



## Unveiling Yoga's Impact on Mental and Physical Well-Being Through Neutrosophic DEMATEL Analysis

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### Abstract

Studying the impact of beneficiaries on yoga is the aim of this article. Due to its significance, yoga is extremely important for both mental and physical wellness. Numerous, complicated, and incompatible supporting criteria exist for the impact of yoga. The multi-criteria decision making (MCDM) strategy is an option for resolving this problem. A potent instrument for communicating the significance and influencing factors on others is the Decision-making Trial and Evaluation Laboratory (DEMATEL) technique. As a result, DEMATEL included neutrosophic sets for system analysis and manipulation. To demonstrate how to defeat this strategy, we also provide several instances.

**Keywords:** DEMATEL method; Mental health; Physical health; Yoga and Neutrosophic numbers.

### 1. Introduction

Using the Greek Sophia and the Latin neuter to imply "knowledge of neutral mind," Smarandache [1] coined the phrases neutrosophy, neutrosophic logic, neutrosophic sets, etc. in the 1980s. Fuzzy Cognitive Maps (FCMs) are fuzzy objects that mimic neural networks in manyways. As a mathematical tool for modelling complex systems, FCMs have significant and far-reaching implications. Neutrosophic Cognitive Maps (NCMs) are generalisations of FCMs. They differ from FCMs in that they can manage ambiguity in the relationships between concepts, which increases the sensitivity of the results [2], [3].

One example of the numerous uses for FCMs and NCMs is the development of metabolic and models for regulatory networks, examinations of company performance evaluations, and problems with traffic and transportation, the modelling of strategic planning in intelligent systems, mobile robotics, and personal technology like office plants, as well as in medical diagnostics. The fuzzy set and, accordingly, the neutrosophic set are generalisations of fuzzy logic (especially of intuitionistic fuzzy set and respectively intuitionistic fuzzy logic).

The term "neutrosophic logic" was first used in 1995 by Florentin Smarandache [7]. A set that falls between  $[0, 1]^*$ , the non-standard unit interval, and in a universe where there are various degrees of truth, ambiguity, and deception, respectively, is said to be a neutrosophic set. Neutrosophic with a single value sets are a type of neutrosophic set that was established in 2005 by Wang et al. [8] and was motivated by the requirement for science and engineering to have practical applications.

In India, 3000 BC marks the beginning of the mind-body practise known as yoga. Yoga has a long history of being a comprehensive discipline that incorporates physical alignment, breathing exercises, self-awareness, focus,

and meditation [16]. Yoga is no longer merely a technique to improve fitness, relax, and shape your body because of the rise of yoga culture; As a result of heavy marketing, it is now increasingly recognised as a representation of a healthy living. The research shows that yoga practise can enhance one's overall health and quality of life. Yoga has been demonstrated to increase muscular strength, balance, and flexibility [17], enhance the quality of sleep for those who have trouble falling asleep [18], lower the risk of contracting chronic diseases and delay ageing [19,20], decrease blood pressure and heart rate [21], as well as promote weight reduction [22].

Yoga [5] is a discipline with roots in ancient India that combines physical, mental, and spiritual activities. In order to recognise a detached witness awareness that is unaffected by the mind and common suffering, they are intended to relax the mind. It may also become a crucial component of your therapy and perhaps speed up recovery if you're battling an illness, recuperating from surgery, or dealing with a chronic disease.

Yoga enhances the human body; mind and it provides more benefits for the types of yoga be like [6]

*Raja yoga*: To completely comprehend oneself, Raja yoga emphasises meditation and introspection.

*Hatha yoga*: The practise of yoga poses, or asana, known as hatha yoga, uses the body as a tool for personal growth.

In the older English population, we assess the combined impacts of past mental health on physical health and past physical health on mental health, which are made up of indirect and direct effects. We model the current level of one form of health as a function of the stock of the other form of health for the direct effect calculations in accordance with [15].

There are several criteria and sub-criteria for PH and MH impact. In order to overcome criteria, multi-criteria decision making (MCDM) is applied. These elements' importance for both physical and mental wellbeing was demonstrated using the DEMATEL approach. [9] [10] [11] DEMATEL is an effective tool for managing decisions [12] [13] [14] [23].

