Analyses the causes of alcoholism using triangular Neutrosophic soft set in a Neutrosophic environment.

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Abstract

This study suggested a novel method for identifying the patient most impacted by alcohol by employing the triangular neutrosophic soft set-in variable sense. Environmental, biological and psychological factors, among others, have an effect on alcoholics. Alcoholics are categorized according to the severity of the affliction, and the reasons for alcoholism are examined using a mixed set of data from various observers. The Neutrosophic soft set is a crucial resource for identifying the decision-making problems in the Neutrosophic domain. This categorization inquiry has taken the form of a comparison table. It is advantageous to classify objects and individuals in a neutrosophic environment according to their calibre, aptitude, performance, etc.

Keywords: Triangular Neutrosophic soft sets; score function; Comparison table; Alcoholism; environmental factors; biological factors; psychological factors; parametric sense.

1. Introduction

Although many domains dealing with uncertain data can be modelled using classical mathematics, the concept of uncertainty is not well-defined and might be challenging to apply. Numerous techniques, including fuzzy set theory (19), neutrosophic set theory (17), and probability theory (9), can be utilized to model these topics. The soft set theory, which Molodtsov [21,25] introduced in 1999, is a brand-new mathematical framework that may be utilized to handle uncertainty. This method was created mostly because it was thought that soft sets weren't suitable for handling fuzzy and uncertain parameters in the past. Though they can manage partial data, inconsistent and undecided data cannot be handled by intuitionistic fuzzy sets. On the other hand, because indeterminacy is explicitly quantified and the information is independent, neutrosophic sets may deal with these data types. [17]. Maji originally suggested an approach that is free of the numerous challenges that are involved in applying this theory, since neutrosophic sets are capable of handling these kinds of data. [26] Neutrosophic soft sets have been applied in decision-making problems. Since neutrosophic sets can handle varying types of data, the operators and sets must be specified in order to make them suitable for real applications.[27] In order to solve the problem of uncertainty in complex decisions, the neutrosophic soft set was developed.

Mumtaz Ali created a decision-making system based on the bipolar neutrosophic soft sets. [1] This article provides a general review of the feasibility of the algebraic operations on bipolar neutrosophic soft sets. Irfan Deli [2] put up a fresh approach in a different study to address the issue of interval-valued neutrosophic soft sets. Analyses are done on a few of the sets' characteristics. In this study, the idea of a soft expert set was expanded to include fuzzy soft expert sets, which will be more practical and beneficial. This work also defined the fundamental operations, including complement, union, intersection, AND, and OR. The mapping of fuzzy soft expert classes and their

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attributes were also defined in this study. (3) Then, Broumi [4] introduced the idea of generalized neutrosophic soft sets. On this concept, some attributes and procedures are established. In problem-solving, a generalized Neutrosophic soft set is used. A concept known as generalized neutrosophic soft sets were introduced by Broumi[5]. In a different publication, he put out a fresh approach to studying the uncertainty surrounding the stock market using neutrosophic soft sets. Additionally, Sudhan Jha [6] devised a way to identify the most typical stock market problems. The relationship between analogous neutrosophic sets and neutrosophic soft sets was defined by Broumi [7]. This study introduced the analysis of numerous operations on soft sets. There were also some brand-new concepts offered, including the restricted intersection, restricted union, restricted difference, and extended intersection of two soft sets. Additionally, this study improved the idea of a soft set's complement. With regard to these new concepts, soft set theory derives De Morgan's laws.(8) This study explains the relationship between equivalent neutrosophic sets and neutrosophic soft sets. The neutrosophic soft set-based decision-making method is also presented. Also highlighted are the characteristics of soft sets. Ali also explains the characteristics of soft sets. The restricted intersection and restricted difference were then discussed. Shuker Mahmood proposed the idea of the dissimilarity fuzzy soft point [10]. The characteristics of discrete soft components in various unrestricted soft topology spaces were proposed by Kandil [11]. By taking into account the weight of parameters, an issue of group decision-making involving more than two decision-makers on a fuzzy soft set is resolved. The fuzzy analytic hierarchy process (FAHP), which usually employs the lambda-max approach, has been used to estimate the weights of the parameters, and an algorithm for addressing decision-making problems is described. Finally, a numerical example has been used to demonstrate the usefulness of this approach. (12) The concepts of equality of two soft sets, the subset, and superset of a soft set, the complement of a soft set, null soft set, and absolute soft set with examples are explained. Soft binary operations like AND, and OR, as well as the union and intersection operations, are defined. In soft set theory, a number of results, including De Morgan's laws, are confirmed. (15) It described how soft sets work and what a neutrosophic soft set is. On the neutrosophic soft set, a few definitions and operations have been introduced. Some properties of this concept have been established. (20) A general mathematical tool for handling ambiguous, fuzzily specified things is provided by the soft set theory. This paper's primary goal is to introduce the theory's fundamental ideas (25).

