

Research Article

Altruistic Behavior of University Students -A Process Capability Analysis

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Abstract

Covid-19 pandemic has created inexpressible despairs in the human minds and the current study has been conducted on the altruism which is essential during this difficult time. The prime objective of this study was to measure the Altruistic performance level of the 156 university students who were selected randomly and due to unavoidable circumstances only 76 students responded to the Altruism Tool (AT) and the results showed that the performance level of altruistic behaviour is at the lowest level. The reasons of these results proved the ill-fated human mania which is pervasive in the contemporary world to displace compassionating education system. Hence, the mankind confronts with current difficulties in terms of social, personal, economical, cultural and educational aspects.

Key words - Altruistic behaviour, University students, Process capability analysis, socio economic viability.

Introduction

Countless human sufferings have been noticed due to natural catastrophe, wars and lack of philanthropic attitudes. In this context, the educational system paves the way to solve these human problems by creating the sense of the righteousness as it is an influential factor to determine the individual life suitable to live in the adverse socio-economical struggles that prevails in the modern social system. As a part of this, it is impeccable to include the positive psychological concept in the modern system of education, particularly at the university level. The positive psychological features like altruism is a kind human value system to serve the fellow being during the adversity conditions. Having these views in mind, this research has been framed and carried out.

Altruism

Altruism works with concern for the welfare of another. Generally, people are self-sacrificing when they see others in a state of despair and feel compassion and a desire to help. It is a social behaviourist pattern and activity intended to facilitate those who need it most. (Jon K Maner and Matthew T Gailliot, 1996).

In self-sacrificing actions there is no intention of rewarding or receiving anything from the beneficiaries, rather it is selfless, something about morality (Silvia A, et al 2014, Anna S Irani 2018). When a person does any self-sacrificing work, he feels very happy at his perform which is considered an unselfish act and is loved by all in any society (Raumish T & Dr Ruhi K 2016).

On the other hand, many researchers have found altruism as giving charity or donations for gentle act (Daniel C et al 2012 & Mark O et al 2017, Anna S Irani 2018, Nina M, 2015). It is the Behaviour that benefit others at relative cost to oneself (Benjamin Kerr et al 2004, Martin Z 2014, Raziye M A 2016).

Many scholars, on the other hand, have found sacrifices like charitable contributions or generous donations (Daniel C et al., 2012 and Mark O et al., 2017, Anna S Irani 2018, Nina M, 2015). Mostly, this is a psychological disposition that serves any one by voluntarily with suitable reasons (Benjamin Kerr et al. 2004, Martin 2014, Raziye 2016).

An altruistic person does not foresee any reward from any one at any time and the person may have the self-concept to help the others incessantly. They are strongly motivated as an inborn quality towards the peaceful life of the others. This is habituated in their minds as a natural phenomenon due to parental care and conducive academic atmosphere.

A noble person does not anticipate any rewards from others at any time and may have a sense of self-worth helping others endlessly. They are deeply moved as they are born with quality in relation to the peaceful life of others. This is common in their minds as a natural condition due to parental care and a good academic spirit.

French philosopher August Comte termed Altruism and he took it from Italian term “altru” means the other people or someone. Further, he defined that altruism is thinking about others affectionately without self – ego.

Altruism and Happiness

For many people the altruism is a part of the life which gives energy by the compassionate quality. Many studies reveal that even animals have acquired the sense of altruism which makes them happiness. The sense of happiness is attained due to total impact of altruistic behaviour. Sharing of the quality assistance will certainly make the life process beyond any sorts of prosperity in terms of wealth acquired by money or social or political powers. The giver and the community will mutually benefit each other when the real service is rendered.

Altruism is a cognitive and emotional feeling that is to be imparted at the university students as it makes them as quality personalities in the society which they belong to. Incorporation of the human values along with teaching process is highly essential at the university level for making the society much happier.

Types of Altruism

According to Nichole Gaines (2003), the following are the types of altruistic behaviour.

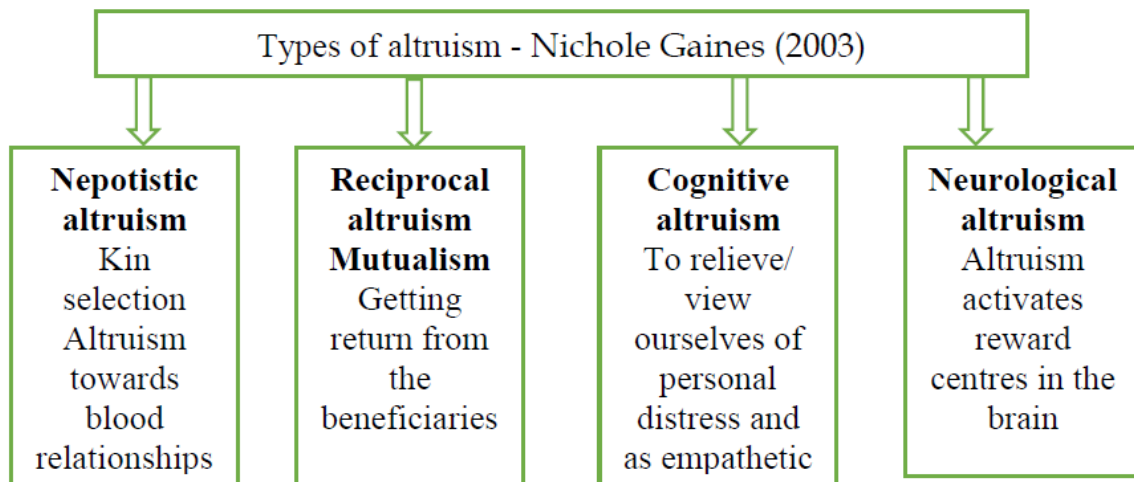


Figure – 1: showing the type of altruism

The figure 1 shows the complete research process which represents additional use of six sigma tools like Pareto and FMEA analysis in the present study along with process capability index.