Consequently, to deal with this imperfect knowledge, neutrosophic sets are utilised. Six values were employed by the triangular neutrosophic sets to overcome this knowledge. Our application of a novel neutrosophic approach for analysing and quantifying the benefits of yoga for the body, as well as for one's physical and emotional wellness, is one of this work's main achievements. In order to demonstrate the significance of the criteria in this study, triangular neutrosophic sets, the MCDM DEMATEL approach, and three major criteria and fifteen supporting criteria were used.

The purpose of this article is to close this gap by calculating the mediating effects of yoga on the links between physical and mental health.

Table 1: Triangular Neutrosophic Number's

TNN's
$\langle 1,1,1 \rangle \langle 0,0,1 \rangle$
$\langle 1,2,3 \rangle \langle 0.85,0.25,0.15 \rangle$
$\langle 2,3,4 \rangle \langle 0.25,0.65,0.75 \rangle$
$\langle 3,4,5 \rangle \langle 0.9,0.25,0.1 \rangle$
$\langle 4,5,6 \rangle \langle 0.45,0.75,0.55 \rangle$

## 2. Preliminaries

**Definition 1:** Let  $X$  be a space of points including generic elements represented by  $X$ . Then a neutrosophic set  $P$  in the space  $X$  is defined as  $P = \{ \langle x, T_p(x), I_p(x), F_p(x) \rangle, x \in X \}$ .

In contrast to the membership function that underpins standard fuzzy sets, three parameters are used in the representation of neutrosophic sets.  $T_p(x)$  is the truth membership function,  $I_p(x)$  is the indeterminacy-membership function, and  $F_p(x)$  is the falsity-membership function. All the functions are real standard subsets of  $]0^-, 1^+[$ . Hence, the sum of  $T_p(x)$ ,  $I_p(x)$  and  $F_p(x)$  is  $0^- \leq \text{Sup } T_p(x) + \text{Sup } I_p(x) + \text{Sup } F_p(x) \leq 3^+$ .

**Definition 2:** The generalized form of classic, fuzzy, and intuitionistic fuzzy sets is the single valued neutrosophic set. Because it is difficult to apply nonstandard subsets in real-world situations, Wang [8] proposed single-valued

neutrosophic numbers (SVNNs). There exist basic properties of set-theoretic operators defined within single-valued neutrosophic sets [8]. Hence, the sum of  $T_p(x), I_p(x)$  and  $F_p(x)$  is  $0 \leq \text{Sup } T_p(x) + \text{Sup } I_p(x) + \text{Sup } F_p(x) \leq 3^+$ .

**Definition 3 :** Deneutrosophication is the process of converting neutrosophic numbers into crisp real numbers. Let  $P = \{(x, T_p(x), I_p(x), F_p(x)), x \in X\}$  be an SVNN and the corresponding crisp real number is  $X_p$  can be computed as in Eq. 1.

$$X_p = 1 - \sqrt{\frac{\{(1 - T_p(x))^2 + (I_p(x))^2 + (F_p(x))^2\}}{3}} \dots\dots\dots(1)$$

After providing the basic definitions, it will improve the clarity of steps using Neutrosophic numbers in DEMATEL technique.

**Definition 4:** There are many multiplications in single valued neutrosophic set as:

Let  $a_1 = (T_1, I_1, F_1), a_2 = (T_2, I_2, F_2)$  then,

$$a_1 \vee a_2 = (\max\{T_1, T_2\}, \min\{I_1, I_2\}, \min\{F_1, F_2\}) \tag{1.1}$$

$$a_1 \wedge a_2 = (\min\{T_1, T_2\}, \max\{I_1, I_2\}, \max\{F_1, F_2\}) \tag{1.2}$$

$$a_1 \oplus a_2 = (T_1 + T_2 - T_1 T_2, I_1 I_2, F_1 F_2) \tag{1.3}$$

$$a_1 \otimes a_2 = (T_1 T_2, I_1 + I_2 - I_1 I_2, F_1 + F_2 - F_1 F_2) \tag{1.4}$$