2.Preliminaries

Definition 2.1: Neutrosophic set A on the universe of discourse X is defined as $A = \{(x, T_A(x), I_A(x), F_A(x))/ x \in X\}$ where $T_A, I_A, F_A : X \to [0,1^+]$

And $0^- \leq T_A(x) + I_A(x) + F_A(x) \leq 3^+$

Definition 2.2: Let us consider a non- empty set $U, U \subseteq T$, a pair (G, U) is called a soft set over X, where 'G' is a mapping given by $G: U \to Q(x)$

Definition 2.3: A soft set G over X is a set valued function from U to Q(x). It can be expressed as a set of sequential pairs.

$G = \{t, G(t)/ t \in T\}$

If $G(t) = \emptyset$ then the element $(t, G(t))$ is not appeared in S.

Definition 2.4: Let X be a universal set. T be a list of parameters. Consider $U \subset T$. The set of all Neutrosophic sets of X is denoted by Q(X). The set (G, U) is known as the soft Neutrosophic collection over X. where S is a mapping given by $G: U \to Q(X)$

Definition 2.5: Let (H, I) & (J, K) be two triangular Neutrosophic soft set over the common universe X. Then the intersection of (H, I) & (J,K) is defined by (H, I)∩(J, K) = (L, O) where O = $I \cap K$ and the truth membership, indeterminacy membership and falsity membership of (L,O) are as follows.

$$T_{M(a)}(m) = \min\{T_{H(a)}(m), T_{J(a)}(m)\} \; if \quad a \in I \cap K$$

$$I_{M(a)}(m) = \min\{I_{H(a)}(m), I_{J(a)}(m)\} \; if \quad a \in I \cap K$$

$$F_{M(a)}(m) = \max\{F_{H(a)}(m), F_{J(a)}(m)\} \; if \quad a \in I \cap K$$

Definition 2.6 Let (H, I) & (J, K) be two triangular Neutrosophic soft set over the common universe X. Then the union of (H, I) & (J,K) is defined by (H, I)∩(J, K) = (L, O) where O = $I \cap K$ and the truth membership, indeterminacy membership and falsity membership of (L,O) are as follows.

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$$T_{M(a)}(m) = \max\{T_{H(a)}(m), T_{J(a)}(m)\} \ if \quad a \in I \cap K$$

$$I_{M(a)}(m) = \max\{I_{H(a)}(m), I_{J(a)}(m)\} \ if \quad a \in I \cap K$$

$$F_{M(a)}(m) = \min\{F_{H(a)}(m), F_{J(a)}(m)\} \ if \quad a \in I \cap K$$

Definition 2.7: Score function of Triangular Neutrosophic number is given by

Let
Let $\hat{T} = (r, s, t; u, v, w; x, y, z)$ bev

$$S(\hat{T}) = \frac{8 + (r + 2s + t) - (u + 2v + w) - (x + 2y + z)}{12}$$

Where (r, s, t) denotes Truth membership function

(u, v, w)denotes Indeterminacy membership function

(x, y, z) denotes falsity membership function

3. Application of Triangular Neutrosophic soft set-in decision-making problem.

Let $A = \{A_1, A_2, A_3, A_4, A_5, A_6\}$ be the set of Alcoholics affected due to factors such as Environmental factors, Biological factors, psychological factors.