Six sigma Analytical process

The emergence of positive socio – psychological influential factors during the difficult times and its impact in the on the altruistic performance can be analysed by the six-sigma quality method. Despite the fact that Six Sigma is progressively employed in the manufacturing units, very limited educational studies have been conducted (Xing xing Zuet al., 2008).

The existence of new world system substantively demands the value based knowledge management in academics. As the prominence of teacher educative process focuses on attaining purity in all forms of life – mental, moral, physical, spiritual, social and economic aspects of an individual, it must also be insightful, reflective and judicious. (Hariharan & Mohanasundram, 2016).

In addition, if teachers continue to grow themselves, there is added value in education to fulfill the immediate social aspirations (Feigenbaum 1951). Moreover, the educational outcome and experience are appropriate with for individual efficacy (Juran and Gryna 1988). It is also augmented that elimination of defective academic process (Crosby 1979) has creditability to enrich quality in the teacher education institution.

Six sigma

Six sigma is meticulously well planned method to wipe out the shortcomings or wastages, it leads to superior quality in industrial units, service sector and in all business (Harry and Schroeder, 2000)

It is a well-ordered progressive method to create every service and product with flawless quality (O'Neill & Duvall, 2005).

Six sigma is a technologically stringent statistical method to remove dissimilarity of the products by improving quality performance and to attain the predetermined objectives (Brue 2003, Schroeder et al. 2008).

Six sigma is well systematised statistical procedure for process enhancement, quality service and its outcome by reducing the defects in all the sectors (Linderman et al., 2003)

Academic six sigma

Based on these postulations, the investigators have defined academic six sigma as a wide-ranging statistics to sustain meritorious academic performance of the institutions, to maximise the educational process, to meet the societal needs and to reinvent new the policies (Hari Haran & Mohanasundaram, 2013).

Significance of six sigma in Educational enquiry

The six sigma continually provides analytical research process of experimentation and it foster the perfection in any sector with futuristic concern. The other statistical tools like 't' test or 'ANOVA' test are of no use to determine the future process and gives with inappropriate predictions. Hence sigma analysis are much preferred in any educational institutions for its quality sustenance.

Capability index

One of the analytical processes in the six sigma method is the capability index. Despite the fact that it is employed in industrial units all over the world, its educational importance has recently been recognised.

Although there are few research on the implementation of six sigma in educational institutions, the applicability of lean principles has established to be a quality criterion throughout the industrial, commercial, technical, and medical care sectors (Hariharan, Mohanasundram 2013; Hariharan, Zascerinska 2015).

Cp, the most often used process capability index, is an estimate of what the process can generate delivery. It gives the process mean is centred between the specification bounds and the process output which is normally distributed (Kiran, D. R.2017). It computes the ratio of the specification width to the width of the process variability (Kiran,2017).

$$Cp = \frac{\text{specification width}}{\text{process width}} = \frac{USL - LSL}{6\sigma}$$

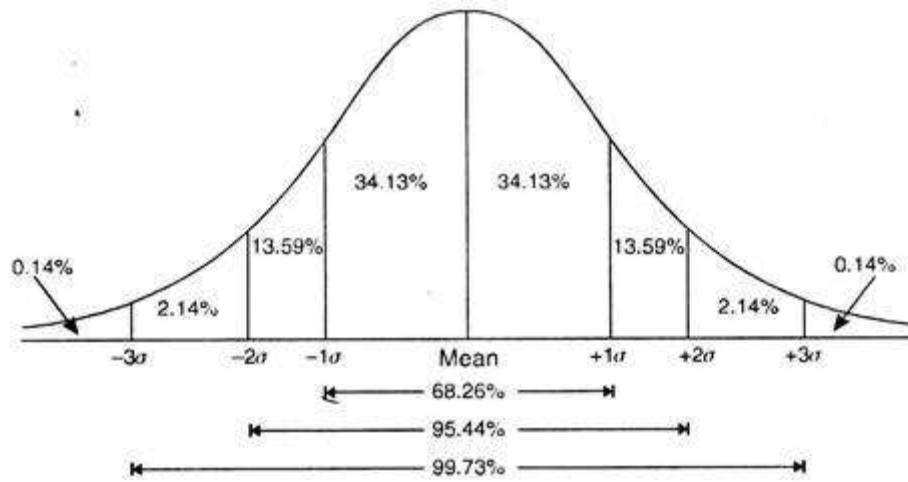


Fig. 6.6 The percentage of the cases falling between Successive Standard Deviations in Normal Distribution.

