# Awareness and Perception Towards The Emerging Amalgamation of Neuroscience in Leadership Development

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**ABSTRACT**

Of all the recent advancements in leadership studies, the conceptual and methodological novelty unfolded by Neuroleadership has emerged as an evolutionary endeavor in organizational behavior. Even though the exemplary contribution of European countries witnessed both in the literature advancement and real-world application of neuro leadership, the research initiatives and theoretical contribution from Indian academicians and practitioners are significantly missing from the scene. Therefore, the present study is designed to assess academic and corporate employees' awareness and Perception of the implications and ethical aspects of neuroleadership. The data was analyzed using Descriptive Statistics, Factor Analysis, Kruskal Wallis and Mann-Whitney tests. The overall statistical impression is that most respondents have low awareness of most neuro-leadership dimensions. Though the respondents positively perceived the concept, methodology, adoption, learning and training aspects of neuro leadership, they doubted its 'commercial rather than developmental' intentions. Lastly, respondents perceive neuro leadership interventions as ethically unsound without any regulatory framework. Respondents believe that government should introduce a dedicated regulatory body to build trust and promote research in the neuro leadership domain. Further, the study provides empirical shreds of evidence of the perceptual barrier of the respondents towards various aspects of neuroleadership, which the neuro-experts should analyze for extenuating the cause of reluctance towards its adoption and organizational implications. The study also invigorates management scholars to initiate research into this path-breaking alliance of neuroscience and leadership.

**Keywords:** Awareness Level, Perception, Neuroleadership, Academicians, Indian IT sector.

## 1. INTRODUCTION

With the dawn of neuroscientific advancements, the trailblazing methodologies of real-time brain assessment have emerged, enabling the monitoring and analysis of the unfathomable human brain. Since neuroscientific technologies have facilitated the in-depth brain-scanning, neuroscientists are busy exploring, scrutinizing and regulating the impact of those subconsciously active biological factors that have been governing the leadership behavior around-: decision-making and problem-solving, collaboration with others, emotional regulation and facilitating change (Ringleb & Rock, 2008). Various neural correlates of leadership behavior around these four dimensions of leadership are being explored to understand how brain-friendly leadership and culture can be created in the workplace

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and beyond. One such exploration has led to the birth of, Neuroleadership, defined as a field *'dedicated and committed to exploring the process within the brain that underlies or influences the human decision, behavior and interactions in the workplace and beyond'* (Ringleb & Rock, 2008). The core intention of neuro leadershipis to resculpt the idea of leadership effectiveness with the chisel of human biology instead of mere observations, surveys and other such traditionally leveraged data collection approaches. The neuro+leadership collaboration is structured around exploring the impact of workplace situations on the mental and physical health of the workforce using neuroscientific tools and technologies. This impact is registered as activated threat or reward circuitries in the employee's brain, influencing their cognitive abilities and physical health. With the help of neuroscientific approaches and devices, leaders can understand, scan, view, predict, plan and control the threat situations for the brain and devise measures to maximize reward situations in the workplace. Though the term *Neuroleadership* emerged in 2006, academic researchers and practitioners still did not take charge of unveiling its potentialities and organizational utilities. This paucity witnessed in the literature and practical application of neuro leadership, especially in the Indian context, is worth bothering and thus has motivated the researcher to conduct this study. The overall structure of this paper was built around three primary objectives: first, to determine the respondents' awareness level towards different aspects of neuro leadership and second, the Perception they hold towards implementational and ethical aspects of neuro-leadership. Lastly, the researchers tried to distill the significant factors perceived by the respondents as obstacles to the successful organizational implementation of brain-based leadership interventions.

## 2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Neuroleadership, as a term for the first time, surfaced in 2006 in an article written by Rock and Schwartz in the magazine *Strategy+ Business*. They defined Neuroleadership as *applying neuroscience findings to the leadership* field (Rock & Schwartz, 2007). Since then, various experts from psychology, organizational cognitive neuroscience (Senior *et al.,* 2011), and business management have highlighted the relevance of neuro+leadership mergers and the feasibility of its implications outside the laboratories in a business organizational setting. However, in the Indian context, there appears to be a dearth of significant empirical contributions from management experts that may pave the way for theory development or organizational application of the knowledge derived from Neuroleadership. Neuroleadership intends to discover screening tools for good leaders (Kuhlmann & Kadgien, 2018) so that the factors operative at the unconscious level that significantly governs leadership behaviors can be identified using neuroscientific tools and technologies may be reframed into scientifically verified leadership interventions and practices. The conscious and sub-conscious dimensions of social cognition (Stanton *et al*., 2017), such as the negative or positive impact of a leader's facial expressions on the threat circuitries of the follower's brain and, after that, on the follower's creativity and problem-solving capabilities, could not be studied using traditional data-collection methods. Therefore, the contribution of neuroscientific technologies is highly relevant in social science studies.

Leadership behavior was studied in laboratories under the lens of neuroscience by scholars even before 2006, such as the studies on how the brain's intrinsic structure determines the qualities a leader may possess (Finkelstein & Hambrick, 1997), (Arnsten, 1998) studied how the threat activation in the

brain, in response to any workplace stimuli, can negatively affect our cognitive resources, specifically in Prefrontal cortex-an area of the brain referred to as an executive brain (Gilkey *et al.*, 2012). Such a negative impact on cognitive resources hampers planning, decision-making, creativity and problem-solving capabilities (Rock, 2008).Morse's (2006) research on neural correlates of a leader's decision-making. Further, (Arvey *et al.*, 2007) researched twins and proposed the role of genetic determinants in leadership qualities. Exploring the Mirror Neuron (Seigel, 2006; Iacoboni, 2009), which forms the basis of empathy, is essential in connection to how their follower's brain subconsciously mimics a leader's behavior during verbal or non-verbal communication. Further, trust and bonding at the workplace (Carter *et al*., 2008), stored in our subconscious primitive brain in the form of in-group and out-group biases, influence our decision-making and relationship with others, even before we realize it.

Peterson *et al.* (2008) researched the neural correlates of psychological capital. They also appreciated the concept of 'Brain plasticity,' which forms the basis of Neuro feedback, a training technique used to restructure individuals' old habits and thought patterns by deactivating their dys functional neural pathways.

Waldman *et al*. (2011) used Electroencephalogram (EEG) to analyze the intrinsic structure of the brain of the leaders who, when rated using a Multi-factor leadership questionnaire (MLQ), scored high on inspirational leadership behavior. Boyatzis *et al.* (2012) used Functional magnetic resonance imaging (fMRI) to examine how deeply a follower's brain gets impacted during a follower-leader interaction in the long run. Balthazard *et al.* (2012), in their study, scanned the structural differences in the brains of transformational leaders. Hannah *et al*. (2013) used a quantitative electro-encephalogram (qEEG) to study the brain's structure in leaders who scored high on adaptive decision-making skills when rated on MLQ. Jack *et al*. (2013) used fMRI to analyze the impact of different coaching styles on the mentee's brains. Mintzberg (2017) studied the role of the left and right brains in determining prominent leadership skills. Riddell (2017) showed the structural changes in the brain of leaders as they move from adolescence to adulthood and how these changes affect their leadership abilities. He mentioned that these maturation changes can serve as a guide while designing leadership training and development programs for adult and adolescent leaders. Wang *et al.* (2021) used qEEG to examine the engagement level in the brains of students while they were involved in a team assignment.