The parameter set $P =$ {broken families, rebellion against parental authority, social Reinforcement, generation gap, inferiority feelings, phobia, more feminine feelings, feeling of isolation abnormalities in metabolism, glandular disorder, deficiencies in hormonal activity, deficiency of vitamin B_1}

Consider three subsets N, S, B of the set of parameters P.

N represents Environmental factors.

S represents Psychological factors

B represents Biological factors

The Triangular Neutrosophic soft set (P, N) describes the Alcoholics with Environmental factors. The The Triangular Neutrosophic soft set (P, S) describes the Alcoholics with psychological factors. The Triangular Neutrosophic soft set (P, B) describes the Alcoholics with Biological factors.

The Triangular Neutrosophic soft set (P, N) is taken as follows:

Table [1]

A	Broken families (n_1)	Rebellion against parental authority (n_2)	Social Reinforcement (n_3)	$Generation\ Gap$ (n_4)
A_1	(0.71,0.72,0.73); (0.51,0.52,0.53) (0.21,0.22,0.23)	(0.65,0.66,0.67); (0.42,0.43,0.44) (0.22,0.23,0.24)	(0.72,0.73,0.74); (0.52,0.53,0.54) (0.44,0.45,0.46)	(0.32,0.33,0.34); (0.51,0.52,0.53) (0.42,0.43,0.44)
A_2	(0.82,0.83,0.84); (0.62,0.63,0.64) (0.31,0.32,0.33)	(0.72,0.73,0.74); (0.52,0.53,0.54) (0.12,0.13,0.14)	(0.81,0.82,0.83); (0.25,0.26,0.27) (0.12,0.13,0.14)	(0.44,0.45,0.46); (0.72,0.73,0.74) (0.52,0.53,0.54)
A_3	(0.94,0.95,0.96); (0.46,0.47,0.48) (0.13,0.14,0.15)	(0.82,0.83,0.84); (0.72,0.73,0.74) (0.42,0.43,0.44)	(0.92,0.93,0.94); (0.72,0.73,0.74) (0.41,0.42,0.43)	(0.52,0.53,0.54); (0.72,0.73,0.74) (0.42,0.43,0.44)
A_4	(0.65,0.66,0.67); (0.32,0.33,0.34) (0.21,0.22,0.23)	(0.92,0.93,0.94); (0.51,0.52,0.53) (0.22,0.23,0.24)	(0.72,0.73,0.74); (0.83,0.84,0.85) (0.42,0.43,0.44)	(0.82,0.83,0.84); (0.65,0.66,0.67) (0.21,0.22,0.23)

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A_5	(0.58,0.59,0.60); (0.42,0.43,0.44) (0.12,0.13,0.14)	(0.72,0.73,0.74); (0.64,0.65,0.66) (0.73,0.74,0.75)	(0.92,0.93,0.94); (0.61,0.62,0.63) (0.32,0.33,0.34)	(0.95,0.96,0.97); (0.82,0.83,0.84) (0.42,0.43,0.44)
A_6	(0.64,0.65,0.66); (0.34,0.35,0.36) (0.22,0.23,0.24)	(0.63,0.64,0.65); (0.34,0.35,0.36) (0.46,0.47,0.48)	(0.85,0.86,0.87); (0.68,0.69,0.70) (0.42,0.43,0.44)	(0.83,0.84,0.85); (0.72,0.73,0.74) (0.34,0.35,0.36)

The Triangular Neutrosophic soft set (P, S) is taken as follows:

Table [2]