Figure -2: Showing the specification limit

The process width is calculated as 6 standard deviations (6S) of the process being monitored in figure 2. The use of 6 sigma is justified since the vast majority of process measurements (99.74%) fall within 3 standard deviations, for a total of 6 standard deviations. Cp has three different ranges of values, which aids in interpreting its value. (Kiran,2017).

Review of Literature

It is the result of a selfless and caring attitude toward others. (Pande, Divya 2016). A favourable relationship exists between self-esteem and altruism and men are constructively more compassionate than women (Mariam, Kudrati ,2015). Compassion, it is decided, can be taught and developed in a significant way through exercises Buragahain, Pranjal and Senapati, Nilakshi (2016). The findings of the study suggest that by acting as role models for their children, parents can help them develop positive emotions and mental health (Yadav, Garima, 2010) and it is a moral theory Phukan, Dimbeswar (2009). People who are emotionally and behaviorally compassionate are more likely to be happy, healthy, and live longer (Stephen G Post, 2005). She concludes that a favourable educational environment helps foster altruistic behaviour. A value-based educational climate can help pupils become more charitable (Sri W Rahmawati 2015). The core social cognitive and motivational processes have deep roots in ontogeny and phylogeny, according to the findings of Felis (2013) who compared the helping attitude among children and Chimpanzees.

Generating Research Ideas

The factual obstructions encountered by the teachers were made unpleasant due of the university students' lack of positive psychological disposition, as evidenced by different unfriendly incidences as an evident to perform this research.

The investigators have highlighted the directly seen disagreeable psychological phenomena of university students, on which the six sigma based Pareto chart and FMEA are utilised as analytical instruments to conclusively authenticate for performing the current investigation.

Pareto charting – 20 / 80 Rule

Pareto chart was the concept developed by Wilfred Pareto (1787) in the field of microeconomics. It is one of the seven tool used in the analytical research (Pyzdek, 2001) and it is known as 80/20 rule. It signifies either appropriate or inappropriate input factors (Pyzdek, 2001). A column chart and a line graph are combined in a Pareto chart. According to the Pareto principle, around 80% of the consequences arise from 20% of the causes for many events. For example, 80% of a school's complaints originate from 20% of its students, instructors, and parents. It's commonly employed in industrial settings.

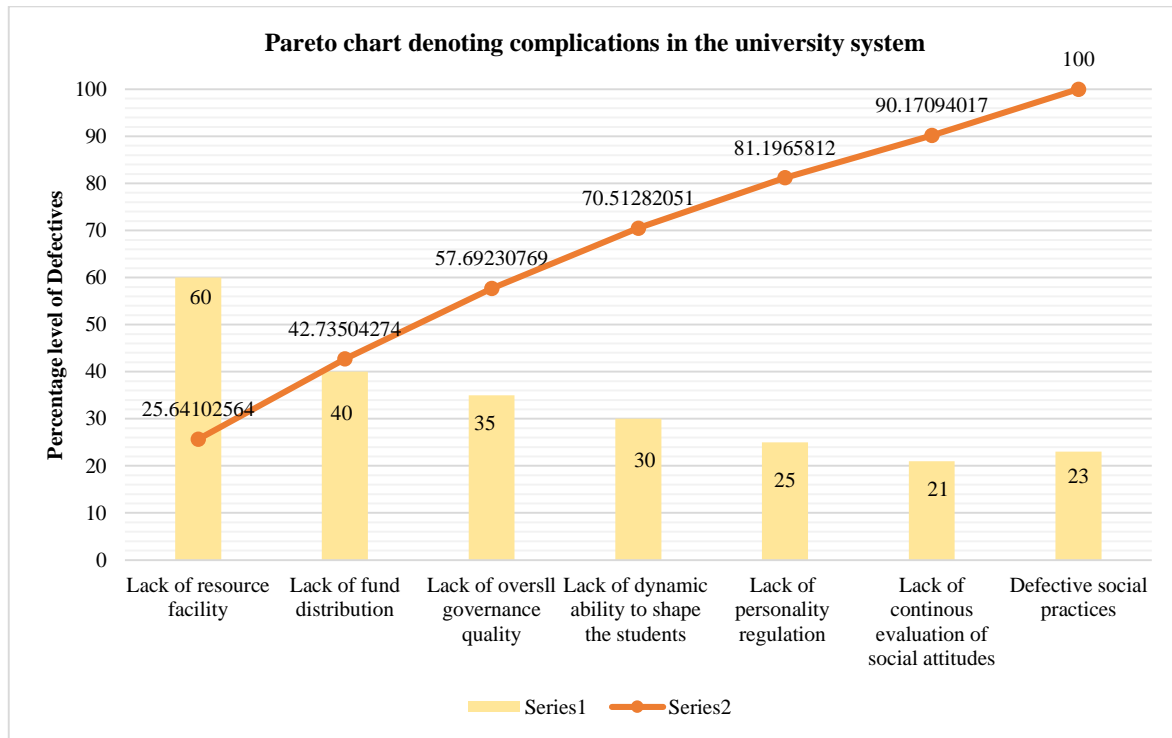


Figure – 3: Showing the Pareto charting of the serious complaints with 20/80 Rule.