$$\theta a_1 = (1 - (1 - T_1)^\theta, I_1^\theta, F_1^\theta) \tag{1.5}$$

**Definition 5:** let  $a_1 = (T_1, I_1, F_1), a_2 = (T_2, I_2, F_2)$  then  $w > 0$  be real number, then

$$a_1 \otimes a_2 = \left( \frac{T_1 \cdot T_2}{1 + (1 - T_1) \cdot (1 - T_2)}, \frac{I_1 + I_2}{1 + I_1 \cdot I_2}, \frac{F_1 + F_2}{1 + F_1 \cdot F_2} \right) \tag{1.6}$$

$$a_1 \oplus a_2 = \left( \frac{T_1 + T_2}{1 + T_1 \cdot T_2}, \frac{I_1 \cdot I_2}{1 + (1 - I_1) \cdot (1 - I_2)}, \frac{F_1 \cdot F_2}{1 + (1 - F_1) \cdot (1 - F_2)} \right) \tag{1.7}$$

$$w \cdot a_1 = \left( \frac{(1 + T_1)^w - (1 - T_1)^w}{(1 + T_1)^w + (1 - T_1)^w}, \frac{2(I_1)^w}{(2 - I_1)^w + (I_1)^w}, \frac{2(F_1)^w}{(2 - F_1)^w + (F_1)^w} \right) \tag{1.8}$$

$$a_1^w = \left( \frac{2(T_1)^w}{(2 - T_1)^w + (T_1)^w}, \frac{(1 + I_1)^w - (1 - I_1)^w}{(1 + I_1)^w + (1 - I_1)^w}, \frac{(1 + F_1)^w - (1 - F_1)^w}{(1 + F_1)^w + (1 - F_1)^w} \right) \tag{1.9}$$

### 3. METHODOLOGY

The DEMATEL approach is a methodology that may be applied to the study and resolution of intricate and interconnected issue groups.

In this part, we offer an approach that, when applied to triangular neutrosophic sets, incorporates elements from the DEMATEL method. We begin by using a triangular neutrosophic number (TNN) that has six different values. In Table 1, which includes TNNs and linguistics words, is created using a triangular neutrosophic value.

Following are the key actions in the DEMATEL method:

Step 1 : Establish goals based on this research and analysis issue.

Step 2 : Assemble a group of decision-makers that includes a specialist in this area.

Step 3 : Utilize the literature review to gather the main and supporting criteria.

Step 4 : Construct a pairwise comparison matrix between the criteria and the supporting-criteria.

Step 5 : The average technique of combining the resultant matrix the term "direct relation matrix" refers to this arrangement of criteria and other factors.

Step 6 : Normalized a combined matrix by

$Z = k * U$  where  $k = \frac{1}{\max_{1 \leq i \leq n} (\sum_{j=1}^n a_{ij})}$ ,  $i, j = 1, 2, 3 \dots \dots n$  where the current value of the combined pairwise comparison matrix is  $U$ .

Step 7 : Utilizing the MATLAB programme, calculate the total relation matrix by  $TR_{ij} = Z(I - Z)^{-1}$  where  $I$  is a Identity matrix.

Step 8 : Add and subtract summation rows from summation columns.. Then use summations columns and rows to demonstrate how criteria have an impact. When comparing two criteria, the highest value shows the greatest impact, while the lowest value shows the least influence.

Table 2 : Major and supporting criteria

Major Criteria	Supporting Criteria
Mental Health MeH1	Relieving Depression MeH 1.1
	Reduce Stress MeH 1.2
	Improve Sleep MeH 1.3
	Ease Anxiety MeH 1.4
	Sharpens Concentration MeH 1.5
Physical Health PH2	Increase flexibility and Reduce back pain PhH 2.1
	Calm the nervous system PhH 2.2
	Increase bone density and health PhH 2.3
	Increase circulation and blood flow PhH 2.4
	Regulate the adrenal glands PhH 2.5
YOGA Y3	Get strong Yo3.1
	Need to relax Yo3.2
	Look and feel younger Yo3.3
	Improve your posture Yo3.4
	Better quality of life Yo3.5

**4. An Illustration**

Present the results of the suggested method in this part to demonstrate how the various criteria are impacted. This article's initial stage is to analyse yoga's advantages for both physical and mental wellness. In order to demonstrate the effect and impact of benefits in systems, we gather criteria from the literature review. By considering the uncertainty value in computations, neutrosophic sets are utilised to demonstrate influences on the health benefits of yoga. We choose three primary criteria and fifteen sub-criteria that have an influence on yoga's advantages. Thus, the criteria cover yoga's advantages as well as physical and mental wellness.