A	Inferiority feelings (s_1)	Phobia (s_2)	More feminine feeling (s_3)	Feeling of isolation (s_4)	Guilt (s_5)
A_1	(0.84,0.85,0.86); (0.72,0.73,0.74) (0.43,0.44,0.45)	(0.92,0.93,0.94); (0.74,0.75,0.76) (0.42,0.43,0.44)	(0.74,0.75,0.76); (0.65,0.66,0.67) (0.34,0.35,0.36)	(0.82,0.83,0.84); (0.54,0.55,0.56) (0.42,0.43,0.44)	(0.95,0.96,0.97); (0.81,0.82,0.83) (0.51,0.52,0.53)
A_2	(0.82,0.83,0.84); (0.54,0.55,0.56) (0.43,0.44,0.45)	(0.94,0.95,0.96); (0.72,0.73,0.74) (0.42,0.43,0.44)	(0.84,0.85,0.86); (0.72,0.73,0.74) (0.63,0.64,0.65)	(0.74,0.75,0.76); (0.62,0.63,0.64) (0.54,0.55,0.56)	(0.51,0.52,0.53); (0.42,0.43,0.44) (0.21,0.22,0.23)
A_3	(0.75,0.76,0.77); (0.64,0.65,0.66) (0.42,0.43,044)	(0.82,0.83,0.84); (0.74,0.75,0.76) (0.52,0.53,0.54)	(0.72,0.73,0.74); (0.43,0.44,0.45) (0.22,0.23,0.24)	(0.87,0.88,0.89); (0.62,0.63,0.64) (0.54,0.55,0.56)	(0.82,0.83,0.84); (0.72,0.73,0.74) (0.42,0.43,0.44)
A_4	(0.82,0.83,0.84); (0.45,0.46,0.47) (0.32,0.33,0.34)	(0.74,0.75,0.76); (0.62,0.63,0.64) (0.52,0.53,0.54)	(0.84,0.85,0.86); (0.72,0.73,0.74) (0.62,0.63,0.64)	(0.75,0.76,0.77); (0.62,0.63,0.64) (0.43,0.44,0.45)	(0.74,0.75,0.76); (0.62,0.63,0.64) (0.52,0.53,0.54)
A_5	(0.75,0.76,0.77); (0.52,0.53,0.54) (0.64,0.65,0.66)	(0.74,0.75,0.76); (0.82,0.83,0.84) (0.45,0.46,0.47)	(0.76,0.77,0.78); (0.63,0.64,0.65) (0.22,0.23,0.24)	(0.92,0.93,0.94); (0.71,0.72,0.73) (0.42,0.43,0.44)	(0.81,0.82,0.83); (0.52,0.53,0.54) (0.22,0.23,0.24)
A_6	(0.83,0.84,0.85); (0.25,0.26,0.27) (0.28,0.29,0.30)	(0.75,0.76,0.77); (0.64,0.65,0.66) (0.55,0.56,0.57)	(0.94,0.95,0.96); (0.82,0.83,0.84) (0.54,0.55,0.56)	(0.85,0.86,0.87); (0.74,0.75,0.76) (0.34,0.35,0.36)	(0.62,0.63,0.64); (0.51,0.52,0.53) (0.23,0.24,0.25)

The Triangular Neutrosophic soft set (P, B) is taken as follows:

Table [3]

A	Abnormalities in Metabolism (b_1)	Glandular disorder (b_2)	Deficiencies in hormonal activity (b_3)	Deficiency of Vitamin B_1 (b_4)
A_1	(0.85,0.86,0.87); (0.24,0.25,0.26) (0.62,0.63,0.64)	(0.75,0.76,0.77); (0.84,0.85,0.86) (0.43,0.44,0.45)	(0.85,0.86,0.87); (0.72,0.73,0.74) (0.55,0.56,0.57)	(0.92,0.93,0.94); (0.75,0.76,0.77) (0.81,0.82,0.83)
A_2	(0.67,0.68,0.69); (0.52,0.53,0.54) (0.22,0.23,0.424	(0.82,0.83,0.84); (0.63,0.64,0.65) (0.32,0.33,0.34)	(0.92,0.93,0.94); (0.72,0.73,0.74) (0.52,0.53,0.54)	(0.84,0.85,0.86); (0.92,0.93,0.94) (0.64,0.65,0.66)
A_3	(0.88,0.89,0.90); (0.42,0.43,0.44) (0.82,0.83,084)	(0.72,0.73,0.74); (0.64,0.65,0.66) (0.41,0.42,0.43)	(0.75,0.76,0.77); (0.65,0.66,0.67) (0.42,0.43,0.44)	(0.84,0.85,0.86); (0.62,0.63,0.64) (0.55,0.56,0.57)
A_4	(0.78,0.79,0.80); (0.62,0.63,0.64) (0.83,0.84,0.85)	(0.84,0.85,0.76); (0.71,0.72,0.73) (0.32,0.33,0.34)	(0.82,0.83,0.84); (0.62,0.63,0.64) (0.52,0.53,0.54)	(0.92,0.93,0.94); (0.54,0.55,0.56) (0.42,0.43,0.44)
A_5	(0.85,0.86,0.87); (0.45,0.46,0.47) (0.32,0.33,0.34)	(0.92,0.93,0.94); (0.25,0.26,0.27) (0.12,0.13,0.14)	(0.95,0.96,0.97); (0.82,0.83,0.84) (0.65,0.66,0.67)	(0.83,0.84,0.85); (0.64,0.65,0.66) (0.54,0.55,0.56)
A_6	(0.72,0.73,0.74); (0.85,0.86,0.87) (0.46,0.47,0.348	(0.62.63,0.64); (0.54,0.55,0.56) (0.74,0.75,0.76)	(0.84,0.85,0.86); (0.72,0.73,0.74) (0.42,0.43,0.44)	(0.74,0.75,0.76); (0.62,0.63,0.64) (0.43,0.44,0.45)