Researchers have been using the SCARF (Status, Certainty, Autonomy, Relatedness and Fairness) model of Neuroleadership to improve organizational and individual performances in different contexts. In their study, Campbell *et al.* (2022) used the SCARF model of neuroleadership to prepare and train the employees of community care organizations for organizational change. Javadizadeh *et al.*(2022) used the SCARF model to build a brain-friendly approach to education by restructuring the class environment and teaching styles in management schools to improve their students' performance and motivate them. In their study, Hansen *et al.* (2022) used a mixed-method approach to explore the impact of SCARF elements in improving the Perception, evaluation and engagement of the employees of B2B organizations during and after the COVID-19 pandemic.

Leadership is a reflection of our internal experiences (Ruderman *et al.*,2014), which are subconsciously leading and influencing others through us, thus a holistic approach through, the merger of neuroscience and leadership (Boyatzis *et al.*,2006), studies have

been strongly supported by many authors as it is believed, to reshape traditional views of organizational behavior and structure (Rock &Schwartz, 2007). Also, the accuracy, reliability and efficacy of traditional leadership development techniques are always in question (Haines, 2009). Therefore, their study (Becker & Cropanzano,2010) suggested that neuroscientific methods should complement traditional assessment methods in organizational behavior studies. These technologies help redefine neural connections inside the brain (Schaufenbuel, 2014), and develop a clear understanding of the interconnectedness of the brain and behavior**.**

Rossouw and Henson (2013) opined that one of the dimensions of leadership that have yet to receive due credit and attention is the expedition of the principles of social neuroscience in the context of the organizational environment, i.e., how does the workplace impact the brain? However, critics have been blaming the proponents of organizational neuroscience for being blind to ethical accountability, calling it a *technological fad* (Lindenbaum, 2013). Raymond Tallis, in his book *Aping Mankind*, goes to the extent of calling it *Neuromania.* The critiques have been in doubt regarding the efficiency of the neuroscientific technologies (Fukushi *et al.,* 2007), with each of them having its limitations in capturing brain data. There are chances of brain data being used commercially, but without a dedicated government regulatory framework, who owns the brain data and to whom it is sold (Dierichsweiler, 2014), cannot be assured.

Further, if successfully implemented, the fear of its mandatory implication in organizations may force employees to be treated as mere, '*biologized version'* (Lindenbaum & Jordan, 2014). This may cause biases in various aspects where decisions regarding employees will solely be based on their neurological profiles, detached from their social environment. Also, methodological weakness (Lindenbaum, 2013) and technological limitations (Butler, 2017; Stanton *et al.,* 2017) will result in incorrect findings and flawed implementation. Further, critiques fear those advanced neuro-technologies that can capture even the highly confidential data of human biological aspectssuch as -mental illness, depression, and structural malformations in the brain (Stanton *et al.*, 2017). This may generate a tendency in employers/leaders to make biased and unfair decisions (Kuhlmann & Kadgien, 2018) for employees. The technological breakthroughs in neuroscientific techniques, like-Transcranial Magnetic Stimulation(TMS) and Transcranial direct current stimulation (tDCS), are advanced enough to intervene in brain functioning and alter its structure and existing neural pathways (Jack *et al.*,2019) in brain structure/ pattern that resembles the brain of a so-called effective leader. These intervening technologies may, at times, lead to unintended opposite effects (Bell *et al.*, 2022) on the psycho-physiological health of the participants. They were mishandling these technological advancements invites insecurity, making neuro-leadership prone to ethical instability.

With all the technological, methodological and conceptual weaknesses pointed out by the critiques, it has become imperative to bring in a consensus among the professionals of all the sub-fields associated with this merger, such as psychologists, neurologists, neuroscientists, management experts (Fatima *et al.*,2015). It is also imperative to understand the Perception and the difference in Perception between academic researchers and organizational leaders so that the perceptual barriers to the adoption of neuro leadership can be traced and wiped off. Thus, the study is determined to raise awareness among the two bellwethers in the domain of organizational behavior studies - the academicians and the corporate leaders, about the potential prospects embedded in neuroleadership.

**Hypotheses Development**

- Ho1: There exists no significant difference between the Perception of the research scholars, faculties and corporate employees towards the organizational practicability of neuroscientific techniques in leadership development.
- $H_0$2:There is no significant difference between the Perceptions of the research scholars, faculties and corporate employees towards the adoption of neuroscientific techniques for leadership development interventions.
- $H_0$3: The Perception of the research scholars, faculties and corporate employees towards the procedural transparency of neuroscientific leadership development interventions is the same.
- $H_0$4: There exists no significant difference between the Perception of the research scholars, faculties and corporate employees towards the participation in neuro-scientific leadership development interventions.
- H05: There is no significant difference between the Perceptions of the research scholars, faculties and corporate employees towards the conceptual relevance of Neuroleadership.
- H06:There is no significant difference between the Perceptions of the research scholars, faculties and corporate employees towards the psycho-physiological safety aspect of neuroscientific leadership development interventions.
- H07: There exists no significant difference between the Perception of the research scholars, faculties and corporate employees towards the interest in learning the concept of Neuroleadership
- H08: There is no significant difference between the Perceptions of research scholars, faculties and corporate employees towards privacy & security in neuroscientific techniques during leadership development interventions.

## 3. RESEARCH APPROACH

**Procedure-** Before circulating for the final survey with 155 respondents, the questionnaire was tested through face validity by experts and pilot testing done on thirty academicians and Information Technology sector employees based in Gurugram, Bengaluru, Pune, Noida, Varanasi and Mumbai. Using purposive sampling, the questionnaire was distributed through Google forms.

**Participants-** Final survey was conducted on 155 academicians and corporate employees. The sample of academicians includes research scholars, professors, associate professors and assistant professors from management departments of central, state, and private universities and colleges, with leadership, human resource management and organizational behavior as their areas of research/interest. Apart from this, the awareness and Perception of the corporate employees of Indian IT firms belonging to the Human Resource Department (HR) were also gathered using the questionnaire.