As shown in Figure 3, the present analysis confirms the following 20 percent causal faults that cause 80 percent practical issues.

The Pareto analysis shows the important complications in the university system as in the following:

1. Lack of dynamic ability to shape the students (only 30 Complications creates 70.512 % problems in the university during the academic years 2018 -20)
2. Lack of personality regulation (only 25 Complications creates 81.196 % problems in the university during the academic years 2018 -20)
3. Lack of continuous evaluation by the teachers on the social attitudes of university students (only 21 Complications creates 90.17 % problems in the university during the academic years 2018 -20)

Hence this research has been framed on their positive socio -psychological principles which are to be sustained.

FMEA in the current research

The US Armed Forces standardized FMEA in 1949 as a technique for identifying and removing faults in materials and processes.

The use of FMEA gained traction during the 1960s, with the push to put a man on the moon and return him safely to Earth. It was later adopted in the Apollo space program to help mitigate risk due to small sample sizes (Carlson ,2014).

FMEA (failure mode and effect analysis) is a method of identifying all conceivable failures, their impact on the system, the chance of occurrence, and the possibility that perhaps the malfunction will go unnoticed. (Pyzdek, 2010).

Table: 1 - The FMEA on the social wellbeing features of university students

Mode of failure	Effect of failure	S.I	Causes of failure	O	Controls	D	R	Recommended action
Undesirable attitudes of the university students lacking Altruistic behavior	Lack of Social attainments without stronger social approaches	7	Lack of dynamic ability in molding with altruistic mind sets of future generation	8	Periodical inspection of authorities and personality training	7	392	Adapting Constant and resourceful academic and social practices by various motivational programs
			Lack of resource facility in sub rural home setting and parental care	7	Periodical visit of hostel by the university authorities	4	196	Creating infrastructural facilities and conducive social atmosphere
			Excessive use of technology for personal and sensual gain not for quality personality attainments	6	Effective monitoring in the university premises by the teachers	7	294	Implementation of suitable strategies to Improve the quality learning
			Lack of personality preparations in the university system as only academics are derived in.	6	Constant academic engagement with feedback for better sensibility	4	168	Providing motivational programs and self-involved practices in the social organizations
			Reluctance for self and continuous evaluation of personality practices	7	Effective monitoring by the teachers for guidance	4	196	Providing motivational programs
			Inadequate social practices and undisciplined	5	Effective monitoring	6	210	Continuous and comprehensive

			personal practices				assessment
			Lack of basic social maturity in the early period of life (school system)	4	Efficient analysis of personal and social activities	4	112 Effective monitoring and assessment system of schooling and
Responsibility	Authorities of nodal agencies, managements, fads of the institutions, Faculty and students						
(S.I – Severity Index; O – opportunity; D – Detection possibility; R- Risk priority number)							
R= SI×O×D; total value above 100 is considered to be critical and to be analyzed incessantly for quality attainment for better quality life.							

Additionally, the FMEA has analysed the existence of organisational failures in all the aspects of social attitudes. Since the R value (392, 294) is higher in the social well-being features, the immediate attention is required to conduct this study. This type of analysis also made it easier to spot difficulties in the study (Zaerinska 2015), who believed that positive psychological characteristics influence knowledge, abilities, and attitudes.

FMEA based prominent assertion of the current study

As a part of social functioning of the students, the analysis are made that brings out the chronic attitudinal changes in the modern social system.

- Since the students reliant on the quality practices of the university system, it is needed to focus not only on the academic practices but also on the quality life practices of students as an outcome of quality learning will be the great social gain to the university system of Indira Gandhi National Tribal University, Amarkantak.
- The low altruistic nature of the university students in the predominant tribal locality will obstruct their physical as well as the moral system of their social life, personal life and defaming the reputation of the parental care and genuine academic guidance provided by the teachers.
- The lack of quality life practices and any defective learning will directly hamper developmental uniformity of the nation and it creates the lob sided social progress.
- The stronger psychological fixation of the tribal students towards social learning is an essential factor. By considering all the characteristics of academic perseverance and social practices the present study is framed by which the university students will nurture their indomitable lifetime social skills.

The projection of this work analysed the above stipulated view points and hence the prominence of this research work will be the elimination of these quality constraints echoed in the personal life of the students.

Research Gap

Existing literatures have shown that the maximum studies in the field of positive emotions are related to school level students. Very few studies in this field are related to college level students, and no particular study was found on altruism behaviour of university level

students. The predominant research gap noted from the critical reviews are indicated that the specific quality method like process capability analysis has not been adopted in these related studies done by various researchers.

Modern life is totally mended for economical aspirations that are predominantly aimed at all educational institutions around the world. Mostly learning is done for certifications without giving much importance to psycho-social dynamics of quality life system. This condition creates many short comings in life. Even though the education provides lucrative prospects, man faces grave problems due to lack of these marvellous tendencies. Hence the present-day education system must be inclusive of Altruism along with the other learning concepts.

The newness of this study/ originality

The sigma-based researches in the academic institution as far as the positive psychology is concerned are very meagre and none of the previous related literature work done on these aspects are not inclusive of the pareto analysis, FMEA analysis to determine the need of study along with process capability analysis for measuring total performance the altruism behaviour of the university students.