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If we perform (P, N) ^ (P, S) then we will get 20 parameters. The parameters of the form y_{mn} were

$l_{mn} = n_{m^\wedge} s_n$ for all $m = 1,2,3,4$ & $n = 1,2,3,4,5$ if we want to find Triangular Neutrosophic soft set for the parameters $O = \{l_{13}, l_{24}, l_{25}, l_{32}, l_{35}, l_{43}, l_{44}, l_{45}\}$ then the resultant single valued Neutrosophic soft set for the Neutrosophic sets (P, N) & (P, S) will be (M, O) (say)

The tabular representation of resultant Triangular Neutrosophic soft set is as follows:

Table [4]

A	l_{13}	l_{24}	l_{25}	l_{32}
A_1	(0.71,0.72,0.73); (0.51,0.52,0.53) (0.21,0.22,0.23)	(0.65,0.66,0.67); (0.42,0.43,0.44) (0.22,0.23,0.24)	(0.65,0.66,0.67) (0.42,0.43,0.44); (0.22,0.23,0.24)	(0.72,0.73,0.74); (0.52,0.53,0.54) (0.42,0.43,0.44)
A_2	(0.82,0.83,0.84); (0.62,0.63,0.64) (0.31,0.32,0.33	(0.72,0.73,0.74); (0.52,0.53,0.54) (0.12,0.13,0.14)	(0.51,0.52,0.53); (0.42,0.43,0.44) (0.12,0.13,0.14)	(0.81,0.82,0.83); (0.25,0.26,0.27) (0.12,0.13,0.14)
A_3	(0.72,0.73,0.74); (0.43,0.44,0.45) (0.13,0.14,0.15)	(0.82,0.83,0.84); (0.62,0.63,0.64) (0.42,0.43,0.44)	(0.82,0.83,0.84); (0.72,0.73,0.74) (0.12,0.13,0.14);	(0.82,0.83,0.84); (0.72,0.73,0.74) (0.41,0.42,0.43)
A_4	(0.65,0.66,0.67); (0.32,0.33,0.34) (0.21,0.22,0.23)	(0.75,0.76,0.77); (0.22,0.23,0.24) (0.42,0.43,0.44)	(0.82,0.83,0.84); (0.72,0.73,0.74) (0.42,0.43,0.44)	(0.72,0.73,0.74); (0.62,0.63,0.64) (0.42,0.43,0.44)
A_5	(0.58,0.59,0.60); (0.42,0.43,0.44) (0.12,0.13,0.14)	(0.72,0.73,0.74); (0.64,0.65,0.66) (0.42,0.43,0.44)	(0.72,0.73,0.74); (0.52,0.53,0.54) (0.22,0.23,0.24)	(0.74,0.75,0.76); (0.61,0.62,0.63) (0.32,0.33,0.34)
A_6	(0.64,0.65,0.66); (0.34,0.35,0.36) (0.22,0.23,0.24)	(0.63,0.64,0.65); (0.34,0.35,0.36) (0.34,0.35,0.36)	(0.62,0.63,0.64); (0.34,0.35,0.36) (0.23,0.24,0.25);	(0.75,0.76,0.77); (0.64,0.65,0.66) (0.42,0.43,0.44)