**Measures-** The questionnaire consisted of 48 questions in three sections; the First section contained the respondents' demographic details. The second section consisted of multiple-choice and dichotomous questions for measuring the awareness level of the respondent towards neuro leadership based on the criteria mentioned in (Figure 1). Each correct response was coded as 1, and 2 was the code for every incorrect response. The scores were summed up to fetch all the correct answers per respondent and then summarized to check the awareness level of the entire sample as low, moderate and high, also based on their employment category. Further awareness was also checked item-wise to understand the picture clearly. Section 3 of the

questionnaire tried to understand the Perception of the respondents towards implementational and ethical aspects of neuro leadership, as shown in (Figure 1). The questions on Perception were framed using a 5-point Likert scale, that stretched itself from Strongly Disagree (1) to Strongly Agree (5). The reliability of the questionnaire was established with the value of Cronbach alpha's coefficient (.717) using SPSS. A factor analysis of the items of Perception gave an acceptable KMO value, where the items composed of eight factors explained 61.25% of the variance. The items that could not load more than .50 on any distilled factors were finally removed. The KMO value for the remaining 23 items was .691.

Further, item wise mean of the respondents was assessed to understand their Perception and inclination towards each item. To test the null hypotheses ($H_o$), a non-parametric Kruskal Wallis test was applied, as the data so fetched from the respondent was not normally distributed. Further, the Mann-Whitney test was used to test if a significant difference exists in the Perception of the three categories amongst each other on each of the eight factors derived in factor analysis. Lastly, descriptive statistics and cross tabulation was used to find the factors posing difficulty in the organizational implementation of neuro-scientific technologies, as perceived by the three categories of respondents.

### 3.1 Research Objectives

1. To examine the awareness level of academicians and corporate employees towards the field of Neuroleadership.
2. To gauge the Perception of academicians and corporate employees towards the field of Neuroleadership.
3. To find out the difference between the Perception of faculties, research scholars and HR professionals towards the field of Neuroleadership.
4. To find out the factors posing difficulty in the organizational implication of neuroscientific tools and techniques in leadership development interventions.

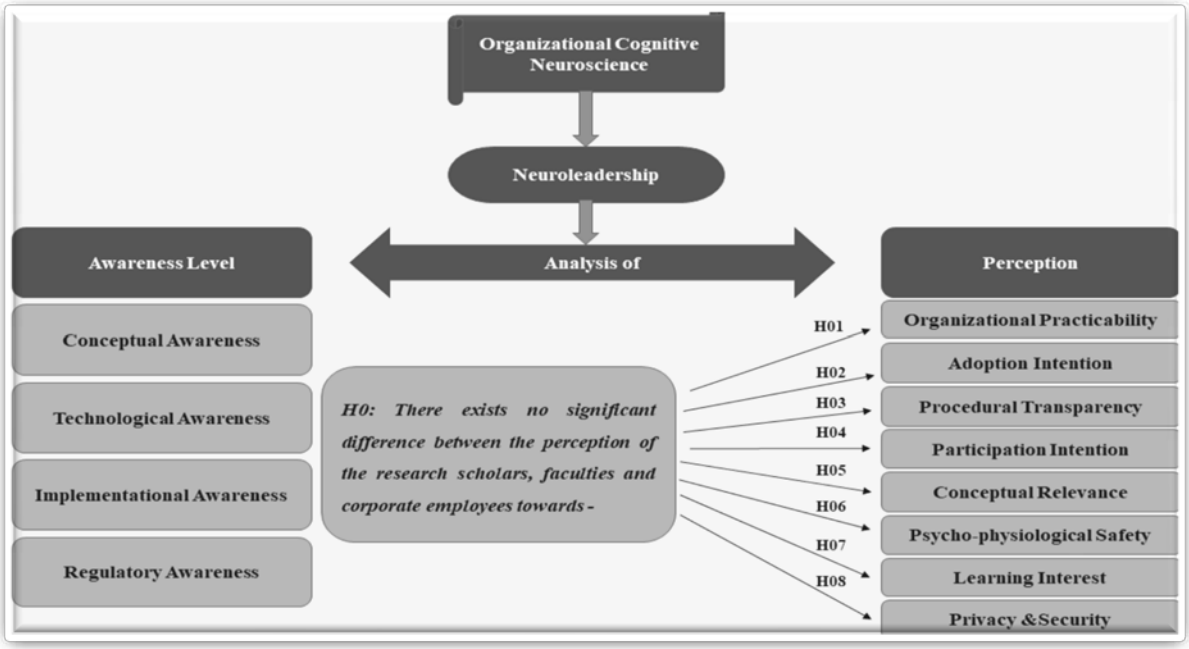


**Figure 1: The Framework of the Study Highlighting the Parameters of Awareness and Perception along with the Hypotheses to be Tested.**

## 4. RESULTS

### 4.1 Awareness of the Concept of Neuroscience of Leadership.

Since the awareness level among the respondents gives a glimpse of their Perception (Hasan *et al.,* 2015), therefore, to draw a complete picture, it was deemed imperative to assess the awareness level amongst the respondents before analyzing their Perception of the implication and ethical aspect of neuro-leadership.

Based on the percentiles, three levels of awareness were charted out as low, moderate and high (Table 4.1.1). A significantly large portion of the respondents falls in the category of low awareness level.

**Table 1: Three Segments of the Awareness Levels of Respondents with their Percentage**

| AWARENESS | | | | |
|---|---|---|---|---|
| | | Frequency | Percent | Cumulative Percent |
| Valid | low awareness | 78 | 50.3 | 50.3 |
| | moderate awareness | 27 | 17.4 | 67.7 |
| | high awareness | 50 | 32.3 | 100 |
| | Total | 155 | 100 | |

Cross-Tabulation finally spotted the primary area of concern. With 50.3% of the respondents having a low awareness of even the basic understanding of the neuroscience of leadership, it looks worrisome as academicians and HR professionals seemingly fail to adapt themselves to one of the major revolutions in their areas of expertise. Table 4.1.2 highlights that the highest percentage of *low awareness* is among academicians. *Moderate awareness* is seen among the HR professionals, as they were more aware of the ethical challenges around the organizational implementation of neuroscientific tools than they were about the conceptual and technological aspects of neuro-leadership.

**Table 2: Category-wise Level of Awareness of the Respondents**

| AWARENESS * Employment Category Crosstabulation | | | | | |
|---|---|---|---|---|---|
| Count | | | | | |
| | | Employment Category | | | |
| | | Research scholar | HR professional | Faculty | Total |
| AWARENESS | low awareness | 26 | 21 | 31 | 78 |
| | moderate awareness | 4 | 12 | 11 | 27 |
| | high awareness | 15 | 16 | 19 | 50 |
| Total | | 45 | 49 | 61 | 155 |

Anitem-wise detailed analysis of awareness level was done to bring more clarity. With 17 items to check the awareness level, framed using a categorical scale, responses were garnered and summarized into the percentage of correct- incorrect responses for each item. The tabulated form of this analysis is given below (see Table 4.1.3).The first item to check the awareness level asks whether *'Neuroscientific interventions can help raise employee productivity*. The correct answer is *True*, which is clear from (Table 4.1.3) that 97.4% of the respondents are at least aware of the emerging involvement of neuroscientific technologies in organizational behavior. The second item *is' Which of the Neuroscientific technologies is/are used in leadership interventions to study employee's*

*brain-behavior connection*.' Six options are given in the question- (a) MRI, (b) fMRI, (c) PET scan, (d) EEG, (e) Testing the hormonal level of the participants (f) all of the above. A correct answer is an option (f) for all of the above. However, it is clear from the first glance of the table that 60% of respondents marked the wrong option/s for the given item. The respondents need to be aware of the neuroscientific tools and technologies used to study the Neuroscience of Leadership. The third item, whether *'Portable electrodes can be planted on employees' heads to read their brain activities all day at the workplace,'* should be marked as *True.* However, a significant percentage, i.e., 28.4% of the respondents, still marked it as *False*, which is an incorrect response. Portable devices are being manufactured by companies like Neuro Focus (Penenberg, 2008) to read the subject's brain and keep track of their focus or alertness to enhance their productivity or capture their behavior.

