	5	3	3	3	4	6	5
17	Feminino	acima de 31 anos	Técnico	2	2	2	3	3	5	4	3	1	2	1	3	3	2	1
18	Masculino	11 a 20 anos	Técnico	2	2	3	1	2	5	3	2	1	3	1	3	3	2	3
19	Masculino	0 a 5 anos	Técnico	5	4	4	5	5	6	5	5	6	5	4	5	6	6	5
20	Feminino	0 a 5 anos	Técnico	6	5	6	3	3	4	4	3	3	3	3	2	4	3	4

Table IX: Data Collection Result - Question 16 to 30

Participants	Sex	Working time (years)	Position	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
1	Masculine	21 to 30	Leadership	3	2	3	1	1	3	1	1	1	1	1	3	2	1	2
2	Feminine	above 31	Administrative	4	4	3	2	3	3	2	2	2	2	2	3	2	3	3
3	Feminine	11 to 20	Technical	1	1	1	1	1	1	1	1	3	1	3	2	1	2	2
4	Feminine	above 31	Technical	6	3	4	2	5	3	6	6	6	4	2	2	3	4	2
5	Feminine	11 to 20	Administrative	4	3	3	3	3	3	2	3	1	2	3	3	4	3	3
6	Feminine	21 to 30	Administrative	4	4	4	3	4	4	4	4	3	2	2	2	2	2	2
7	Feminine	0 to 5	Administrative	3	4	4	4	3	4	3	1	4	3	3	2	3	4	4
8	Feminine	21 to 30	Leadership	5	4	4	4	5	5	3	4	6	5	6	3	4	4	3
9	Feminine	0 a 5	Administrative	5	4	2	3	4	3	3	2	3	4	4	1	1	4	2
10	Masculine	0 to 5	Technical	2	3	2	3	3	4	2	1	2	3	5	2	4	2	2
11	Masculine	11 to 20	Technical	6	3	2	3	3	3	5	2	1	2	2	1	2	2	2
12	Masculine	0 to 5	Technical	6	6	6	5	6	6	6	5	5	6	6	6	6	6	6
13	Masculine	0 to 5	Technical	4	4	4	5	4	4	5	4	5	4	3	4	5	4	4
14	Feminine	above 31	Administrative	3	3	3	3	3	3	3	3	3	2	2	2	4	3	2
15	Feminine	0 to 5	Technical	4	4	4	1	5	1	3	4	3	3	4	1	6	3	3
16	Masculine	0 to 5	Administrative	5	4	4	2	5	5	5	4	5	4	3	2	5	4	1
17	Feminine	above 31	Technical	5	2	3	3	2	1	3	2	3	1	3	2	1	4	2
18	Masculine	11 to 20	Technical	4	4	3	4	4	4	2	5	2	1	3	2	5	4	3
19	Masculine	0 to 5	Technical	4	1	1	1	4	6	3	2	2	1	1	1	6	3	1
20	Feminine	0 to 5	Technical	5	3	3	2	4	3	4	3	3	2	3	3	2	3	3

Table X: Cronbach's alpha to explicit test (questionnaire)

Case Processing Summary

		N	%
Cases	Valid	20	100,0
	Excluded[a]	0	,0
	Total	20	100,0

a. Listwise deletion based on all variables in the pr

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,950	,952	30

Item Statistics

	Mean	Std. Deviation	N
Q1	3,600	1,4290	20
Q2	3,350	1,0894	20
Q3	3,300	1,3416	20
Q4	3,300	1,3018	20
Q5	3,400	1,4290	20
Q6	3,750	1,5517	20
Q7	3,000	1,3765	20
Q8	3,450	1,6376	20
Q9	2,950	1,5720	20
Q10	3,250	1,3328	20
Q11	2,900	1,4473	20
Q12	3,400	1,3139	20
Q13	3,600	1,3139	20
Q14	3,650	1,5313	20
Q15	3,550	1,3563	20
Q16	4,150	1,3089	20
Q17	3,300	1,1743	20
Q18	3,150	1,1821	20
Q19	2,750	1,2513	20
Q20	3,600	1,3139	20
Q21	3,450	1,4318	20
Q22	3,300	1,4903	20
Q23	2,950	1,5035	20
Q24	3,150	1,5652	20
Q25	2,650	1,4609	20
Q26	3,050	1,3945	20
Q27	2,350	1,1821	20
Q28	3,400	1,7290	20
Q29	3,250	1,1180	20
Q30	2,600	1,1425	20

Source: INTERNATIONAL BUSINES MACHINES, 2011 SPSS®.

4. CONCLUSIONS

The objective of this study was achieved, that is, it was possible to apply the explicit test to 20 IPEN employees.

The results obtained through the participants' responses were used in the SPSS software, and it was found that the explicit test proved to be consistent and reliable. This verification was possible through the calculation of Chrombah's alpha, which presented an excellent result, thus proving that the explicit test (questionnaire) can be applied with confidence to a greater number of participants from both IPEN and Uni-RV.

A next step in this study will be to apply the implicit test (FreeIAT software) in order to measure the unconscious responses of these same 20 IPEN employees. The consistency and reliability of these results will then be calculated in order to apply this test reliably to a greater number of research participants.