Table 3 : Major criterion for initial decision makers' comparisons using pairs

	MeH1	PhH2	Yo3
MeH1	1	3	5
PhH2	0.3333	1	4
Yo3	0.2	0.25	1

Table 4 : Major criterion pairwise comparison matrix for second decision makers

	MeH1	PhH2	Yo3
MeH1	1	2	3
PhH2	0.5	1	4

Yo3	0.3333	0.25	1
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Table 5 : Major criterion pairwise comparison matrix for third decision makers

	MeH1	PhH2	Yo3
MeH1	1	4	1.5
PhH2	0.25	1	3
Yo3	0.6667	0.3333	1

Table 6 : Combined pairwise comparison matrix for major criteria

	MeH1	PhH2	Yo3
MeH1	1	3	3.1667
PhH2	0.3611	1	4.333
Yo3	0.4	0.2778	1

Table 7 : Combining pairwise comparisons for the major criteria in a normalised matrix

	MeH1	PhH2	Yo3
MeH1	0.1395	0.4186	0.4419
PhH2	0.0504	0.1395	0.6018
Yo3	0.0558	0.0388	0.1395

Table 8 : Total relation matrix for the most important criterion

	MeH1	PhH2	Yo3
MeH1	0.2742	0.6705	1.1233
PhH2	0.1367	0.2719	0.9597
Yo3	0.0888	0.1008	0.2782

Table 9 : Relevance for major criteria

	Relevance
MeH1	1.5683
PhH2	0.3251

Yo3	-1.8934
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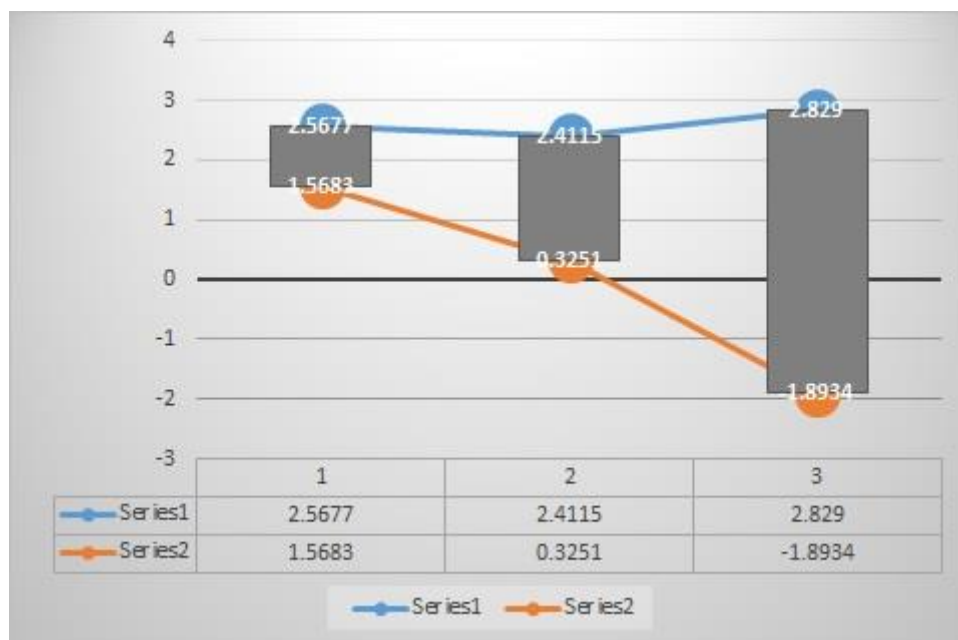


Figure 1: Relevance of Major criteria

The three decision-makers evaluate the supporting criteria for the three key criteria by constructing a pairwise comparison matrix between those criteria and others. The five sub-criteria for mental health are firstly evaluated by decision-makers. Create the three pairwise comparison matrices in Tables 10–12 between the supporting-criteria. Add one matrix to Table 13 after combining the three pairwise comparison matrices. The pairwise comparison matrix is then normalised into Table 14. Then generate Table 15's Total relation matrix. Then highlight the significance of Table 16's supporting-criteria. The greatest priority among the supporting-criteria is depression relief, whereas the lowest benefit to mental health is concentration improvement.