The fourth item, whether '*Feedback process conducted in organizations is registered as a threat in the human brain*,' should be marked as *True.* However, 77.4% of respondents marked the answer not just correctly but also proved the neuroscientific findings regarding the feedback process in the organizations to activate threat circuitries in the brain (Rock, 2008) to be practically true. The fifth item, whether *'Multitasking is a brain-friendly approach to improve employee's performance* should be marked as *False.* In long run, Multitasking generates threat response (Rock& Cox, 2012), for an individual. As is evident from the table, 64.5% of respondents believed Multitasking to be not a brain-friendly approach. The sixth item, *'Attention and Focus can be increased by using neuroscientific devices on human brain'* should be marked as *True.* As can be depicted from the table, 88.4% percent of respondents marked it correctly. The seventh item, '*Assessing hormonal levels of an individual can help in understanding and predicting their leadership behavior,'* should be marked as *True.* However, only 32.9% of respondents were aware that hormonal level influences the leadership skills of an individual. The eighth item *'The leadership dimension not associated with neuro leadership researches is/are,'* was given six options (a) Decision making (b) Collaborating and influencing others (c) Emotional Intelligence (d) Problem solving (e) Facilitating change (f) None of the above. The correct response should have been option (f), as all the given dimensions are being studied under the lens of the neuroscience of leadership. However, (Table 4.1.3) highlights the unawareness of the respondents regarding these dimensions as 79.4% of the respondents marked the dimensions incorrectly. The ninth question on awareness level, '*Neuroleadership belongs to which of these interdisciplinary fields*, with its five options, (a) Social-neuroscience (b) Socio-cognitive neuroscience (c) Organizational neuroscience (d) Neuro-management (e) Organizational cognitive neuroscience, should be marked (e) as the correct option. However, an unexpectedly high proportion of the respondents, i.e., 96.1% of them, are unaware even of its parent domain. Because a majority of the respondents in the sample are academicians, their unawareness of the conceptual aspects must be considered a serious matter of concern.

The tenth item, *'Which of the following is associated with the Institute of neuro leadership in India,'* was given four options, (a) Brain-based certification for coaches, (b) Neuro-coaching, (c) Introduction to brain-based leadership, (d) Brain-based coaching. The correct response to this question is option(d). Though the respondents were from the cities where Neuroleadership Institutes are present, still less than half of the respondents i.e. mere 42.6% were aware of the certification courses extended by Neuro Leadership Institute. The eleventh question, *'The model that talks about the unconscious biases evolutionary embedded in the human brain'* with its four options, (a) SCARF (b) SEEDS

(c) ACTIVE (d) IDEA, should be marked option (b) as the correct response. However, the statistics clarify that 70.3% of the respondents need to be aware of the conceptual and theoretical basis of neuroleadership. These models form the main ingredients of the brain-based training sessions of Neuroleadership Institutes, running in collaboration with various organizations in the cities of these respondents.

**Table 3: Frequency Distribution and Percentage Spread of the Correct and Incorrect Responses on Various Aspects of Awareness**

| | Correct | | | Incorrect | | |
|---|---|---|---|---|---|---|
| **Items** | **Frequency** | **%** | **Cumulative %** | **Frequency** | **%** | **Cumulative %** |
| 1. Neuroscientific Interventions can be used to improve employees' productivity. | 151 | 97.4 | 97.4 | 4 | 2.6 | 100 |
| 2. Neuroscientific technologies are used in leadership interventions to study employees' brain-behavior connections. | 62 | 40 | 40 | 93 | 60 | 100 |
| 3. Portable electrodes can be planted on employees' heads to read their brain activities all day at the workplace. | 111 | 71.6 | 71.6 | 44 | 28.4 | 100 |
| 4. The feedback process conducted in the organization is registered as a threat to the human brain. | 120 | 77.4 | 77.4 | 35 | 22.6 | 100 |
| 5. Assessing the hormonal levels of an individual can help in understanding and predicting their leadership behavior | 51 | 32.9 | 32.9 | 104 | 67.1 | 100 |
| 6. Multitasking is a brain-friendly approach to improving employee performance. | 100 | 64.5 | 64.5 | 55 | 35.5 | 100 |
| 7. Attention and focus can be increased artificially by using neuroscientific devices on the human brain. | 137 | 88.4 | 88.4 | 18 | 11,6 | 100 |
| 8. The leadership dimensions not associated with Neuroleadership research is/are: | 32 | 20.6 | 20.6 | 123 | 79.4 | 100 |
| 9. Neuroleadership belongs to which of these interdisciplinary fields? | 6 | 3.9 | 3.9 | 149 | 96.1 | 100 |
| 10. Which of the following is associated with Institutes of Neuroleadership in India? | 66 | 42.6 | 42.6 | 89 | 57.4 | 100 |
| 11. The model talks about the unconscious biases evolutionary embedded in the human brain. | 46 | 29.7 | 29.7 | 109 | 70.3 | 100 |
| 12. Which of the following statement is incorrect? | 8 | 5.2 | 5.2 | 147 | 94.8 | 100 |
| 13. Central Ethics Committee on Human Research(CECHR) covers the ethical aspects regarding human safety and privacy during Neuroleadership research in India. | 143 | 92.3 | 92.3 | 12 | 7.7 | 100 |
| 14. Neuroenhancement refers to | 42 | 27.1 | 27.1 | 113 | 72.9 | 100 |
| 15. SCARF model related to | 12 | 7.7 | 7.7 | 143 | 92.3 | 100 |
| 16. Neuroleadership Institute in India exists in | 85 | 54.8 | 54.8 | 70 | 45.2 | 100 |
| 17. Neurofeedback refers to | 39 | 25.2 | 25.2 | 116 | 74.8 | 100 |

The thirteenth item, *' Central Ethics on Human Resource Research (CECHR), covers the ethical aspect regarding human safety and privacy during Neuroleadership research in India*,' with its two options as (a)True and (b) False, which should be marked as *True* for the correct response as is evident from the table that a mere 7.7% of the respondents have no idea about this regulatory aspect of the study. The fourteenth item on awareness is *'Neuroenhancement refers to*,' given its four options (a) Increasing the use of neuroscientific technology in organizational interventions, (b) Increasing the use of neuroscientific tools and techniques in commercial purposes, (c) Using drugs to improve the productivity of employees (d) Using Neuroscientific devices and drugs to change employee's brain functioning artificially. Respondents should mark option (d) for the answer to be correct. Table 4.1.3 clearly shows how unaware the majority, i.e., 72.9% of the respondents, of the implementation aspects of neuro leadership.

