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Article

Impact of Sports on Body image and Self-efficacy: An Approach to Analysis of Sports Performance

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Abstract

Background and Study Aim. The present study was conducted to study the gender differences between body image and self-efficacy of male and female sportspersons. The study also aimed to study the association between body image and self-efficacy of the selected participants. **Material and Methods**. The total sample consisted of 100 subjects, out of which 50 were male sportspersons and 50 were female sportspersons from the physical education department. The age of the athletes ranged from 22 to 27 years. All had been practicing their sports for the last five years. The tools used were the Body image scale (Cash, 1990) and Self efficacy scale (Wong, 2001). **Results**. The results were analyzed by using a t-test to make a comparative analysis of male and female sportspersons concerning their body image and self-efficacy. Significant gender differences have been obtained. Correlational analysis was used to study the association between the above-stated variables and a significant association was found with maximum correlations at a 0.01 level of significance. **Conclusion:** Significant gender differences revealed that females were more concerned with their weight and appearance evaluation concerning body image. At the same time, females were high on the measure of self-efficacy. In addition, the findings also clearly revealed that global body image with its different dimensions does have a positive association with self-efficacy. It means that sportspersons having positive body image in terms of their appearance and physical fitness are going to have an evaluation of themselves as very worthy and productive persons about their sports calibre & performance as well.

Keywords: Self-efficacy, Body image, Appearance evaluation

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Introduction

Body image is generally viewed as an image that is formed by a person about one's body based on one's cognitive perspective and individual assessment of one's body physical traits (de Souza-Pajuelo et al., 2021; Jafary et al., 2011). It encompasses one's physical endurance, general appearance, health, body shape as well the degree of self-awareness about health and emotional behavior (Lola & Tzetzis, 2020). Along with this it also involves one's psychosocial competencies, i.e. self-regulation, coping strategies, interpersonal relationship, decision-making, etc. (NARA et al., 2022; Sun, 2010). In the current scenario, where people are more to social media, tend to project their body image by having fake perceptions of followers on social sites while importing their health in terms of physical activity ignoring going to actual ground and performing some experiential sports activity rather than confining to gyms, where they are being deprived of relining nature. Research evidence states that youth giving over impetus on fake appearance gives satisfaction and happiness for a short time but later it makes the person dissatisfied and disturbed about his/ her day-to-day life. At the same time, when a person feels unpleasant, it makes a person have a negative evaluation of oneself which is called self-efficacy. Self-efficacy refers to one's self-evaluation as well as one's subjective prediction to accomplish certain tasks with wisdom and judiciously (Guo et al., 2017). It deals with three dimensions i.e. perception ability, expectation to achieve the goal before action, and subjective judgment as one's hope to achieve the target and accomplish the task. Self-Efficacy stimulates the person to do some task in a better way and in a meaningful manner. A study reported that a person who has high self-efficacy can perform physical activity in terms of sports participation and accomplishment better because of high resilience(Luo et al., 2010). High self-efficacious people in sports can confront difficulties and adverse circumstances in a more pleasant manner than those who are having sedentary lifestyles or non-sports persons (Nara, 2017; Yadav et al., 2012). As there have been various research studies that talk about the association between self-efficacy and body image as well as other correlates but talking about comparative analysis concerning their gender is highly sparse and the current scenario finds female sportspersons to excel highly and committed in this vocation. Taking this perspective in mind, the present study has been conducted focusing on the following problem:

Problem statement

To assess, compare and investigate the association between body image and self-efficacy in male and female sports persons.

Objectives of the Study

- To study the gender differences in the body image and self-efficacy of sports persons.

- To study the association between sports activity, body image, and self-efficacy among sports persons.

Hypothesis

- There would be significant gender differences in body image and self-efficacy of sports persons.
- There would be a positive association between body image and self-efficacy among sportspersons.

Materials and Methods

Participants

The purposive sampling technique was used for data collection. The sample comprised 100 subjects out of which 50 were males and 50 were females. All were pursuing Post graduation in the Physical Education department of CRSU, Jind (Haryana, India). All were practicing on the ground for the last 5 years since their graduation time.

Research Design

This study was quantitative in nature. A two-group design followed by a correlation research design was used.

Measurement of Body Image

The 'Body image of the participants was measured by the 'body image inventory' constructed by (Brown et al., 1990) an American Psychologist named William Brown. The scale consists of 29 items explaining 5 dimensions of body image (1) PFE (physical fitness evaluation), (2) AA (appearance adaption), (3) WC (weight concern), (4) AE (appearance evaluation), and (5) HE stands for (health evaluation) respectively. The present scale or inventory was based on a five-point Likert scale and measurement responses ranged from 'strongly agree' to 'strongly disagree' as well. The scoring pattern for the scale ranged from 5 to 1, while a high score represents strongly agree and the lowest score indicates strong disagreement towards the statement. The reliability and validity of the present scale were established on both individual and global scoring and found highly reliable to measure the body image of the respondents having cross-culturally characteristics.

Measurement of Self-Efficacy

A brief 'Self-efficacy' scale (Muris, 2001) consists of ten statements, where each statement measured on the four-point rating scale, "completely incorrect," "somewhat correct," "fairly correct," and "completely correct." The scoring is ranged from 10 to 40 in terms of minimum and maximum values, where, a higher score indicates strong self-efficacy.

Statistical Analysis

Data processing involved descriptive statistics, i.e. range, minimum value, maximum value, arithmetic mean (Mean), and standard deviation (SD). The t-test (Independent with the same n) was used to make a comparative analysis between the two groups of participants. Karl Pearson correlation coefficient was used to compute the significant relationship between self-efficacy and sub-factors of body image. The satistical analysis was done by using SPSS 25.0 software. The statistical significance was set at the level of 0.05 & 0.01.

Results

The present study aimed to make a comparative investigation of body image and self-efficacy in male and female sportspersons. As body image is operationally measured in terms of five dimensions, i.e., physical fitness evaluation (PFE), weight concern (WC), appearance adaptation (AA), Appearance Evaluation (AE), and Health Evaluation (HE). The variable of body image has been scored in dimension size as well in terms of Global score. The measure of self-efficacy i.e. evaluation of oneself gives one composite measure. Focusing upon the first objective, i.e. of gender difference in sportspersons Table No. 1 (a) shows the descriptive statistics of sportspersons

Table 1 Gender differences concerning self-efficacy and body image along with their five dimensions, in male and female Sports persons

Variables		**Male**		**Female**		**'t'**
	Abbreviation	Mean	SD	Mean	SD	
Self-Efficacy	SE	22.86	4.68	25.85	5.82	5.67**
Body Image (global score)		22.65	4.65	19.85	3.75	5.11**
(Physical Fitness Evaluation)	PFE	40.12	6.78	36.15	5.72	4.25*
(Weight Concern)	WC	15.17	3.12	18.18	4.16	5.65**
(Appearance Adaptation)	AA	12.17	4.05	13.15	4.25	4.85*
(Appearance Evaluation)	AE	25	2.12	28.15	3.25	5.12**
(Health Evaluation)	HE	12.19	4.68	10.35	4.12	4.25*

*p<.05 Level of signfiance, **p<.01 Level of significance

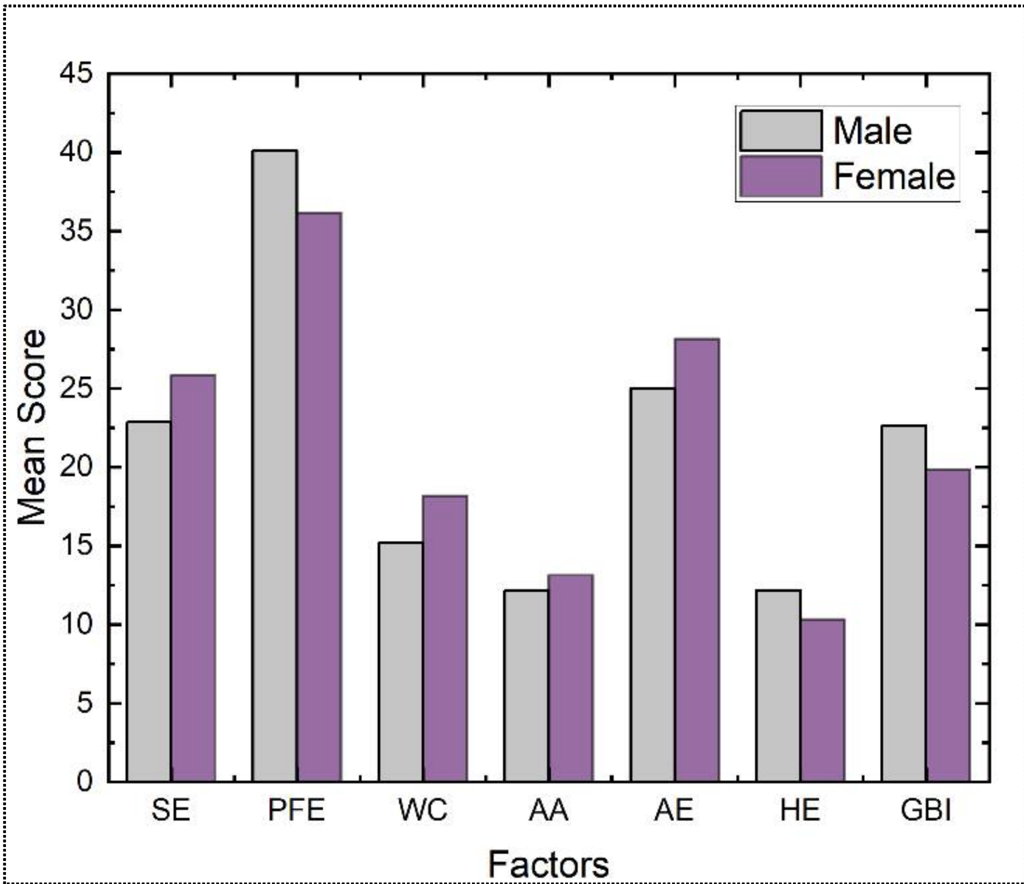

Figure 1. Bar graph showing mean values of self-efficacy and five dimensions of body image including global body image (GBI = total score of five factors of body image scale)

Table no. 1 exhibits the obtained mean and standard deviation scores of male and female sportspersons with their respective t-values. The obtained mean scores of male sportspersons are 22.86 and 25.85 for female sportspersons. Their respective standard deviation scores (SD) are 4.68 and 5.82 respectively. Their obtained t value is 5.67 which has been found significant at the .01 level.

Further as far as the body image of male & female sportspersons is concerned, overall males scores 22.65 as their mean values while females scored 19.85. These values have been found statistically significant at the .01 level with their t value, i.e. 5.81. Taking dimensions vise scoring of body image, the obtained mean & SD values for physical fitness evaluation are 40.12 (SD=6.78) for male sportspersons and 36.15 (SD=5.72) for female sportspersons. The obtained t-value is 4.25 which is significant at the .05 level. Further as far as the dimensions of weight concern are related female sportspersons have been found to have higher mean score i.e. 18.18 as compared to male counterparts as whose score is 15.17. This has been founded highly significant at the .01 level. Another important dimension of body image was appearance adaptation (AA) where significant gender differences were found at the .05 level. It means that females were more concerned about their adaptability to appear as physically fit sportspersons. After appearance adaptation, there were viral dimensions i.e. appearance evaluation (AE), how positively and satisfactorily a person judges his appearance. The obtained mean and SD values for male and female sportspersons were 25.00 and 28.15 respectively with their respective 2.12 and 3.25 SD values. These have been found significant at the .01 level. The last dimension deals with health evaluation where male sportspersons scored high $\overline{X}$ 12.19, 4.68 than female sportspersons $\overline{X}$ 10.35, 4.12 . It was found statistically significant at a .05 level.

Table 2 Correlational analysis of self-efficacy (SE), physical fitness evaluation(PFE), weight concern (WC), appearance adaptation (AA), appearance evaluation (AE), health evaluation (HE), and global body image (GBI).

Variables	SE	PFE	WC	AA	AE	HE	GBI
SE	1.00	0.45**	0.36**	0.26*	0.31**	0.36**	0.52**

Table no. 2 depicts the relationship between self-efficacy, physical fitness evaluating weight concern, appearance adaptation, appearance evaluation, wealth evaluation, and global body image of 100 sportspersons, both male and female. Further, self-efficacy has been found highly significantly positively related to weight concern i.e. 0.36, which means that the variable of self-efficacy has been found significantly positive with appearance evaluation, i.e. 0.31 at 0.01 level. A similar highly significant positive association has been obtained between health evaluation and self-efficacy, i.e. 0.36 at 0.01 level of significance referring to high physical fitness and being a fitness break as an athlete.

These all are the different dimensions of body image as exhibited by sportspersons. Further, the global body image which is an index of the overall body picture & makeover of sportspersons shows a strong positive relationship with self-efficacy, i.e. 0.52 is highly significant at 0.01 level.

Limitations

The sample taken in the present study is 100 which is partially small. The results could have been more meaningful if large data would have been taken. Since only sex/gender as a demographic variable is taken, other demographic variables like grade, background, practice trials, etc. could have fetched more meaningful results. The comparison could have been made between sportspersons and non-sportspersons as the control group. Some other correlates like sports participation, nature of sports, and type of sports, like correlates, could have been taken to make more meaningful deliberations.

Discussion

The present study, despite its limitations, has a lot of behavioral and practical implications in the current scenario where the government is taking a lot of initiative to empower our sports persons. Since this study has clearly shown that female sports persons are still clinging to physical appearance evaluation and weight concerns at the cost of their health and nutrition. On the other hand, male sportspersons are more concerned about their athletic image. The policymakers should be made acquainted with these findings so that life skill programs can be organized for the sports persons to enhance their psychological competencies like self-efficacy as well as awareness about fitness and health regulation. At the same time, sports psychologists should also be involved to give time-to-time counseling to our aspiring sportspersons to deal with their issues of sports anxiety, fatigue, sports performance, stress management, etc.

As the primary purpose of the study was to study the gender differences in body image and self-efficacy in male and female sportspersons. There have been found significant differences in them on various dimensions and thereby supporting the first hypothesis. As it is clear that female sportspersons entrusted with sports activity i.e. practicing basketball regularly on the ground consider themselves more equipped and worthy than their male counterparts. Research indicates (Cureton et al., 1986; Perez-Gomez et al., 2008) that sex is a major determinant of athletic performance but in our study females have been found to report high self - efficacy making this gender gap nonexisting. Further talking about global body image in the context of male and female sportspersons, males are found to exhibit a high global body image than females and it is empirically evidenced by Chang & Wong 2013 (Wong et al., 2013) reported that males going for regular practice of sports strengthen their muscles and make their body strong & with enhanced body image. Further taking the construct of body image in terms of its dimensions, the relation to the physical fitness of male sportspersons(Parveen, n.d.; Rojo-Ramos et al., 2022). It means that male sportspersons are more conscious about their physical image with muscular build and athletic ability. It depicts that males are generally believed to have more image-conscious about their physical parameters of BMI and their public image with the muscled and toned body (Kvardova et al., 2022; Proczko et al., 2022; Sick et al., 2022).

Another dimension that deals with weight maintenance support the conventional approach and clearly shows that female sportsperson despite being sports oriented are not much concerned with their athletic image but rather more concerned about their weight regulation and maintenance. This weight-based stigmatization does exist in female sportspersons also (Spahlholz et al., 2016). A closely related dimension is appearance adaptation which has been found statistically different in male and female sportspersons. Bandura talked about observation learning and how social modeling plays a vital role in one's projected body image(Bandura et al., 1980). In this study, females were found more proven and active to evaluate themselves on the parameters of physical fitness than males. Another vital dimension that is more demanding in the current era is health conditions as females are excelling more in the domain of sports, which needs to be taken care of. As they have been found concerned and cautious Andrew, Tiggmann & Clark evidenced in research that females ignore their health aspects while focusing more on their good body shapes making out rigorously but having less nutrition(Andrew et al., 2016).

The second hypothesis deals with the association between self-efficacy & global body image along with its dimensions in sportspersons. Self-efficacy has been found significantly positively associated with physical fitness evaluation which denotes that sportspersons having a positive self-evaluation of themselves have a better evaluation of themselves as having better physical and athletic forever(Meenakshi & Sharma, 2022).

Further, the relationship between self-efficacy with weight concern supports the positive relationship as sportspersons having high self-worth of themselves are very much concerned about their body weight maintenance up to an optimal level. This connotes that sportspersons considering themselves worthy persons are highly concerned and conscious about their projected image before the public as highly satisfactory and appealing to others. Along similar lines is the relationship between health evaluation and self-efficacy which is empirically supported by(Nara et al., 2022) stating that high physical fitness and being a fitness freak as an athlete bear conference with each other.

It means that sportspersons engaged in physical activity through sports consider themselves abreast with full potential as an athlete as well as very conscious and concerned for their fit body image with a more muscular build.

Conclusions

Female sportspersons reported high self-efficacy than male sportspersons. Females were found more concerned and conscious about their weight and appearance evaluation than male sportspersons. Male sportspersons were found better in terms of their health evaluation. Overall body image of male sportspersons was found higher than female sportspersons.

Conflict of interest

The authors stated no conflict of interest.

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Article

Pattern of Alcohol Consumption among Rural Youth: A Sociological Study of Kherainti Village

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Abstract

Alcohol consumption has become a norm in the modern world, especially among the youth. In media, drinking is shown as a leisure activity and portrays the drinker as a hero. It has resulted in increase in its consumption per capita. However, alcohol consumption has multi-dimensional harmful effects- physical, psychological, and social. It is the third-largest factor for disease and disability. The present study was done to find the reasons and patterns of alcohol consumption among rural youth. The impact of education on the drinking habit of an individual was also analysed. The study found that most alcoholic youths start consuming alcohol at an early age and in general rural youth do frequent and Heavy Episodic Drinking that have severe consequences. Education was found to be an important factor influencing the alcohol consumption habit of an individual. Therefore, proper policy and programmes need to be formulated and implemented to tackle this serious issue.

Keywords: Alcohol, Addiction, Education, Heavy Episodic Drinking (HED), Youth.

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Introduction

Historically, for the purpose of intoxication, alcohol is one of the most widely and commonly used chemical substances by humans. Earlier, the word alcohol was not used for a liquid, rather originally it meant a powder. The word 'alcohol' originates from the Arabic term 'al-kuhul', meaning "the koh'l or kohol" powdered version of antimony which was used to darken the eyelids. Which later in the 19th century came to mean "a distilled or rectified spirit".

In chemistry, alcohol is a category of organic compounds which have one or more hydroxyl (-OH) functional groups attached to a saturated carbon atom. There are many alcohol compounds like methanol, ethanol, butanol, etc. But in general alcohol term is used for 'ethanol'. Ethanol is being used by human beings for consumption purposes. It is a psychoactive substance used for recreational work. Alcohol is a drug as it affects our mental and physical activity. There are mainly eight types of drugs- stimulants, depressants, inhalants, opioids, cannabinoids, anabolic steroids, hallucinogens, and prescription drugs. Alcohol is not a stimulator (a stimulant increase the functional activity of the physical body and mind) as popularly thought of as one. Rather it is a depressant type of drug, opposite to the general public thought. Depressant drugs are those that slow down activity in the central nervous system of our body. These drugs slow down the body's activities and seem to give feelings of relaxation, therefore also called downers. When consumed in low doses it causes mild euphoria, reduces anxiety, increases verbosity, and improves sociability, but in higher doses, it causes impaired sensations, loss of understanding, anger or sadness, drunkenness, stupor, unconsciousness, coma, or death.

Alcohol Metabolism

Alcohol is a toxic substance that is eliminated or neutralized by our body through a different process. When we drink an alcoholic beverage, about 10 per cent of alcohol is lost through sweat, urine, and breath, and the rest of 90 per cent is metabolized by our body. The primary organ in our body responsible for the metabolism of alcohol is the liver. Two enzymes- alcohol dehydrogenase (ADH) and aldehyde dehydrogenase (ALDH) are involved in the most common of many pathways of alcohol metabolism, mainly produced by the liver in the human body. These enzymes help to break alcohol molecules into simpler molecules, making it possible to eliminate alcohol from the body. Alcohol use and alcohol-related problems are influenced by alcohol metabolism, varying from individual to individual. It depends on various factors like genetics, such as variations in the enzymes (ADH, ALDH, etc.) that break down alcohol; and environmental factors, such as the amount of alcohol one consumes and his or her overall nutrition (Alcohol Metabolism, 2007). Some variants of the ADH and ALDH enzymes work more or less efficiently than others. If the

ADH enzyme is fast produced or ALDH enzyme is produced slowly then it results in building up of toxic acetaldehyde in the body. This creates dangerous and unpleasant effects such as facial flushing, nausea, and a rapid heartbeat. As a result, an individual having fast ADH or slow ALDH variant enzyme may tend to drink less and is thus somewhat protected from alcoholism. But such people are more vulnerable to other health consequences when they consume alcohol because of prolonged concentration of toxic acetaldehyde in the body (Hurley et. al., 2002).

The effects of alcohol consumption are multi-dimensional. Alcohol consumption has physical, psychological, social, and economic consequences. The consequences of alcohol consumption are not limited to drinkers but affect their surroundings as well. Harmful alcohol consumption creates problems both for the drinker and society as a whole. This makes alcohol consumption a social evil. Effects of alcohol use are so diverse that they cannot be calculated by any single study. Alcohol use has direct, indirect, tangible, and intangible effects (NIMHANS, 2012).

In the last few decades, total alcohol consumption has increased globally and nationally. One more point which needs to be focused is that the increase in alcohol consumption in India is mainly contributed by the young age group. India has the largest youth population in the world, for which the global alcoholic beverage industry is targeting the Indian market through different advertising means and have been successful as well (Prasad, 2009; WHO, 2018).

The effects of alcohol become more severe when consumed in high quantity. Globally, around 18.2 per cent of the total population (aged 15 years or above) and 39.5 per cent of current drinkers used to do Heavy Episode Drinking-HED (60 grams or more of alcohol intake at least once per month) in 2016. In the case of India, 17.2 per cent of the total population (aged 15 years or above) and 44.4 per cent of current drinkers used to do Heavy Episode Drinking-HED in the same year. It reaches more than 50 per cent in the age group of 15-19years and peaks in the age group of 20-24years. This shows that a big proportion of current drinkers especially the young age drinkers do heavy drinking (much above the recommended amount) which results in harsh consequences.

