



Exploration of factors stimulating the adsorption of Biochemical elements in the Behavioural system of Childhood using Nonagonal weights

Nivetha Martin^{1*}, Lilly Merline.W², P.Pandiammal³

¹Department of Mathematics, Arul Anandar College (Autonomous), Karumathur

²PG & Research Department of Mathematics, Periyar EVR College (Autonomous), Trichy

³Department of Mathematics, GTN Arts College, Dindigul.

Abstract : The manifestation of one's personality is behaviour, which is influenced by several factors. The foremost transformation in the pattern of human's behaviour takes place in adolescent's stage. Psychologists refer the period of teenage to be highly crucial, but now in the present scenario, the behaviour modification has started to take place in childhood. This drastic maturity without channelization has resulted in immoral behaviour. The factors contributing to it may be grouped as internal factors such as psychological, biological and the external factors such as social, economic, environmental. But recent studies have revealed that there is a close association between biochemical factors and behavioural modification. In addition present technological growth, nutritional diet and other related aspects has declined the moral values of them which have resulted in many crises such as molestation, harassment, unlawful activities and other critical acts. As the present children are the future leaders, behavioural regulation and development of their moral systems have to be focused, which is the prime aim of this paper. To execute it systematically fuzzy directed graphs with fuzzy nonagonal causal weights is used. In this paper the factors causing the adhesion of biochemical elements in the behavioural system of are considered and their association and impacts over one another is quantified with nonagonal fuzzy weights. An algorithm of ranking is used to find the core stimulating factor.

Keywords : childhood, behaviour, Biochemical, Fuzzy Directed Graphs, Nonagonal fuzzy number, causal.

Introduction

Morality refers to certain standards of behaviour exhibited by human subjected to the social ethics. The child enters into the society as biological organism, which then gets imbibed to the norms of the living environment, which play a vital role in influencing the behaviour of the individual¹. The stages of development of an individual begin with infancy, childhood, adolescent, adulthood and finally end with old age. In childhood stage the formation of behaviour and the learning process starts to get shape. The childhood period is classified into early childhood (3 yrs to 8) and middle childhood (9 yrs to 11). In these days many unprincipled activities are done by the children of middle childhood due to many internal and external factors. Several studies are undertaken to explore the reasons for it, which in turn gave way for the bloom of many theories². Our human body is composed of many biochemical reactions and there is a close association with the behavioural system. The behaviour regulating mechanism is highly coordinated by neurotransmitters and dopamine system. The levels of Serotonin, Noradrenaline, Monamine Oxidase must be in accordance to its limit. The agitation of

these elements causes aggressive behavioural outcomes. In a long run research the educationalists have stated a lot of influencing social, economic, biological, environmental factors of immorality behaviour of children, but they have not much focused on the stimulating factors of biochemical elements. The main aim of this paper is to explore the prime factors inducing immorality behaviour in children and to analyze the causal relationship between these factors. To determine the association between the factors, the concept of directed graphs with nonagonal weights is used.

The paper is organized as follows, section 2 presents the preliminaries, section 3 consists of the factors considered for study, section 4 explains the methodology, section 5 adapts the mathematical tool to the problem, section 6 composes of the results and discussion, finally section 7 concludes the paper.

2. Preliminaries

The basic definitions which are essential for the study are as follows^{3,4,5,6}:

2.1 Fuzzy Cognitive map

A Fuzzy Cognitive Map (FCM) is a directed graph with concepts like policies, eventsetc. as nodes and causalities as edges. It represents causal relationship between concepts.

2.2 Strength of Relationship

The edges e_{ij} take values in the fuzzy causal interval $[-1,1]$. $e_{ij}=0$ indicates no causality. $e_{ij}>0$ indicates causal increase or positive causality. C_j increases as C_i increases (or C_j decreases as C_i decreases). $e_{ij}<0$ indicates causal decrease or negative causality. C_j decreases as C_i increases (or C_j increases as C_i decreases). Simple FCMs have edge values in $\{-1,0,1\}$. Then if causality occurs, it occurs to a maximal positive or negative degree.

2.3 Hidden Pattern

Let $C_1, C_2, C_3, \dots, C_i, C_j, \dots$ be a cycle when C_i is switched on and if the causality flow through the edges of a cycle and if it again causes C_i , We say that the dynamical system goes round and round. This is true for any node C_i , for $i = 1, 2, \dots, n$. The equilibrium state for this dynamical system is called the hidden pattern.