The SCARF, the most famous model of neuro leadership, forms an essential ingredient of various brain-based programs extended by the Neuroleadership Institute. The fifteenth item, the *'SCARF model is related to*,' had four options (a) Neuromanagement, (b) Neuroeconomics, (c) Collaborating and Influencing others through the neuroscience of leadership, (d) Neuroleadership. The correct answer being option (c), but only 7.7% of respondents marked the answer correctly.

With its four options (a) Pune, (b) Mumbai, (c) Chennai, (d) Delhi. The sixteenth item, '*Neuro Leadership Institute, exists in which of these cities*? The correct answer was an option (b). However, the frequency table clearly shows that 45.2% of people were not aware of the existence of any such institute. The seventeenth item is intended to check whether respondents know the term' *Neurofeedback'*. Out of the three options given, (a) is a process to improve the feedback process using brain-based techniques, (b) is a process to change the existing brain patterns of the participants, (c) is used to retrain and rewire existing brain patterns using neuro-scientifically designed learning experiments. The correct response is an option (c). However, as can be inferred from (Table 4.1.3), most of the respondents, i.e., 74.8%, were unaware of the term and its meaning.

## 4.2. Perception Towards the Neuroscience of Leadership

Table 4.2.1 depicts the item-wise mean of all 23 statements to assess the Perception variables. Items 1 and 2 in (Table 4.2.1) tried to assess the respondent's inclination and interest toward learning how the brain affects their leadership skills and effectiveness, where the means of these items (4.265 and 4.187 respectively) show that the respondents have a positive perception towards learning and getting trained on the brain-behavior aspects of leadership development.

In item no. $3^{rd}$ and $22^{nd}$ on commercialization and profit motives of the neuro leadership, the means of 3.942 and 3.16, respectively, show that the respondents doubt this management fad's 'good intention.' Statement $4^{th}$, $5^{th}$,$7^{th}$, $8^{th}$ and $9^{th}$, with means of 4.071, 4.323, 4.148, 4.323 and 4.039, respectively, reflect the positive Perception of respondents towards the neuroscience of leadership, where respondents not only believe in the emergent need of brain-based understanding of leadership skills and behavior but also perceives that the brain-friendly leaders sit at the core of a productive and happy workforce. Statement $10^{th}$, with a mean of 4.071, shows that the respondents will appreciate it if their organization introduces neuro-leadership development interventions or training programs.

Items $11^{th}$ and $12^{th}$ on the risk of data privacy associated with neuro-leadership experiments and interventions, with mean values of 4.484 and 4.187, reflect that

respondents perceive neuro-leadership experiments as risky concerning their brain-data privacy and security.

The 20th statement, with the lowest mean of 2.465, statement 6th, with a mean of 2.645 and statement 13th, with a mean of 3.297, highlights the respondents' reluctance to participate in neuroscientific leadership intervention. Further, their Perception of the administrative practicability of neuroscientific tools and techniques as interventions in their organizations is also quite negatively inclined. To respondents, it is improbable that they would participate in any neuroscientific experiment for leadership development. Neuroscientifically interwoven leadership experiments will not find easy entry into their organizations. Item 14th and 15th, with mean values of 4.148 and 4.103, respectively, show that though it may take time, respondents cater a favorable attitude towards the future of neuro leadership in India. Items 16th and 18th on ethical implementation, with a means of 4.077 and 4.065, respectively, reflect a positive perception of respondents towards neuro leadership interventions, provided the implementors are not compromising the ethics.

The 17th item, with the highest mean of 4.658 and item number 21st, with a mean of 4.484, clearly project the Perception of the respondents on the safety and transparency aspects of neuro-leadership interventions. This also reflects the respondent's Perception of their employers' role, whom they expect, to ensure the safety of their life and brain data during and after a neuro-leadership organizational intervention. Further, respondents expect that government should be responsible for framing rules and safety guidelines to ensure the ethically proper implementation of neuro-leadership interventions.

**Table 4 : Item-wise mean of the Perception of the Respondents**

| Descriptive Statistics | |
|---|---|
| | Mean |
| 1. I want to learn how the brain's functioning and structure can influence our workplace performance. | 4.26 |
| 2. I am interested in knowing how the brain impacts an individual's leadership abilities. | 4.18 |
| 3. Commercial and profit motives exist behind this increasing craze of brain-based leadership training programs. | 3.94 |
| 4. Understanding how the brain affects employees' behavior is a critical leadership responsibility. | 4.07 |
| 5. A brain-friendly leader is the need for a happy workforce. | 4.32 |
| 6. tools like MRI, and fMRI used to study the neuroscience behind leadership behavior, have practical feasibility for implementation in/my organizations. | 2.64 |
| 7. Understanding how the brain works subconsciously impacts our leadership effectiveness. | 4.14 |
| 8. Brain-friendly leaders are needed for a productive workforce. | 4.32 |
| 9. Including brain-based findings in leadership development programs can drastically change the way leadership is viewed and implemented. | 4.03 |
| 10. I would appreciate it if management could start brain-based leadership development programs in my organization/Institutes. | 4.07 |
| 11. It is risky to use neuroscientific tools or techniques without the supervision of a neuroscience expert in organizational interventions. | 4.48 |
| 12. Brain scanning may include a risk to data privacy for an employee whose brain is scanned. | 4.18 |
| 13. If given an opportunity, I am ready to participate in a brain-based experiment to improve my leadership skills or productivity | 3.29 |

| | |
|---|---|
| 14. Practical application of neuroscientific technologies will take time to get digested and accepted by an Indian organization. | 4.14 |
| 15. Neuroscience of leadership is a challenging yet up-and-coming field of study. | 4.1 |
| 16. I support the ethical implementation of neuroscientific technologies in improving leadership skills. | 4.06 |
| 17. Employee should fully disclose the motive, procedure and risks involved in any Neuroleadership intervention. | 4.65 |
| 18. Government regulations on the safety and privacy of brain-related data can bring some trust toward brain-based training and interventions. | 4.07 |
| 19. I should be allowed to quit brain-based experiments or any Neuroleadership intervention at any point if I feel uneasy or manipulated. | 4.62 |
| 20. I may participate in any development-related neuroscientific interventions if my employer offers attractive monetary compensation. | 2.46 |
| 21. Protection of my physical and mental health during and after the brain-based exercise is the employer's responsibility. | 4.48 |
| 22. The Intention behind the brain-based intervention is purely towards improving untapped employee potential. | 3.16 |
| 23. I am convinced of getting my brain scanned for productivity enhancement motives. | 2.98 |

Statement 19$^{th,}$ with a mean value of 4.626, reflects the respondents' stand on autonomy as a participant in the neuro-leadership experiments. Autonomy may give a sense of control over the risk and security issues that they perceive as unavoidable during such interventions.Item 23$^{rd}$ reflects the final opinion of the respondents towards the neuroscientific leadership development interventions, with a mean value of 2.987, which shows that respondents need more convincing to participate in brain-based interventions for leadership development.