Alcohol consumption is the third-largest factor for disease and disability. Mortality resulting from alcohol consumption is much higher than some of the most serious diseases such as diabetes, tuberculosis, and HIV/AIDS (WHO, 2018). The rural population is more vulnerable to harmful effects of alcohol consumption than the urban. There is greater normalisation and acceptance of alcohol use in rural areas and even alcoholism is not considered a disease (NIMHANS, 2012). Consumption of unrecorded alcohol is also quite high in rural areas (Benegal et al., 2003). This shows that alcohol abuse or the problems related to alcohol consumption are serious and with time the consumption of alcohol is increasing especially among youth. Therefore, there is a need for taking the issue of alcohol consumption in earnest.

Field of Study

The present study was conducted in the village named "Kherainti" in district Rohtak (Haryana). It is situated 19kms away from district headquarter. According to Census 2011, there are 1,186 households and the population is 6,260. The literacy of the village is 67.76 per cent and the sex ratio is 849.

Tools of Data Collection

The present study was done with the objective to find the main reasons for alcohol consumption and the pattern of drinking among youth and its relation to education level. The primary data were collected using interview schedule specifically designed for the purpose.Secondary data were mainly taken from Census 2011. The Code of ethics of social research was well followed by the researcher while collecting and analysing data.

Operational Definitions

A 100-ml cup was taken as the reference to determine the amount of alcohol consumed. 1 peg was taken as equal to 30-ml. For the operational purpose, a drinker was defined as a person who had consumed at least three times alcoholic drinks in a month immediately preceding the survey.

Sample

In the present study, data were gathered from 112 respondents consisting of alcohol drinkers of the age group 18-32 years from different castes and classes. The Snowball technique of sampling had been used to explore the alcohol users. Most of the drinkers of this age group of the village were tried to cover in this study.

Analysis of Data

The present study is focused on rural youth. In the study an attempt is made to analyse reasons for initiation and frequent drinking, and the pattern of alcohol consumption among the rural youth. Impact of the education on the drinking pattern has also been analysed.

Reasons for Drinking

There is no single reason for initiation of drinking. Few start drinking for enjoyment purposes, few to relieve stress, and few just to give company to their peers. The most appropriate time to save someone to get into alcohol addiction is the time when one takes their first drink. Therefore, if we want to tackle this problem of drinking, it is very important to understand the reasons for initiation.

Table 1
Reason for the First Intake

Reason for the First Intake	Frequency	Percentage
For fun/enjoyment	33	29.46
As experiment	34	30.36
To remove stress/tension	2	1.79
To Celebrate	27	24.11
Because of company	16	14.28
Total	112	100.00

Majority of respondents, 34 had their first drink just to know how alcohol tastes and what it does to a person. They had no intentions of taking a drink again but they were wrong. After the first drink, most of the drinkers think, let's try once more. While 29.46 per cent of respondents started for fun or enjoyment purposes. They had the perception that after drinking one enjoys more and alcohol is meant for this purpose. Similarly, 24.11 per cent started to celebrate and had the perception that celebration is incomplete without drinking. Such perceptions come from songs, movies, and advertisements in which the actors or actresses are shown having a good time after getting drunk and from peer groups who advocate such perceptions (Prasad, 2009). Above two category of respondents had the intensions to continue drinking in future at the time of first drink. 14.28 per cent had first drunk under the pressure of peer group, and they did not want to drink themselves, as opposite to the above three groups in which the respondents themselves desired or intended to drink. It was found that stress or tension was the reason for initiation in only two cases, this may be because the onset age of drinking was below 18 years in the majority of cases, and stress or tension is not much at this age due to fewer responsibilities. It was observed that even though the first experience of drinking of most of the respondents was bad even then they did drink again.

Table 2
Reason for Frequent Drinking

Reason for Drinking	Frequency	Percentage
For fun/ enjoyment	60	53.57
To remove stress/tension	6	5.36
To Celebrate	9	8.04
To give company to others	11	9.82
Out of habit	26	23.21
Total	112	100.00

Table 2 indicates that enjoyment purpose is the main reason of drinking among youth. Many of the respondents replied that- din bhar kam kr k rat me pee kr acha lgta h (it feels good to drink after working the whole day) while many of them feel that drinking is a means of enjoyment. There were 11 respondents who used to drink to give company to friends or others and 6 respondents used to drink to remove stress/ tension. According to them after getting drunk they forget all their worries and it helps them to have good sleep. While there were 26 respondents who had reached the stage of addiction and used to drink out of habit. There were many other respondents who had reached the stage of addiction and were daily drinkers but were not ready to accept their dependency on alcohol.

Consumption of alcohol by human beings is not a new phenomenon. It is consumed for different purposes on different occasions. Generally, the purpose of alcohol intake is recreational and the main reasons include celebration, enjoyment, leisure time, and relaxation from stress, while some reached the stage of addiction and drink out of habit. Also, there are many myths attached to alcohol consumption. Some consider that alcohol is a stimulator and after getting drunk they are able to do social interactions more easily and some think that alcohol work for them as medicine. Such myths prevail due to lack of education and awareness about the harmful effects of drinking that ultimately leads to alcoholism and its related problems.

Table 3
Education and Reason for Frequent Drinking

Education	Reason					Total
	Just for Fun	To remove stress/ tension	To celebrate	To give company to others	Out of Habit	
Illiterate	0 (0.0)	0 (0.0)	0 (0.0)	1 (33.3)	2 (66.7)	3 (100.0)
Primary	3 (27.3)	1 (9.1)	0 (0.0)	1 (9.1)	6 (54.5)	11 (100.0)
Secondary	18 (47.4)	1 (2.6)	1 (2.6)	5 (13.2)	13 (34.2)	38 (100.0)
Senior Secondary	11 (52.4)	2 (9.5)	1 (4.8)	2 (9.5)	5 (23.8)	21 (100.0)
Graduation or above	28 (71.8)	2 (5.1)	7 (17.9)	2 (5.1)	0 (0.0)	39 (100.0)
Total	60 (53.6)	6 (5.4)	9 (8.0)	11 (9.8)	26 (23.2)	112 (100.0)

Note: Figures in parentheses are percentages.

It can be inferred from the data in table 3 that respondents having less education level were more addicted as 66.7 per cent of illiterate and 54.5 per cent of primary level education were habitual drinkers and on the other side no case of habitual drinker was found among the respondents having education qualification graduation or above. It was also found that drinking for enjoyment purpose increase with the increase in education level. Among the respondents of education level graduation or above, 71.8 per cent drink for enjoyment and 17.9 per cent drink for celebration purposes, the majority of them drink at marriages, parties, or other social functions.

Age of Onset of Drinking

Age of onset of alcohol consumption is an important variable in alcohol addiction and alcoholism. Some studies have shown that those who start taking alcohol from the early age are at high risk of becoming alcoholic. While, if one start drinking after 30 years of age he/she has the higher probability of becoming a social drinker due to their cognitive development and maturity (Ahuja, 2014).

Table 4
Distribution of Respondents According to the Age of Onset of Drinking

Age of Onset (years)	Number	Percentage
Up to 12	7	6.25
13-18	81	72.32
19-24	22	19.64
Above 24	2	1.79
Total	112	100.00

Table 4 shows that 78.57 per cent of respondents had started taking alcohol before the age of 18 years, i.e. an age when an individual is not cognitively mature with hardly any capability of self-evaluation and therefore more to be addicted to severe problems caused by alcohol consumption. It is very alarming that more than 98 per cent of respondents had started drinking below the age of 24 years, even though the minimum legal age for drinking alcohol is 21 years (reduced from 25 years in 2021) in Haryana (Indiatoday, 2021). It was observed that the majority of respondents who were around 20 years of age had started drinking at an early age.

Table 5
Education and Age at First Intake

Education	Age at first Drink (in years)				Total
	Up to 12	13-18	19-24	Above 24	
Illiterate	1 (33.3)	2 (66.7)	0 (0.0)	0 (0.0)	3 (100.0)
Primary	0 (0.0)	9 (81.8)	2 (18.2)	0 (0.0)	11 (100.0)
Secondary	5 (13.2)	25 (65.8)	6 (15.8)	2 (5.3)	38 (100.0)
Senior Secondary	1 (4.8)	17 (81.0)	3 (14.3)	0 (0.0)	21 (100.0)
Graduation or above	0 (0.0)	29 (74.4)	10 (25.6)	0 (0.0)	39 (100.0)
Total	7 (6.3)	81 (72.3)	22 (19.6)	2 (1.8)	112 (100.0)

Note: Figures in parentheses are percentages.

Data in table 5 indicates that education affects the age of onset of drinking to an extent as among the respondents having education qualification graduation or above there was no case of the onset of drinking before age of 12 years and more than 25 per cent of them had started drinking after 18 years of age. While 100 per cent of illiterate and more than 80 per cent of respondents of education up to senior secondary level had started drinking before the age of 18 years. It was also observed that the education level of the parents had a positive relationship with the education level of the respondents and thus, directly or indirectly, impact their age of onset of drinking.

Occasions of Drinking

Alcohol is used in case of both happy occasions and sad occasions. These occasions provide a good environment and the reason for starting drinking. It has been studied which occasions provide the best time to start drinking and on which occasions alcohol is socially accepted in rural society.

Table 6
Distribution of Respondents According to the Occasions of Drinking

Occasions on which one drink	Frequency	Percentage
Marriage	109	97.32
Birthday Party	102	91.07
Any other Party or celebration	102	91.07
Festivals	79	70.54

***Multiple Response**
N=112

It was found that majority (73.21 per cent) of the respondents grab the opportunity of happiness to start drinking and even among happy occasions marriage is the leading one. One of the respondents said- shadi k mahole me sab khush hote h to koi bhi rokta tokta nhi h or ghar k bde sab itne busy hote h ki bache kya kr rhe h pta nhi lgta (in the aura of marriage everyone is happy and avoid to do any kind of objection and elders of the family remain so busy that they do not get to know what the children are doing). Few respondents also said that in their case the elder members of the family, especially chaha (paternal uncle) or mama (maternal uncle), themselves ask them to have a drink if they want. Also, the male elders themselves remain in the condition of drunkenness in marriages thus they are not able to object young ones, rather they become role models for youngsters for starting drinking. Few cases were also found in which the respondents had started drinking at the farewell party at the school or the fresher's party at college. This takes us to the point that alcohol has reached to premises of educational institutions and the case of schools is alarming as similar observations have been found in other studies as well (Prabhughate et al., 2019).

Frequency of Drinking

Generally, the frequency of drinking increases with the increase in the duration of use of alcohol. Initially, one starts as an occasional drinker and with time may reach the stage of alcoholic when their drinking goes out of self-control. With the increase in the frequency of drinking its harmful effects also become severe. Frequency also tells us about the addiction level of a drinker.

Table 7
Distribution of Respondents According to their Frequency of Drinking

Frequency of Drinking	Frequency	Percentage
Daily	45	40.17
Alternate Day	18	16.07
Once a Week	23	20.54
Occasionally	26	23.21
Total	112	100.00

Table 7 shows that predominantly the respondents were daily drinkers i.e. 40.17 per cent. 16.07 per cent used to do drinking every alternate day, 20.07 per cent used to do it once a week and 23.21 per cent were occasional drinkers. In almost all cases it was found that the respondent started drinking with the thought that he would not be going to use alcohol as frequently as they had been doing at the time of the study. It was also observed that the respondents tried to hide their frequency of drinking and faked to be occasional drinkers but when they were asked in detail about how many times they had used alcohol in the past 6 months then it came out that they were frequent drinkers. They try to find excuses and occasions out of anywhere for drinking.

Table 8
Education and Frequency of Drinking

Education	Frequency of Drinking				Total
	Daily	Alternate Day	Once a week	Just on Occasions	
Illiterate	2 (66.7)	1 (33.3)	0 (0.0)	0 (0.0)	3 (100.0)
Primary	7 (63.6)	3 (27.3)	0 (0.0)	1 (9.1)	11 (100.0)
Secondary	23 (60.5)	8 (21.1)	3 (7.9)	4 (10.5)	38 (100.0)
Senior Secondary	8 (38.1)	3 (14.3)	6 (28.6)	4 (19.0)	21 (100.0)
Graduation or above	5 (12.8)	3 (7.7)	14 (35.9)	17 (43.6)	39 (100.0)
Total	45 (40.2)	18 (16.1)	23 (20.5)	26 (23.2)	112 (100.0)

Note: Figures in parentheses are percentages.

Table 8 shows that 66.7 per cent of illiterate, 63.6 per cent of primary, 60.5 per cent of secondary, 38.1 per cent of senior secondary level education were daily drinkers. On the other side, only 12.8 per cent of respondents having graduated or above education qualifications were daily drinkers. Also, 9.1 per cent of primary, 10.5 per cent of secondary, 19.0 per cent of senior secondary, and 43.6 per cent of graduation or above education qualification were occasional drinkers. This clearly indicates that with an increase in education qualifications the frequency of drinking goes down.

It was also found that among the respondents having age of onset up to 12 years, 85.7 per cent were daily drinkers and the rest one respondent was also alternate day drinker. Among those having age of onset between 13-18 years, 39.5 per cent were daily drinkers and 22.2 per cent were occasional drinkers. While among those respondents who had the age of onset above 18 years, about 29 per cent were daily drinkers and 33.33 per cent were occasional drinkers. This indicates that the respondents who had started drinking at an early age had a higher frequency of drinking and it increases with the time period since one initiated drinking. It was also observed during the fieldwork that a sizeable proportion of drinkers were teenagers in rural areas.

Quantity of Alcohol Intake at Once

Some studies show that alcohol consumption is not so harmful if done within limits. It becomes dangerous when the limit is crossed and heavy drinking is done and with an increase in quantity its harmful effects increase (as BAC level rise). Light to moderate drinking may have some protective role but more than three small pegs of alcohol a day increase one's risk of dying (Inidatoday). In India, heavy drinking has become a norm as the majority of drinkers do Heavy Episodic Drinking (HED), especially among youth (Parsad, 2009; WHO, 2018). Therefore, it is very important to study the kind of drinking respondents do.

Table 9
Quantity of Intake at Once

Quantity at once	Frequency	Percentage
1 peg	1	0.89
2-3 pegs	18	16.07
4-5 pegs	29	25.89
More than 5 pegs	64	57.14
Total	112	100.00

The data in the Table 9 shows that among all 57.14 per cent respondents used to consume more than 5 pegs in one sitting which means the majority of them were heavy episodic drinkers. When the respondents were asked why they do heavy drinking, some gave the addiction reason and some used the dialogue- Nasha nhi hua to peene ka maza hi kya (means if one do not get intoxicated then there is no meaning of drinking) and some said- peeo to bhand ho k peeo ya fir na hi peeo (drink limitless or otherwise don't drink). They were not aware of the limits of drinking and gave a general response that- itna soch kr kon peeta h (who drinks after thinking so much). It was observed in the field that Heavy Episodic Drinking is very common and light drinking (1-2 pegs) is rarely practiced in rural society. They drink until they get out of supply or become highly intoxicated. Few had the habit of drinking until the stage of stupor. One who consumes more alcohol is considered more masculine.

Table 10
Education and Intake Quantity at once

Education	Intake Quantity at once				Total
	1 peg	2-3 pegs	4-5 pegs	More than 5 pegs	
Illiterate	0 (0.0)	0 (0.0)	0 (0.0)	3 (100.0)	3 (100.0)
Primary	0 (0.0)	1 (9.1)	1 (9.1)	9 (81.8)	11 (100.0)
Secondary	1 (2.6)	6 (15.8)	7 (18.4)	24 (63.2)	38 (100.0)
Senior Secondary	0 (0.0)	1 (4.8)	7 (33.3)	13 (61.9)	21 (100.0)
Graduation or above	0 (0.0)	10 (25.6)	14 (35.9)	15 (38.5)	39 (100.0)
Total	1 (0.9)	18 (16.1)	29 (25.9)	64 (57.1)	112 (100.0)

Note: Figures in parentheses are percentages.

Data in the Table 10 shows that 100 per cent of illiterate, 81.8 per cent of primary level, 63.2 per cent of secondary and 61.9 per cent of senior secondary level education respondents were heavy drinkers (consuming more than 5 pegs) while on the other hand, 38.5 percent of respondents having qualification above senior secondary were heavy drinkers. This indicates that the impact of education on the quantity of alcohol consumed by an individual in one sitting is similar to that of the frequency of drinking. It was observed in the field that the majority of heavy drinkers were less educated and unskilled workers.

Conclusion

It can be concluded that alcohol consumption has become a norm among rural youth. Alcohol is considered a means of enjoyment and is used in different kinds of celebrations. The majority of them initiate drinking at an early age (below 18 years) mainly for enjoyment or experimental reasons. But this enjoyment does not last long as with the passage of time they become habitual drinkers and start experiencing harmful effects. Occasions of happiness especially the wedding (that too of a brother or friend) provide the best conditions for initiating drinking. Alcohol use on such occasions has become a socially accepted norm. Youth mainly do frequent and Heavy Episodic Drinking (HED) which peaks around the age of 24-29 years. Factors that play a significant role in alcohol consumption behaviour of this age group are caste, education, occupation, peer group, and family environment. Education was found to be the most impactful factor. With the increase in education the consumption level of an individual decrease. This is mainly because with education one gets aware of the harmful effects of drinking and drinking limits. While the relationship between alcohol consumption and education has another side also. Those who initiate drinking at an early age and become heavy drinkers due to any socio-economic reason, perform badly in academics because of their drinking habit and give up schooling quite early.

The attitude of peer groups (including family members) toward alcohol has a great impact on the consumption behaviour of a person. When it is considered a normal beverage by the peer groups and parents do not object to its consumption or parents themselves do drink then in such an environment an individual is highly prone to early onset of drinking and getting addicted soon. The problem of alcohol consumption has become a kind of communicable disease which transmit from one family member to other and from one friend to other. The early onset of the habit of drinking and Heavy Episodic Drinking (HED) among youngsters is alarming and needs to be addressed immediately as the nation cannot afford its future generation to become slaves of alcohol.

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Changing Pattern of Relationship between Male and Female of Rural Workers in Punjab-Haryana Plain: A Tehsil Level Study

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Abstract

For the present research work, the village level census data of 2001 and 2011 has been used to find out the change in relationship between male and female of rural workers at tehsil level. The number of tehsils in 2001 were 139 which increased to 151 in 2011. Initially, the tehsil boundary of 2001 has rearranged according to the tehsil boundary of 2011. The rural work participation rate has decreased from 41.16 per cent to 35.99 per cent, *while rural male workers have slightly increased by 0.19 per cent and rural female workers have been decreased by about 11 per cent* during the period. Karl Pearson's coefficient of correlation (r) method has used to find out the change in relationship between male and female among rural workers at tehsil level. It is found that the relationship between male and female of rural workers was weak in both the decades in the study area. Further, more than two-fifth tehsils have recorded positive change while more than half of the tehsils have recorded negative change among rural workers during the period 2001 to 2011. Finally, it is also found that about two-fifth of the tehsils have not changed their sub-categories in positive and negative change during the period 2001 to 2011 in Punjab-Haryana Plain.

Keywords: Rural Work Participation Rate, Coefficient of Correlation (r), Male and Female Relationship.

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Introduction

Occupation is an economic activity, which is largely related to agriculture, industry, and services. "A distinction is often been made between total population and manpower, while total population refers to the entire populace inhabiting the area, the manpower consists of only those persons who are engaged in economically gainful activities" (Chandna, 2018). In other words, occupation is defined as an economic activity that offers a means of subsistence for individuals who engage in it.

Census of India 2011, defined that "any person whose main activity is involved in any economic activities with or without remuneration of earnings by his physical or mental activities is classified as worker. It even includes temporary help or unsalaried work on farm, family business or in any other financial activity".

The status of women in the society and consequent approval or disapproval of female participation in activities outside the four walls of the house is another social determinant of magnitude of working force. However, this factor may have little role to play in any society in the present modern times, which grant equal status to males and females. But in countries where the prejudices against the females' mobility and participation in economic activities prevail, the proportion of working force remains low because women, constituting almost half the population, get excluded from this orbit of workers. Hence, the change in occupational structure is very important indicator of the economic development of any country or a region.

In the modern time, women are playing a significant role like men towards the betterment of society as well as in the development in any region. However, work participation rate of female workers in rural Punjab-Haryana Plain is about one third (17.48 %) as compared to the rural male workers i.e. 52.54 per cent in 2011. The authors find out that number of scholars from different field have carried out many studies about relationship between male and female from time to time, like Gulati (1975), Siddiqui (1975), Nayyar (1987), Ramotra (1989), Sharma and Ogale (2003), Hussain and Ali (2009), Butool (2010), Purushotam (2011), Mainuddian (2012), Bala and Chamar (2018) etc. In the present study an attempt has been made to analyze the changing pattern of relationship between male and female of rural workers at tehsil level in the Punjab-Haryana Plain during the period of 2001 to 2011.

Objective of the study

The main objective of the present study is to analyze the changing pattern of relationship between male and female of rural workers at tehsil level in Punjab-Haryana Plain during the period of 2001 to 2011.

Study Area

The Punjab-Haryana Plain is one of the agriculturally advanced regions of India. Geographically, it is situated in the north-western part of India. It stretches from 27 39' N to 32 30' North latitudes and from 73 51' E to 77 36' East longitudes. The study area consists of 41 districts, 151 tehsils and 19423 included 612 un-inhabited villages as per census 2011. The tehsils have the census code numbers from 200 to 276 of Punjab state and 356 to 429 of Haryana state (Fig.1). The rural workers of Punjab-Haryana Plain is 121.82 lakhs (35.99 %) out of which male workers constitutes 93.88 lakhs (77.06 %) and female workers 27.94 lakhs (22.94 %) as per 2011 census.

Data Source and Research Methodology

The tehsil-wise census data of 2001 and 2011 has been used. The number of tehsils in 2001 was 139 which increased to 151 tehsils in 2011. The number of villages has been decreased from 19628 to 19423 during the period 2001 to 2011. So the tehsils boundaries of 2001 have been rearranged according to the tehsil boundaries of 2011. Further all the villages have also been rearranged on the basis of tehsil boundaries of 2011. The tehsil wise rural workers, male workers and female workers have been calculated in per cent in proportion to rural population, rural male and female population.