Problem of the study

Since Altruism is the most essential parameters for the real existence of mankind and these concepts are to be imparted at all levels of education. The individual consideration on these psychological predispositions are vital but are intermittently used in daily walk of life that lead to reduced joyous nature in the human minds and also reflect through various social problems of mankind. Hence it is highly right time to analyse these qualities at university level for the better social conditions with futuristic consideration. Just informative education system paralysed the whole social system as it has developed the individualistic aspirations and not a prosocial behaviour which is highly required for a happy living. Moreover, all virtues are to be planted by the human altruistic behaviour in the minds of the young generations particularly among university students who can make the social system for a happy living. The present study focuses on the altruistic behaviour of the university students who will be the carrier of this doctrines in future as a life practice. Hence the problem of the study is stated as “Altruistic behaviour among Indian university students– A process capability analysis”.

Objectives of the study

Based on the theoretical assumptions the following objectives are framed for the present study- The main objectives framed for this study are of the following;

- To measure the process capability index of Altruistic behaviour of university students.
- To find any significant difference between under graduate and post graduate students of Indira Gandhi National Tribal University based on process capability index of Altruism characteristics.

Major Hypothesis

Based on the above cited objective the following hypothesis is framed

1. The cp value of the university students is optimum ($C_p = 1$, 100%) with regard to their Altruistic behaviour
2. There is no significant difference between graduate and post graduate students of IGNTU on Altruism.

Research Methodology

Methods This is an exploratory descriptive research based on the six-sigma method in which the process capability analysis as well as the sigma value for each sample collected. Further, the normative survey study is adopted in this study which will be conducted among the students of Indira Gandhi National Tribal University.

The Course of study is the variable of the study.

Population of the study

It comprises of Under Graduate and Post Graduate students studying in different departments of Indira Gandhi National Tribal University, Amarkantak (Madhya Pradesh).

Sample of the Study

Totally 176 university students were randomly selected for the study and due unavoidable circumstances like academical work and sporting only 72 sample were selected as respondents of the Altruism tool (AT).

Tools of the Study

The Altruism Tool (AT) was prepared and standardized by the Investigators. The cronbach's Alpha test was conducted for its item analysis and the table shows the Cronbac'S Alpha value. The tool has concurrent validity and proved to be reliable.

Table 2 - Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	Number of Items
0.771	0.768	27

Though, the factor loading set the negative loading between the 4 dimensions, the tool has been selected in this research as the dimension will be newly set for conducting the future research based on the dimensional frame work of the Altruism Tool (AT). The details of Factor Analysis is in the appendices A.

Table 3- Factor Analysis

	Components			
	1	2	3	4

Nepotistic altruism	0.512	0.824	0.241	0.039
Reciprocal altruism	0.616	-0.399	0.679	-0.006
Cognitive altruism	0.812	-0.147	-0.342	0.450
Neurological altruism	0.823	-0.069	-0.320	-0.464

(Extraction Method: Principal Component Analysis)

Data Analysis

The data were analysed by the web based sigma software (Galit Shmueli 2018, Created <https://www.sqconline.com/process-capability-index>)

Table – 4: showing the Cp value and its corresponding sigma value of Altruism of B. A., B.Ed students in IGNTU

No of students	LS L	US L	ME AN	SD	CP	z score USL	USL DAT A %	Z SCORE LSL	% OF LSL
1	6	28	14.8	8.4675	0.433	1.56	5.95	1.04	14.93
2	6	28	13.2	8.9274	0.410	1.66	4.87	0.81	21
3	6	32	15.6	10.620	0.408	1.54	6.13	0.9	18.3
4	3	28	15	10.700	0.389	1.21	11.22	1.12	13.1
5	4	40	13.8	14.923	0.402	1.76	3.96	0.66	25.57
6	4	44	18.8	17.640	0.377	1.2	11.47	0.84	20.07
7	0	90	19.8	39.436	0.380	1.78	3.75	0.5	30.78
8	3	36	15.8	13.405	0.410	1.51	6.59	0.95	16.98
9	4	20	14.6	7.3348	0.363	0.74	23.08	1.45	7.42
10	4	36	13.2	13.141	0.405	1.73	4.14	0.7	24.19
11	4	36	16.4	12.660	0.421	1.55	6.08	0.98	16.37
12	2	35	16.4	15.946	0.344	1.17	12.17	0.9	18.33
13	0	48	19.6	22.556	0.354	1.26	10.4	0.87	19.24
14	4	21	14	8.6890	0.326	0.81	21.02	1.15	12.49
15	5	44	17.2	16.021	0.405	1.67	4.72	0.76	22.32
16	0	48	18.2	20.203	0.395	1.47	7.01	0.9	18.38
17	6	36	15.2	12.194	0.41	1.71	4.4	0.75	22.53

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18	4	68	18	28.026	0.368	1.78	3.72	0.5	30.87
19	5	28	13	9.8488	0.389	1.52	6.39	0.81	20.83
20	2	44	18.6	19.414	0.360	1.31	9.54	0.86	19.63
Total (Mean)				15.508 0	0.387 8	1.447	8.330	0.8725	19.66 6
LSL – Lower specification limit, USL – upper specification limit, Cp- Process capability index									

The Table 4 shows the lowest cp value (0.3878) which is not optimum (cp=1) hence the hypothesis is rejected.