2.4 A Fixed Point attractor of FCM

If the equilibrium state of a dynamical system is a unique state vector, then it is called a fixed point.

2.5 Limit Cycle

The FCM settles down with a state vector repeating of the form

$A_1 \rightarrow A_2 \rightarrow A_3 \rightarrow \dots \rightarrow A_1$. A sequence of FCM states keeps repeating indefinitely. This sequence is known as a limit cycle.

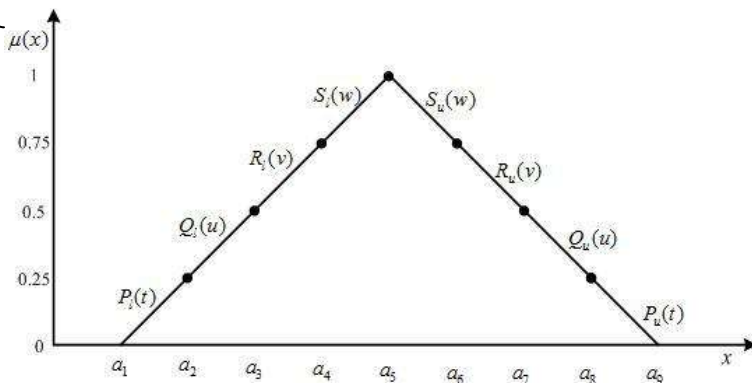
2.6 Nonagonal Fuzzy Number

A Nonagonal Fuzzy number is defined as $(a_1, a_2, a_3, a_4, a_5, a_6, a_7, a_8, a_9)$ and the membership function is defined as^{7,8,9}

$$\mu_D(x) = \begin{cases} \frac{1}{4} \frac{x-a_1}{a_2-a_1} & a_1 \leq x \leq a_2 \\ \frac{1}{4} + \frac{1}{4} \frac{x-a_2}{a_3-a_2} & a_2 \leq x \leq a_3 \\ \frac{1}{2} + \frac{1}{4} \frac{x-a_3}{a_4-a_3} & a_3 \leq x \leq a_4 \\ \frac{3}{4} + \frac{1}{4} \frac{x-a_4}{a_5-a_4} & a_4 \leq x \leq a_5 \\ 1 - \frac{1}{4} \frac{x-a_6}{a_7-a_6} & a_5 \leq x \leq a_6 \\ \frac{3}{4} - \frac{1}{4} \frac{x-a_7}{a_7-a_6} & a_6 \leq x \leq a_7 \\ \frac{1}{2} - \frac{1}{4} \frac{x-a_8}{a_8-a_7} & a_7 \leq x \leq a_8 \\ \frac{1}{4} \frac{a_9-x}{a_9-a_8} & a_8 \leq x \leq a_9 \end{cases}$$

Otherwise

The membership function of nonagonal fuzzy number is represented below



3. Factors Stimulating the Biochemical traits in the behavioural system in childhood

The following factors stimulating immorality behaviour in middle childhood that are considered for study are taken as Nonagonal fuzzy concepts which are obtained from the questionnaire given to 50 respective field experts.^{10,11,12}

- NC1 Very low reciprocation of love and care from parents
- NC2 High craving to internet
- NC3 High addiction to drugs
- NC4 Very Poor promotion of moral values
- NC5 Low weightage to religious beliefs
- NC6 Illegal affairs of the parents
- NC7 Frequent Breakage of marriage bonds of the parents
- NC8 Increase of Nuclear family
- NC9 Greater Enhancement of interest towards western culture
- NC10 Higher infatuation towards opposite gender

4. Methodology

The steps to determine the hidden pattern are follows

1. The concepts are taken as NC1, NC2,... NC10 and the connection matrix N(M) is obtained from the feedback of experts in terms of linguistic variables, which are quantified by nonagonal fuzzy number, which is also represented graphically.
2. The initial input vector NC1 is kept in ON position, it is then multiplied with the connection matrix, as a result a row vector is obtained.
3. The $N_{Avg}(M)$ is obtained and the highest value is thresholded as 1 and others as zero.
4. The manipulated vector is again multiplied with the N(M). The steps are repeated until the fixed point is attained.