A	l_{35}	l_{43}	l_{44}	l_{45}
A_1	(0.72,0.73,0.74); (0.52,0.53,0.54) (0.44,0.45,0.46)	(0.32,0.33,0.34); (0.51,0.52,0.53) (0.34,0.35,0.36)	(0.32,0.33,0.34) (0.51,0.52,0.53); (0.42,0.43,0.44)	(0.32,0.33,0.34); (0.51,0.52,0.53) (0.42,0.43,0.44)
A_2	(0.51,0.52,0.53); (0.25,0.26,0.277) (0.12,0.13,0.14	(0.44,0.45,0.46); (0.72,0.73,0.74) (0.52,0.53,0.54)	(0.44,0.45,0.46); (0.72,0.73,0.74) (0.52,0.53,0.54)	(0.44,0.45,0.46); (0.42,0.43,0.44) (0.21,0.22,0.23)
A_3	(0.82,0.83,0.84); (0.72,0.73,0.74) (0.41,0.42,0.43)	(0.52,0.53,0.54); (0.43,0.44,0.45) (0.22,0.23,0.24)	(0.52,0.53,0.54); (0.62,0.63,0.64) (0.42,0.43,0.44);	(0.52,0.53,0.54); (0.72,0.73,0.74) (0.42,0.43,0.44)
A_4	(0.72,0.73,0.74); (0.62,0.63,0.64) (0.42,0.43,0.44)	(0.82,0.83,0.84); (0.65,0.66,0.67) (0.21,0.22,0.23)	(0.75,0.76,0.77); (0.62,0.63,0.64) (0.21,0.22,0.23)	(0.74,0.75,0.76); (0.62,0.63,0.64) (0.21,0.22,0.23)
A_5	(0.81,0.82,0.83); (0.52,0.53,0.54) (0.22,0.23,0.24)	(0.76,0.77,0.78); (0.63,0.64,0.65) (0.22,0.23,0.24)	(0.92,0.93,0.94); (0.71,0.72,0.73) (0.42,0.43,0.44)	(0.81,0.82,0.83); (0.52,0.53,0.54) (0.22,0.23,0.24)
A_6	(0.62,0.63,0.64); (0.51,0.52,0.53) (0.23,0.24,0.25)	(0.83,0.84,0.85); (0.72,0.73,0.74) (0.34,0.35,0.36)	(0.83,0.84,0.85); (0.72,0.73,0.74) (0.34,0.35,0.36);	(0.62,0.63,0.64); (0.51,0.52,0.53) (0.23,0.24,0.25)

4.Algorithm:

Step 1: : The input sets (P, N), (P, S), (P, B), and (P, N) are processed in the appropriate fields by using the Triangular Neutrosophic soft set.

Step 2: The input parameter set P will be notified by the observer.

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Step 3: From the evaluation of the Triangular Neutrosophic soft sets, determine the process of (P, N), (P, S), and (P, B) and tabulate the resultant Triangular Neutrosophic soft set (S, P).

Step 4: Create the progressive Triangular Neutrosophic soft set (S, P) P_i & C_i for each A_i Alcoholics.

Step 5: The score for all A_i will be evaluated in the tabular form.

Step 6: The final outcome is $A_k = Max\ A_i$ by using the above algorithm we have solved the problem.

Suppose the choice of parameters of a spectator is

$$P = \{l_{13}{}^{\wedge}b_1, l_{24}{}^{\wedge}b_2, l_{25}{}^{\wedge}b_3, l_{32}{}^{\wedge}b_4, l_{35}{}^{\wedge}b_{2,} l_{43}{}^{\wedge}b_{4,} l_{44}{}^{\wedge}b_{2,}\ l_{45}{}^{\wedge}b_1 \quad \}$$

Using the above parameters, we have to take the decision from the universal set S.