Karl Pearson's coefficient of correlation (r) method has been used to analyze the change in relationship between male and female among rural workers at tehsil level in the Punjab-Haryana Plain during the period of 2001 to 2011. The values of correlation coefficient (r) varies from minus 0.01 to minus 0.99 (negative relationship) and 0.01 to 0.99 (positive relationship). The value of 1 (one) and 0 (zero) shows the perfect and no correlation between male and female respectively (Gupta, 2003).

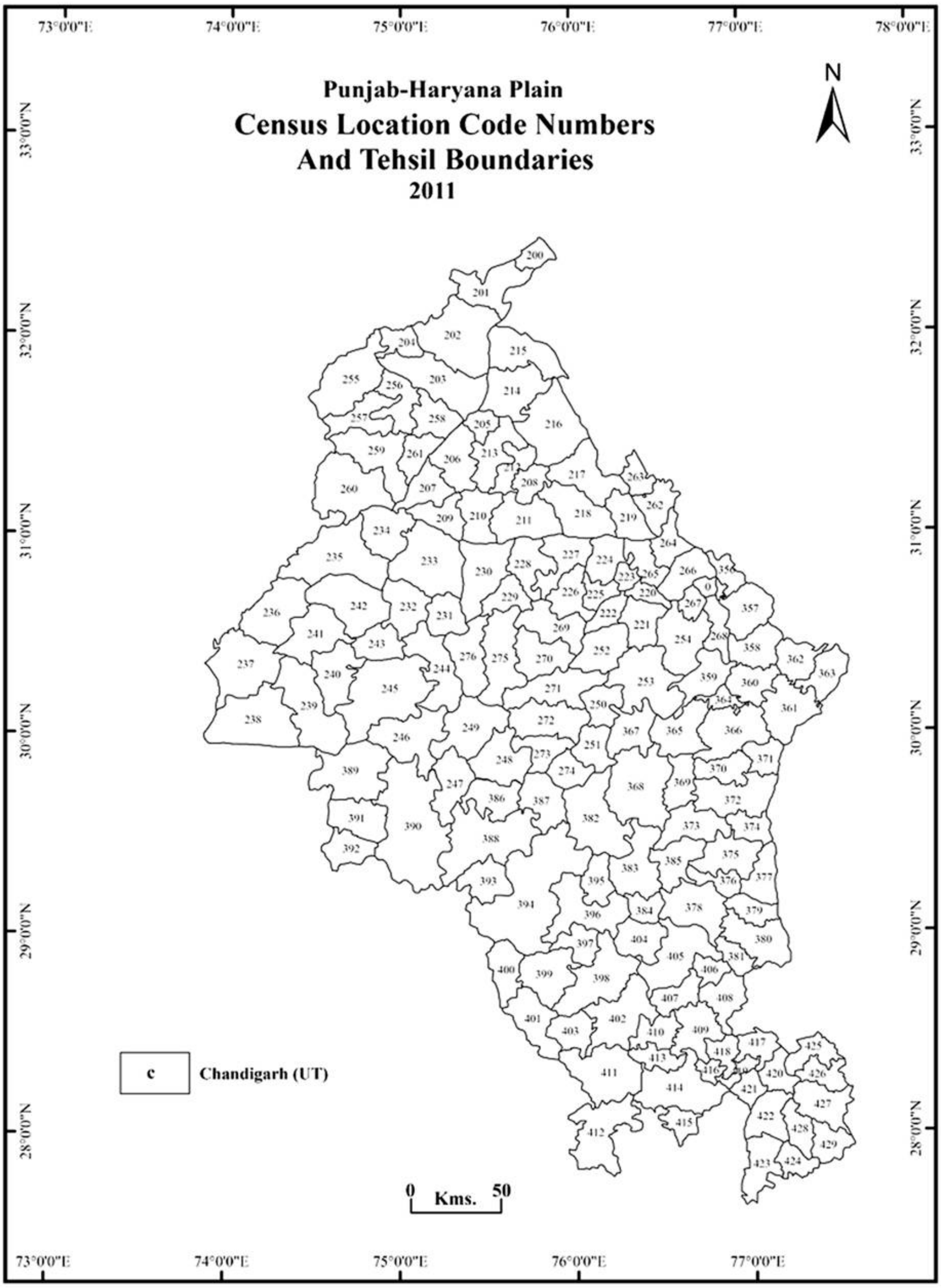
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Fig.1

Result and Discussion

Change in Rural Work Participation Rate

The rural work participation rate has been significantly decreased from 41.53 per cent in 2001 to 35.99 per cent in 2011. The highest positive change is observed in Mansa tehsil of Punjab (3.11 %) while the highest negative change is found in Hodal tehsil of Haryana (minus 19.80 %). The positive change in rural work participation rate is recorded in 18 tehsils which covers about 12 per cent of total tehsils, and found in the scattered form from east to west in study area. On the other hand, the rest of the tehsils (88 %) have recorded negative change (Table 1).

Table 1
Punjab-Haryana Plain
Change in Rural Workers, 2001-2011

Change in Rural Work Participation Rate (Per cent)	No. of Tehsils	Tehsils (Per cent)	Remarks
0.01 and Above	18	11.92	Positive Change
-0.01 to -5.00	58	38.41	Low Negative Change
-5.01 to -10.00	46	30.46	Moderate Negative Change
-10.01 to -15.00	26	17.22	High Negative Change
-15.01 and Below	03	01.97	Very High Negative Change
Punjab - Haryana Plain	151	100.0	Average (Minus 5.54 %)

Source: Census of India, 2001 and 2011. Compiled by Authors.

The category of low negative change is recorded in nearly two-fifth of tehsils and confined to northern, eastern and some large patches in south-western parts of the study area. The moderate negative change is occupied by 46 tehsils, mostly situated in the southern parts of the study area. The categories of very high and high negative change are occupied by about one-fifth of tehsils, mostly confined to central part and some small patches in eastern parts of the study area (Fig.2). The variation in the topographical conditions, increase in urban area, decentralization of joint families in rural areas, fairly educational and transportation facilities and better employment opportunities in the urban areas are the probably important reasons to decrease the rural work participation rate during the period 2001 to 2011 in Punjab-Haryana Plain.

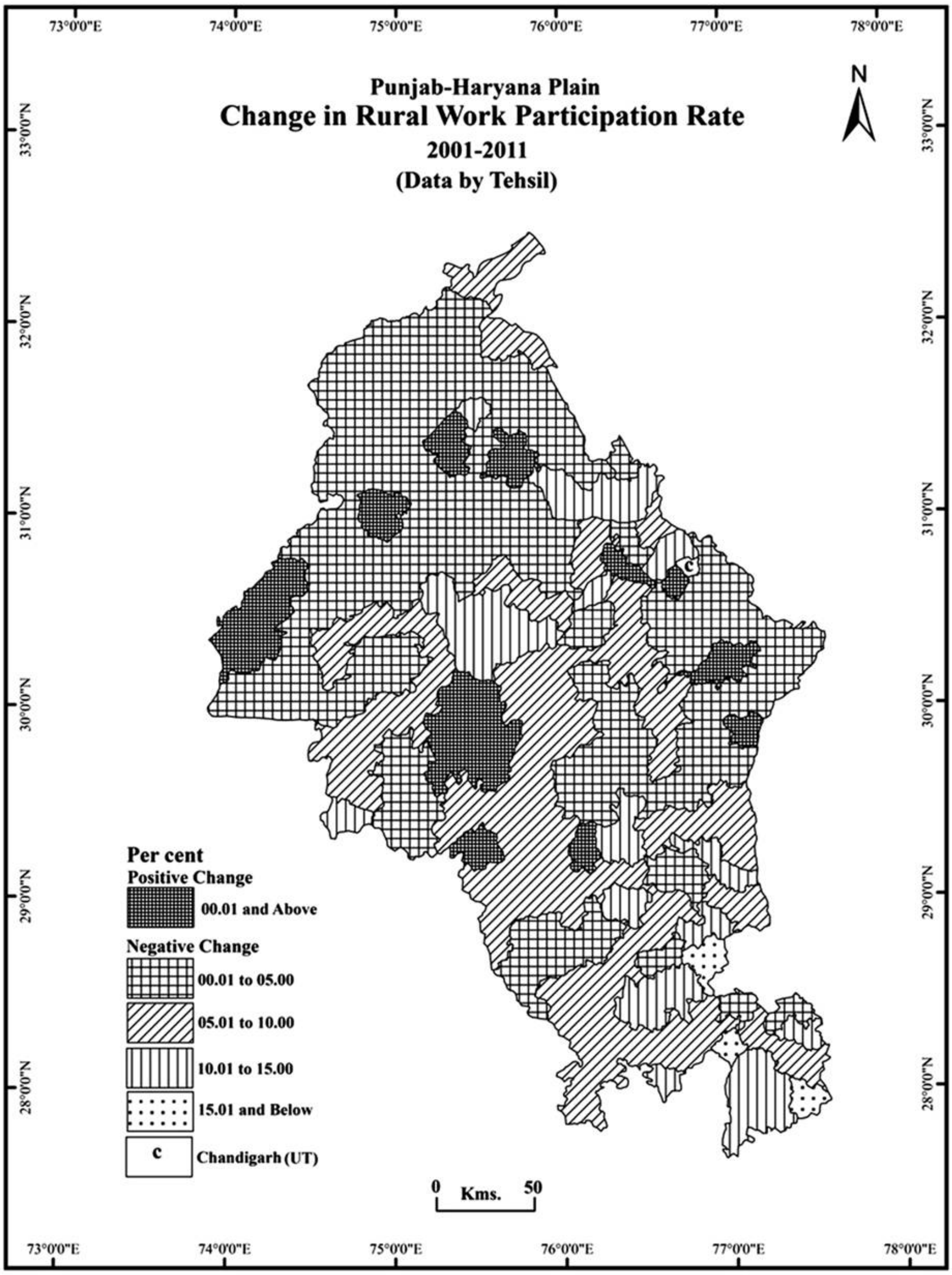


Fig.2

Change in Rural Male Work Participation Rate

The rural male work participation rate has been gradually increased from 52.35 per cent to

52.54 per cent during the period of 2001 to 2011. It is noted that the positive change has been found in three-fifth tehsils, while negative change is observed in two-fifth of the total tehsils (Table 2). The highest positive change is recorded in Talwandi Sabo tehsil of Punjab (5.85 %). The high positive change in rural male work participation rate has been recorded in 10 tehsils, situated in the form of small patches in whole of the study area. The category of moderate change is occupied by 35 tehsils, mostly confined to north-western and some patches in eastern parts of the study area (Fig.3). The low change has been recorded in 46 tehsils spread over the study area in patches

Table 2
Punjab-Haryana Plain
Change in Rural Male Workers, 2001-2011.

Change in Rural Male Work Participation Rate (Per cent)	No. of Tehsils	Tehsils (Per cent)	Remarks
3.01 and Above	10	06.62	High Positive Change
1.51 to 3.00	35	23.18	Moderate Positive Change
0.01 to 1.50	46	30.46	Low Positive Change
-0.01 to -1.50	30	19.87	Low Negative Change
-1.51 to -3.00	15	09.93	Moderate Negative Change
-3.01 and Below	15	09.93	High Negative Change
Punjab - Haryana Plain	151	100.0	Average (0.19 %)

Source: Census of India, 2001 and 2011. Compiled by Authors.

On the other hand, the highest decline is found in Hodal tehsil of Haryana (minus 7.84 %). The low negative change has been recorded in about one-fifth of the total tehsils and confined to central, eastern and southern parts in patches. The moderately negative change is recorded in about 10 per cent of the tehsils of the study area. The high negative change is also observed in 15 tehsils and situated in northern, southern and western parts of the study area.

Change in Rural Female Work Participation Rate

Punjab-Haryana Plain witnessed a steep decline in the rural female work participation rate by the value of minus 10.94 per cent, from 28.42 per cent to 17.48 per cent during the period 2001 to 2011. Although, only eight (5.30 %) tehsils such as Mansa, Kapurthala, Bassi Pathana, Khamanon, Phagwara, SAS Nagar (Mohali), Sardulgarh and Zira of Punjab have recorded positive change. The highest positive change in female work participation rate is recorded in Mansa, while lowest positive change is observed in Zira tehsils of Punjab state. About 95 per cent tehsils have recorded negative change in rural female work participation rate. The highest negative change is found in Hodal (-33.46 %) tehsil of Haryana state while lowest negative change is observed in Jalandhar-I (-0.07 %) tehsil of Punjab state. The categories of very low and low negative change are observed in more than half of the total tehsils and spread in whole of the study area. The moderate negative change is recorded in about one-fifth of tehsils and situated in central, eastern and southern parts of the study area. The categories of very high and high negative change are found in about one-fourth of the tehsils (Table 3) and located in central and southern parts of the study area.

Table 3
Punjab- Haryana Plain
Change in Rural Female Workers, 2001-2011.

Change in Rural Female Work Participation Rate (%)	No. of Tehsils	Tehsils (Per cent)	Remarks
0.01and Above	08	05.30	Positive Change
-0.01 to -6.00	33	21.85	Very Low Negative Change
-6.01 to -12.00	45	29.80	Low Negative Change
-12.01 to -18.00	28	18.54	Moderate Negative Change
-18.01 to -24.00	21	13.91	High Negative Change
-24.01 and Below	16	10.60	Very High Negative Change
Punjab- Haryana Plain	151	100.0	Average (Minus 10.94 %)

Source: Census of India, 2001 and 2011. Compiled by Authors.

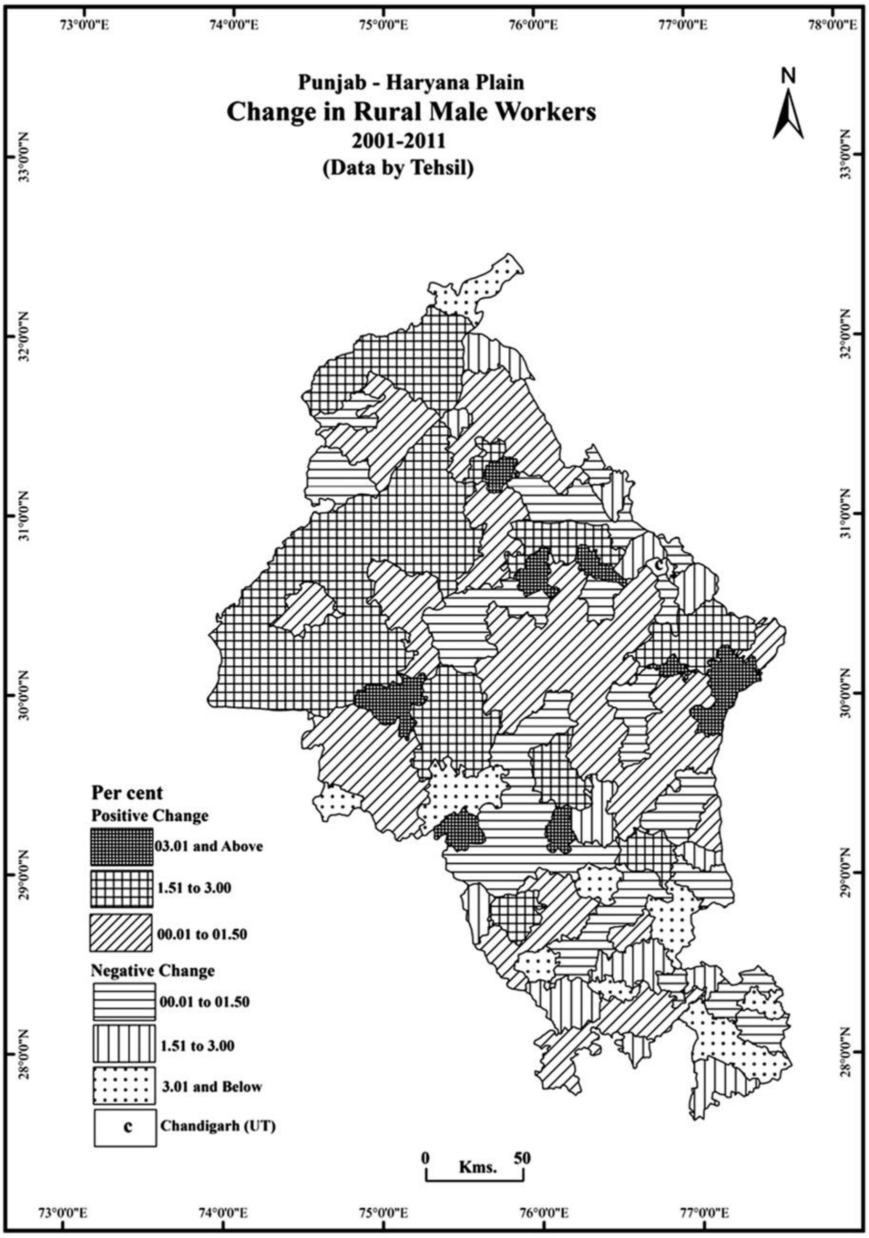


Fig.3

Change in Relationship between Male and Female of Rural Workers

The relationship between male and female of rural workers was weak in both the decades (r = 0.273 in 2001 and r = 0.257 in 2011) in the Punjab-Haryana Plain. It is recorded that the correlation between male and female of rural workers in 2001 ranging from r = 0.895 in Julana tehsil to r = -0.083 in Panipat tehsil of Haryana, while in 2011 it varies from 0.783 in Kharkhoda to r = -0.173 in Gurgaon of Haryana. The change in relationship has also been classified into 19 sub-categories including positive, negative and no change (Table 4) and shown in the map (Fig.5). It is noted that more than two-fifth tehsils (68), including 36 of Punjab and 32 of Haryana have recorded positive change among rural workers. Most of these tehsils are found in large and continuous patches from eastern to western parts in the study area. The highest positive change is found in Panipat tehsil ($r = 0.56$) and followed by SAS Nagar, Adampur, Khamanon, Nabha, Mansa, Dera Baba Nanak, Guhla and Nilokheri etc.

It may be noted that in the broad category of positive change, out of 68 tehsils, 44 tehsils have changed their sub-categories during the period 2001 to 2011 in Punjab-Haryana Plain. The maximum positive change is recorded by 23 tehsils and these tehsils have shifted from sub-category of low (±0.21 to ±0.40) to moderate (±0.41 to ±0.70) and followed by 15 tehsils from very low (±0.01 to ±0.20) to low (±0.21 to ±0.40); by five tehsils from very low (±0.01 to ±0.20) to moderate (±0.41 to ±0.70) and by one tehsil namely Adampur of Haryana from low (±0.21 to ±0.40) to high (±0.71 to ±0.90) sub-categories. Rest of the 24 tehsils have not changed their sub-category and remained in the same sub-category like very low to very low; low to low; moderate to moderate; high to high.

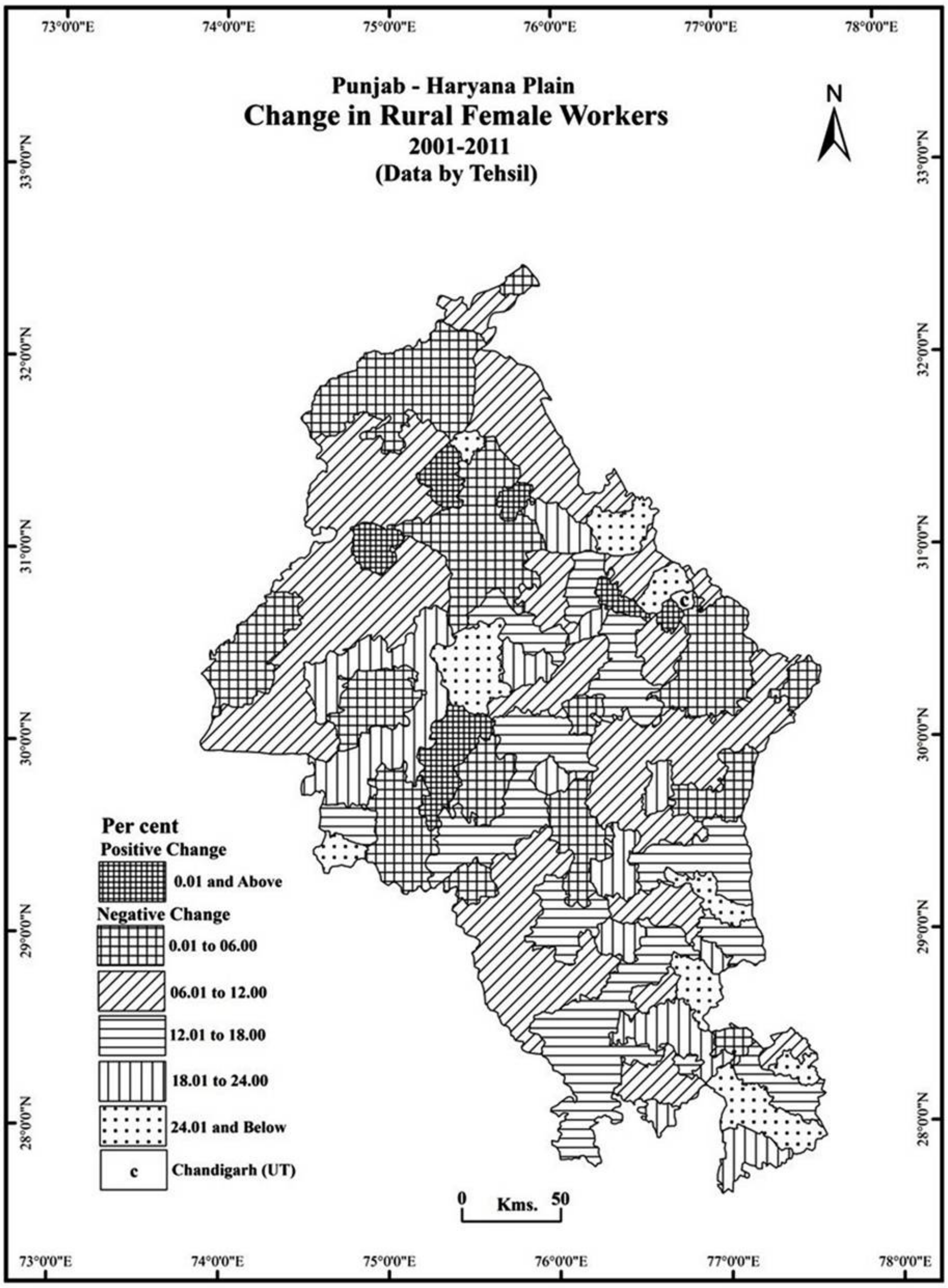


Fig. 4

On the other hand, it is observed that more than half of the total tehsils (39 of Punjab and 42 of Haryana) have recorded negative change, mostly found in large and continuous patches from northern to southern parts of the study area (See Fig.5). It is noticed that in the larger category of negative change, out of 81 tehsils, 45 tehsils have changed their sub-categories during the period 2001 to 2011. The maximum negative change is recorded by 22 tehsils and these tehsils have shifted from moderate (±0.41 to ±0.70) to low (±0.21 to ±0.40) sub-category. It is followed by 10 tehsils from low (±0.21 to ±0.40) to very low (±0.01 to ±0.20); by seven tehsils from high (±0.71 to ±0.90) to moderate (±0.41 to ±0.70); by three tehsils from moderate (±0.41 to ±0.70) to very low (±0.01 to ±0.20); by two tehsils from high (±0.71 to ±0.90) to low (±0.21 to ±0.40) and only one tehsil namely Kosli of Haryana from high (±0.71 to ±0.90) to very low (±0.01 to ±0.20) sub-categories. Rest of the 36 tehsils have not changed their sub-category and remained in the same sub-category as in the case of positive change.