**Table 5 : Difference in the Perception of Three Different Categories of Respondents**

| | Employment Category | | | | | |
|---|---|---|---|---|---|---|
| | Research Scholar | | HR Professional | | Faculty | |
| Variables | N | Mean Rank | N | Mean Rank | N | Mean Rank |
| 1. I want to learn how the brain's functioning and structure can influence our workplace performance. | 45 | 86.84 | 49 | 72.13 | 61 | 76.19 |
| 2. I am interested in knowing how the brain impacts an individual's leadership abilities. | 45 | 86.13 | 49 | 73.78 | 61 | 75.39 |
| 3. Commercial and profit motives exist behind this increasing craze of brain-based leadership training programs. | 45 | 73.74 | 49 | 82.87 | 61 | 77.23 |
| 4. Understanding how the brain affects employee behavior is a critical leadership responsibility. | 45 | 80.9 | 49 | 74.29 | 61 | 78.84 |
| 5. A brain-friendly leader is a need for a happy workforce. | 45 | 78.72 | 49 | 77.64 | 61 | 77.75 |
| 6. tools like MRI, and fMRI used to study the neuroscience behind leadership behavior, have practical feasibility for implementation in/my organizations. | 45 | 81.98 | 49 | 81.19 | 61 | 72.5 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 7. Undergoing Neuroleadership intervention can be risky for my psychological and physical health. | 45 | 70.86 | 49 | 77.81 | 61 | 83.43 |
| 8. Brain-friendly leaders are needed for a productive workforce. | 45 | 78.6 | 49 | 73.33 | 61 | 81.31 |
| 9. Including brain-based findings in leadership development programs can drastically change the way leadership is viewed and implemented. | 45 | 86.64 | 49 | 77.6 | 61 | 71.94 |
| 10. I would appreciate it if management could start brain-based leadership development programs in my organization/Institutes. | 45 | 85.72 | 49 | 69.91 | 61 | 78.8 |
| 11. It is risky to use neuroscientific tools or techniques without the supervision of a neuroscience expert in organizational interventions. | 45 | 80.52 | 49 | 84.21 | 61 | 71.15 |
| 12. Brain scanning may include a risk to data privacy for an employee whose brain is scanned. | 45 | 77.5 | 49 | 77.82 | 61 | 78.52 |
| 13. If given an opportunity, I am ready to participate in a brain-based experiment to improve my leadership skills or productivity | 45 | 92.69 | 49 | 71.95 | 61 | 72.02 |
| 14. Practical application of neuroscientific technologies will take time to get digested and accepted by an Indian organization. | 45 | 81.16 | 49 | 79.23 | 61 | 74.68 |
| 15. I support the ethical implementation of neuroscientific technologies in improving leadership skills. | 45 | 79.54 | 49 | 73.3 | 61 | 80.64 |
| 16. The employee should have full disclosure of the motive, procedure and risks involved in any Neuroleadership intervention. | 45 | 78.33 | 49 | 72.04 | 61 | 82.54 |
| 17. Government regulations on the safety and privacy of brain-related data can bring some trust toward brain-based training and interventions. | 45 | 72.12 | 49 | 72.4 | 61 | 86.84 |
| 18. I should be allowed to quit brain-based experiments or any Neuroleadership intervention at any point if I feel uneasy or manipulated. | 45 | 78.18 | 49 | 82.01 | 61 | 74.65 |
| 19. I may participate in any development-related neuroscientific interventions if offered attractive monetary compensation by my employer. | 45 | 85.74 | 49 | 65.52 | 61 | 82.31 |
| 20. Protection of my physical and mental health during and after the brain-based exercise is the employer's responsibility. | 45 | 88.97 | 49 | 71.81 | 61 | 74.89 |
| 21. The Intention behind the brain-based intervention is to improve untapped employee potential. | 45 | 79.62 | 49 | 77.31 | 61 | 77.36 |
| 22. I am convinced of getting my brain scanned for productivity enhancement motives. | 45 | 78.13 | 49 | 75.73 | 61 | 79.72 |

The mean ranks in (Table 4.2.2) reflect the difference in perceptions of the Research scholars, Faculties and HR professionals. To group the statements on Perception into distinct factors, Factor analysis was done after ensuring the adequacy of the sample size through KMO value, as is seen in Table 4.2.3.

**Table 6 : KMO Value (Sampling Adequacy test) for Conducting Factor Analysis**

| KMO and Bartlett's Test | | |
|---|---|---|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | | .691 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 611.201 |
| | df | 231 |
| | Sig. | .000 |

The Principal component analysis distilled eight factors that sufficiently explained the total variance of (61.250) as seen in (Table 4.2.4). Out of the 22, the item with a factor loading of less than (.5) was removed, giving the final 21 items to be grouped into eight variables, as seen in (Table 4.2.5)

**Table 7 : Total Variance Explained by Eight Factors**

| Total Variance Explained | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | | Rotation Sums of Squared Loadings | | |
| Component | Total | % of variancevariance | Cumulative % | Total | % of variancevariance | Cumulative % | Total | % of variancevariance | Cumulative % |
| 1 | 3.471 | 15.779 | 15.779 | 3.471 | 15.779 | 15.779 | 2.326 | 10.574 | 10.574 |
| 2 | 2.336 | 10.619 | 26.398 | 2.336 | 10.619 | 26.398 | 2.157 | 9.806 | 20.380 |
| 3 | 1.682 | 7.647 | 34.045 | 1.682 | 7.647 | 34.045 | 1.972 | 8.964 | 29.344 |
| 4 | 1.526 | 6.937 | 40.982 | 1.526 | 6.937 | 40.982 | 1.696 | 7.709 | 37.053 |
| 5 | 1.209 | 5.496 | 46.479 | 1.209 | 5.496 | 46.479 | 1.410 | 6.410 | 43.463 |
| 6 | 1.187 | 5.394 | 51.873 | 1.187 | 5.394 | 51.873 | 1.400 | 6.362 | 49.825 |
| 7 | 1.061 | 4.823 | 56.696 | 1.061 | 4.823 | 56.696 | 1.274 | 5.792 | 55.617 |
| 8 | 1.002 | 4.555 | 61.250 | 1.002 | 4.555 | 61.250 | 1.239 | 5.633 | 61.250 |