5. Adaptation of the method to find the hidden pattern

The concepts taken for the study has linguistic terms and their values are tabulated below

Linguistic Variables`	Nonagonal Values
No Influence (NI)	(0, 0, 0, 0, 0, 0.03, 0.07, 0.11, 0.15)
Very Low Influence (VL)	(0, 0.03, 0.07, 0.11, 0.15, 0.19, 0.23, 0.27)
Low Influence (L)	(0.15, 0.19, 0.23, 0.27, 0.31, 0.35, 0.39, 0.43, 0.47)
Moderate Influence (M)	(0.31, 0.35, 0.39, 0.43, 0.47, 0.51, 0.55, 0.59, 0.63)
High Moderate Influence (HM)	(0.47, 0.51, 0.55, 0.59, 0.63, 0.67, 0.71, 0.75, 0.79)
High Influence (H)	(0.63, 0.67, 0.71, 0.75, 0.79, 0.83, 0.87, 0.91, 0.95)
Very High Influence (VH)	(0.79, 0.83, 0.87, 0.91, 0.95, 0.99, 1, 1, 1)

The connection matrix N(M)is as follows:

	NC1	NC2	NC3	NC4	NC5	NC6	NC7	NC8	NC9	NC10
NC1	NI	HM	VH	H	HM	NI	NI	NI	NI	VH
NC2	NI	NI	VL	H	M	NI	NI	NI	VH	H
NC3	NI	VL	NI	VH	VH	NI	NI	NI	HM	M
NC4	M	VH	VH	NI	VH	HM	M	L	H	H
NC5	NI	H	VH	VH	NI	H	H	H	H	H
NC6	VH	L	H	M	NI	NI	VH	L	HM	H
NC7	H	H	H	M	M	VH	NI	M	L	VH
NC8	H	H	H	H	H	H	VH	NI	VL	H
NC9	HM	H	H	H	H	H	VH	H	NI	H
NC10	NI	H	NI	M	H	NI	NI	NI	M	M

	NC1	NC2	NC3	NC4	NC5	NC6	NC7	NC8	NC9	NC10	
NC1	(0, 0, 0, 0, 0, 0.03, 0.07, 0.11, 0.15)	(0.47, 0.51, 0.55, 0.59, 0.63, 0.67, 0.71, 0.75, 0.79)	(0.79, 0.83, 0.87, 0.91, 0.95, 0.99, 1, 1)	(0.47, 0.51, 0.55, 0.59, 0.63, 0.67, 0.71, 0.75, 0.79)	(0.47, 0.51, 0.55, 0.59, 0.63, 0.67, 0.71, 0.75, 0.79)	(0, 0, 0, 0, 0, 0.03, 0.07, 0.11, 0.15)	(0, 0, 0, 0, 0, 0.03, 0.07, 0.11, 0.15)	(0, 0, 0, 0, 0, 0.03, 0.07, 0.11, 0.15)	(0, 0, 0, 0, 0, 0.03, 0.07, 0.11, 0.15)	(0, 0, 0, 0, 0, 0.03, 0.07, 0.11, 0.15)	(0.79, 0.83, 0.87, 0.91, 0.95, 0.99, 1, 1)