Table – 5: showing the cp value on Altruism of B.Sc, B.Ed students in IGNTU

S. No	L S L	USL	MEAN	SD	CP	Z SCORE USL	% USL	Z SCORE LSL	% LSL
1	0	52	15.4	20.8287	0.416	1.76	3.94	0.74	22.98
2	0	56	16.2	22.5876	0.427	1.76	3.9	0.72	23.66
3	6	30	15	9.89949	0.404	1.52	6.49	0.91	18.16
4	2	55	19.8	22.1292	0.399	1.59	5.58	0.8	21.06
5	0	35	11.4	13.8852	0.42	1.7	4.46	0.82	20.58
6	0	60	15.8	24.8837	0.4018	1.78	3.78	0.63	26.27
7	0	55	21.6	25.8515	0.354	1.29	9.82	0.84	20.17
8	6	36	15.2	12.1943	0.41	1.71	4.4	0.75	22.53
9	0	85	22	36.1594	0.3917	1.74	4.07	0.61	27.15
10	4	45	19.6	19.4499	0.35132	1.31	9.58	0.8	21.13
11	5	36	14.4	12.818	0.403	1.69	4.6	0.73	23.17
12	4	35	17.8	14.6697	0.3521	1.17	12.05	0.94	17.34
13	0	55	17.4	22.4455	0.4083	1.68	4.7	0.78	21.91
14	3	20	9.8	6.6106	0.4286	1.54	6.14	1.03	15.18
15	0	65	21.4	27.4372	0.3948	1.59	5.6	0.78	21.77
16	8	36	14.4	12.0955	0.3858	1.79	3.71	0.53	29.84

17	5	44	15.2	16.3003	0.3987	1.77	3.86	0.63	26.57
18	9	24	13.2	6.37966	0.3918	1.69	4.52	0.66	25.52
19	2	44	15	16.553	0.4228	1.75	3.99	0.79	21.61
20	5	44	17	16.2173	0.4008	1.66	4.8	0.74	22.97
	total			17.9697	0.3980	1.6245	5.4995	0.7615	22.4785

Table 5 shows the lowest cp value (0.3878) which is not optimum (cp=1) hence the hypothesis is rejected.

Table – 6: showing the cp value of Altruism of M.Sc, / M.A/M.BA students in IGNTU

S. no	LSL	USL	MEAN	SD	CP	Z score USL	% USL	Z score LSL	% LSL
1	6	32	14	10.747	0.4032	1.67	4.7	0.74	22.83
2	2	32	14.8	11.563	0.4324	1.49	6.84	1.11	13.41
3	0	72	21.8	31.768	0.3777	1.58	5.7	0.69	24.63
4	2	36	15.4	12.7	0.4461	1.62	5.24	1.06	14.57
5	5	40	13.8	14.772	0.3949	1.77	3.81	0.6	27.57
6	0	48	18.2	17.838	0.4484	1.67	4.74	1.02	15.38
7	0	48	15.8	18.58	0.4305	1.73	4.15	0.85	19.76
8	0	32	15.2	15.139	0.3522	1.11	13.36	1	15.77
9	4	44	16.4	16.009	0.4164	1.72	4.24	0.77	21.93
10	0	68	17.8	28.288	0.0589	1.77	3.8	0.63	26.46
11	0	40	11.4	17.17	0.3882	1.67	4.79	0.66	25.34
12	0	60	18.8	25.014	0.3997	1.65	4.98	0.75	22.62
13	2	52	18.4	20.659	0.4033	1.63	5.19	0.79	21.36
14	5	40	17.2	14.202	0.4107	1.61	5.42	0.86	19.52
15	2	32	12	12.186	0.4103	1.64	5.04	0.82	20.59
16	0	50	21	24.145	0.3451	1.2	11.49	0.87	19.22
17	2	75	20.2	31.14	0.3907	1.76	3.92	0.58	27.95
18	2	44	13.2	17.513	0.3997	1.76	3.93	0.64	26.12
19	1	44	18.8	18.674	0.3837	1.35	8.86	0.95	17.02

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20	2	80	18.8	34.23	0.3797	1.79	3.69	0.49	31.18
21	0	40	18	20.298	0.3284	1.08	13.92	0.89	18.76
22	6	35	16.6	12.641	0.3823	1.46	7.28	0.84	20.09
23	1	55	21.2	23.317	0.3859	1.45	7.36	0.87	19.32
24	3	52	15.6	20.623	0.396	1.77	3.88	0.61	27.06
25	0	45	20.6	20.84	0.3598	1.17	12.08	0.99	16.15
26	3	40	13	15.604	0.3951	1.73	4.18	0.64	26.08
27	0	48	20.6	23.766	0.3366	1.15	12.45	0.87	19.3
28	1	39	17	17.248	0.3671	1.28	10.11	0.93	17.68
29	4	45	16.8	16.932	0.4035	1.67	4.79	0.76	22.48
30	3	80	21.6	33.08	0.3879	1.77	3.87	0.56	28.7
31	3	52	18.8	19.917	0.2456	1.67	4.78	0.79	21.38
32	0	65	19.6	26.406	0.4102	1.72	4.28	0.74	22.9
	Total			20.094	0.3771	1.5659	6.339	0.7928	21.660

Table 6 shows the lowest cp value (0.3771) which is not optimum (cp=1) hence the hypothesis is rejected.