The tabular representation of Triangular Neutrosophic soft set (S, P) is defined as follows:

Table [5]

A	$l_{13} \wedge b_1$	$l_{24} \wedge b_2$	$l_{25} \wedge b_3$	$l_{32} \wedge b_4$
A_1	(0.71,0.72,0.73); (0.24,0.25,0.26) (0.21,0.22,0.23)	(0.65,0.66,0.67); (0.42,0.43,0.44) (0.22,0.23,0.24)	(0.65,0.66,0.67) (0.42,0.43,0.44); (0.22,0.23,0.24)	(0.72,0.73,0.74); (0.52,0.53,0.54) (0.42,0.43,0.44)
A_2	(0.67,0.68,0.69); (0.52,0.53,0.54) (0.22,0.23,0.24	(0.72,0.73,0.74); (0.52,0.53,0.54) (0.12,0.13,0.14)	(0.51,0.52,0.53); (0.42,0.43,0.44) (0.22,0.23,0.24)	(0.81,0.82,0.83); (0.25,0.26,0.27) (0.13,0.14,0.15)
A_3	(0.72,0.73,0.74); (0.42,0.43,0.44) (0.13,0.14,0.15)	(0.72,0.73,0.74); (0.62,0.63,0.64) (0.41,0.42,0.43)	(0.75,0.76,0.77); (0.65,0.66,0.67) (0.42,0.43,0.44);	(0.82,0.83,0.84); (0.62,0.63,0.64) (0.41,0.42,0.43)
A_4	(0.65,0.66,0.67); (0.32,0.33,0.34) (0.21,0.22,0.23)	(0.75,0.76,0.77); (0.22,0.23,0.24) (0.32,0.33,0.34)	(0.82,0.83,0.84); (0.62,0.63,0.64) (0.42,0.43,0.44)	(0.72,0.73,0.74); (0.54,0.55,0.56) (0.42,0.43,0.44)
A_5	(0.58,0.59,0.60); (0.42,0.43,0.44) (0.12,0.13,0.14)	(0.72,0.73,0.74); (0.25,0.26,0.27) (0.12,0.13,0.14)	(0.72,0.73,0.74); (0.52,0.53,0.54) (0.22,0.23,0.24)	(0.74,0.75,0.76); (0.61,0.62,0.63) (0.32,0.33,0.34)
A_6	(0.64,0.65,0.66); (0.34,0.35,0.36) (0.22,0.23,0.24)	(0.62,0.63,0.64); (0.34,0.35,0.36) (0.34,0.35,0.36)	(0.62,0.63,0.64); (0.34,0.35,0.36) (0.23,0.24,0.25);	(0.74,0.75,0.76); (0.62,0.63,0.64) (0.42,0.43,0.44)

A	$l_{35} \wedge b_2$	$l_{43} \wedge b_4$	$l_{44} \wedge b_2$	$l_{45} \wedge b_1$
A_1	(0.72,0.73,0.74); (0.52,0.53,0.54) (0.43,0.44,0.45)	(0.32,0.33,0.34); (0.51,0.52,0.53) (0.34,0.35,0.36)	(0.32,0.33,0.34) (0.51,0.52,0.53); (0.42,0.43,0.44)	(0.32,0.33,0.34); (0.24,0.25,0.26) (0.42,0.43,0.44)
A_2	(0.51,0.52,0.53); (0.25,0.26,0.27) (0.12,0.13,0.14	(0.44,0.45,0.46); (0.72,0.73,0.74) (0.52,0.53,0.54)	(0.44,0.45,0.46); (0.63,0.64,0.65) (0.32,0.33,0.34)	(0.44,0.45,0.46); (0.42,0.43,0.44) (0.21,0.22,0.23)
A_3	(0.82,0.83,0.84); (0.63,0.64,0.65) (0.32,0.33,0.34)	(0.52,0.53,0.54); (0.43,0.44,0.45) (0.22,0.23,0.24)	(0.52,0.53,0.54); (0.62,0.63,0.64) (0.41,0.42,0.43);	(0.52,0.53,0.54); (0.42,0.43,0.44) (0.42,0.43,0.44)
A_4	(0.72,0.73,0.74); (0.62,0.63,0.64) (0.32,0.33,0.34)	(0.82,0.83,0.84); (0.54,0.55,0.56) (0.21,0.22,0.23)	(0.75,0.76,0.77); (0.62,0.63,0.64) (0.21,0.22,0.23)	(0.74,0.75,0.76); (0.62,0.63,0.64) (0.21,0.22,0.23)
A_5	(0.81,0.82,0.83); (0.25,0.26,0.27) (0.12,0.13,0.14)	(0.76,0.77,0.78); (0.63,0.64,0.65) (0.22,0.23,0.24)	(0.92,0.93,0.94); (0.25,0.26,0.27) (0.12,0.13,0.14)	(0.81,0.82,0.83); (0.45,0.46,0.47) (0.22,0.23,0.24)
A_6	(0.62,0.63,0.64); (0.51,0.52,0.53) (0.23,0.24,0.25)	(0.74,0.75,0.76); (0.62,0.63,0.64) (0.34,0.35,0.36)	(0.62,0.63,0.64); (0.54,0.55,0.56) (0.34,0.35,0.36);	(0.62,0.63,0.64); (0.51,0.52,0.53) (0.23,0.24,0.25)