NC2	(0, 0, 0, 0, 0, 0.03, 0.07, 0.11, 0.15)	(0, 0, 0, 0.03, 0.07, 0.11, 0.15)	(0, 0.03, 0.07, 0.11, 0.15, 0.19, 0.23, 0.27)	(0.47, 0.51, 0.55, 0.59, 0.63, 0.67, 0.71, 0.75, 0.79)	(0.31, 0.35, 0.39, 0.43, 0.47, 0.51, 0.55, 0.59, 0.63)	(0, 0, 0, 0.03, 0.07, 0.11, 0.15)	(0, 0, 0, 0.03, 0.07, 0.11, 0.15)	(0, 0, 0, 0.03, 0.07, 0.11, 0.15)	(0.79, 0.83, 0.87, 0.91, 0.95, 0.99, 1, 1, 1)	(0.47, 0.51, 0.55, 0.59, 0.63, 0.67, 0.71, 0.75, 0.79)
NC3	(0, 0, 0, 0.03, 0.07, 0.11, 0.15)	(0, 0.03, 0.07, 0.11, 0.15, 0.19, 0.23, 0.27)	(0, 0, 0, 0.03, 0.07, 0.11, 0.15)	(0.79, 0.83, 0.87, 0.91, 0.95, 0.99, 1, 1, 1)	(0.79, 0.83, 0.87, 0.91, 0.95, 0.99, 1, 1, 1)	(0, 0, 0, 0.03, 0.07, 0.11, 0.15)	(0, 0, 0, 0.03, 0.07, 0.11, 0.15)	(0, 0, 0, 0.03, 0.07, 0.11, 0.15)	(0.47, 0.51, 0.55, 0.59, 0.63, 0.67, 0.71, 0.75, 0.79)	(0.31, 0.35, 0.39, 0.43, 0.47, 0.51, 0.55, 0.59, 0.63)
NC4	(0.31, 0.35, 0.39, 0.43, 0.47, 0.51, 0.55, 0.59, 0.63)	(0.79, 0.83, 0.87, 0.91, 0.95, 0.99, 1, 1, 1)	(0.79, 0.83, 0.87, 0.91, 0.95, 0.99, 1, 1, 1)	(0, 0, 0, 0.03, 0.07, 0.11, 0.15)	(0.79, 0.83, 0.87, 0.91, 0.95, 0.99, 1, 1, 1)	(0.47, 0.51, 0.55, 0.59, 0.63, 0.67, 0.71, 0.75, 0.79)	(0.31, 0.35, 0.39, 0.43, 0.47, 0.51, 0.55, 0.59, 0.63)	(0.15, 0.19, 0.23, 0.27, 0.31, 0.35, 0.39, 0.43, 0.47)	(0.47, 0.51, 0.55, 0.59, 0.63, 0.67, 0.71, 0.75, 0.79)	(0.47, 0.51, 0.55, 0.59, 0.63, 0.67, 0.71, 0.75, 0.79)
NC5	(0, 0, 0, 0.03, 0.07, 0.11, 0.15)	(0.47, 0.51, 0.55, 0.59, 0.63, 0.67, 0.71, 0.75, 0.79)	(0.79, 0.83, 0.87, 0.91, 0.95, 0.99, 1, 1, 1)	(0.79, 0.83, 0.87, 0.91, 0.95, 0.99, 1, 1, 1)	(0, 0, 0, 0.03, 0.07, 0.11, 0.15)	(0.47, 0.51, 0.55, 0.59, 0.63, 0.67, 0.71, 0.75, 0.79)	(0.47, 0.51, 0.55, 0.59, 0.63, 0.67, 0.71, 0.75, 0.79)	(0.47, 0.51, 0.55, 0.59, 0.63, 0.67, 0.71, 0.75, 0.79)	(0.47, 0.51, 0.55, 0.59, 0.63, 0.67, 0.71, 0.75, 0.79)	(0.47, 0.51, 0.55, 0.59, 0.63, 0.67, 0.71, 0.75, 0.79)
NC6	(0.79, 0.83, 0.87, 0.91, 0.95, 0.99, 1, 1, 1)	(0.15, 0.19, 0.23, 0.27, 0.31, 0.35, 0.39, 0.43, 0.47)	(0.47, 0.51, 0.55, 0.59, 0.63, 0.67, 0.71, 0.75, 0.79)	(0.31, 0.35, 0.39, 0.43, 0.47, 0.51, 0.55, 0.59, 0.63)	(0, 0, 0, 0.03, 0.07, 0.11, 0.15)	(0, 0, 0, 0.03, 0.07, 0.11, 0.15)	(0.79, 0.83, 0.87, 0.91, 0.95, 0.99, 1, 1, 1)	(0.15, 0.19, 0.23, 0.27, 0.31, 0.35, 0.39, 0.43, 0.47)	(0.47, 0.51, 0.55, 0.59, 0.63, 0.67, 0.71, 0.75, 0.79)	(0.47, 0.51, 0.55, 0.59, 0.63, 0.67, 0.71, 0.75, 0.79)