Table – 7: showing the cp value Altruism of university students in IGNTU

Course	Capability index value (cp %) Performance exhibited by the students	
	30-40% Performance (No of students)	41-50 % Performance (No of students)
B.Sc. B.Ed.	14	6
B. A. B.Ed.	15	5
M.A., M.Sc., M.BA.	24	8
TOTAL Sample (72)	53	19
Total no students = 72		

The above table shows that the 53 students have the altruistic performance level of 30 -40 %. Only 19 students have 41 -50 % level of altruistic performance. It means that out of 72 sample, 53 students have 30-40 % altruistic performance. Only 19 students have 41-50 % cp in altruism performance. It shows that the students are less committed towards altruistic behaviour. Hence, they must be educated to attain this noble quality during this grim situation.

Table – 8: showing the cp value Altruism of university students in IGNTU

Sl no	Course	N	Cp value	Optimum value	Result
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1	B.A. B.Ed.	20	0.3878	Cp = 1	S
2	B.Sc. B.Ed.	20	0.3980		
3	M.A. M.Sc M.BA	32	0.3771		
Total		72	Total mean = 0.3876		

(S – Significant at cp index = 1)

The cp index values of B.A. B.Ed. (0.3878), B.Sc. B.Ed. (0.3980) M.A/ M.Sc/M.BA (0.3771) differs. The B.Sc. B.Ed. students have more cp score than that of the other students. The table shows the dissimilar values and hence there is a little difference between students studying B.Sc. B.Ed., B.A. B.Ed. and M.A/ M.Sc/ MBA. Hence it is inferred that the students pose dissimilar altruistic behaviour. But the overall mean altruistic performance level of all the students is very less (0.3876).

Table – 9: showing the ANOVA values of the students in IGNTU

Group	N	Mean	Std. Deviation	Std. Error
B.Sc. B.Ed.	20	0.3980	0.02293	0.00512
B. A. B.Ed.	20	0.3878	0.02774	0.00620
M.A , M.Sc ,M.BA.	32	0.3771	0.06953	0.01229

Table 9 shows the mean values of the Altruism behaviour in the three groups.

Table 10 – The F value of the Altruism behaviour in the three groups

Groups	Sum of Squares	df	Mean Square	F	P value	Remarks
Between Groups	0.005	2	0.003	1.081	0.345	NS
Within Groups	0.175	69	0.003			
Total	0.180	71				

(Not significant at the 0.05 level)

The table 10 shows the F value of the test as well as the level of significance of the three groups. Since the table values is higher than the p value ($p > 0.05$; $p = 0.345$) the hypothesis above cited has been accepted and hence there is no significant difference between the three groups as for as Altruism behaviour of the university is concerned. Moreover, the table University students exhibit similarity in altruism behavioural performance.

Table 11 – Multiple Comparisons of the three groups

B.Sc B.Ed	B.A. B.Ed	M.A. M.Sc MBA	Mean difference	P value	Remark
0.3980	0.3878	-	0.0102	0.345	NS
-	0.3878	0.3771	0.0107		
0.3980	-	0.3771	0.0209		

(NS -Not significant at the 0.01 level)

The table 11 shows the F test values along with the degrees of freedom (2, 69) and significance at 0.01 levels. As it is given that the $p > 0.01$, the null hypothesis which has been stated above is accepted. Further, it is inferred that there is no significant difference among the B.Sc B.Ed, B.A. B.Ed and M.A/ M.Sc /MBA students in the altruism behaviour.

Discussions

The sigma-based researches in the academic institution as far as the positive psychology is concerned are very meagre. None of the previous related literature work done on these aspects have reflected the Pareto analysis, FMEA analysis to determine the need of study along with process capability analysis. Moreover, This study is congruence with many studies (Batson Daniel et al (1981), Bierhoff, Hans-Werner et al (2004), Massey, Emma et al (2011), Tabassum, R, & Khalid, R (2016), Ottoni-W, Mark et al (2017), Feiler, Daniel et al (2012), Kerr Benjamin et al (2004), Zwick, Martin & Fletcher, Jeffrey A. (2014), Ali Raziye M, et al (2016), Post, Stephen G. (2005), Warneken, Felix. (2013), Humphries Harry et al (2014), Rahmawati, Sri W (2015), Weng HY, et al (2015), Marsh N, et al (2015), Feigin S et al (2014), Schwarze J & Winkelmann R (2005), Darlington, P. J., Jr.(1978), Khalil A L,(2004), Pandey Divya (2016), Pranjal Buragohain and Nilakshi Senapati, (2016), Kudrati, Mariam. (2005), Gaines N, (2003), Macaulay, J. R et al (1970), Froming, W et al (1983), Gergen Kenneth et al (1986)).