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Tabular representation of single valued Neutrosophic soft set after deneutrosophication is defined as follows:

Table [6]

A	$l_{13} \wedge b_1$	$l_{24} \wedge b_2$	$l_{25} \wedge b_3$	$l_{32} \wedge b_4$	$l_{35} \wedge b_2$	$l_{43} \wedge b_4$	$l_{44} \wedge b_2$	$l_{45} \wedge b_1$
A_1	0.75	0.67	0.66	0.59	0.59	0.49	0.46	0.55
A_2	0.64	0.69	0.62	0.81	0.71	0.40	0.49	0.6
A_3	0.72	0.5+6	0.56	0.59	0.62	0.62	0.56	0.56
A_4	0.70	0.63	0.59	0.58	0.59	0.69	0.64	0.63
A_5	0.68	0.78	0.66	0.6	0.81	0.63	0.85	0.71
A_6	0.69	0.64	0.63	0.56	0.62	0.59	0.58	0.62

The progress table of the above resultant fuzzy set is as follows

Table [7]

	$\boldsymbol{A_1}$	$\boldsymbol{A_2}$	$\boldsymbol{A_3}$	$\boldsymbol{A_4}$	$\boldsymbol{A_5}$	$\boldsymbol{A_6}$
A_1	8	3	4	5	2	4
A_2	4	8	5	4	1	3
A_3	5	3	8	3	1	4
A_4	4	4	5	8	2	5
A_5	7	7	7	6	8	7
A_6	4	5	5	3	1	8

The row sum of a patient A_i is denoted by P_i. It is estimated using the following formula

$$\rho_i = \sum_{j=1}^{n} P_{ij}$$

ρ_i denotes the total number of parameters in which S_i dominates all the members of S.

The column sum of a patient S_j is denoted by C_j

$$C_j = \sum_{i=1}^{n} P_{ij}$$

Here C_j indicates the total number of parameters in which S_j is dominated by all the members of S. the score of a patient S_i is $R_i = \rho_i - C_j$

Row summation, column summation & progressive for each student S_i

Table 8:

	Row Summation $\boldsymbol{\rho_i}$	**Column Summation $\boldsymbol{C_j}$**	**Progressive $\boldsymbol{S_i}$**
A_1	26	32	-6
A_2	25	30	-5
A_3	24	34	-10
A_4	28	29	-1
A_5	42	15	27
A_6	26	31	-5

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5.Conclusion

According to a specified progressive table, it can be seen that a bigger number of scores are mentioned about 27, all of which are secured by A_5 . Thus, the most impacted Alcoholics appear on the A_5 list of Alcoholics. In order to carefully consider the progressive classification, we worked with and concentrated on the Triangular Neutrosophic soft set in the current research. The output of the multi spectator input parameter data set determines the course of action. To establish the comparison table's balance from the evolution of triangular neutrosophic soft sets, a technique had to be followed. This research can be expanded in the future to include bipolar triangular neutrosophic sets for decision-making issues.

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