NC7	(0.47, 0.51, 0.55, 0.59, 0.63, 0.67, 0.71, 0.75, 0.79)	(0.47, 0.51, 0.55, 0.59, 0.63, 0.67, 0.71, 0.75, 0.79)	(0.47, 0.51, 0.55, 0.59, 0.63, 0.67, 0.71, 0.75, 0.79)	(0.31, 0.35, 0.39, 0.43, 0.47, 0.51, 0.55, 0.59, 0.63)	(0.31, 0.35, 0.39, 0.43, 0.47, 0.51, 0.55, 0.59, 0.63)	(0.79, 0.83, 0.87, 0.91, 0.95, 0.99, 1, 1, 1)	(0, 0, 0, 0.03, 0.07, 0.11, 0.15)	(0.31, 0.35, 0.39, 0.43, 0.47, 0.51, 0.55, 0.59, 0.63)	(0.15, 0.19, 0.23, 0.27, 0.31, 0.35, 0.39, 0.43, 0.47)	(0.79, 0.83, 0.87, 0.91, 0.95, 0.99, 1, 1, 1)
NC8	(0.47, 0.51, 0.55, 0.59, 0.63, 0.67, 0.71, 0.75, 0.79)	(0.47, 0.51, 0.55, 0.59, 0.63, 0.67, 0.71, 0.75, 0.79)	(0.47, 0.51, 0.55, 0.59, 0.63, 0.67, 0.71, 0.75, 0.79)	(0.47, 0.51, 0.55, 0.59, 0.63, 0.67, 0.71, 0.75, 0.79)	(0.47, 0.51, 0.55, 0.59, 0.63, 0.67, 0.71, 0.75, 0.79)	(0.47, 0.51, 0.55, 0.59, 0.63, 0.67, 0.71, 0.75, 0.79)	(0.79, 0.83, 0.87, 0.91, 0.95, 0.99, 1, 1, 1)	(0, 0, 0, 0.03, 0.07, 0.11, 0.15)	(0, 0.03, 0.07, 0.11, 0.15, 0.19, 0.23, 0.27)	(0.47, 0.51, 0.55, 0.59, 0.63, 0.67, 0.71, 0.75, 0.79)
NC9	(0.47, 0.51, 0.55, 0.59, 0.63, 0.67, 0.71, 0.75, 0.79)	(0.47, 0.51, 0.55, 0.59, 0.63, 0.67, 0.71, 0.75, 0.79)	(0.47, 0.51, 0.55, 0.59, 0.63, 0.67, 0.71, 0.75, 0.79)	(0.47, 0.51, 0.55, 0.59, 0.63, 0.67, 0.71, 0.75, 0.79)	(0.47, 0.51, 0.55, 0.59, 0.63, 0.67, 0.71, 0.75, 0.79)	(0.47, 0.51, 0.55, 0.59, 0.63, 0.67, 0.71, 0.75, 0.79)	(0.79, 0.83, 0.87, 0.91, 0.95, 0.99, 1, 1, 1)	(0.47, 0.51, 0.55, 0.59, 0.63, 0.67, 0.71, 0.75, 0.79)	(0, 0, 0, 0.03, 0.07, 0.11, 0.15)	(0.47, 0.51, 0.55, 0.59, 0.63, 0.67, 0.71, 0.75, 0.79)
NC10	(0, 0, 0, 0.03, 0.07, 0.11, 0.15)	(0.47, 0.51, 0.55, 0.59, 0.63, 0.67, 0.71, 0.75, 0.79)	(0, 0, 0, 0.03, 0.07, 0.11, 0.15)	(0.31, 0.35, 0.39, 0.43, 0.47, 0.51, 0.55, 0.59, 0.63)	(0.47, 0.51, 0.55, 0.59, 0.63, 0.67, 0.71, 0.75, 0.79)	(0, 0, 0, 0.03, 0.07, 0.11, 0.15)	(0, 0, 0, 0.03, 0.07, 0.11, 0.15)	(0, 0, 0, 0.03, 0.07, 0.11, 0.15)	(0.31, 0.35, 0.39, 0.43, 0.47, 0.51, 0.55, 0.59, 0.63)	(0, 0, 0, 0.03, 0.07, 0.11, 0.15)