Factors which are motivating prosocial actions in close relationships may be different from those that motivate helping among strangers. Experimental researches have found that participants are more willing to help a kin member (Jon K Maner et al 1996, Johannes S et al 2005) hence girls are more altruistic than boys and altruism increases with age in childhood (Silvia A et al 2014). When a person does altruistic act, he feels good and such act of

kindness can make a chain of kind people around (Raumish T et al 2016, Raziye M Ali et al 2016), therefore it can work for the betterment of society. Many researches support the link between altruistic behaviour and increased health and well being (Anna S Irani 2018, Stephen G Post 2015, Nina M et al 2015). Altruism can also be taught and learnt through altruistic exercises (Pranjal B & Nilakshi S 2016). There is positive correlation between environmental attitude and altruistic behaviour (Divya Pandey 2016), the role of value-based school climate is important to increase altruism in students (Sri W Rahmawati 2015).

Implications

Henceforth the future researchers can adopt the six sigma method to quantify the quality of all the features of an academic institution. Since the studies related to six sigma based analytical research in educational setting is very meagre, the same can be incorporated as the academic prevailing problems cannot be systematically analysed by any the statistical methods like t test or ANOVA etc.

Conclusions

In this modern life system, many of the youth in the country are sensory delighters who need material contentment rather than living for people around with good human qualities. Researchers reported that the modern young generation have more extrinsic goals such as money, status or fame than the intrinsic values such as serving the fellow beings in the own community (Twenge, Campbell, & Freeman, 2012; Supakorn Laohasongkra, 2017). The altruistic education implies not only make the young minds to be kind enough towards all the beings but also creates better social order in any corner of the world.

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Appendix – 1 - Altruism Tool (AT)

Sl no	Items	Never	Rarely	Once	Twice	Many times	Always
1	I have donated small amount to help the poor. मैंने गरीबों की सहायता के लिए दान दिये हैं						
2	I shared my dress and possessions to the poor. मैंने अपने कपड़े/वस्तुओं को गरीबों को दान दिया है						
3	I offered blood donation at the time of need. आवश्यकता पर मैंने रक्तदान किया है						
4	I voluntary shared my time to work/help the people. मैंने स्वयंसेवक के रूप में लोगों की सहायता के लिए काम किया है						
5	I helped a stranger who was need of money. मैंने एक अजनबी, जिसे पैसों की जरूरत थी, उसे सहायता की						
6	I showed right way to an unknown person. मैंने एक अनजाने व्यक्ति को रास्ता दिखाया						
7	I render help to an unknown person to drag out a car/ bike out of the mud. मैंने एक अजनबी व्यक्ति को उसकी कार/बाइक कीचड़ से बाहर निकालने में मदद की						
8	I supported to lift the luggage of a person in a station. मैंने एक व्यक्ति को स्टेशन पर उसका सामान उठाने में मदद की						

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9	I took an outsider in my car/bike. मैंने अपनी कार/बाइक में एक अजनबी को बैठाया						
10	I allowed a person to come in front of me in a line at station. स्टेशन पर कतार में मुझसे पीछे खड़े एक व्यक्ति को मैंने खुद से आगे जाने दिया						
11	I cleaned my street with my friends. मैंने अपने दोस्तों के साथ अपनी गली की सफ़ाई की है						
12	I gave some valuable items to my neighbor who needed it. मैंने अपने पड़ोसी को जरूरत पड़ने पर अपना कीमती सामान दिया						
13	I offered money for social work. मैंने सामाजिक कार्यों में दान दिया है						
14	I helped my friend to complete his homework. मैंने अपने मित्र को उसका गृहकार्य पूरा करने में मदद की है						
15	I served my friend during his sickness. मैंने अपने मित्र के बीमार पड़ने पर उसकी सेवा की है						
16	I supported a handicapped or old person to cross a street or road. मैंने एक दिव्यांग/वृद्ध व्यक्ति को सड़क पार करने में मदद की						
17	I offered my seat in the bus or train to the person standing near to me. मैंने बस/ट्रेन में पास खड़े एक व्यक्ति को अपनी सीट दे दी						
18	I helped my neighbor to transport his baggage. मैंने अपने पड़ोसी को उसका सामान स्थान्तरित करने में मदद की						
19	I assisted poor rural children in reading, writing and understanding the concept. मैंने गरीब बच्चों को पढ़ने, लिखने, समझने में मदद की है						

20	I surrendered the unknown things kept in the bus or train to the police. मैंने ट्रेन/बस में बैग/सामान पाया और उसे पुलिस को दिया						
21	During emergency time I helped my neighbors. आपदा के समय मैंने अपने पड़ोसियों की सहायता की है						
22	I feel delighted by helping others. दूसरों की मदद करके मुझे अच्छा लगता है						
23	I gave my food to a hungry person. मैंने अपना खाना एक भूखे व्यक्ति को दिया						
24	I saw valuable things on the way and did not focus on it. मैंने रास्ते में एक कीमती सामान गिरा हुआ देखा और उस पर ध्यान नहीं दिया						
25	If I am hungry, I can't share my food. यदि मुझे भूख लगी हो तो मैं अपना खाना किसी के साथ बांट नहीं सकता।						
26	By helping others, sometimes I faced problems. दूसरों की मदद करके मैंने खुद को परेशानी में डाला है						
27	I have given free tuition to the poor children. गरीब बच्चों को मैंने मुफ्त में पढ़ाया है						