It is also observed that only two tehsils like Firozpur and Gidderbaha of Punjab have recorded no change in relationship between male and female of rural workers during the period 2001 to 2011 in Punjab-Haryana Plain. Finally, it is also found that about two-fifth of the total tehsils have not changed their sub-category in positive and negative during the period 2001-2011 in Punjab-Haryana Plain (Fig.6).

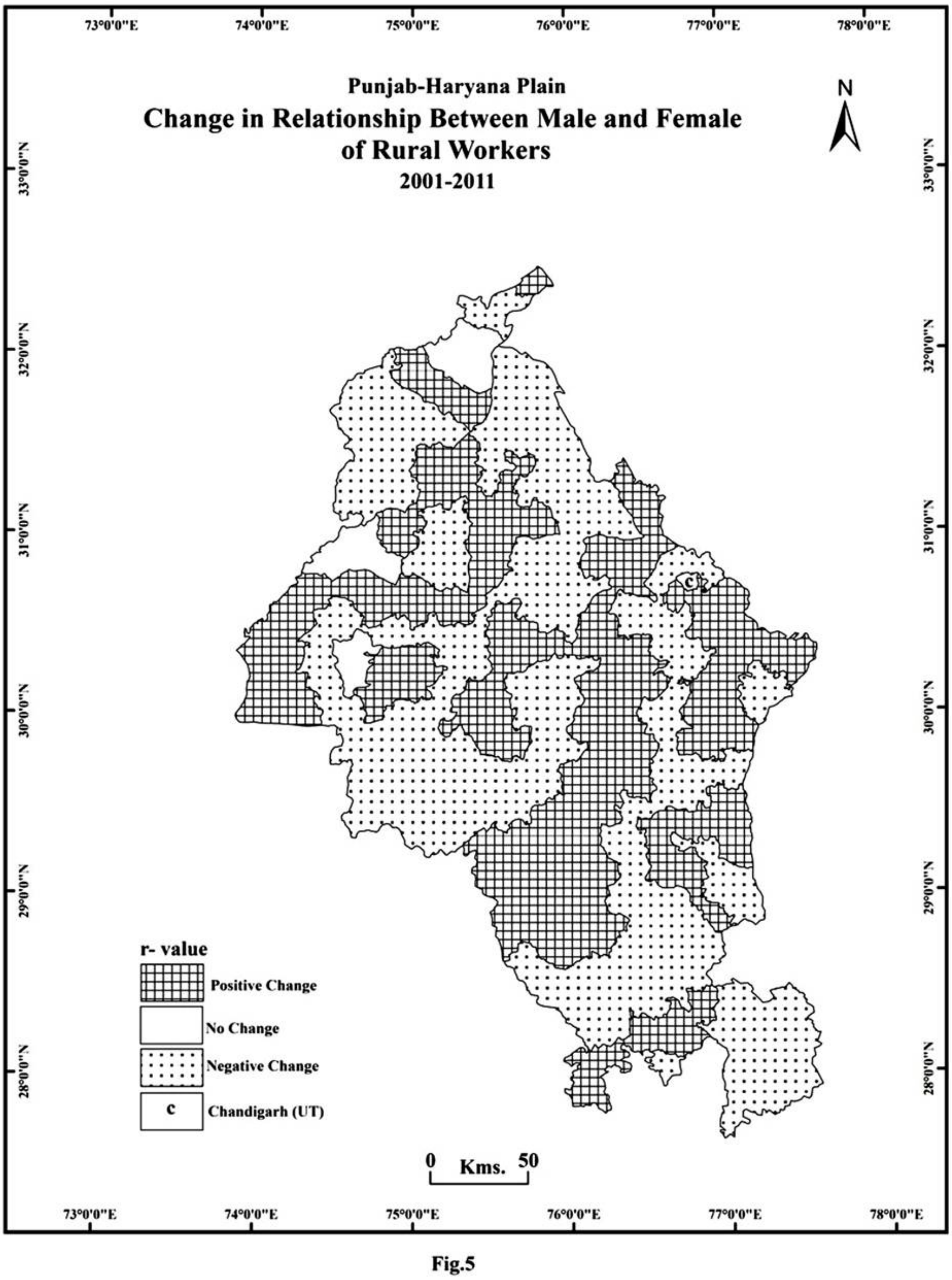
Conclusions

It is concluded that rural work participation rate of Punjab-Haryana Plain has decreased from 41.53 per cent to 35.99 per cent. Rural male workers have slightly increased by 0.19 per cent and rural female workers have decreased by about minus 11 per cent during the period 2001 to 2011. Further, the relationship between male and female of rural workers was weak in both the decade (2001 and 2011) in the study area. The study reveals that more than two-fifth tehsils have recorded positive change while more than half of the total tehsils have recorded negative change among rural workers during the period 2001 to 2011. It is also observed that only two tehsils like Firozpur and Gidderbaha of Punjab have recorded no change in relationship between male and female of rural workers during the period 2001 to 2011 in Punjab-Haryana Plain. Besides variation in the topographical conditions, increase in urban area, decentralization of joint families in rural areas, fairly educational and transportation facilities and better employment opportunities in the urban areas are the probably important reasons to decrease the rural working force during the period 2001 to 2011 in Punjab-Haryana Plain.

Table 4
Punjab-Haryana Plain
Change in Relationship between Male and Female of Rural Workers, 2001-2011.

Sr. No.	Sub-Category of Change	Tehsils Census Code Number	No. of Tehsils
Positive Change (2001-2011)			
1.	**Very Low to Very Low** (±0.01 to ±0.20) to (±0.01 to ±0.20)	212, 363.	02
2.	**Very Low to Low** (±0.01 to ±0.20) to (±0.21 to ±0.40)	206, 207, 211, 220, 223, 230, 236, 237, 274, 275, 358, 360, 362, 367, 368.	15
3.	**Very Low to Moderate** (±0.01 to ±0.20) to (±0.41 to ±0.70)	204, 252, 267, 366, 375.	05
4.	**Low to Low** (±0.21 to ±0.40) to (±0.21 to ±0.40)	202, 210, 242, 253, 268, 371.	06
5.	**Low to Moderate** (±0.21 to ±0.40) to (±0.41 to ±0.70)	203, 222, 224, 232, 234, 238, 245, 248, 249, 261, 263, 264, 265, 357, 370, 380, 382, 384, 385, 394, 397, 405, 415.	23
6.	**Low to High** (±0.21 to ±0.40) to (±0.71 to ±0.90)	393	01
7.	**Moderate to Moderate** (±0.41 to ±0.70) to (±0.41 to ±0.70)	200, 231, 250, 251, 364, 374, 378, 395, 398, 399, 412, 414, 416, 418.	14
8.	**High to High** (±0.71 to ±0.90) to (±0.71 to ±0.90)	381, 396	02
Total Tehsils			**68 (45.03 %)**
Negative Change (2001-2011)			
1.	**Very Low to Very Low** (±0.01 to ±0.20) to (±0.01 to ±0.20)	208, 209, 241, 373.	04
2.	**Low to Very Low** (±0.21 to ±0.40) to (±0.01 to ±0.20)	201, 213, 239, 244, 273, 276, 359, 409, 417, 419.	10
3.	**Low to Low** (±0.21 to ±0.40) to (±0.21 to ±0.40)	205, 216, 227, 255, 256, 262, 269, 271, 272, 361, 365, 372, 386, 390, 421, 427.	16
4.	**Moderate to Very Low** (±0.41 to ±0.70) to (±0.01 to ±0.20)	221, 247, 389.	03
5.	**Moderate to Low** (±0.41 to ±0.70) to (±0.21 to ±0.40)	214, 215, 217, 218, 219, 225, 228, 229, 233, 246, 254, 257, 258, 259, 260, 266, 369, 387, 420, 422, 426, 429.	22
6.	**Moderate to Moderate** (±0.41 to ±0.70) to (±0.41 to ±0.70)	226, 243, 270, 356, 377, 383, 391, 401, 400, 407, 423, 424, 425, 428.	14
7.	**High to Very Low** (±0.71 to ±0.90) to (±0.01 to ±0.20)	413.	01
8.	**High to Low** (±0.71 to ±0.90) to (±0.21 to ±0.40)	379, 410.	02
9.	**High to Moderate** (±0.71 to ±0.90) to (±0.41 to ±0.70)	376,388, 392, 402, 404, 406, 411.	07
10.	**High to High** (±0.71 to ±0.90) to (±0.71 to ±0.90)	403, 408.	02
Total Tehsils			**81 (53.64 %)**
1.	**No Change**	235, 240.	02 (1.33 %)
Total Number of Tehsils			151 (100 %)

Source: Census of India 2001 and 2011. Compiled by Authors.



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Punjab-Haryana Plain
Change in Relationship Between Male and Female
of Rural Workers
2001-2011
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32°0'0"N
31°0'0"N
30°0'0"N
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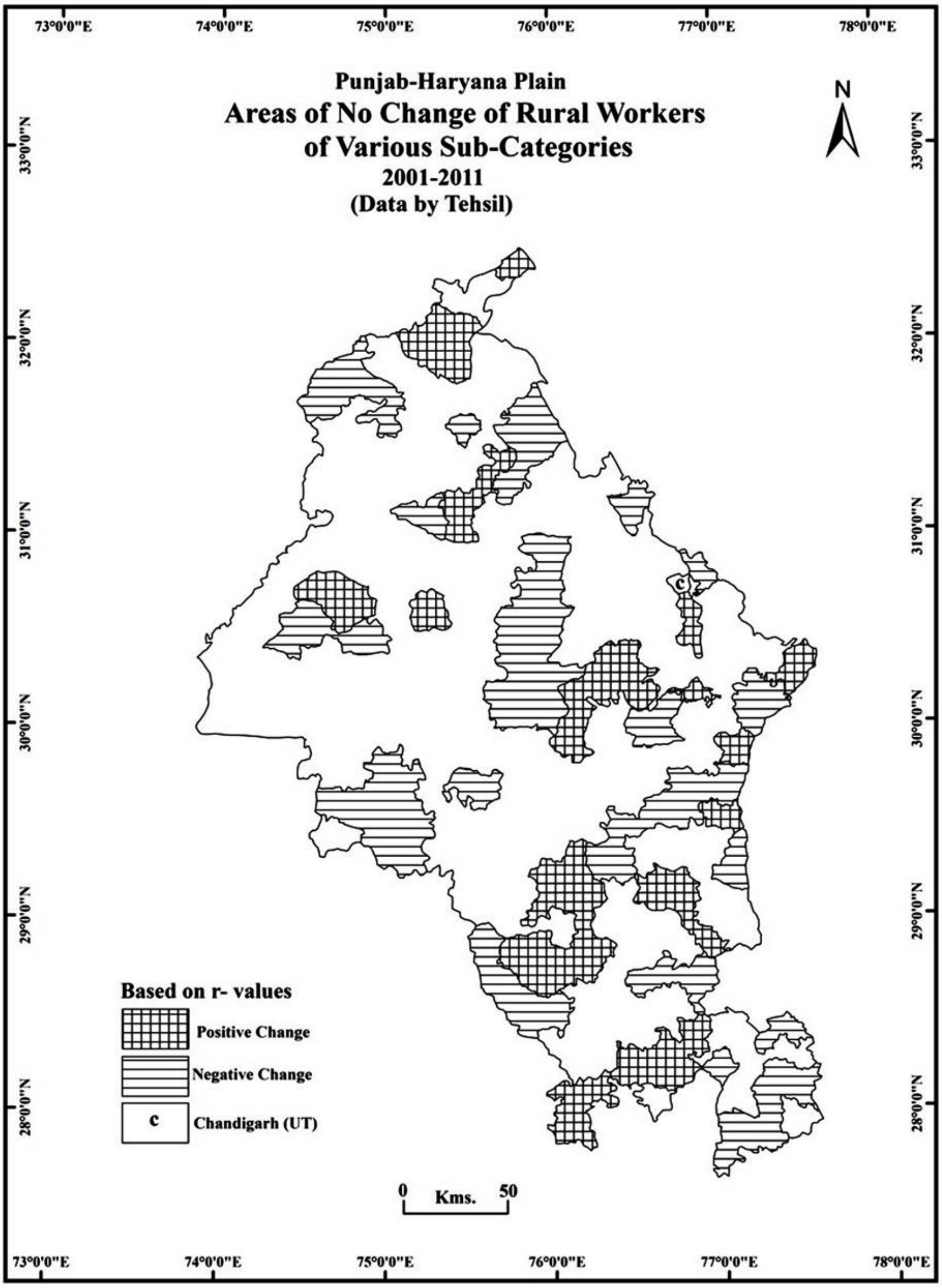
Fig.5



Source: Table-4

Fig.6

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Article

Employee Retention: A Study of Indian Central Armed Police Force

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Abstract

Retention is the process through which the members of organization remain active with it. Retention should not be seen as any particular formal process. Instead it is about maintaining a cordial work environment, keeping member morale high and ensuring a healthy organizational process. The major objective of this research paper is to explain the measures that are adopted by CAPFs to retain their employees. To achieve this objective descriptive research design has been adopted in this study. The data are collected through primary sources. To know the important components for retention of employees, descriptive method is used. The analysis of collected data is done with the help of MS EXCEL, SPSS 21.0 (Statistical Package for Social Science, version 21.0). It is concluded that "Wards get concessional benefits of getting job in the same organization" and "Working Environment" have highest mean value so these factors are most important to influence the employee retention. While grievance handling system is considered as least important factor to retain employees in CAPFs because it has least mean value. It is also concluded that employee retention is positively related with job satisfaction while negative related with employees turnover. Central Armed Police Force should consider these factors for retaining their employees.

Keywords: Employee Retention, Central Armed Police Forces, Job Satisfaction, Employees.

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Introduction

Employee retention is defined as "An organized effort by employers to create and promote an environment that encourages current employees to remain employed with their various needs". Employee retention indicates those principles, methods and practices that an organization follows to manage its employees to remain in the organization for a lengthy time period. It requires administrative and financial expenses like recruitment, training and money to enable a new recruit to learn the work so that he can work along with the existing employees of the organization. If the trained employee quits an organization, then it is the loss of those administrative and financial resources to the organization. Therefore, the organization takes different measures to ensure that the employees stay in the organization for maximum time period. The employers have a tough task to keep the employees intact in the organization. Losing the trained employees always meant losing the workforce and their skills, experience and knowledge. If an organization looses a worker who has good skills and knowledge, it impacts its revenue that the leaving employees would have earned for the organization. Losing an experienced employee also leads to extra efforts and money to enable the new employee to bring him to the level of beneficial productivity. Experience is the intangible asset for an organization that rely on it a great deal. Retention is the process through which the members of organization remain active with it. Retention should not be seen as any particular formal process. Instead it is about maintaining a cordial work environment, keeping member morale high and ensuring a healthy organizational process. Employee retention is related to following such policies and work ethics in the organization that the useful and valuable employees don't quit the organization. In reality it is underestimated by many employers for the costs related with turnover of key employees. Employing people those having potential and talent, in the organization is necessary for an organization. However, retaining that talent is all the more necessary for the employer. Due to the problem of employee turnover, it has become an important task to retain the employees. Here there are three major pillars that can help in retaining the employees for longer time in the organization. These are: Respect, Recognition and Reward and are called 3 R's. Respect stands for respecting someone is as important as to water the plants. If due respect is given to a person, he performs his work diligently, feel satisfied with the job and thus stays in the organization for a longer time. Recognition means giving special attention to the employee is and very important to motivate an employee and to lift his morale. If the employees are not recognized for their work, they get demotivated. In such a situation there motto to do the job is only to earn money to meet their needs. Whenever, they find a new job opportunity where they get more remuneration, they quit the job. The employees find motivation and a sense of pride when their work and ideas are respected. They consider themselves as a part of the organization. Reward helps the employees to remain happy at workplace. They do their work sincerely and passionately if they consider themselves as an important part of the organization. If the organization keeps small bonus systems in their policy and procedure manual, this plays an important role in retaining the employees. If these three pillars are present in an organization then the employees can be retained for a longer period.

Further, in the recent past years, employees of paramilitary forces and military forces were leaving their services prematurely. According to the report of Home Ministry, Government of India more than 81000 employees of various cadres of paramilitary forces have gone for voluntary retirement and more than 16000 employees have resigned from their job in previous one decade and this trend is continuously increasing. Since, the employees of Central Armed Police Forces (CAPF) are engaged in the safety and security of the people of our country by sacrificing their own comforts, hence, it is imperative to know the factors that influence employee's turnover and how to retain them in the CAPFs. Earlier the term paramilitary force was used for eight forces viz Assam Rifles(AR), Special Frontier Force(SFF), Indian Coast Guard(ICG), Central Reserve Police Force(CRPF), Border Security Force(BSF), Indo Tibetan Border Police(ITBP), Central Industrial Security Force(CISF), Sashastra Seema Bal(SSB). But from March 2011, they have been regrouped into two classes such as Paramilitary Forces and Central Armed Police Force (CAPF). AR, SFF and ICG come under paramilitary force which are managed by Ministry of Home Affairs and headed by Ministry of Defence. Whereas CRPF, ITBP, SSB, BSF and CISF come under Central Armed Police Force which is managed and headed by Ministry of Home Affairs.

Objectives of the Study

The prime objective of the research study is to find the measures that are adopted by the Central Armed Police Forces to retain their employees and to show the relationship between employee retention and its factors.

Research Methodology

Descriptive research design has been adopted in this study. The population of the study includes all the employees of CAPFs. Total numbers of employees working in different forces are (8,54,357) i.e. CRPF (3,01,041), ITBP(83,641), SSB(80,285), BSF (2,46,554) and CISF(1,42,836). The employees are classified into two categories i.e. Officers and Jawans.

1. Officer category: All the gazette officers are included in officer category e.g. Inspector General, Commandant, Assistant Commandant etc.

2. Jawans category: All ranks from constable to inspectors are included in jawans category.

Data are collected from 480 respondents during year 2021 from sampled area that included CAPFs employees (Jawans and Officers) posted/ residing in NCR on judgmental basis and who have expressed willingness to participate. This sample area is selected due to establishment of headquarter of these forces in New Delhi. This area covers mostly districts of Haryana and more people are working in CAPFs in Haryana. Respondents are taken on proportionate method from each force i.e.165 employees from CRPF, 45 employees from ITBP, 50 employees from SSB, 135 employees from BSF and 85 employees from CISF personnel. 5 employees of officer category are selected from each force such as CRPF, ITBP, SSB, BSF and CISF. Data are collected through semi structured questionnaire that included 15 statements to the factors that are important to retain employees in the organization such as job security, training and development opportunities, welfare measures, working environment, fringe benefits , reward and recognition etc. Statements are rated on five point Likert Scale 1-5, where 3 comes for neutral,1 comes for Not at all Important, 2 comes for Not Important, 4 comes for Important and 5 comes for Very Important. The analysis of data is done with the help of SPSS 21.0 (Statistical Package for Social Science). Cronbach's alpha is calculated to check the reliability of the scale (.857). Percentage Analysis, Mean and Karl Pearson Correlation Coefficient are used to analysis the data.

Data Analysis and Interpretation

To attain the objective, percentage method and mean is used to dissect most important variables for retaining employees in the organization. In the questionnaire, fifteen variables are taken which are related to retaining employees. With the help of mean and percentage analysis, opinions of the employees about these variables have been projected in the following tables.

Table No 4.1 Factors Influencing Employees to Remain in Organization Based on Five Forces

Factors of Employee Retention	NAME OF ORGANIZATON					
	CRPF	ITBP	SSB	BSF	CISF	Total
Job Security	3.32	3.22	3.35	3.28	3.71	3.39
Promotion opportunities	3.23	3.11	3.36	3.10	3.77	3.32
Welfare Measures	3.20	3.65	3.64	3.24	3.85	3.45
Working Environment	3.46	3.40	3.62	3.38	4.11	3.60
Job Rotation and New Assignments	3.30	2.91	3.29	3.19	4.10	3.40
Grievances	3.14	2.82	3.33	3.18	3.80	3.28
Transfer opportunities with promotion	3.19	3.65	3.62	3.43	3.83	3.49
Management supports for higher education	3.34	3.69	3.69	3.22	4.12	3.56
Training and development programmes	3.41	3.27	3.38	3.23	4.13	3.50
Rewards and recognition	3.12	3.62	3.84	3.28	3.84	3.46
Fringe benefits	3.33	3.35	3.65	3.08	4.11	3.48
Participative decision- making	3.21	3.18	3.49	3.20	4.05	3.42
Rational behavior of seniors	3.28	3.20	3.33	3.23	3.90	3.40
Emoluments are-at par with other central government employees	3.34	3.45	3.71	3.33	3.88	3.51
Wards get concessional benefits of getting job in the same organization.	3.27	3.53	3.71	3.50	4.13	3.60

(Sources: Researcher Calculation through SPSS)

Interpretation: From the table no 4.1 It is revealed that the mean value of all employee retention factors is greater than 3. So it can be concluded that all factors have importance to retain the employee in the organization. "Wards get concessional benefits of getting job in the same organization" and "Working Environment" have highest mean value so these factors are most important to influence the employee retention. While grievance handling system is considered as least important factor to retain employees in CAPFs because it has least mean value. It is concluded that Central Armed Police Force should considered these factors for retaining the employees in the organization.