The N(M) average weight Matrix is as

	NC1	NC2	NC3	NC4	NC5	NC6	NC7	NC8	NC9	NC10
NC1	0.04	0.63	0.93	0.79	0.63	0.04	0.04	0.04	0.04	0.93
NC2	0.04	0.04	0.13	0.79	0.47	0.04	0.04	0.04	0.93	0.79
NC3	0.04	0.13	0.04	0.93	0.93	0.04	0.04	0.04	0.63	0.47
NC4	0.47	0.93	0.93	0.04	0.93	0.63	0.47	0.31	0.79	0.79
NC5	0.04	0.79	0.93	0.93	0.04	0.79	0.79	0.79	0.79	0.79
NC6	0.93	0.31	0.79	0.47	0.04	0.04	0.93	0.3	0.63	0.79
NC7	0.79	0.79	0.79	0.47	0.47	0.93	0.04	0.47	0.31	0.93
NC8	0.79	0.79	0.79	0.79	0.79	0.79	0.93	0.04	0.13	0.79
NC9	0.63	0.79	0.79	0.79	0.79	0.79	0.93	0.79	0.04	0.79
NC10	0.04	0.79	0.04	0.47	0.79	0.04	0.04	0.04	0.47	0.04

Let G1 = (1000000000)

G1*N(M) =

(0.04 0.63 0.93 0.79 0.63 0.04 0.04 0.04 0.04 0.93)

(0010000001) = G1'

G1'*N(M) = (0.08 0.92 0.08 1.4 1.72 0.08 0.08 0.08 1.1 0.51)

(0000100000) = G2'

G2'*N(M) =

0.04 0.79 0.93 0.93 0.04 0.79 0.79 0.79 0.79 0.79

(0011000000) = G3'

G3'*N(M) = (0.51 1.06 0.97 1.86 0.67 0.51 0.35 1.42 1.26)

(0001000000) = G4'

G4'*N(M) =

0.47 0.93 0.93 0.04 0.93 0.63 0.47 0.31 0.79 0.79

(0110100000)

= G5'

G5'*N(M) =

(0.12 0.96 1.1 2.65 1.44 0.87 0.87 0.87 2.35 2.05)

(0001000000) = G6'

Let G1 = (0100000000)

G1*N(M) =

0.04 0.04 0.13 0.79 0.47 0.04 0.04 0.04 0.04 0.93 0.79

(0000000010) = G1'

G1'*N(M) =

0.63 0.79 0.79 0.79 0.79 0.79 0.93 0.79 0.04 0.79

(0000001000) = G2'

G2'*N(M) =

0.79 0.79 0.79 0.47 0.47 0.93 0.04 0.47 0.31 0.93

(0000010001) = G3'										
G3'*N(M) =	0.97	1.1	0.83	0.94	0.83	0.08	0.97	0.35	1.1	0.83
(0100000010) = G4'										
G4'*N(M) =	0.67	0.83	0.92	1.58	1.26	0.83	0.97	0.83	0.97	1.58
(0001000001) = G5'										
G5'*N(M) =	0.51	1.72	0.97	0.51	1.72	0.67	0.51	0.35	1.26	0.83
(0100100000) = G6'										
G6'*N(M) =	0.08	0.83	1.06	1.72	0.51	0.83	0.83	0.83	1.72	1.58
(0001000010) = G7'										
G7'*N(M) =	1.1	1.72	1.72	0.83	1.72	1.42	1.4	1.1	0.83	1.58
(0110100000) = G8'										
G8'*N(M) =	0.12	0.96	1.1	2.65	1.44	0.87	0.87	0.87	2.35	2.05
(0001000010) = G9'										

Proceeding in the same manner we get the limit point by considering each factor in ON position.

Table 5.1 Weightage of the Nonagonal Concepts

Attributes	NC1	NC2	NC3	NC4	NC5	NC6	NC7	NC8	NC9	NC10
(1000000000)	0.12	0.96	1.1	2.65	1.44	0.87	0.87	0.87	2.35	2.05
(0100000000)	0.12	0.96	1.1	2.65	1.44	0.87	0.87	0.87	2.35	2.05
(0010000000)	0.04	0.13	0.04	0.93	0.93	0.04	0.04	0.04	0.63	0.47
(0001000000)	0.47	0.93	0.93	0.04	0.93	0.63	0.47	0.31	0.79	0.79
(0000100000)	0.04	0.79	0.93	0.93	0.04	0.79	0.79	0.79	0.79	0.79
(0000010000)	0.12	0.96	1.1	2.65	1.44	0.87	0.87	0.87	2.35	2.05
(0000001000)	0.12	0.96	1.1	2.65	1.44	0.87	0.87	0.87	2.35	2.05
(0000000100)	0.12	0.96	1.1	2.65	1.44	0.87	0.87	0.87	2.35	2.05
(0000000010)	0.12	0.96	1.1	2.65	1.44	0.87	0.87	0.87	2.35	2.05
(0000000001)	0.12	0.96	1.1	2.65	1.44	0.87	0.87	0.87	2.35	2.05
Total Weight	1.15	6.65	7.4	15.15	9.1	5.81	5.65	5.49	13.96	12.3
Total Average Weight	0.115	0.655	0.74	1.515	0.91	0.581	0.565	0.549	1.396	1.23