Table 10 : Comparison matrix by pairs for the first expert's mental health criterion

	MeH1.1	MeH 1.2	MeH 1.3	MeH 1.4	MeH 1.5
MeH 1.1	1	2	2	4	3
MeH 1.2	0.5	1	3	5	2
MeH 1.3	0.5	0.3333	1	5	4
MeH 1.4	0.25	0.2	0.2	1	2
MeH 1.5	0.3333	0.5	0.25	0.5	1

Table 11 : Comparison matrix by pairs for the second expert's mental health criterion

	MeH1.1	MeH 1.2	MeH 1.3	MeH 1.4	MeH 1.5
MeH 1.1	1	2	3	4	5
MeH 1.2	0.5	1	3	5	5

MeH 1.3	0.3333	0.3333	1	1.5	1.5
MeH 1.4	0.25	0.2	0.6667	1	3
MeH 1.5	0.2	0.2	0.6667	0.3333	1

Table 12 : Comparison matrix by pairs for the third expert's mental health criterion

	MeH1.1	MeH 1.2	MeH 1.3	MeH 1.4	MeH 1.5
MeH 1.1	1	3	1.5	2	3
MeH 1.2	0.3333	1	3	5	5
MeH 1.3	0.6667	0.3333	1	3	2
MeH 1.4	0.5	0.2	0.3333	1	2
MeH 1.5	0.3333	0.2	0.5	0.5	1

Table 13 : Combined pairwise comparison matrix for mental health criteria

	MeH1.1	MeH 1.2	MeH 1.3	MeH 1.4	MeH 1.5
MeH 1.1	1	2.3333	2.1667	3.3333	3.6667
MeH 1.2	0.4444	1	3	5	4
MeH 1.3	0.5	0.3333	1	3.1667	2.5
MeH 1.4	0.3333	0.2	0.4	1	2.3333
MeH 1.5	0.2888	0.3	0.4722	0.4444	1

Table 14 : Combining pairwise comparisons for the mental health criteria in a Normalised matrix

	MeH1.1	MeH 1.2	MeH 1.3	MeH 1.4	MeH 1.5
MeH 1.1	0.0744	0.1756	0.1612	0.2479	0.2728
MeH 1.2	0.0331	0.0744	0.2232	0.3719	0.2975
MeH 1.3	0.0372	0.0248	0.0744	0.2355	0.1859
MeH 1.4	0.0248	0.0149	0.0298	0.0744	0.1736

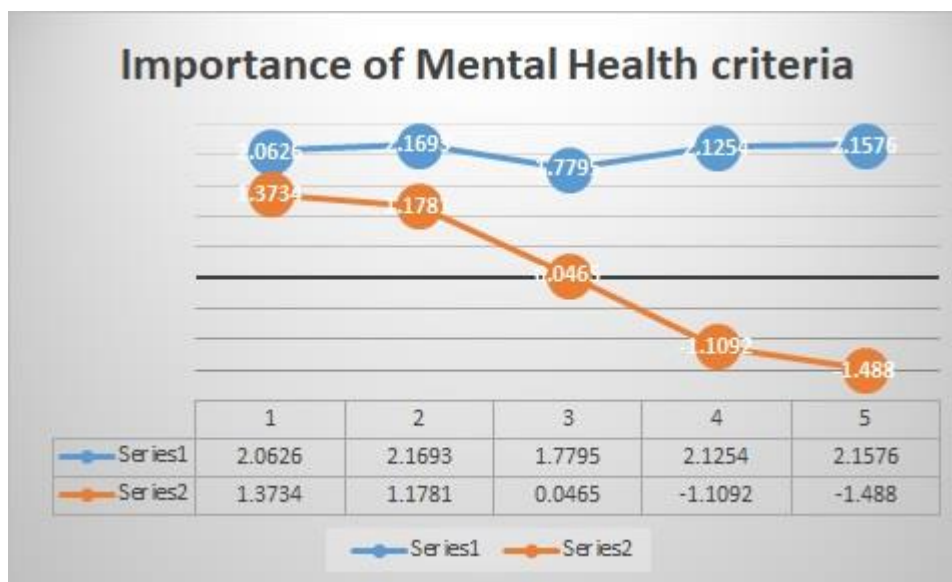
MeH 1.5	0.0215	0.0223	0.0351	0.0331	0.0744
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Table 15 : Total relation matrix for the mental health criterion