From the above table it is found that organization, "Working Environment" (3.46) and "Training and Development Programmes" (3.41) factors are most important to retain the employees in CRPF. In ITBP organization, "Management supports for higher education" (3.69), "Welfare Measures" (3.65) and "Transfer opportunities with promotion" (3.65) factors are most important to retain the employees. In SSB organization, "Reward and Recognition"(3.84) and "Management supports for higher education"(3.65) are found most important factors, In the BSF organization, "Wards get concessional benefits of getting job in the same organization"(3.50) and "Transfer opportunities with promotion" (3.43) factors are most important and In CISF, the factors "Wards get concessional benefits of getting job in the same organization" (4.13), "Training and development programmes"(4.13), "Management supports for higher education"(4.12), "Working Environment"(4.11), "Fringe benefits"(4.11), "Job Rotation and New Assignments"(4.10) and "Participative decision-making"(4.05), are most important to retain employees. "Grievances Handling System" has least mean value in all forces so it is less important factor to retain employees in CAPFs.

Table No 4.2 Percentage analysis of Retention Factors

Attributes/opinion	Not at all importa nt.(%)	Not importa nt (%)	Neutr al (%)	Importa nt (%)	Very importa nt (%)	Tot al (%)
Job Security	12.3	14.4	19.8	29.6	24	100
Promotion opportunities	20.2	9.8	15.6	26.7	27.7	100
Welfare Measures	15.4	10.8	15.2	30.3	28.5	100
Working Environment	11.5	8.1	16.5	37.3	26.7	100
Job Rotation and New Assignments	16.9	10.0	14.4	33.5	25.2	100
Grievances	22.9	9.6	13.8	24.5	29.6	100
Transfer opportunities with promotion	15.4	7.3	16.5	34.4	26.5	100
Management supports for higher education	13.8	6.5	16.5	36.5	26.7	100
Training and development programmes	12.5	10.6	19.8	28.3	28.8	100
Rewards and recognition	14.6	10.2	21.5	22.5	31.2	100
Fringe benefits	14.8	7.5	23.8	22.9	31.0	100
Participative decision- making	11.9	15.8	19.4	24.2	28.8	100
Rational behavior of seniors	12.3	18.8	16.7	21.3	31.0	100
Emoluments are-at par with other central government employees	12.5	10.4	20.2	27.5	29.4	100
Wards get concessional benefits of getting job in the same organization.	12.7	4.2	25.4	26.7	31.0	100

(Sources: Researcher Calculation through SPSS)

Interpretation: From the table no. 4.2 it is revealed that Reward and Recognition system in organization, Fringe Benefits, Rational behavior of seniors and concessional benefits in getting job of wards in the same organization are the most important components to increase retention of employees in the organization. It is found that, most of the respondents feel that Welfare Measures, Grievance handling scheme, training and Development programmes and participative decision making policies are helpful to retain them in the organization. It is observed that job security and emoluments at par with other central government employees also motivate employees to retain them in the organization. According the overall analysis, most of the employees have accepted the importance of working environment and management supportive behavior of the organization to retain employees.

If they are happy with the organizational culture, they do not think about switching the job.

Table No. 4.3 Showing Correlation among Employee Turnover Factors, Job Satisfaction and Employees Retention

		Working Environment	Job Satisfaction	Welfare Measures	Work Itself	Monetary Benefits	Employees Retention	Employee Turnover
Working Environment	r	1.000						
	Sig.	.						
	N	480						
Job Satisfaction	r	.042	1.000					
	Sig.	.358	.					
	N	480	480					
Welfare Measures	r	.013	.106	1.000				
	Sig.	.774	.021	.				
	N	480	480	480				
Work Itself	r	.058	-.299	-.048	1.000			
	Sig.	.202	.000	.291	.			
	N	480	480	480	480			
Monetary Benefits	r	.521	.098	.127	-.170	1.000		
	Sig.	.000	.032	.005	.000	.		
	N	480	480	480	480	480		
Employees Retention	r	.144	.212	.122	-.063	.339	1.000	
	Sig.	.002	.000	.007	.166	.000	.	
	N	480	480	480	480	480	480	
Employee Turnover	r	.625	-.463	.427	.125	.632	-.335	1.000
	Sig.	.000	.000	.000	.006	.000	.000	.
	N	480	480	480	480	480	480	480

(Sources: Researcher Calculation through SPSS)

To show the relationship of employee retention with its factors, six hypothesis are taken which are followings:

Null Hypothesis 01(H_{01}): There is no significance relationship between employee retention and employee's turnover.

In the table no 4.3 it has been observed that the correlation co-efficient (r) between employee retention and employee turnover is -.335 with sig. value (P) .000. It means that there is negative and moderate degree correlation between employee retention and employee's turnover. The p value is less than .05 which indicates that this correlation is significant. So this null Hypothesis is rejected.

Null Hypothesis 02(H_{02}): There is no significance relationship between working environment and employee retention.

From the table no 4.3 it has been observed that the correlation co-efficient (r) between working environment and employee retention is .144 with sig. value (P) .002. It means that there is positive and low degree correlation between working environment and employee retention. The p value (.002) is less than .05 which indicates that this correlation is significant.

So this null Hypothesis is rejected.

Null Hypothesis 03(H_{03}): There is no significance relationship between job satisfaction and employee retention.

From the table no 4.3 it has been revealed that the correlation co-efficient (r) between job satisfaction and employee retention is .212 with sig. value (P) .000. It means that there is positive and low degree correlation between job satisfaction and employee retention. The p value (.000) is less than .05 which indicates that this correlation is significant. So this null Hypothesis is rejected.

Null Hypothesis 04 (H_{04}): There is no significance relationship between welfare measures and employee retention.

From the table no 4.3 it has been depicted that the correlation co-efficient (r) between welfare measures and employee retention is .122 with sig. value (P) .007. It means that there is positive and low degree correlation between welfare measures and employee retention. The p value (.007) is less than .05 which indicates that this correlation is significant. So the null Hypothesis is rejected.

Null Hypothesis 05(H_{05}): There is no significance relationship between work itself and employee retention.

From the table no 4.3 it has been observed that the correlation co-efficient (r) between work itself and employee retention is -.063 with sig. value (P) .166. It means that there is negative and low degree correlation between work itself and employee retention. The p value (.166) is greater than .05 which indicates that this correlation is not significant. So the null Hypothesis is not rejected.

Null Hypothesis 06 (H_{06}): There is no significance relationship between monetary benefits and employee retention

From the table no 4.3 it has been revealed that the correlation co-efficient (r) between monetary benefits and employee retention is .339 with sig. value (P) .000. It means that there is positive and moderate degree correlation between monetary benefits and employee retention. The p value (.000) is less than .05 which indicates that this correlation is significant. So the null Hypothesis is rejected.

Conclusion

It is concluded that employee retention is positively related with job satisfaction while negative is related with employees turnover. "Wards get concessional benefits of getting job in the same organization" and "Working Environment" have highest mean value so these factors are most important to influence the employee retention rate in the Central

Armed Police Forces. It is suggested that employer should provide healthy working environment and various facilities i.e. residential, medical, pension benefits at par with defense forces, rotational home posting and adequate & timely leave to retain them for long period in the organization.

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Article

Bibliometric Analysis of Talent Management Research: A Co-Citation Analysis

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Abstract

The emergence of talent management has changed the organisation's methods of talent discovery, acquisition, hiring, and employee retention. Organisations have been surrounded by difficulties and challenges in implementing practices and policies regarding talent retention within organisations. As one of the fastest-growing fields of management research, this research heeds the call to identify the most influential journals, authors, universities, countries and most cited papers in talent management research and to present the co-citation analysis of talent management research. To give comprehensive information on academic literature on talent management, the study used bibliometric analysis methodologies. For this purpose, a total of 1371 publications related to talent management between 2001 to 2021 were retrieved from the Scopus database. The result revealed that the most influential journal is the "International Journal of Human Resource Management," and the most collaborated author is "Scullion H." with 36 documents, followed by "Collings D. G." with 25 documents. Furthermore, the most engaged country is the "United Kingdom," which has links with 38 countries. As well as among universities of various countries, the "University of Huddersfield," located in the UK, is at the top with nine publications. "Strategic Talent Management: A Review and Research Agenda" is the most cited paper in talent management research. Additionally, this study identifies the four themes with the help of co-citation analysis that gives an overview of the literature available on talent management. The results of this study may be helpful to other academics and researchers working on similar research questions.

Keywords: Bibliometric analysis, Co-citation analysis, Citation analysis, Talent management, Vos Viewer

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Introduction

The term "war for talent" was first used in academic literature around the end of the 1990s, and since it has been widely explored and discussed. In the modern world, the term "talent management" has taken on a variety of connotations that represent some significant HR advancements. Talent management has been identified as a buzzword that has become a focus of HR managers and recruiting firms alike (Ge & Zhang, 2021). Most researchers describe talent management as a mechanism to attract people, develop and preserve talented staff in the organisation (Buorganisation ahi, 2007). The definition given by (Collings, 2014)is the most popular definition of talent management. He defined talent management as the process of identification of the key positions in the organisation and fill with highly qualified candidates that help in achieving long-term competitive advantages. (Collings, 2014) stated that the key positions and their respective responsibilities should be the first step in the Talent Management process. This strategy requires a pool of talented candidates from which organisations may fill these positions. As a result, recruitment should be accomplished by keeping the demands of the jobs, and it is carried out using a mix of "internal development and external recruiting." The authors underline that firms should seek to promote work engagement, commitment to the organization, and performance among their employees in order to maximise employee talent and prevent turning away talented individuals.

The use of talent management methods has become one of the important issues in human resource management worldwide, particularly concerning respect to talent discovery, acquisition, hiring, and employee retention (Alanazi, 2022). Talent management is not only essential for retaining employees but also helps in increasing productivity, efficiency, and quality of services provided by the employees (Heilmann, 2010). Nowadays, companies concentrate on identifying talented employees and the worth they have created to evaluate their efforts towards the firm. This has resulted in traditional HRM shifting to strategic activity that focuses on managing talented employees to create value and achieve a competitive advantage for enterprises. Talent retention, identification, development, and attraction are the key issues in the talent management of employees in the organisation. So, human resource managers need to tackle these issues to manage the workforce in their organisation (Alanazi, 2022).

A lot of studies had conducted by the previous researcher to elaborate on the concept of talent management, challenges faced by organisations in the implementation of talent management practices as well as the role of talent management at the individual or organisational level. Therefore, the present study intends to know the current status of talent management research.

Review of Literature

The more prevalent view is that the idea of talent management gained widespread acceptance in the late 1990s when a group of McKinsey consultants coined the phrase "the War for Talent" in 1997. Some people attribute the development of talent management to the improved economic climate that followed World War II (Bhatnagar, 2007). The conceptual development of the subject is also highly contentious, reflecting disagreement on the timing of talent management's development. However, a more thorough study identifies at least three major schools of thought on talent management (Heilmann, 2010).

The first, phase of the literature indicates human resource management as talent management that frequently focuses only on particular HR procedures like hiring, succession planning, and leadership development. The second phase of literature focuses on building talent pools, predicting staffing needs, and improving the growth and development of employees. Moreover, the third phase of the literature provided that over the period of time, various researchers were focused on the growth and development of talent management research. Such as, the goal of Polit, n.d. was to help the researchers to position their work more explicitly about current discussions in the literature and to urge them to consider which approach best matches their study objectives, problems, and methods. According to the researcher the authors used content analysis and bibliometrics to analyse the domain and field of talent management which is a phenomenon-driven approach. Although Iles et al. (2010) constructed a research agenda that was based mostly on institutional theory, a number of research problems were formulated by them. Additionally, they concluded that the research on talent management appeared recently, and there was a scarcity of empirical information; it is too early to determine about two of them, but that talent management exhibits aspects of institutionalism in talent management discussion in the professional and business literature.

Furthermore, Baglieri et al. (2019) conducted a bibliometric analysis to look at the interrelationships between talent management and innovation at three separate levels of analysis: person, company, and ecosystem. They identified the unexplored area related to the research on talent management and innovation. According to Barkun et al. (2020), the meaning of "talent" and its related synonyms is considered differently. It is partly determined by the country under consideration, the sector of economic activity, and the characteristics of the labour force under consideration. To achieve the objective of their study, the researcher conducted a bibliometric analysis with the help of VOS viewer; documents were retrieved from Scopus and the web of science database. The study conducted by (Gallardo-Gallardo & Thunnissen, 2016) revealed that the Anglo-Saxon framework significantly influences the research on talent management. Furthermore, the research design and methodology are not very extensive. Comprehensive knowledge of culture in the selected organisation was discovered. The majority of empirical talent management research is based on an exhaustive point of view on talent management. A very few numbers of studies were on hotels and tourism, as well as the absence of strong theoretical foundations that indicated that the area is in its early phases of development, but the quick increases showed exponential interest. Additionally, Pagan-Castano et al. (2022) identified the significance of talent management in relation to the decisions of the firms that are shifting their focus to the human resource as a competitive edge with the help of bibliometric analysis.

After synthesising the literature on talent management research it is found that there is a need for a comprehensive study on talent management that analyses the most influential author, documents and countries in the talent management research that helps in formulating the research question for future research. For this purpose, the aim of this study is to conduct a bibliometric analysis of talent management research to identify the most influential journals, authors, disciplines, universities, and countries in talent management research and to present the underlying connection in talent management research with the help of co-citation analysis.

Need of the Study

Bibliometric is defined as gathering, manipulating, and evaluating quantitative bibliographic data generated from published papers. It comprises broad descriptive statistics (for example, identifying the most productive year of publication, authors, disciplines, journals, universities and so on) as well as more complicated approaches such as co-citation analysis, which is one of the most commonly used bibliometric methods (Appio et al., 2014). bibliometric is based on the concept that any area of study is the outcome of a collective research tradition that may be documented through citations; in other words, citations of a publication signify intellectual ties to specific fields of research (Wu & Wu, 2017).

As a result, by studying these intellectual connections, it is feasible to methodically evaluate interconnections between materials that promote the growth of a particular research subject. The document co-citation analysis is used to explore the data structure by using network theory. This type of map assists researchers in identifying necessary study fields and determining the extent to which they are linked (Hjørland, 2013).

Co-citation analysis occurs when two publications are simultaneously referenced by the third publication. If these two publications are cited more and more, there is a strong connection between them. Accordingly, this study performed a co-citation analysis on the references of the retrieved documents, with the supreme goal of finding key clusters representing the bibliometric outlook of talent management research for the benefit of the researcher or academic

Methodology

The structure and framework of this research are influenced by the methodologies adopted by (Farrukh et al., 2021). However, various researchers (Gao et al., 2021; Leung et al., 2017; Mathushan & Gamage, 2022; Muhuri et al., 2019; Small, 1973) used bibliometric analysis to study the dynamics, trends, and insights. The overview of the methodology is given in Figure 1, consisting of four phases, identifications, screening, analysis, and reporting.

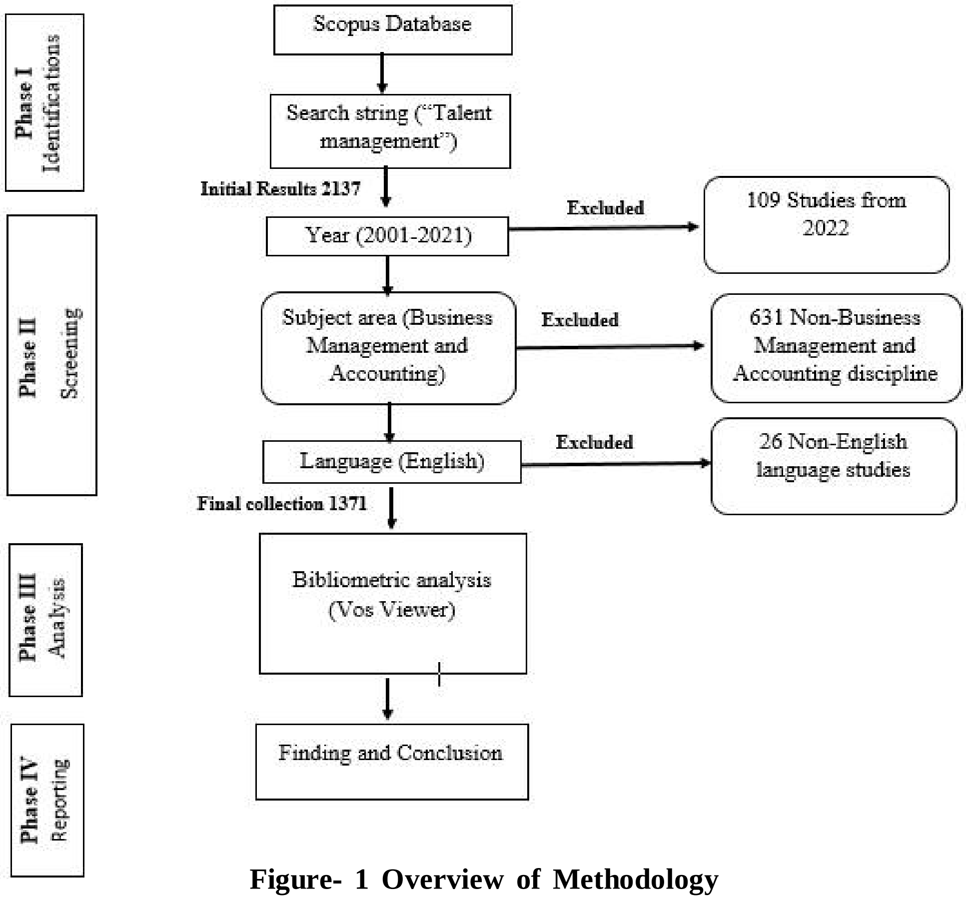

Figure- 1 Overview of Methodology

Data collection

In Scopus, we used a screening procedure to retrieve the related studies. Because Scopus is a database that includes top business management and accounting journals, we can find the most influential research publications, journals, and authors (Farrukh et al., 2021). This study uses the term "Talent management" in the search string. The research on talent management started in 2001, so we extracted the data from 2001 to 2021 as 2022 is a prevailing year and may mislead the findings regarding trends, so the year 2022 has been excluded in this study.

Refinement of the studies

This study is based on the "Business, Management, and Accounting" disciplines; 631 studies are excluded as they are related to the other fields. In addition, during the screening procedure, we included all types of documents in our study related to talent management, such as letters, Retracted, Short surveys, Erratum, Conference reviews, Notes, Editorials, Books, Conference papers, Reviews, Book chapters, and articles. Finally, we included only English language studies consisting of 1371 documents as the majority of the paper are published in this language.

However, in this research, the title and abstract of the retrieved documents are thoroughly studied to remove the studies from the CSV excel file that are not related to the talent management research.

Software

VOS viewer 1.6.18 software is used to analyse the retrieved studies. Vos viewer software is an easier and more effective tool for mapping the intellectual structure or networks than other software (van Eck & Waltman, 2010). VOS viewer produces maps by combining VOS clustering and VOS mapping methods. Moreover, several authors (Farrukh et al., 2021; Leung et al., 2017; Noor et al., 2020) adopted this software in their studies.

Results

Description of the study

To get a basic understanding of the literature, a preliminary examination of the data is helpful (Khalid et al., 2015). Table 1 presents the summary of the literature collected from the Scopus database. Our collection consists of 1371 documents published in 484 journals from the year 2001 to 2021. Additionally, 2288 authors from 108 countries; 2145 institutions participated in talent management research.

Table 1 Overview of literature

Description	Results
Period	2001-2021
Total Documents	1371
Total Sources	484
Total Institutions	2145
Total Authors	2288
Total Countries	108

Figure 2 illustrates the yearly outputs of 1371 publications on talent management. From the year 2003 to 2005, there were only single-digit publications. However, in 2007 there was a rise in the publications by seven times that of 2005. But it shows a decline of 33 documents in the year 2014. After that, annual documents grew continuously from 2015 to 2018. In 2021 the number of publications was highest compared to 19 years. This trend presents that research on talent management will gain researcher attention in the coming years.

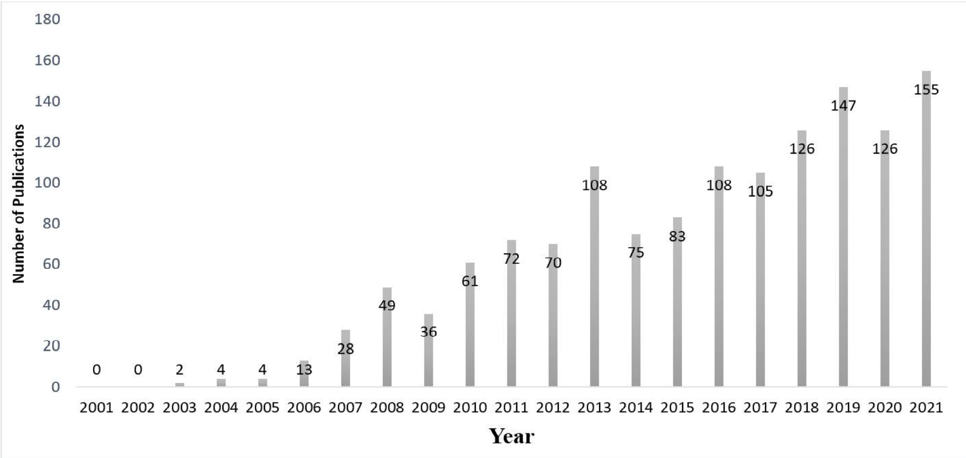

Figure 2 Visualisation of the Yearly Growth Output of Talent Management Studies

Furthermore, multiple journals contributed to publishing 1371 documents, highlighting how prevalent this issue is in the existing literature. Table 2 depicts the journals that have published more than 20 documents in all over the years, including the International Journal of Human Resource Management, Human resource International Digest, Training and development, Human resource management review, and International Journal of Contemporary Hospitality Management are the most productive journal in the field of research under investigation as well as Table 2 gives information about the number of citations from the most productive journals. This may illustrate how the issue of talent management has attracted the interest of different research streams, promoting the cross-fertilisation of varied areas.