6. Results and Discussion

The above table vividly indicates that the concepts NC4, Very Poor promotion of moral values, NC9 Greater Enhancement of interest towards western culture, NC10 Higher infatuation towards opposite gender contribute to the cause of immorality behaviour. These three factors seem to be the prime causes from the point of view of experts. The younger generation has now drifted to western culture as a result of which their moral values get detained. Presently parents spend a lot of time in their work which leave their children in isolation. As they do not spend time with their children, the rate of reciprocal of love and care between them become sparse. The morality of the children has to be developed and parents play a vital role in it. Amidst the busy schedule, the parents must spend some time with their children to share the daily events. This will make them comfortable and the time spent on other abominable activities will begin to decline. These factors will definitely induce the biochemical traits to stimulate the aggressive and immoral exhibit of behaviour.

Conclusion

This paper analyzes the causes of immorality behaviour in children from teacher's perspective. In this work the nonagonal fuzzy concept is employed to determine the principal causes. This method also helps in ranking the causes, which assist in formulating the right corrective measures. In this paper the higher fuzzy number is used in decision making.

References

1. Alvin Chin, M. C. Identifying communities in blogs:roles for social network analysis and survey instruments.International Journal of Web Based Communities, 2007, 3(3) :345-363.
2. Del Pozo, M., Manuel, C., González-Arangüena, E., and Owen,G. centrality in directed social networks. A GameTheoretic Approach. SocialNetworks, 201,1(5),100-109.
3. Freeman, L. C. Centrality in social networksconceptual clarification. Social Networks, 1(3),2000,215-239.
4. Jie Chen, YousefSaad,,Finding Dense subgraphs forsparse undirected, Directed and Bipartite graph. University of Minnestaat Twin cities, MN,2009,55455.
5. Obiedat, M., Sandhya, S., Strickert, G. A New Methodfor Identifying the Central Nodes in Fuzzy Cognitive Mapsusing Consensus Centrality Measure. 19th International Congresson Modeling and Simulation, Perth, Australia, 12–16,December, 2011,1084-1091.
6. Kosko, B, Fuzzy associative memory systems, In:Kandel A (Ed.). Fuzzy Expert Systems. CRC Press, Boca Raton,1992, 135–162.
7. Kosko, B. Neural Networks and Fuzzy Systems:A Dynamical Systems Approach to Machine Intelligence,Prentice- Hall, Englewood Cliffs,NJ.1992.
8. Herrera, F., Martinez, L. An approach forcombining linguisticandnumericalinformationbasedonthe2-tuplefuzzy linguistic representation model in decision-making.International Journal of Uncertainty Fuzziness and Knowledge-BasedSystems, 8(5) :539-562.
9. Delgado, M., Verdegay, J. L., Vila, M. A. Onaggregation operations of linguistic labels. International Journal ofIntelligent Systems, 2000, 8(3):351-370.doi:10.1002/int.4550080303.
10. J.Kaligarani., Nivetha martin., M.Meenakshi,,Causes of Math Anxiety in Engineering Students-An Analysis using Induced Fuzzy Cognitive Maps (IFCM) with TOPSIS,Global Journal of Pure and Applied Mathematics,2015, 11(5): pp 2705-2718.
11. Nivetha martin., J.Kaligarani.,M.Meenakshi, An analysis of driving performance error using Fuzzy Triangular four matrix of success and new hexagonal fuzzy number in Fuzzy Cognitive maps.International Journal of Applied Engineering Research, 2015,Vol. 10(85) pp 423-429.
12. Nivetha Martin., P.Pandiammal, Reasons for Adolescent's Social Network addiction and its impact on Academics -An Analysis using Induced Linked Fuzzy Relational Mapping Using Hexagonal Fuzzy number, Elixir, Educational Technology, 2016, 41914-41917.