	MeH1.1	MeH 1.2	MeH 1.3	MeH 1.4	MeH 1.5
MeH 1.1	0.1271	0.2431	0.2921	0.4940	0.5617
MeH 1.2	0.0819	0.1275	0.3260	0.5779	0.5604
MeH 1.3	0.0640	0.0557	0.1282	0.3383	0.3268
MeH 1.4	0.0396	0.0332	0.0606	0.1285	0.2462
MeH 1.5	0.0320	0.0361	0.0596	0.0786	0.1281

Table 16 : Relevance for mental health criteria

	Relevance
MeH 1.1	1.3734
MeH 1.2	1.1781
MeH 1.3	0.0465
MeH 1.4	-1.1092
MeH 1.5	-1.488



The three decision makers evaluate the supporting factors for the three primary criteria by developing a pairwise comparison matrix between them and other criteria. The five sub-criteria for physical health are firstly evaluated by decision-makers. Create the three pairwise comparison matrices in Tables 17–19 between the supporting-criteria. Add one matrix to Table 20 after combining the three pairwise comparison matrices. The pairwise comparison matrix is then normalised into Table 21. Then generate Table 22's Total relation matrix. Then

highlight the significance of Table 23's supporting-criteria. The greatest priority among the supporting-criteria is increase flexibility and reduce back pain, whereas the lowest benefit to physical health is regulate the adrenal glands.

Table 17 : Comparison matrix by pairs for the first expert's physical health criterion

	PhH2.1	PhH2.2	PhH2.3	PhH2.4	PhH2.5
PhH2.1	1	3	5	3	4
PhH2.2	0.3333	1	2	2	5
PhH2.3	0.2	0.5	1	3	2
PhH2.4	0.3333	0.5	0.3333	1	3
PhH2.5	0.25	0.2	0.5	0.3333	1

Table 18 : Comparison matrix by pairs for the second expert's physical health criterion

	PhH2.1	PhH2.2	PhH2.3	PhH2.4	PhH2.5
PhH2.1	1	2	3	5	4
PhH2.2	0.5	1	2	2	5
PhH2.3	0.3333	0.5	1	3	2
PhH2.4	0.2	0.5	0.3333	1	3
PhH2.5	0.25	0.2	0.5	0.3333	1

Table 19 : Comparison matrix by pairs for the third expert's physical health criterion

	PhH2.1	PhH2.2	PhH2.3	PhH2.4	PhH2.5
PhH2.1	1	3	5	5	4
PhH2.2	0.3333	1	4	4	3
PhH2.3	0.2	0.25	1	2	4
PhH2.4	0.2	0.25	0.5	1	5
PhH2.5	0.25	0.3333	0.25	0.2	1

Table 20 : Combined pairwise comparison matrix for physical health criteria

	PhH2.1	PhH2.2	PhH2.3	PhH2.4	PhH2.5
PhH2.1	1	2.6667	4.3333	4.3333	4

PhH2.2	0.3889	1	2.6667	2.6667	4.3333
PhH2.3	0.2444	0.4167	1	2.6667	2.6667
PhH2.4	0.2444	0.4167	0.3887	1	3.6667
PhH2.5	0.25	0.2444	0.4167	0.2887	1

Table 21 : Combining pairwise comparisons for the physical health criteria in a

Normalised matrix

	PhH2.1	PhH2.2	PhH2.3	PhH2.4	PhH2.5
PhH2.1	0.0612	0.1633	0.2653	0.2653	0.2449
PhH2.2	0.0238	0.0612	0.1633	0.1633	0.2653
PhH2.3	0.0149	0.0255	0.0612	0.1633	0.1633
PhH2.4	0.0149	0.0255	0.0238	0.0612	0.2245
PhH2.5	0.0153	0.0149	0.0255	0.0177	0.0612