ACKNOWLEDGMENT

The authors would like to thank Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES) for the financial support provided for the development of the project and the Postgraduate Department from Instituto de Pesquisas Energéticas e Nucleares (IPEN).

FUNDING

I declare financial support to carry out research from the Coordination for the Improvement of Higher Education Personnel (CAPES) Process no. 88887.913059/2023-00

CONFLICT OF INTEREST

All authors declare that they have no conflicts of interest.

REFERENCES

[1] STIGLITZ**,** J. E. ***Economics of the Public Sector***. W.W. Norton & Company, 2000.

[2] OECD ***Government at a Glance 2015***. OECD Publishing, Paris, 2015.

[3] WORLD BANK . ***Innovation Policy: A Guide for Developing Countries***, 2010.

[4] MAZZUCATO, M. ***The Entrepreneurial State: Debunking Public vs. Private Sector Myths***. Penguin Books, 2018.

[5] HAU-SIU CHOW, I. The impact of institutional context on human resource management in three Chinese societies. ***Employee Relations***, v. 26, n. 6, p. 626–642, 1 jan. 2004.

[6] PROWSE, P.; PROWSE, J. Whatever happened to human resource management performance? ***International Journal of Productivity and Performance Management***, v. 59, p. 145–162, 19 jan. 2010.

[7] GODOY, R. S. P. De**. *Relations between Organizational Culture and Innovation Processes in Technology-Based Companies.*** 2009. Text – University of São Paulo, 2009. Available at: http://www.teses.usp.br/teses/disponiveis/18/18140/tde-20102009-164640/. Accessed on: Nov. 19, 2023.

[8] HOFSTEDE, G. ***Cultures and organizations: software of the mind***. London: McGraw-Hill, 1991. 279 p. Disponível em: http://www.gbv.de/dms/hbz/toc/ht003861405.PDF. Acesso em: 11 mai. 2021.

[9] TANURE, B. Management in the Brazilian Style: Are We Different or Not? A Comparison with Latin America, the United States, Europe, and Asia. São Paulo: Atlas, 2010.

[10] BAARs B. J.; GAGE N.M. , Cognition, brain and consciousness - Elsevier Academic Press: Burlington, MA, USA, Oxford, UK, 2nd Edition, 2010 pp653.

[11] GREENWALD, A.G.; MCGHEE, D.E.; SCHWARTZ, J.K.L. Measuring individual differences in implicit cognition: the Implicit Association Test. ***Journal ofPersonality and Social Psychology,*** v.74, n.6, p.1464-1480, 1998.

[12] EGLOFF, B.; SCHMUKLE, S.C. Predictive validity of an implicit association test for assessing anxiety. Journal of Personality and Social Psychology, v.83, n.6, p.1441-1455, 2002.

[13] BRUNEL, F.F.; TIETJE, B.C.; GREENWALD, A.G. Is the Implicit Association Test a valid and valuable measure of implicit consumer social cognition? Journal of Consumer Psychology, v.14, n. 4, p. 385-404, 2004.

[14] VICTORIA, M.S; NASCIMENTO, A.L.; FONTENELLE, L. Selection of visual stimuli for the Implicit Association Test for the Obsessive-Compulsive Disorder (IAT-OCD). Rev Psiq Clín., v.38, n.3, p.102-105, 2011.

[15] NOSEK, B.A.; HAWKINS, C.B.; FRAZIER, R.S. Implicit social cognition: from measures to mechanisms. Trends Cogn Sci., v.15, n.4, p.152-599, 2011.

[16] MEADE, A. W. FreeIAT: an open-source program to administer the implicit association Test. Applied Psychological Measurement, v.33, p. 643, 2009.

[17] LEMM, K. M.; LANE, K. A.; SATTLER, D. N.; KHAN, S.; NOSEK, B. A. (2008). Assessing implicit attitudes with a paper-format Implicit Association Test. In MORRISON T. G.; MORRISON M. A. (Ed.), The psychology of modern prejudice p. 123-146. Hauppauge, NY: New Science Publishers.

[18] GREENWALD, A. G., NOSEK, B. A., & BANAJI, M. R. Understanding and using the Implicit Association Test: I. An improved scoring algorithm. ***Journal of Personality and Social Psychology***, 85, 197-216, 2003.

[19] CAI, H.; SRIRAM, N.; GREENWALD, A. G.; MCFARLAND, S. G. (2004). The Implicit Association Test's D measure can minimize a cognitive skill confound comment on McFarland and Crouch (2002). Social Cognition, 22, p. 673-684.

[20] NOSEK, B. A.; GREENWALD, A. G.; BANAJI, M. R. The Implicit Association Test at age 7: a methodological and conceptual review. In: BARGH, J. A (Ed.) ***Automatic processes in social thinking and behavior***, London: PsychologyPress, 2007, p. 265–292.

[21] INTERNATIONAL BUSINESS MACHINES. IBM Corp. Released 2011. IBM SPSS Statistics for Windows, Version 20.0. Armonk; NY: IBP Corp.SPSS, 2011.

LICENSE