Table 2- Most Productive Journal in the Research of Talent Management

Journal	N/P	Citations
International journal of human resource management	65	2146
Human resource international digest	55	69
Training and development	39	64
Human resource management review	30	3430
International Journal of Contemporary Hospitality Management	30	1102
Industrial And Commercial Training	29	509
Journal Of World Business	29	3960
Employee Relations	21	933

Note: N/P: Number of publications

Table 3 give the details about the number of documents, citations, links, and total link strength of the top 5 influential authors out of 2288, that conducted research on talent management. We chose "Citation" as a type of analysis and "Authors" as a unit of analysis.

Scullion H. collaborated most with 36 publications having 1841 citations, followed by Collings D.G. with 25 articles. Their study mainly contributed to the challenges faced by managers in implementing talent management practices in organisations. Furthermore, Table 3 represents the collaboration of the top authors with other authors, such as Scullion H. and Collings D.G, are co-authors with 19 and 14 authors, respectively as well as Vaiman V., Dries N., and Mcdonnell A. participated with other authors too.

Table 3- Top 5 Influential Authors in Talent Management Research

S/N	Author	Co-authorship	Total link strength	Citation	Document
1	Scullion H.	19	52	1841	36
2	Collings D.G.	14	34	2357	25
3	Vaiman V.	14	30	803	20
4	Dries N.	11	27	1541	19
5	Mcdonnell A.	14	27	596	15

Finally, Table 4 depicts the top contributing organisation to research talent management with at least five publications. Furthermore, it reveals that the University of Huddersfield, located in the United Kingdom, is the most productive organisation, with nine publications. Geographically, most productive institutions are located in the United Kingdom, which indicates that the United Kingdom-based organisations are leading in conducting research on talent management in business management and accounting discipline.

Table 4. Most Contributing Organisation in Talent Management Research

Affiliation	Number of publications	Country
ASTD	6	United States
Lancaster University Management School	5	United Kingdom
University of Huddersfield	9	United Kingdom
Nottingham Trent University	7	United Kingdom
Nui Galway	5	Ireland
Edinburgh Napier University	7	United Kingdom

However, Figure 3 demonstrates that the United States is the top contributing organisation in the literature on talent management with 321 documents, followed by UK and India with 268 and 130 publications, respectively.

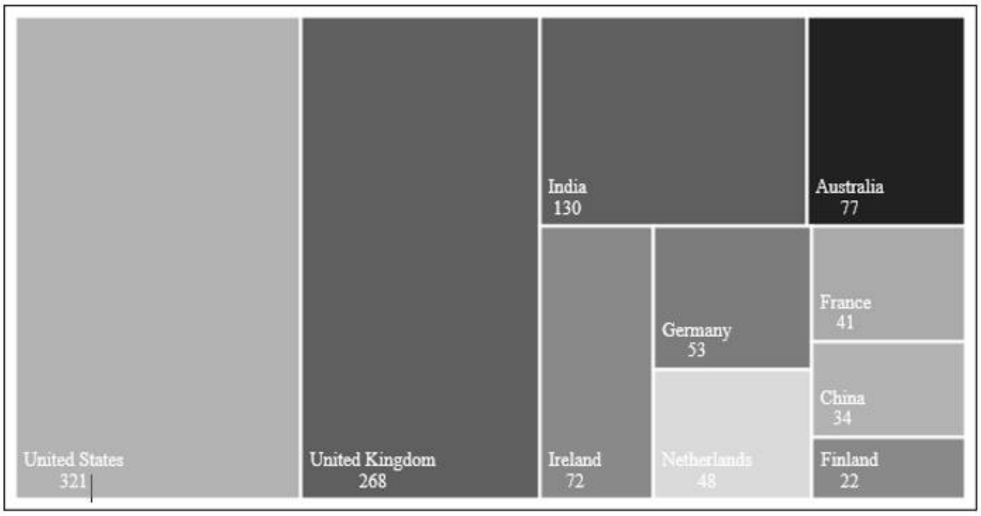

Figure-3 Top Contributing Countries in Talent Management Research

Table 5 gives the details of the top 5 cited documents in talent management research. "Strategic Talent Management: A Review and Research Agenda" is the most cited paper in talent management research published in the year 2009 with 755 citations, followed by "Talent Management: A Critical Review" published in 2006 with 550 citations. The citations received by a paper depict the role of the paper in other studies (Broadus, 1987).

Table- 5 Top 5 Productive Studies in Talent Management Research

Title	Year	Citations
Strategic Talent Management: A Review and Research Agenda	2009	755
Talent Management: A Critical Review	2006	550
Global Talent Management Literature Review, Interactive Framework, and Suggestions for Further Research	2010	445
Performance Management and Employee Engagement	2011	340
The role of the Corporate HR Function in Global Talent Management	2010	325

Co-citation analysis

Result of co-citation analysis on the basis of references

Figure 4 illustrates the co-cited analysis on the basis of reference. Co-citation occurs from the citation behaviour of the researchers when they reference the two publications simultaneously in their research articles. We emphasised the essential co-cited combinations in the map that were co-cited more than 20 times. The larger the cluster, the more citations a document has gotten; the stronger the linkage, the more the related nodes have been co-cited. The presented Figure consisted of 70 nodes, 1936 links, and 4 clusters. In Table 6, we give the details of lead papers; for this, we carefully study each paper and give a label to the lead papers of each cluster with the help of content analysis. Table 7 provides information about the label given to lead documents in each cluster.

We give the "Impact of Talent management on organisational and employee outcomes" label to the first cluster reason is that the aim of these publications falls in the first cluster was to study the impact of talent management on employee outcomes such as retention, performance, and employee engagement and as well as its influence on organisational outcomes. The papers examined the talent management aspect related to various industries, such as manufacturing and service industries. These publications have a more significant contribution to the literature in business, management, and accounting disciplines. Furthermore, Bethke-Langenegger et al. (2011) examined the link between talent management and organisational effectiveness. This study has links with 65 other publications that depict the importance of this study to the existing literature. The second cluster, "Conceptual development of Talent Management", labelled those studies that clarified the conceptual knowledge of talent management.

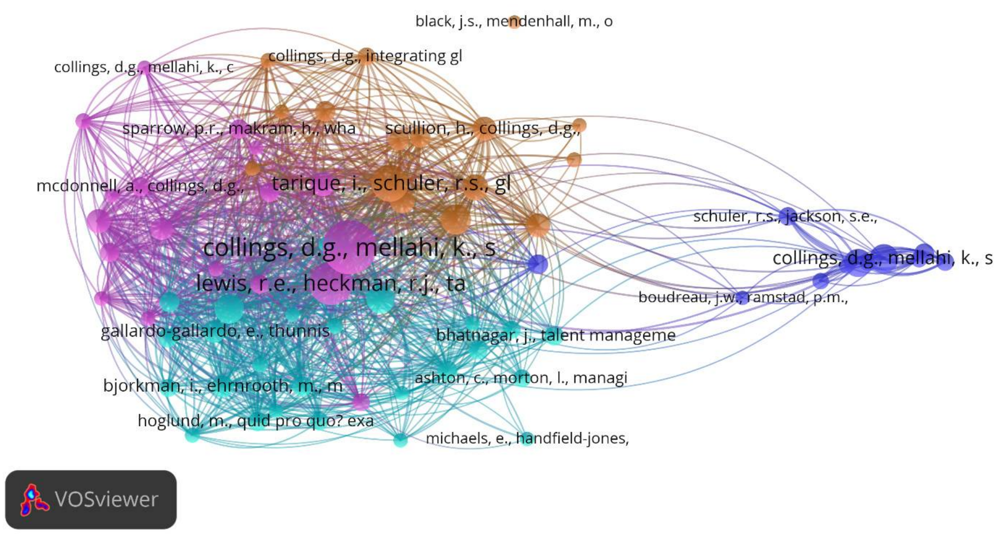

Figure- 4 Visualisation of Co-citation Network on the basis of References

However, Thunnissen (2016) identified and explained how practices contributed to the development of a larger and more appropriate conceptual framework for talent management that considers the influence of the organisational setting and its interconnected players. In addition, Swailes et al. (2014) examined the idea of 'inclusive' in connection to talent; the study progresses to a definition of inclusive talent management, which is framed in a four-part taxonomy of talent management techniques, providing better conceptual clarity to academics engaged in this topic. Furthermore, Gallardo-Gallardo et al. (2013) proposed a framework. They concluded on the basis of an extensive analysis of the literature on talent management that there is a fundamental divergence of opinion on the definition of 'talent' in the workplace. Secondly, there was diversity in terms of fundamental principles of talent management. We gave the "Challenges in Talent Management" label to the third cluster. The reason is that the study in this cluster identified the challenges faced by the organisation regarding talent management. Accordingly, Skuza et al. (2013) identified in their study that conventional management practices and attitudes of employees mainly challenged talent management in the organisation.

Table -6 Top Publication of Each Cluster

Red Cluster	Green Cluster	Blue Cluster	Yellow Cluster
Ashton & Morton (2005), Bhatnagar, (2007), Swailes & Blackburn (2016), Skuza et al., (2013), Björkman et al. (2013), Bethke-Langenegger et al. (2011)	al Ariss et al. (2014), Thunnissen, (2016), Swailes et al. (2014), (Gallardo-Gallardo et al., 2013)	Skuza et al. (2013), Schuler et al. (2011) Mellahi & Collings, (2010), Tarique & Schuler (2010)	Vaiman et al. (2012), Thunnissen (2016),Sparrow & Makram (2015); Thunnissen et al. (2013)

In addition, Schuler et al. (2011) identified the challenges of talent management in relation to the global context. According to Schuler et al. (2011), difficulties arise due to environments' ever-changing drivers and shapers. Among all of them, the primary drivers and shapers were, in particular, motivation, shortage of required competencies, changing demographics and increased globalisation. Furthermore, Mellahi & Collings (2010) examined the challenges to corporate growth of talents situated in subsidiaries, with a focus on promoting personnel already recruited by the Multinational enterprise to be part of the high-level leadership team at its headquarters. They concluded that the top management was not so competent because there was a lack of experience and international diversity. As well as Tarique & Schuler (2010) also identified the challenges in talent management with the help of literature review of previous studies. According to Tarique & Schuler (2010), cross-culture competencies, lack of alliance strategy for talent retention at the international level, regional workforce, employment relationship, shortages of required competencies and generation of employees lead to the challenges of talent management.

The fourth cluster is labelled as "Role of Talent management"; in this cluster, the studies have identified the role of talent management. In this cluster, Vaiman et al. (2012), Thunnissen (2016), Sparrow & Makram (2015), and Thunnissen et al. (2013) are the lead publication in the context of this research domain. Accordingly, Vaiman et al. (2012) acknowledged with the help of a systematic review that talent management was still in its early stages and that additional empirical studies were needed to understand the role of talent management in decision-making. As well as, Sparrow & Makram (2015) concluded that to develop expertise and skills; the organisation resources used to collect, transmit, and exchange knowledge; the formation of relationships between such capacities; and the behavioural reinforcers of interaction, innovation, transparency, and confidence. Additionally, Thunnissen et al. (2013) identified the non-economic and economic value of talent managment at the society, organisational, and individual levels.

Finally, we observed that cluster 4 covers a range of benefits from talent management at the individual and organisational levels. Cluster 3 identified the challenges faced by the organisation in the execution of talent managment and barriers from the side of employees Skuza et al. (2013). Furthermore, cluster 2 gives detailed information about the theories, framework, and mechanism developed by the researcher to develop the concept of talent management. However, Swailes et al. (2014) elaborated on the term inclusive in the context of talent management and gave a four-hierarchy taxonomy. In addition, cluster 1 provided information about the influence of talent management on organisational and employee outcomes in various industries.

Table- 7 Details of Publications in Each Cluster

Cluster	N/P	Label
1	25	Impact of talent management on organisational and employee outcomes
2	18	Conceptual development of Talent Management
3	16	Challenges in Talent Management
4	11	Role of Talent management

NOTE: N/P; Number of Publications

We conclude that these 4 clusters give detailed information on the existing literature available on talent management. The co-citation analysis depicts that the cluster falls in the same cluster are cited commonly by the various authors, and this indicates the similarity of the research problem.

Conclusion

This paper intends to add to the body of knowledge in talent management by highlighting the most productive authors and the most engaged countries in the area. To provide insight into this study topic, scholarly studies dealing with talent management over the last two decades were chosen and reviewed. This study investigated the co-citation analysis of talent management at a glance and the total contribution of talent management research dynamics in academia. The findings reveal that talent management research has grown tremendously during the last decade. Furthermore, the result shows that the most influential journal is the "International Journal of Human Resource Management", the most collaborated author is "Scullion H." and the most engaged country is the "United Kingdom". In addition, "Business, management and accounting" is the top discipline, and among universities in various countries, the "University of Huddersfield" in the UK, is at the top. Additionally, this research produces more systematic information with the help of co-citation analysis and identifies the four-cluster labelled by us that provide information about the relationship among studies of talent management. Additionally, the provided labels depict the kind of work done on talent management. However, future researchers may research talent management using mixed methodologies to provide a holistic view of the research domain. A comparative study of developed and developing countries is needed to identify the challenges and new insights. The results of this study may be helpful to other academics and researchers working on similar research questions.

This study, like most others, provides fascinating insights, but it is also limited by several constraints. First and foremost, our examination is extensive but not exhaustive. The filtering process may exclude some important studies. We recommended that future studies may carry out by multi-database, such as the web of science, PubMed, Google Scholar, etc. Second, our study used only the co-citation approach to analyse the retrieved documents; other mapping and performance analysis techniques in Vos viewer are available, which can also be used in future research.

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Article

Critical Examination of the Working of SFIO and NFRA in India

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Abstract

One of the primus issues faced by the banking sector is that NPAs which render the major challenge that imperils the beefiness of the Indian Banking Sector. The harsh strain in the present scenario because of many lockdowns faced by Indian markets, the strata of NPAs may increase by 11.2% at the end of the financial year 2022, it stood at 7.5% in 2021. Bad loans are mainly responsible for increasing the strata of non-performing assets in Banks. A large number of these are white-collar frauds and scams perpetrated by very moneyed and dominant people. Lately, one more biggest banking fraud was pulled out in country, which a shipyard company namely ABG Shipyard Ltd (ABG SL), a Gujarat-based company in Surat obtained loans an amount of near about Rs. 22,842 from 2012 to 2017 in fraudulent ways. This scam has occurred with a group of 28 banks in the leadership by the State Bank of India. It's not a new scam, 70% of entire bad loans relates to the corporate account whereas retail loans such as personal loans, car loans and home loans etc. have only 4% share in total bad loans.

To cure the banking system and eliminate corporate frauds and scams, the Governments has been taken various initiatives time to time. The enactment of the Companies Act, 2013 along with many new provisions was a mile stone in this path. The present study examines few new provisions regarding establishment of SFIO and NFRA against the frauds and scams committed by companies or person on the name of company in perspective of the after covid-19 pandemic scenario, international standards of banking business and future challenges.

Keywords: Fraud, International Market, Pandemic, Economy

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Introduction

The corporate frauds and scams from the last decades in India especially with the banks have attracted ideas on the high need for effective norms of corporate governance and drastic legal framework to tackle these scams and frauds. A large number of these are white-collar frauds and scams perpetrated by very moneyed and dominant people. The way of these white-collar corporate crimes such as misappropriation of assets, financial frauds, vendor fraud and loan defaults etc. has shifted from individuals to firms and companies where an individual or a group of persons being committed frauds at the name of companies or firms. Recently, one of the biggest banking fraud was pulled out in country, which a shipyard company namely ABG Shipyard Ltd (ABG SL) and many others such as Harsad Mehta's securities scam, the Ketan Parikh scam, the C. R. Bansal scam and Satyam fraud are the examples of corporate frauds in the Country.

Meaning: Fraud and Scam

Fraud is a more extensive classification of crime than a scam. Scams may be part of the extensive class of fraud. A scam is normally considered a minor crime than fraud but presumed a serious nature offense. If we consider the definition Oxford Advanced Learner's Dictionary "The crime of cheating somebody in order to get money or goods illegally". According to the Reserve Bank of India "any behavior by which one person intends to gain a dishonest advantage over another". In other words, fraud is an act or omission which is intended to cause wrongful gain to one person and wrongful loss to the other, either by way of concealment of facts or otherwise. Contract Act in India defined the term fraud as "act committed by a party to a contract with intent to deceive another"[1]. The study stated that incidences of corporate fraud happen when the deceiver gets an opportunity and make a chain of decisions with the point of view to get advantages illegally and making a spacious mis-en-scene to obscure these decisions and their adverse effects **(JAMAL et al., 1995)**. When the fraud is committed by a company or organization in place of an individual, then generally used the term "Corporate fraud" or "Corporate scam" and also treated as a white-collar crime. The Indian Companies Act, 2013 defines the fraud committed by any type of corporate body or company as "Fraud in relation to affairs of a company or anybody corporate includes any act, omission, concealment of any fact or abuse of position committed by any person or any other person with the connivance in any manner, with intent to deceive, to gain undue advantage from, or to injure the interests of, the company or its shareholders or its creditors or any other person, whether or not there is any wrongful gain or wrongful loss"[2]. In this definition, the term 'Wrongful Gain' has

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[1] Indian Contract Act, 1872, S. 02.17.

[2] Companies Act, 2013, S. 29.447

been denoted to advantages such as property has gotten by illegal resources to which the person gaining is not legitimately entitled. In the same way, 'Wrongful Loss' has been denoted as a loss by illegal resources of the property to which the person losing is lawfully entitled. Imperfect credit strategies for the companies, a deficit of adequate regulatory framework and lack of a transparent mechanism to the companies are some factors of many that have successively led to the occurrence of frauds and scams and enhanced Non-performing assets (NPA) from the corporate sector. An amount or assets given by the banks to companies as debts for business purposes remain unpaid timely by corporate debtors. This unpaid credit categorised as Non-Performing Assets, further it is divided into 3 categories as sub-stand, doubtful and loss assets.

The magnitude of frauds with banks

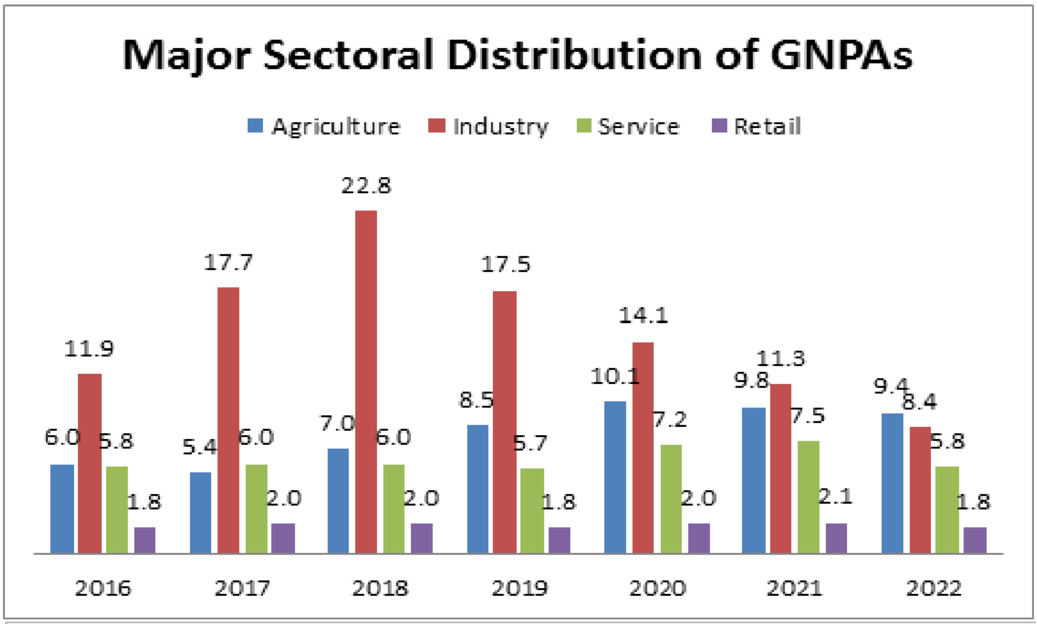
Banks do not want to take risks related to fraud. Dealing with the risks related to fraud is on no part of bank's business, however, it is a reality, the number of cases of fraud/scam are on the ascent and will keep on rising especially after the covid-19 pandemic in the present business scenario. During this pandemic, the demand for monetary inclusion and the need for a digitalization mode made both banks and their customers depend intensely on electronic mode for banking transactions. This totally impacted the manner in which the banking business works. However, the banks increasing their efforts towards ventures to improve their fraud risk monitoring framework, supervising and risk control mechanism, but apparently, these endeavors have not been adequate. After the enactment of the 'Companies Act, 2013', the below table-1 shows the year-wise magnitude of frauds and their effects on Non-performing assets.

Table 1: Year Wise Magnitude of Frauds

FY of Fraud occurrence	Number of Cases	Amount Involved (in Crore Rs.)
2013-2014	4,306	10,170
2014-2015	4,639	19,455
2015-2016	4,693	18,698
2016-2017	5,067	23,933
2017-2018	5,917	41,167
2018-2019	6,798	71,534
2019-2020	8,707	1,85,468
2020-2021	7,359	1,38,211
2021-2022	9,103	60,414

Source: (Compiled by the author from various published bank reports and RBI Supervisory Returns)

The data of year-wise frauds with banks clearly show the serious concerns and one of the biggest causes of enhancement of the tendency of NPAs, especially with the Public Sector banks (**Ojha & Jain, 2021**). Credit frauds have the most extreme effect on the entire financial system in the country because of the higher amount involved in such fraud cases (**Singh et al., 2016**). It would also be interesting if we look at the accretion of the GNPAs year on year except FY year 2022, the sectoral contribution of GNPAs and total stressed assets obviously come out the maximum from the Industry sector rather than agriculture, service and retail sectors (See the below chart).