**Table 8 : Factor Extracted Using Principal Component Analysis and Varimax Rotation**

**Rotated Component Matrix**

| | Component | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| I am convinced by the idea of getting my brain scanned for productivity enhancement motives. | .701 | | | | | | | |
| I feel that the intention behind the brain-based intervention is purely to improve untapped employee potential | .673 | | ***Adoption Intention*** | | | | | |
| Commercial and profit motives exist behind this increasing craze of brain-based leadership training programs. | .653 | | | | | | | |
| I would appreciate it if management started brain-based leadership development programs in my organization/Institutes. | .504 | | | | | | | |
| Brain-friendly leaders are needed for a productive workforce. | | .728 | | | | | | |
| A brain-friendly leader is a need for a happy workforce. | | .633 | | ***Conceptual Relevance*** | | | | |
| Understanding how the brain affects employee behavior is a critical leadership responsibility. | | .614 | | | | | | |
| I am interested in knowing how the brain impacts an individual's leadership abilities. | | | .873 | ***Learning Interest*** | | | | |
| I want to learn how the brain's functioning and structure can influence our workplace performance. | | | .846 | | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Brain scanning may include a risk to data privacy for an employee whose brain is scanned. | | | | .737 | | | | |
| It is risky to use neuroscientific tools or techniques without the supervision of a neuroscience expert in organizational interventions. | | | | .696 | | ***Privacy & Security*** | | |
| I should be allowed to quit brain-based experiments or any neuro-leadership intervention at any point if I feel uneasy or manipulated. | | | | .542 | | | | |
| I, as a participant, should have full disclosure of the motive, procedure and risks involved in any neuro leadership intervention. | | | | | .808 | ***Procedural Trans parency*** | | |
| I support the ethical implementation of neuroscientific technologies in improving leadership skills. | | | | | .589 | | | |
| I think tools like MRI, and fMRI, used to study the neuroscience behind leadership behavior, have practical feasibilityin/my organizations. | | | | | | .712 | | |
| The practical application of neuroscientific technologies will take time to get digested and accepted by Indian organizations. | | | | ***Organizational Practicability*** | | .561 | | |
| Government regulations on the safety and privacy of brain-related data can bring some trust toward brain-based training and interventions. | | | | | | .594 | | |
| I may participate in any development-related neuroscientific interventions if offered attractive monetary compensation by my employer. | | | | | | ***Participation Intention*** | .793 | |
| I am ready to participate in a brain-based experiment to improve my leadership skills or productivity if given an opportunity. | | | | | | | .551 | |
| Undergoing neuro leadership intervention can be risky for employees' psychological and physical health. | | | | | | ***Psycho-physiological Safety*** | | .695 |
| I am protecting my physical and mental health during and after the brain-based intervention is the employer's responsibility. | | | | | | | | .525 |

Understanding item-wise differences in mean rank are only sufficient if it is known how significant this difference is.The analysis was preceded by a normality test using the Kolmogorov-Smirnov test as well as Shapiro-Wilk tests, where the (*p-value*<.05) in all the cases, suggested that the data does not follow the normal distribution. Therefore, the Kruskal-Wallis test was conducted to test the hypotheses. With a (*p-value*<.05), it may be concluded that the difference is significant, but a (*p-value*>.05) would mean the difference between the Perception of the three categories of respondents on the given factor is insignificant.As seen in(Table 4.2.6), the *p-value*(0.305>.05 )in the case of *Adoption Intention* clarifies that there exists no significant difference in the Perception of the respondents in the context of *Adoption intention.*

**Table 9 : Factor-Wise Description of the Significant Differences (*p-value)* in the Perception of the Categories of the Respondents.**

| **Rank** | | | | | | | **Test Statistics a,b** | | |
|---|---|---|---|---|---|---|---|---|---|
| | **Employment Category** | | | | | | **Chi Sq.** | **df** | **Asymp.Sig** |
| **Variables** | **Research Scholar** | | **HR Professional** | | **Faculty** | | | | |
| | **N** | **Mean Rank** | **N** | **Mean Rank** | **N** | **Mean Rank** | | | |
| **Adoption Intention** | 45 | 85.64 | 49 | 71.52 | 61 | 77.57 | 2.375 | 2 | 0.305 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Conceptual Relevance** | 45 | 79.31 | 49 | 74.55 | 61 | 79.8 | 0.456 | 2 | 0.796 |
| **Learning Interest** | 45 | 89.5 | 49 | 70.71 | 61 | 75.37 | 5.057 | 2 | 0.08 |
| **Privacy & Security** | 45 | 79.2 | 49 | 84.98 | 61 | 71.51 | 2.7 | 2 | 0.259 |
| **Procedural Transparency** | 45 | 80.01 | 49 | 69.19 | 61 | 83.59 | 3.595 | 2 | 0.166 |
| **Organizational Practicability** | 45 | 79.46 | 49 | 78.2 | 61 | 76.76 | 0.101 | 2 | 0.951 |
| **Participation Intention** | 45 | 82.24 | 49 | 70.59 | 61 | 80.82 | 2.128 | 2 | 0.345 |
| **Psycho-physiological Safety** | 45 | 78.7 | 49 | 73.6 | 61 | 81.02 | 0.903 | 2 | 0.637 |
| a. Kruskal Wallis Test | | | | | | | | | |
| b. Grouping Variable: Employment category | | | | | | | | | |

The difference in Perception of the three categories of respondents, with its *p-value*of (0.796 >.05 ), can be inferred as insignificant even toward the *Conceptual Relevance*. The *p-value* (0.08> .05) on the third factor of *Learning Interest* is also insignificantly different. The difference in the Perception of the three categories of the respondents, on the factor of *Privacy & Security*, with the *p-value*(0.259> 0.05) depicts that the difference in Perception is insignificant. The *p-value*(0.166> 0.05)signifies the insignificant difference in the Perception of the three categories of the respondents in the context of the fourth factor *Procedural Transparency.* The *p-value* of (0.951> 0.05) points out the insignificant difference in the Perception of the three categories of the respondents in the context of *the Organizational Practicability* of neuroscientific techniques and tools in their organizations. The insignificant difference in the respondents' Perceptions of *Participation Intention* can be inferred from its*p-value* (0.345>0.05). Lastly, the insignificant *p-value*(0.637>0.05), in the case of the last variable, depicts the insignificant difference in the Perception of the three respondent categories, apropos the *Psycho-physiological Safety.* Conclusively, the authors failed to reject all the null hypotheses for all the eight dimensions on which the Perception of the three categories of the respondents was analyzed.

To attain the last objective of the study, respondents were asked to put forth what they perceive as the hurdle/sin the practical application of neuroscientific interventions for leadership development. Table 4.2.7 highlights the cumulative response of the respondents in the context of what they perceive as the cause/s of *'difficulty in neuroscientific application in organizations.'* Table 4.2.8 summed up the results of cross tabulation, done to understand the relevance of each factor independently for three different categories of respondents. As the table shows, *'organizational reluctance towards the brain-based training'* was the major hurdle among the management faculties. In contrast, HR professionals do not perceive it as a significant obstacle. The *'cost involved'* in neuroscientific interventions and other related arrangements was perceived as a significant barrieramong research scholars and HR professionals.