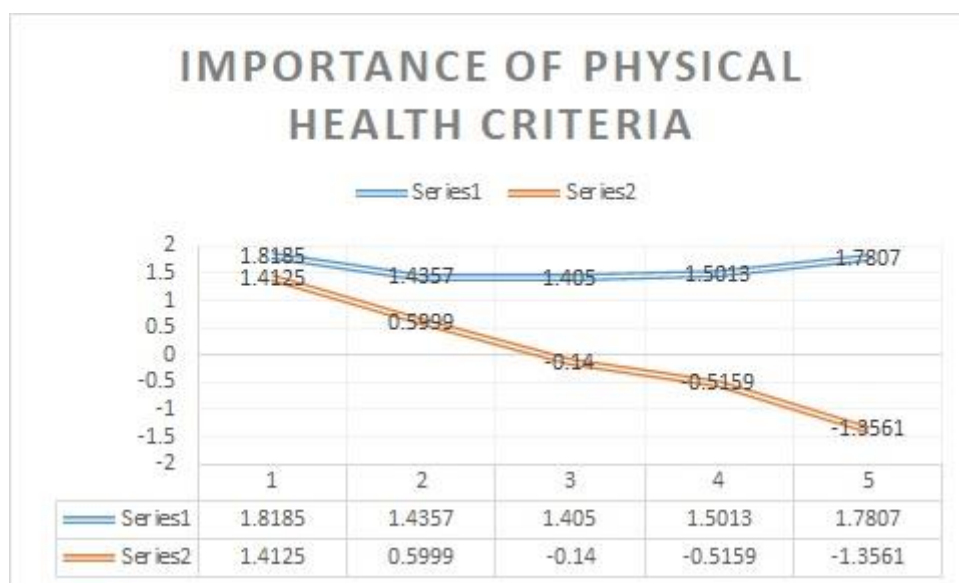
Table 22 : Total relation matrix for the physical health criterion

	PhH2.1	PhH2.2	PhH2.3	PhH2.4	PhH2.5
PhH2.1	0.0917	0.2195	0.3713	0.4209	0.5121
PhH2.2	0.0419	0.0918	0.2194	0.2478	0.4169
PhH2.3	0.0260	0.0440	0.0926	0.2100	0.2595
PhH2.4	0.0238	0.0397	0.0491	0.0928	0.2873
PhH2.5	0.0196	0.0229	0.0401	0.0371	0.0926

Table 23 : Relevance for physical health criteria

	Relevance
PhH2.1	1.4125
PhH2.2	0.5999
PhH2.3	-0.14
PhH2.4	-0.5159

PhH2.5	-1.3561



By creating a pairwise comparison matrix between the supporting-criteria and others, the three decision makers assess the three major criteria' supporting-criteria. The five supporting-criteria for yoga are firstly evaluated by decision-makers. Create the three pairwise comparison matrices in Tables 24-26 between the supporting-criteria. Add one matrix to Table 27 after combining the three pairwise comparison matrices. The pairwise comparison matrix is then normalised into Table 28. Then generate Table 29's Total relation matrix. Then highlight the significance of Table 30's supporting-criteria. The greatest priority among the supporting-criteria is get strong, whereas the lowest benefit to yoga is better quality of life.

Table 24 : Comparison matrix by pairs for the first expert's yoga criterion

	Yo3.1	Yo3.2	Yo3.3	Yo3.4	Yo3.5
Yo3.1	1	4	2	2	4
Yo3.2	0.25	1	3	4	5
Yo3.3	0.5	0.3333	1	2	3
Yo3.4	0.5	0.25	0.5	1	2
Yo3.5	0.25	2	0.3333	0.5	1

Table 25 : Comparison matrix by pairs for the second expert's yoga criterion

	Yo3.1	Yo3.2	Yo3.3	Yo3.4	Yo3.5
Yo3.1	1	2	3	2	3
Yo3.2	0.5	1	2	2	4
Yo3.3	0.3333	0.5	1	4	5

Yo3.4	0.5	0.5	0.25	1	5
Yo3.5	0.3333	0.25	0.2	0.2	1

Table 26 : Comparison matrix by pairs for the third expert's yoga criterion

	Yo3.1	Yo3.2	Yo3.3	Yo3.4	Yo3.5
Yo3.1	1	3	2	3	2
Yo3.2	0.3333	1	3	3	4
Yo3.3	0.5	0.3333	1	2	2
Yo3.4	0.3333	0.3333	0.5	1	5
Yo3.5	0.5	0.25	0.5	0.2	1