Source: (Compiled by the author from various published bank reports and RBI Supervisory Returns)

The magnitude of Corporate frauds with banks

The last two decades have been buzzing with sharp increase in the number of cases of corporate fraud. The endless greediness in the person (Living person) or artificial person (Company) has taken an unavoidable presence in our routine life. Corporate Frauds has become an international anomaly with the maximum use of digital technology and e-commerce, especially in the last decade. After highlighting the House loan Bubble and Eron frauds in the International market, various nations are at high alert mode and various law reforms and policies were framed to supervise the entire management of corporate mechanisms in their respective territories because these corporate scams or frauds has an adverse impact on the entire financial system at large scale in any nation **(Gupta & Gupta, 2015)**. India is not an exception in this regard, Indian economy has been suffering a huge loss continuously due to wilful and malpractices of corporate bodies. Corporate frauds do highly affect the largest interest of various stakeholders such as their investors, clients, consumers, banks, creditors and Regulators due to the direct involvement with the companies. Studies show that India has been losing a huge amount of ` 100 crores each day for the last 7 years due to corporate fraud **(Zahra A 2022)**. It is Also a serious concern that India has taken a higher rank for many year in Corruption Perceptions Index surveyed by Transparency International (See the below graph).

India Corruption Rank in Corruption Perceptions Index

Source: (Compiled by the author from Transparency International survery reports)

The three recent corporate frauds namely ABG Shipyard, Amtek Auto and Bhushan Power and Steel shook the financial and banking system in India and it has prompted the infringement of the various stakeholders and investors again. Before above these cases, the public have not forgotten Kingfisher Airlines, 2G Spectrum and Satyam corporate frauds. The quantum and magnitude of the amount involved in the various scams or frauds for the last two decades in India are mentioned in the below table.

Bigest Corporate Frauds and Scams involved a huge amount with Indian Banks

Sr. No.	Fraud Expolering Year	Fraud & Scam's Name	Name of Defaulter company/companies	Amount involved (Rs. In Crores) approximately
1	2022	Amtek Auto	Amtek Auto Group	12,000
2	2022	ILFS	Infrastructure Leasing & Financial Services Limited (IL&FS)	2060
3	2021	The Karvy Stock Broking	Karvy Stock Broking Limited ("**KSBL**")	563
4	2020	ICICI Bank-Videocon	Videocon International Electronics Limited.	64
			Nupower Renewables Pvt Ltd (NRPL)	
5	2020	DHFL	Dewan Housing Finance Ltd (DHFL)	40623
6	2019	PMC	Punjab & Maharashtra Cooperative (PMC) Bank.	6500
			Housing Development and Infrastructure Ltd (HDIL)	
7	2019	Yes Bank	Dewan Housing Finance Corp. Ltd (DHFL).	5050
			Infrastructure Leasing and Financial Services (IL&FS).	
			Reliance group.	
			Zee group.	
			Essel group etc.	
8	2019	Malvinder and Shivinder Singh	Religare Finvest Limited (RFL)	740
9	2019	ABG Shipyard	ABG Shipyard Ltd (ABGSL)	22,842
			ABG International Pvt. Ltd.	
10	2019	Bhusan Steel	Bhushan Power and Steel Limited (BPSL)	3805
11	2018	Jet Airways	Jet Airways (India) Private Limited	8500
12	2018	The Rotomac Pens	Rotomac Global Private Limited	3,695
13	2018	PNB-Nirav Modi	Gitanjali Gems Ltd (GGL)	11400
14	2016	Kingfisher Airlines	Kingfisher Airlines Ltd	10000
			Spice jet Ltd	
15	2009	Satyam Computers	Satyam Computer Services Ltd.	12320
			Maytas Infra Limited	
			Maytas Properties	

Source: (Compiled by the author on the basis of news/Media reports.

As on 6th May, 2022, the overall financial outstanding of the Indian banks was stood at ` 120 lakh crore. In this way, various corporate scams/frauds accordingly turned up into financial as well as banking frauds and banks keep on losing a huge amount as NPAs stack up.

Objective of the Study

The present research article examines the efficacy of key provisions under the Companies Act, 2013 regarding the frauds and scams committed by companies in present scenario. Frauds and Scams from the copporate sector are one of major cause for increase in the Non-Performing Assets in India. Due to present pandemic (Covid-19) in India, the chances of frauds and scams happening on the pretext of pandemic become greatly elevated. Hence, it is the need of hour to examine and analyse the key provisions for eliminating frauds and scams.

Research Methodology

The doctrinal research methodology adopted in the present research article is based on secondary data. The data for the study is collected from different sources like reports released by government agencies, Law Books, research journals & articles, internet websites, News papers and Social Media.

Research Question

1. Are the two important establishments SFIO and NFRA under the Companies Act, 2013 are sufficient or well effective for eliminating frauds and scams as intended by the legislature in the present scenario?.
2. How influential will these be in the near future for the betterment of the corporate sector?

Analysis of Key Provisions

The Companies Act 2013 replaced the Companies Act, 1956 after getting the assent of the President on 29th August, 2013. It was quite a remarkable law reform in India at that time. The Act, 2013 brings prominent provisions for the company reforms, especially focusing on issues related to corporate fraud. The corporate frauds by the biggest corporate bodies like Satyam Fiasco, Harshad Metha and Sahara Group attracted the attention of Indian legislators. However, the Companies Act, 1956 did comprise provisions to manage fraud and scams made by corporate bodies or companies. The provisions in this Act[3] were felt deficient to deal with corporate frauds at that time and consequently action has been taken to reform the provisions and Central Government introduced the Companies Act, 2013 with the drastic provisions in respect to loans given & accepted by the companies, corporate fraud and punishments for such corporate frauds. Besides these, It also contains many other key provisions such as the appointment of SFIO u/s 211, the constitution of NFRA u/s 132 (it come into existence in October 2018).

Unfortunately, there are numerous more frauds explored after the enforcement of the Companies Act, 2013. Besides the above list of corporate frauds, many other cases of frauds and scams can turn out to be a giant bundle and also present solid grounds concerning the efficacy of the Companies Act, 2013. That's why, this is highly needed to analyze or review the special provisions like establishment of SFIO, NFRA and their success working to clarify how far these provisions of this Companies Act, 2013 are constructive in proceeding against the corporate defaulters, punishing them and recover the debts.

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[3] Companies Act, 1956

SFIO :

The Serious Fraud Investigation Office ('SFIO') is a multi-disciplinary Agency under the supervision of the Ministry of Corporate Affairs. This Act empowered the Central Government for establishing of Serious Fraud Investigation Office[4] and also provided primacy to SFIO as Investigating Agency to investigate serious corporate frauds. The key specialization of this agency is that when the SFIO starts an investigation, no other agency continues further with their investigation concerning a similar matter until the SFIO completes its investigation. Morever, the other agencies and offices are bound to provide relevant material and documents to the SFIO to assist faster in investigating the case being investigated. Initially, the concept of SFIO in India introduced by the Naresh Chandra Committee in 2002[5] to investigate serious corporate fraud, supervise the litigations under various financial enactments. The presented concept by the committee is inspired by the pattern of the Serious Fraud Office in UK[6] and the Corporate Task Force in USA[7]. Finally, on the recommendation of Committee, Serious Fraud Investigation Office was formed under the supervision of MCA by a resolution[8]. It investigated the fraud matter within the existing legal framework[9] and did not have any special status as an agency under the Companies Act 1956. Although, the status of SFIO was replaced again with the enactment of the Companies Act, 2013 and provides the primacy as an Investigation Agency with more teeth to SFIO. The power and status of SFIO were codified[10] to conduct the inquiries related to serious corporate fraud involving complicated transactions that have multidisciplinary and inter-departmental implications or significant effects on the largest public interest. Now, the SFIO also has the power to arrest[11] person(s) if there are sufficient reasons that the accused is guilty based on the material in his possession or custody. To see the value in the basic job that the SFIO should play, following its origins is significant. SFIO has finalized the investigation of 104 cases in the 10 years (FY 2003-04 to 2012-13) of its establishment (**Chambers and Partners**, **2020**). The below table show the data after the implementation of the Companies Act, 2013 wide empowered the SFIO with statutory reorganization.

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[4] Companies Act 2013, S. 14.211

[5] Chandra, N. (2002). Corporate Audit and Governance.

[6] Criminal Justice Act 1987, S. 01.1

[7] Executive Order 13271, Establishment of the Corporate Fraud Task Force (July 9, 2002)

[8] Government of India Resolution No. 45011/16/2003-Adm-I, dated the 2nd July, 2003.

[9] Companies Act, 1956, S. 29.235-247

[10] Ibid S. 14.211 to 212

[11] Companies (Arrests in connection with Investigation by Serious Fraud Investigation Office) Rules, 2017, notified on 24.08.2017.

Number of Cases assigned and desposed by SFIO
(FY 2013-14 to FY 2021-22)

FY	No. of Cases Assigned for investigation	No. of companies involved	Investigation completed
2021-22	14	95	12
2020-21	20	58	7
2019-20	26	326	12
2018-19	33	368	12
2017-18	22	297	5
2016-17	25	111	87
2015-16	21	184	39
2014-15	70	71	39
2013-14	83	83	22
Total	**314**	**1593**	**235**

The above comparison points out that the SFIO is becoming more dynamic toward its essential capability of investigating emerging corporate frauds. In the month of October 2021 Keshav Chandra, Director of SFIO stated that SFIO investigating presently 199 cases of corporate fraud and trying to reduce the investigation period for better disposal. The strike rate of disposal of cases by SFIO shows that SFIO is one of the important growing institutes of MCA and has become dynamic and active in order to take strict action against deceitful and corrupt civil staff, corporate houses and politicians.

Another side, the Indian Judiciary plays an important role by their landmark judgments to check and balance the power used by SFIO. No doubts, SFIO empowered a wide range of powers under Companies Act, 2013. The terms such as "Opinion", "Arrest to Power" and "Reason to Believe" which are permeable to enormously subjective interpretations can show the critical chances for misusing wider power by SFIO. In this regard, recently in the case **"Church of South India v. Union of India, Mad. HC (2021)"**, Madras High Court held that the phase 'is of the opinion'[12] puts a jurisdictional duty on Central Government to manifest an opinion on the requirement for investigation by the SFIO. Any order of Central Government shall be considered a lack of merit without an "opinion" expressed. **Serious Fraud Investigation Office Vs Rahul Modi and Another Etc., 5 SCC 266 (2019)**, the Apex Court held that time-period mentioned in order passed u/s 212 is merely advisor but not mandatory. The Investigating authority shall not be restricted

[32] Companies Act 2013, S. 14.212

while the time-period specified by the Central Government has finished. The Supreme Court in another landmark case **"Serious Fraud Investigation Office Vs Nitin Johari, 9 SCC 165 (2019)"** rejected the bail order passed by the Delhi High Court on the plea that the conditions[13] and basic norms[14] for grant of bail were not fulfilled.

The study found that the involvement of corporate bodies in fraud has been at its peak in both numerical and worth-value terms in recent years. The lack of trained supporting staff, skilled officers and professional experts against the sanctioned posts in SFIO is even more surprising in the present scenario. SFIO has faced been emerging challenges in deploying the office personnel who have mastered with the expertise and skills to deal with multi-complex corporate fraud investigations with up-gradation of technology and forensic audits etc.

NFRA

The establishment of the National Financial Reporting Authority (NFRA)[15] is another key provision of the Companies Act, 2013 as an autonomous audit regulatory body on the recommendation of the Standing Committee on Finance. The voice for the creation of an autonomous audit regulator in India was getting up after the financial crisis in 2008 because of increasing the number of corporate frauds and hike in the strike rate of NPA. Reorganizing and reforming the supervising authorities across the world has been done in light of corporate frauds and scams due to the weak mechanism of corporate governance and lower disclosure of required information related to accounting and auditing. At that time, many of the major economic countries had adopted an autonomous audit system such as Public Company Accounting Oversight Board (PCAOB) under Sarbanes Oxley Act, 2002 in US and The Financial Reporting Council (FRC) of the United Kingdom. Thusly, India was also required to coordinate with them as per global business standards. After the highlighting of Satyam's corporate fraud occurred in 2009, the Standing Committee of Finance first time recommended the establishment of National Financial Reporting "NFRA" to the Central Government. The Indian Parliament passed the Companies Act, 2013 with provisions for establishing the National Financial Reporting Authority.

Even after enforcing the mostly provisions of the Companies Act, 2013, the implementation of the provision was delayed related to the establishment of NFRA due to strong resistance by the Institute of Chartered Accountants of India (ICAI). ICAI contended that there is no need for another regulatory body NFRA whenever India already has a world-class audit and accounting regulatory body like ICAI. The Central Government emphasized on

13 Ibid, S. 14.212 (6)
14 The Code of Criminal Procedure, 1973, S. 33.439
15 Companies Act 2013, S. 09.132.

the establishment of NFRA after highlighting many corporate frauds including the largest corporate scam with Punjab National Bank involving a worth of Rs. 12,636 crores in 2018. The highest level of NPAs in recent years is also a question mark on the working methods of auditors and auditing norms. However, the banking institutes are subject to various levels of auditing yet non-performing assets are at enlarging at the highest levels. The Supreme Court of India also gave favour to the establishment of NFRA in an important judgement in the case **S. Sukumar Vs. Institute of Chartered Accountant of India & Ors, [47] (Civil Appeal No 2422 of 2018)** and directed the Central Government to constitute a committee to review the present audit system in India. Finally, Central Government moved forward to establish an autonomous and competent authority that shall supervise the auditing profession in India and notified the NFRA[16]. Finally, Central Government moved forward to establish an autonomous and competent authority that shall supervise the auditing profession in India and Cabinet notified the NFRA.

On the recommendation of the Standing Committee on Finance in it's 21st report, NFRA was established on 1st October, 2018 as an autonomous body by the Central government supervising the auditing profession in the whole India. It has empowered the same powers of the Institute of Chartered Accountants of India (ICAI) regarding the auditing standards and norms and NFRA is a part of the Ministry of Corporate Affairs. The Constitution of NFRA were challenging in two cases in **Northern India CA Federation Vs. Union of India & Ors., [W.P. (C) 10537/2018]** in Delhi High Court and **CA V. Venkata Siva Kumar Vs. Union of India & Ors., [WP/19704/2018]** in Madras High Court. High Court (Delhi) has been dismissed the case on 17.9.2019. However, the case before the Madras High Court is still pending. NFRA has also been empowered to regulate the quality of audit practice and initiate the investigation of companies either suo moto (by itself) or on a order of Central Government whose securities are listed in any stock exchange established in Foreign countries or in India; Supervise and enforce consistency with accounting and auditing norms; Recommend the auditing and accounting strategies and norms to be adopted by companies. The jurisdiction of NFRA is covered all types of listed companies as well as the biggest unlisted public companies. The all over active companies including One Person Companies, Private Ltd.; Listed or unlisted, Public; Listed or unlisted below and above Net Worth ? 250 crores was in the range of 11,59,945 to 12,99,710 during the period 2018-2021. The NFRA also plays an important role as a watchdog by taking strict actions against delinquent auditors or audit firms and has also released various Audit Quality Review (AQR) reports from time to time. Any other authority cannot be competent to start or continue any investigations where the NFRA has initiated an investigation against

[16] Government of India Gazette notification No. G. S. R. 262(E) dated 21st March, 2018.

CAs or CA firms for their professional or any other misconduct. Other than the internal efforts of pinpointing the risk parameters, NFRA also empowered to demand any information/ data from other regulators such as cases related to fraud, data regarding Non-performing Assets and insolvency resolution process etc.

In order to achieve the goals set by Central Government, NFRA continuously doing hard work and has taken strict action against the wrongdoer since its establishment in 2018. In this series, NFRA release executive summaries of Audit Quality Reports with regard to the audit of IL&FS Financial Services Limited (IFIN) done by Audit Firms BSR & Associates LLP and Deloitte Haskins and Sells LLP; and issued the order or show cause notice[17] to the audit firms and their partners CA N. Sampath Ganesh, CA Master Akeel Abbas and against some other chartered Accountants (CA) Udayan Sen, (CA) Rukshad Daruvala and (CA) Shrenik Baid. However, the orders or proceedings had been given effect due to stayed by Hon'ble High Courts and Tribunals. For the successful performance of its capabilities, NFRA constituted Technical Advisory Committee (TAC) on 17.07.2020 to help in achieving its mandates to safeguard the interest of stakeholders and the public who provides the information related to the users of financial statements. Besides these, NFRA also releases its annual reports, Executive summary of its Audit Quality reports, Financial Reporting Quality Review and Consultant Papers on its web portal for the purpose to provide transparency in the public interest. NFRA has imparted various training programs to its staff, professionals and consultants by eminent experts in Accounting and Auditing Standards along with the use of the Legal Information Management & Briefing System (LIMBS). Provides the facilities of e-filling of NFRA-1 & NFRA-2 Form to the users. Recommendations were sent to the MCA with regard to Accounting Advisory with regard to COVID-19; Treatment of Deferred Tax Liability by Indian Railways Finance Corporation; b) Issue of lease liability raised by M/s Spice Jet.

The data on the webportal of NFRA shows that only 52.48% companies of the total strength of active companies under NFRA jurisdiction have filled up statutory filings AFSs and MGT-7 form end of the June, 2021. the lowest percentage of compliance with a significant statutory filings demonstrates deficiencies of sufficient accounting experts with large number of these companies. However, the NFRA is empowered with a key power "Name Shame" vide which NFRA publishes and uploaded its findings of investigations on its web portal for public interest regarding non-compliances with standards of accounting and auditing under the norms. On the other hand, the proper execution of NFRA's provisions has been drastically influenced due to the equivalent power of ICAI regarding disciplinary powers with respect to companies that do not come under the ambit of NFRA. In this

[17] Companies Act 2013, S. 09.132(4)

regard, the Supreme Court of India favoured the ICAI and delivered a landmark judgement in the case **"Council of the Institute of Chartered Accountants of India v/s Shri Gurvinder Singh & Anr., 78 SC (2018)"** and held that the Disciplinary Committee of the ICAI is empowered to conduct disciplinary actions and imposed punishment against a registered member of the ICAI if his act is found to disgrace to the profession however it related to his personal work or not.

Conclusion

It is need of hour for combating the problem of NPA, the four pillars of corporate governance like as management, board, regulators and stakeholders if operates jointly, autonomously and at the same time can ensure the decent position of Indian Financial Sector. After overseeing the increased number of corporate frauds in recent times, it is highly needed to bring the important investigating bodies such as SFIO, ED and CBI etc. under the aegis of one autonomous Institute and these agencies shall collectively take action against the corporate defaulters in investigation, recovery and ensure the punishment. There should not be overlap or protest between ICAI and NFRA with respect to their exclusive jurisdiction. As per the standard requirements of the International market in the accounting and auditing profession, ICAI should accept the practical aspects that NFRA has come to remain and genuinely keep making productive cooperative energies and integrantarity to each other. The Central Government should constitute a committee to find the scope for more strengthening the power to NFRA in view of future challenges.

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Article

Consumers' Perception towards Major Aspects of Solar Power Systems in Rural Haryana

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Abstract

Solar power has been an incredible source of energy since ages, used for different purposes around the world. It's a renewable energy source which is replenished everyday by the nature. India gets location based advantage of Sun where it receives about 300 days of sunlight in a year. In the present scenario where traditional sources of energy such as coal and natural gases have been constantly depleting, solar energy gets a wider scope with a variety of uses in the day to day life of an individual. In India, it is mostly used in the form of PV panels generating the electricity to cater the households energy needs, other uses are solar water heating system and solar pumps. Since there is shortage of electricity in the rural areas, solar energy can aggressively be used to enhance the standard of living of the individuals there. The present paper focuses on the perception of rural households of Haryana using solar power system regarding its major aspects. These aspects include performance, durability, reliability, cost effectiveness and subsidy etc on solar devices, covered in a closes ended questionnaire containing twenty statements. The result of the study indicated that majority of the rural respondents have moderate perception towards the major aspects of solar power systems.

Keywords: Solar Energy, Solar PV Panels, Renewable Energy

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Introduction

Solar energy was first used in the 7th century BC. It was generated by focusing sunlight on a magnifying glass. Then, in the 3rd century BC, during the Christian era, the Greeks and Romans used mirrored solar energy to light torches during religious ceremonies. Another early use of solar energy, widely used today, is the concept of a "veranda" in buildings. The concentrated part of the veranda gets a lot of sunlight through the windows. This winter garden was part of the famous Roman Baths, usually on the South side of the building.

In the late 13th century, Native Americans settled on the southern slopes of buildings to absorb the heat of the Sun during the cold season. From the late 18th to the 19th centuries, researchers and scientists were able to lit stoves from sunlight. They also used solar energy to generate steam. The development of solar panel technology is an iterative process involving many scientists. In the mid-19th century, solar power plants were developed to heat the water and produce steam. In 1839 Alexander Edmund Becquerel discovered the photoelectric effect. This indicates that an electric current can be generated by passing a bright light through an electrode immersed in a conductive solution. In 1876, William Grylls Adam and Richard Evans Day discovered that the material selenium generates electricity when exposed to the sunlight. Selenium cells, although inefficient, were observed to convert light into electricity without heat or moving parts. The actual invention of the solar module was made by Gerald Pearson, Fuller Calvin and Daryl Chapin who invented silicon (PV) solar cells at Bell Labs in 1954. These cells actually generated enough power and were efficient enough to power small devices. The first silicon solar cell was capable of converting 4% of sunlight it could hold. Solar cells were first sold in 1956.

However, their cost was beyond what the general public could afford. From the late 1950s to the early 1960s, the US and Soviet space program satellites used solar cells. In the early 1970s, research and development lowered the cost of solar cells near to $20 per watt. This research was conducted by Exxon. These solar cells were used to power dimmers on offshore oil platforms. From the 1970s to the 1990s, solar cells were used to light railroad crossings, power remote homes, expand microwave tower communications etc. Today, solar cells are included in a wide variety of products. Some solar planes fly even higher than any other plane. Given the cost of solar panels, solar power has never been more attractive, regardless of budget. With the opening of the international market, solar module manufacturers have been playing an important role in the solar industry.