**Table 10 : Comprehensive Picture of the Reasons behind Organizations 'Difficulty in Neuroscientific Implementation.**

| **Frequencies** | | | | |
|---|---|---|---|---|
| | | Responses | | Percent of Cases |
| | | N | Percent | |
| Difficulty in neuroscientific | Organizations' reluctance toward the brain-based training | 45 | 10.70% | 29.00% |
| | Cost involved | 56 | 13.30% | 36.10% |

| | | | | |
|---|---|---|---|---|
| application | lack of trust in the feasibility of brain-based data in leadership development | 48 | 11.40% | 31.00% |
| | I think it cannot be implemented in organizations without the help of neuroscience specialists | 93 | 22.00% | 60.00% |
| | I need clarification on how brain research can help design leadership development interventions. | 123 | 29.10% | 79.40% |
| | I need to find out where assistance for implementing brain-based training can be available. | 57 | 13.50% | 36.80% |
| Total | | 422 | 100.00% | 272.30% |

The *'lack of trust in the feasibility of brain-based data in leadership development* was perceived as an important reason among the research scholars, whereas management faculties perceive it to be not so crucial a factor influencing. The fourth reason, *'I think it cannot be implemented in organizations without the help of neuroscience specialists,'* was perceived as important by all three categories as more than 50% of respondents believe it to be the case that poses difficulty in its organizational implication. The fifth statement, *'I need clarification on how brain research can help in designing leadership intervention,'* was also the primary reason, as inferred from (Table 4.2.7). Table 4.2.8 clarifies it further wherein in each of the three categories more than 75% of the respondents voted that they are unclear on how the brain research data can be converted into leadership interventions to be easily implemented by a non-specialist (in the context of neuroscience) such as HR professionals, leaders or managers in their organizations.

**Table 11 : Category-Wise Description of the Percentages of Respondent's Choice for the Reasons of Difficulty in the Organizational Implication of Neuroscientific Techniques.**

| Difficulty in Neuroscientific Application in Leadership Development | | Employment Category | | | Total |
|---|---|---|---|---|---|
| | | Research scholar | HR professional | Faculties | |
| Organizations' reluctance toward the brain-based training | Count | 12 | 11 | 22 | 45 |
| | % within the Employment category | 26.70% | 22.40% | 36.10% | |
| Cost involved | Count | 19 | 20 | 17 | 56 |
| | % within the Employment category | 42.20% | 40.80% | 27.90% | |
| Lack of trust in the feasibility of brain-based data in leadership development | Count | 16 | 15 | 17 | 48 |
| | % within the Employment category | 35.60% | 30.60% | 27.90% | |
| I think it can only be implemented in organizations with the help of neuroscience specialists. | Count | 31 | 25 | 37 | 93 |
| | % within the Employment category | 68.90% | 51.00% | 60.70% | |
| I need clarification on how brain research can help design leadership development interventions. | Count | 35 | 37 | 51 | 123 |
| | % within the Employment category | 77.80% | 75.50% | 83.60% | |
| I need to find out where assistance for implementing brain-based training can be available. | Count | 18 | 17 | 22 | 57 |
| | % within the Employment category | 40.00% | 34.70% | 36.10% | |
| Total | Count | 45 | 49 | 61 | 155 |

## 5. CONCLUSION

This study aimed to check the awareness level of academicians and corporate employees towards the ethical and implementation aspects of Neuroleadership. The respondents were sampled from among the HR professionals deployed in Indian IT companies and the faculties and research scholars working with management departments of various central universities and private management colleges. Using descriptive statistics, the awareness levels of the respondents were checked, where it was inferred that a majority of the respondents reflected low awareness. Cross-tabulated data clarifies that the highest percentage of the respondents in the low awareness category were of management faculties. Further, the research aimed at assessing the Perception of the respondents towards the practicability and ethical aspects associated with the neuroscience of leadership. It was concluded that the Perception of the respondents was positive towards- the concept of neuroleadership and adoption; the respondents were interested in learning how brain functioning and limitations influence their performance and leadership skills. A less favorable perception was witnessed towards the participation, feasibility and ethical aspects of neuroleadership. The research also intended to understand the significant obstacles around the organizational implementation and feasibility of neuroleadership. The respondents affirmed that their reluctance or disinterest is not any of the constrain in the organizational implementation of the neuroscientific approach. The statistical analysis concluded the three significant reasons blocking the growth and organizational implementation of neuro leadership- First, the respondents need to be aware and clear on how to convert the brain-based findings into a feasible organizational intervention for leadership development. Another significant reason is the need for a much-needed collaboration of organizational/ academic leaders with neuro-experts to facilitate designing and implementing any neuroscientifically backed leadership development programs in their organizations. Lastly, respondents need to be made aware of the sources of knowledge and assistance for organizational implementation can be fetched by them. Raising the overall awareness of all the aspects of neuro-leadership is assumed to improve the outlook of academicians and corporate leaders towards neuro-leadership. It may pave the way for its implications in various neuroscientific organizational policies. Looking at the methodological and conceptual limitations, it has become imperative for management experts to initiate and inspire the execution of interdisciplinary research in areas like neuroleadership and organizational neuroscience. Further, the insufficiency of traditional leadership approaches revealed by the VUCA world demands more scientific analysis of our in-born and teachable leadership traits.

## 6. THEORETICAL CONTRIBUTION

The present empirical study on the awareness and Perception of neuro leadership is the first of its kind, witnessed by the researchers in the literature of leadership, which is framed around the Indian context, covering the opinions of both- the organizational leaders as well as theacademicians.

### 6.1 Practical Implications

As was inferred from the results that the major challenge is the need for more clarity on how brain-based findings can be knitted to build a viable neuro-leadership intervention. An understanding of the awareness level of corporate employees and that of academicians will help us infer why neuroleadership, unlike neuro-marketing, is lying in the backseat regarding organizational implications, even after two decades of its implementation full-fledged research history. Furthermore, improved awareness of academicians will

encourage research initiatives in interdisciplinary domains like neuroleadership. We expect value-addition by academicians in the form of theoretical frameworks and feasible brain-based interventions through their interdisciplinary research initiatives. Corporate leaders will be benefitted as they become more aware of neuroscientific tools, techniques, concepts and interventions that can be woven into their existing organizational framework. The factors causing difficulty in the organizational implementation of neuroscientific techniques, empirically derived in this study, may be considered while devising a strategy to implement any brain-based leadership program.

## 7. LIMITATIONS AND FURTHER RESEARCH SUGGESTIONS

The present study focuses on academicians of management colleges and the corporate employees of the HR department of Indian IT companies, presenting purposefully selected six Indian cities only. It would be a significant contribution if further studies are conducted using samples from other sectors or withtop management employees, psychologists or even neuro-specialists, whose perceptions will pave the way for a better future for this envisioned merger.

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