Table 27 : Combined pairwise comparison matrix for yoga criteria

	Yo3.1	Yo3.2	Yo3.3	Yo3.4	Yo3.5
Yo3.1	1	3	3	2.333	3
Yo3.2	0.3611	1	2.667	3	4.3333
Yo3.3	0.4444	0.3887	1	2.6667	3.3333
Yo3.4	0.4444	0.3611	0.4167	1	4
Yo3.5	0.3611	0.2333	0.3444	0.3	1

Table 28 : Combining pairwise comparisons for the yoga criteria in a

Normalised matrix

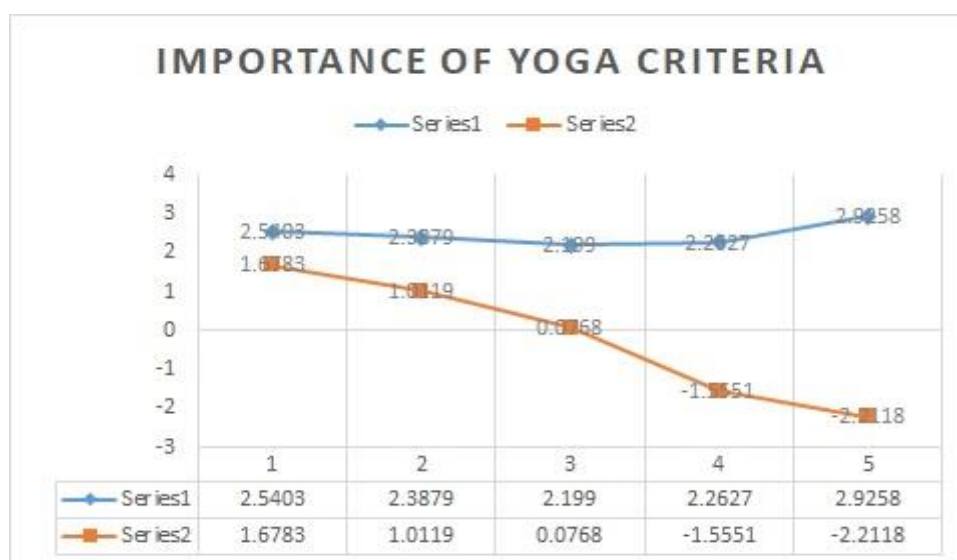
	Yo3.1	Yo3.2	Yo3.3	Yo3.4	Yo3.5
Yo3.1	0.0811	0.2432	0.2432	0.1892	0.2432
Yo3.2	0.0293	0.0811	0.2162	0.2432	0.3513
Yo3.3	0.0360	0.0315	0.0811	0.2162	0.2703
Yo3.4	0.0360	0.0293	0.0338	0.0811	0.3243
Yo3.5	0.0293	0.0189	0.0279	0.0243	0.0811

Table 29 : Total relation matrix for the yoga criterion

	Yo3.1	Yo3.2	Yo3.3	Yo3.4	Yo3.5
Yo3.1	0.1569	0.3501	0.4271	0.4505	0.7247
Yo3.2	0.0887	0.1511	0.3313	0.4196	0.7091
Yo3.3	0.0765	0.0805	0.1546	0.3220	0.5043
Yo3.4	0.0661	0.0672	0.0902	0.1535	0.4768
Yo3.5	0.0428	0.0391	0.0579	0.0633	0.1539

Table 30 : Relevance for yoga criteria

	Relevance
Yo3.1	1.6783
Yo3.2	1.0119
Yo3.3	0.0768
Yo3.4	-0.5551
Yo3.5	-2.2118



## 5. Conclusion

As a result of this research, we can say with confidence that the DEMATEL technique is a useful tool for analysing how various criteria interact using Neutrosophic numbers. We analyse the relationship between yoga's advantages using three major and fifteen supporting factors. The assessed criteria and alternatives were calculated using the triangular neutrosophic numbers. According to this article, the ultimate objective of yoga is mental health, which serves a variety of purposes, whereas the lowest goal of yoga is physical health.

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