Solar Power Potential in India

India has abundant access of solar radiations. The country receives about 300 days of solar radiations each year, equivalent to more than 5,000 trillion kilowatt-hours per year, far exceeding its total annual energy demand. In 2020, the country's solar installed capacity reached to 39,211 megawatts. India has attained the position to be the solar energy producer with lowest cost in the world. In the field of solar energy, India has proposed many large-scale projects. The "Saubhagya" program was launched in July 2015 which aimed to power all Indian households by 2019. The government provides subsidies up to 90% of the initial capital cost for the installation of solar pumping systems for irrigation and drinking water.

Objectives of the Study: The prime objective of the research is to examine the perception of rural households towards major aspects of solar power devices.

Research Methodology

An exploratory research is conducted based on primary data collected through a close ended questionnaire. A sample size of 1000 rural households in Haryana is taken. Socioeconomic variables such as education, income level, occupation, capacity of solar device used, type of solar device used and area of residence of the respondents is taken as independent variables to test the dependent variable- perception of the respondents towards major aspects of solar power systems. Chi square statistics is used to determine the association between dependent and independent variable. Cronbach's alpha statistics is calculated to check the reliability of the scale.

Data Analysis

To achieve the objective of the research, respondents were asked to complete a questionnaire having twenty different statements along with their demographic profile i.e. age, education level, income level, occupation, type of solar devices, capacity of solar devices used by them and area where they reside. A seven point Likert scale is used ranging from strongly disagree to strongly agree.

Table No. 1: Statements to Know the Perception of Rural Households Towards Major Aspects of Solar Power Systems

S. N	Particulars
1	Solar Power Technology is the Best Solution for Energy Security
2	Solar Power Technology will Secure Sustainable Future
3	Solar Power Technology Improves Quality of Life
4	Solar Power Technology will Help in Economic Growth
5	Solar Power Technology is a Reliable Source of Energy Supply
6	Solar Power Technology is Durable
7	Solar Power Technology is Affordable
8	Solar Power Technology is Convenient to Use
9	Solar Power Technology can be Used as a Full-fledged System of Power Supply to the household
10	Solar Power Technology has Diverse Applications in day to day Life
11	Solar Power Technology is the Cheapest Energy Available to the Rural Households
12	Solar Rooftop PV Panels are the Best Alternatives for the Electricity Supply to the Rural Households
13	Rooftop PV Panels Help in Savings in Electricity Bill
14	Grid-connected Rooftop PV Panels Help in Conservation of Excess Electricity Produced
15	Subsidy on PV Panels is Effective for Promotion of Solar Power Technology
16	Solar Pumps are the Best Solution to Solve the Problem of Scarcity of Water
17	Solar Water Heater is a Cost-effective Way to Produce Hot Water for the Rural Households
18	Warranty Offered on Solar Devices is Effective and Adequate
19	Performance of Solar Devices is Commendable
20	After Sale Support Provided on Solar devices is Effective

Table No. 2 Reliability Statistics

Cronbach's Alpha	N of Items
0.797	20

Table No. 2 reflects the Alpha Statistics. The alpha value of all the twenty statements pertaining to perception of rural households towards major aspects of solar systems have been considered altogether. The alpha coefficient of the statements is 0.797, suggesting that the items have relatively high internal consistency. Hence the scale used in the study is adequately reliable.

To compute the overall perception, responses from each respondent are added together; level is computed with the help of SPSS and categorized into low, moderate and high as follows:-

Table No. 3: Perception of the Respondents Towards Major Aspects of Solar Power Systems

Perception	Frequency	Percent	Cumulative Percent
Low	108	10.8	10.8
Moderate	684	68.4	79.2
High	208	20.8	100
Total	1000	100	

From Table No. 3, it can be observed that 10.8% of the respondents have low perception towards the major aspects of solar power technologies, 68.4% respondents have moderate perception and 20.8% respondents have high perception.

Table No. 4 Analysis of Perception of the Respondents towards Major Aspects of Solar Power Systems Based on" Education level" (%)

Education Level	Perception			
	1. Low	2. Moderate	3. High	Total
1. Up to High school	2.3	12.4	1.5	16.2
2. Up to Senior Secondary	6.8	19.8	0.7	27.3
3 Graduate/ Diploma	1.7	24.7	18.2	44.6
4. Master/ Higher studies	0	11.5	0.4	11.9
Total	10.8	68.4	20.8	100.0

Table No. 4 indicates 16.2% percent respondents were high school educated, out of which 1.5% have shown high perception for the major aspects of solar power systems, 12.4% have shown moderate perception and 2.3% have shown the low perception. Out of 27.3% respondents who studied up to senior secondary level, 7% have high perception, 19.8% have moderate perception and 6.8% of the respondents have low perception. Those who are graduates or diploma holders are total 44.6% out of which 18.2% have high perception, 24.7% have moderate perception and 1.7% have low perception. 11.9% respondents have pursued Master/ Higher studies, out of which only 0.4% respondents have high perception and 11.5% have moderate perception about the major aspects of solar power systems.

$H_0 1$: There doesn't exist any association between the perception of the respondents and their education level.

Table No. 5 Chi Square Statistics Showing Association between the Perception of Respondents towards Major Aspects of Solar Power Systems and their Education Level

Particulars	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	269.491	6	.000
Likelihood Ratio	294.243	6	.000
Linear-by-Linear Association	66.739	1	.000
N of Valid Cases	1000		

From Table No. 5 it is clear that there is a statistically significant association between the education level and perception of the respondents as the p value is less than 0.5, hence null hypothesis is rejected. The perception of the respondents may change with the change in their education level.

Table No. 6 Analysis of Perception of the Respondents towards Major Aspects of Solar Power Systems Based on their Annual Income (%)

Annual Income	Perception			
	1. Low	**2. Moderate**	**3. High**	**Total**
1. Up to 1.5 Lakh	2.4	23.1	2.4	27.9
2. Above 1.5 lakh Upto 3 Lakh	6.6	26.2	16.1	48.9
3. Above 3 lakh Up to 6 Lkah	1.8	13.2	0.1	15.1
4. Above 6 lakh	0	5.9	2.2	8.1
Total	10.8	68.4	20.8	100.0

Table No. 6 reveals that 27.9% of the respondents have annual income up to Rs 1.5 lakh, out of which 2.4% have high perception about the major aspects of solar power systems, 23.1% respondents have moderate perception and 2.4% have low perception. Out of 48.9% respondents having annual income above Rs. 1.5 lakh up to Rs. 3 lakh, 16.1% have high perception, 26.2% have moderate perception and 6.6% have low perception. 15.1% respondents earn annual income above Rs. 3 lakh up to Rs. 6 lakh, out of which, 0.1% have high perception, 13.2% have moderate perception and 1.8% have low perception. Out of 8.1% respondents who have annual income above Rs. 6 lakh, 2.2% have high perception and 5.9% have moderate perception.

$H_0 2$: There doesn't exist any association between the annual income of the respondents and their level of perception.

Table No. 7: Chi Square Statistics Showing Association between the Perception of the Respondents towards Major Aspects of Solar Power Systems and their Annual Income

Particulars	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	131.371[a]	6	.000
Likelihood Ratio	164.860	6	.000
Linear-by-Linear Association	2.415	1	.012
N of Valid Cases	1000		

Here, the p value is less than 0.05, which means there is significant association between the annual income and level of perception of the respondents. Hence null hypothesis is rejected. The perception of the respondents may change with the change in their annual income levels.

Table No. 8 Analysis of Perception of the Respondents towards Major Aspects of Solar Power Systems based on their Occupation (%)

Occupation	Perception			
	1. Low	2. Moderate	3. High	Total
1. Agriculture & allied activities	6.4	44.3	4.2	54.9
2. Employed	2.1	12.7	10.2	25.0
3. Business & allied activities & allied activities	0.9	7.1	5.1	13.1
4. Others	1.4	4.3	1.3	7.0
Total	10.8	68.4	20.8	100.0

Table No.8 shows that 54.9% respondents were engaged in Agriculture & allied activities, out of which 4.2% respondents have high perception about the major aspects of solar power systems, 44.3% have moderate perception and 6.4% have low perception. Out of 25% who are employed, 10.2% have high perception, 12.7 % have moderate perception and 2.1% have low perception. Out of 13.1% respondents who are engaged in business and allied activities, 5.1% have high perception, 7.1% have moderate perception and 0.9% have low perception. 7% respondents were engaged in other miscellaneous occupations, out of which 1.3% have high perception, 4.3% have moderate perception and 1.4% have low perception regarding the major aspects of solar power systems.

$H_0$3: There doesn't exist any association between the occupation of the respondents and their level of perception.

Table No. 9 Chi Square Statistics Showing Association between the Perception of the Respondents towards Major Aspects of Solar Power Systems and their Occupation

Particulars	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	151.464[a]	6	.000
Likelihood Ratio	151.329	6	.000
Linear-by-Linear Association	29.825	1	.000
N of Valid Cases	1000		

Here the p value is less than 0.05 which means there exists significant association between the occupation and perception of the respondents. Perception of the respondents changes with the change in their occupation. Null hypothesis is rejected here.

Table No. 10 Analysis of Perception of the Respondents towards Major Aspects of Solar Power Systems based on the Capacity of Solar Device Used by them (%)

Capacity of Solar Device	Perception			
	1. Low	2. Moderate	3. High	Total
1. Upto 500 w	6.2	14.6	9.4	30.2
2. More than 500 W up to 1 KW	2.1	47.0	7.0	56.1
3. More than 1 KW up to 2 KW	1.4	4.3	3.7	9.4
4. More than 2 KW	1.1	2.5	0.7	4.3
Total	10.8	68.4	20.8	100.0

Table No. 10 indicates that 30.2% respondents use solar devices of capacity up to 500W, out of which 9.4% respondents have high perception towards major aspects of solar power technologies, 14.6% respondents have moderate perception and 6.2% have low perception. Out of 56.1% respondents using solar devices of capacity more than 500w but up to 1KW, 7 % respondents have high perception, 47% have moderate perception and 2.1 % respondents have low perception. There are 9.4% respondents who use the solar devices of capacity more than 1KW but up to 2 KW, out which 3.7% respondents have high perception, 4.3% respondents have moderate perception and 1.4% respondents have low perception. Out of 4.3% respondents using the solar devices having capacity more than 2KW, 0.7% respondents have high perception, 2.5% have moderate perception and 1.1% respondents have low perception.

$H_0$4: There doesn't exist any association between the 'Capacity of solar devices used' by the respondents and their level of perception.

Table No. 11 Chi Square Statistics Showing Association between the Perception of the Respondents towards Major Aspects of Solar Power Systems and Capacity of Solar Devices used by them

Particulars	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	157.524[a]	6	.000
Likelihood Ratio	157.711	6	.000
Linear-by-Linear Association	0.136	1	.712
N of Valid Cases	1000		

The p value in the above table is less than 0.05 which means there is a significant association between the Capacity of solar devices used by the respondents and their perception level. Hence the perception of the respondents may change with the variation of the capacity of solar devices used by them.

Table No.12 Analysis of the Perception of the Respondents Towards Major Aspects of Solar Power Systems based on the Type of solar Devices used by them (%)

	Perception			
Type of Solar Device	1. Low	2. Moderate	3. High	Total
1. Off grid PV panels	7.8	59.5	18.9	86.2
2. On grid PV panels	1.1	5.6	0.8	7.5
3. Solar Pumps	1.1	2.5	0.7	4.3
4. Others	0.8	0.8	0.4	2.0
Total	10.8	68.4	20.8	100.0

Table No. 12 shows that 86.2% respondents use off-grid Solar PV panels, out of which 18.9% show high perception about the major aspects of solar power systems, 59.5% show moderate perception and 7.8% respondents show low perception. Out of 7.5% respondents using on-grid PV panels, 0.8% respondents have high perception, 5.6% respondents have moderate perception and 1.1% respondents have low perception. Out of 4.3% respondents using solar pumps, 0.7% respondents have high perception, 2.5% respondents have moderate perception and 1.1% respondents have low perception. Out of 2% respondents using other solar devices, 0.4% respondents have high perception, 0.8% respondents have moderate perception and 0.8% respondents low perception towards major aspects of solar power devices.

$H_0$5: There doesn't exist any association between the 'Type of solar devices used' by the respondents and their level of perception.

Table No. 13 Chi Square Statistics Showing Association between the Perception of the Respondents towards Major Aspects of Solar Power Systems and Type of Solar device

Particulars	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	36.131[a]	6	.000
Likelihood Ratio	28.488	6	.000
Linear-by-Linear Association	17.560	1	.000
N of Valid Cases	1000		

The p value in the above table is less than 0.05 which means there is a significant association between the Type of solar devices used by the respondents and their perception level. The perception of the respondents may change with the change in the type of solar device used.

Table No. 14: Analysis of the Perception of the Respondents Towards Major Aspects of Solar Power Systems based on the Area of the Respondents (%)

	Perception			
Area	1. Low	2. Moderate	3. High	Total
1. Ambala	0.8	8.6	4.6	14.0
2. Rohtak	5.3	13.7	3.8	22.8
3. Gurugram	0.6	9.2	2.2	12.0
4. Faridabad	1.7	7.4	1.9	11.0
5. Hissar	2.0	15.8	6.7	24.5
6. Karnal	0.4	13.7	1.6	15.7
Total	10.8	68.4	20.8	100.0

Table No. 14 reflects the perception of the respondents towards major aspects of solar devices based on the area of their residence. In Ambala division, out of 14% respondents, 4.6% have high perception, 8.6% have moderate perception whereas 0.8% respondents have low perception. In Rohtak division, out of 22.8 % respondents, 3.8 % have high perception, 13.7 % have moderate perception whereas 5.3 % respondents have low perception. In Gurugram division, out of 12% respondents, 2.2% have high perception, 9.2% have moderate perception whereas 0.6% respondents have low perception. In

Faridabad division, out of 11% respondents, 1.9% have high perception, 7.4% have moderate perception whereas 1.7% respondents have low perception. In Hissar division, out of 24.5% respondents, 6.7% have high perception, 15.8 % have moderate perception whereas 2% respondents have low perception. In Karnal division, out of 15.7 % respondents, 1.6% have high perception, 13.7 % have moderate perception whereas 0.4% respondents have low perception.

$H_0$6: There doesn't exist any association between the 'Capacity of solar devices used' by the respondents and their level of perception.

Table No. 15: Chi Square Statistics Showing Association between the Perception of the Respondents towards Major Aspects of Solar Power Systems and Area of their Residence

Particulars	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	92.915[a]	10	.000
Likelihood Ratio	90.383	10	.000
Linear-by-Linear Association	.237	1	.626
N of Valid Cases	1000		

The p value in the above table is less than 0.05 which means there is a significant association between the variable "Area" of the respondents and their perception level. The perception of the respondents may change with the change in the area of the residence.

Conclusion

Majority of the respondents have moderate perception towards the major aspects of solar power systems. The perception of the respondents depends significantly on the their education level, income level, occupation, capacity of solar device, type of solar device used by them and area or locality. They agree that solar energy can be the best alternative for energy supply as well as it can be used as a full-fledged system for procuring electricity for the household hence providing independence from the national electricity grid. They also agree that idea of feeding excess electricity generated during the day to the national grid is a good idea in terms of generation of savings. They also perceive that solar energy is reliable, affordable, durable and convenient to use and is able to provide energy security. It helps improving quality of life with its diverse applications in day to day life. Solar pumps are the best solution for the problem of scarcity of water. Solar water heaters are a cost effective way to produce hot water for various purposes. Subsidies, warranties and after sale support effectively help in promotion of solar technologies.

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An Analytical Study of Educational Status and Infrastructural Development in Mewat District in Haryana State

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Abstract

Education is an essential component to facilitate the holistic development of an individual. Recognizing the importance of education, the Government of India has taken several initiatives to ensure that each individual can access educational facilities thereby contributing to the economic growth of India. The 'Education for All' campaign is one such step that ensures free elementary education for all. Mewat district of Haryana is found to have one of the lowest literacy rates in the country. Even though all the government schemes are under implementation in the region, literacy figures are dwindling. This paper aims to critically examine the educational infrastructure in Mewat district and suggest measures for the overall improvement of the educational system in Mewat district.

Keywords: Educational development, Holistic development, Mewat District, Strategic Programmes

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Introduction

Education has not only been acknowledged as the foundation of economic and social progress but also as something more important as the global economy is transformed by technological advancement and new industrial techniques. Knowledge-intensive sectors, agriculture, and services will become increasingly important to development. India in general and Mewat in particular lags behind when it comes to giving their youth the education and training they need to produce new knowledge and adapt existing technology to the local environment. Besides, improved educational infrastructure and resources and their utilization, a positive perception change among people towards education and its importance is also necessary. The government of India has made education a fundamental right keeping its essentiality and significance in view in making individuals skillful and competent which are conducive to living a dignified and meaningful life.

Intending to universalize elementary education, the Government of India has launched several schemes such as Sarva Shiksha Abhiyan, Mid-Day Meal, Integrated Child Development Services Scheme and School Health Program and so on which have led to a marked improvement in some parts of the country. Additionally, steps have been taken to reduce gender disparities in enrollment and ensure that all children attend school within a certain period.

Enhancing the standard of education in schools with particular emphasis on teacher capacity building, infrastructural improvement and greater ownership of the community are some of the domains where the various educational schemes aim to bring about change. For furthering the holistic development of children with a special focus on girls, there are schemes run by the Central and State Governments which aim to provide non-formal preschool education, improve the nutritional intake in school-going children, and provide regular health check-ups and health education. Believing that a healthy child can learn better, these schemes aim to promote education as well as improve the overall well-being of the student. Effective implementation of all these schemes will ensure that all the children between the age group of 6 to 14 years are enrolled in schools and that the learning outcomes are at par with the cognitive abilities of children in each grade.

Review of Literature

An assessment of development indicators in rural Mewat, published in 2015 by the Institute of Rural Research and Development (IRRD), focused on the development indicators of governance, education, health, and water, including drinking water. Mewat, a district in Haryana's prosperous state, lags behind the rest of Haryana in terms of all development indicators. Thus, to solve the persistent issues in agriculture as well as those in health, education, and governance, a concentrated approach is needed.

A study titled "Identifying Backwardness of Mewat Region in Haryana: A Block Level Analysis" was published by Shegal Foundation in 2015. The study was carried out in the Mewat district's Nuh, Taoru, Firozpur Jhirka, and Punhana blocks as well as Hathin in the district of Palwal. Health, education, the standard of living, agriculture, and the economy were the study's indicators. According to the analysis, Mewat district is behind the BRGF-listed districts and the rest of the state's districts. On important development indices, the Mewat district performs worse than the underdeveloped districts. Mewat district was judged to have poor infrastructure in the areas of health, education, and standard of living.

Objectives of the Study and Methodology

The objective of the study is to critically analyze the educational status and infrastructural development in Mewat District. It also aims at evaluating the performance of the schemes being implemented and benefits derived and facilities availed by the people under these and to suggest measures to improve the state of education in Mewat district.

To complete the paper data from both sources primary as well as secondary sources, have been used. The district census handbook, the Haryana Director of Secondary, Middle, and Primary Education, and other official records served as the primary sources for the secondary data. The primary data has been collected using a questionnaire asking relevant questions. Response from 600 respondents has been sought to complete the work. Data from both the government reports and district census and field survey was correlated, analyzed, and arrived at the conclusion.

About the Study Area

One of the most developed states in India is Haryana, a state in North India that greatly benefitted from the Green Revolution movement in the 1970s and 1980s. It has 22 districts, one of which is Mewat. Meo-Muslims, who belong to the category of Other Backward Classes, make up the majority of the population in the Mewat district. Despite its proximity to the Capital, the district remained underdeveloped; around 90% of the population still lives in rural areas. In Mewat, a large part of the population is landless and an equal part of the population holds marginal land holdings. The region falls under a semi-arid climatic zone. Agriculture and daily wage labor are the chief occupations of the people. Agriculture in Mewat is rain-fed. In the region single crop (Mustard and Millet) is grown with little possibility for the second crop in case of timely rainfall.

In April 2005, the newly created Mewat District was established, consisting of six Blocks, five Tehsils, and three Sub-Divisions. Due to its location in the deep South, the District lacks the necessary infrastructure to support socioeconomic growth. The district currently consists of 439 villages in the Nuh, Nagina, Firozpur Jhirka, Taoru, and Punhana Blocks.

The state of Education in Mewat District:

With a 54.08 percent literacy rate, the Mewat district's educational situation is quite bad. The gender-based literacy rates for men and women are 69.9 and 36.6 percent, respectively, with a resultant literacy gap of up to 33.34 percent. As the female literacy rate in rural (37.71) and urban (57.71) is too high, the male literacy rate in rural (68.56) and urban (80.09) is not significantly different. The Mewat district has a low overall literacy rate, which contributes to its backwardness.

Table 1 Literacy Rate with sex in Mewat District

District	Literates & Illiterates						Literacy Rate			Literacy gap
	Literates in Numbers			Illiterates in Numbers						
	Persons	Males	Females	Persons	Males	Females	Persons	Males	Females	
Mewat	454897	308435	146462	634866	262727	341639	54.06	69.94	36.6	33.34
Rural	384749	266086	118663	580408	240000	340408	51.99	68.56	37.71	34.85
Urban	70148	42349	27799	53958	22727	31231	69.42	80.09	57.71	22.38

Source: District Census Handbook, Mewat Haryana-2011

The table-1.2 demonstrates the district's severe lack of accredited senior secondary and middle schools. Mewat has never had a school in each village, except primary schools. The most high and senior secondary schools are located in Nuh block (30), followed by Punhana with 21 schools. Similar statistics apply to primary schools, where the Nuh block has 113 schools and is followed by Punhana with 110 schools. Fortunately, Punhana block has the second-most middle schools, with 52, followed by Nuh block with 65. Despite the district's recognised Middle schools nearly increasing in number between 2001 and 2011, each community lacks access to a school.

Table-1.2 Educational Infrastructure in Mewat District

Blocks	Schools in Mewat		Blocks	Types of Schools	2017
	S.S. schools	14		S.S. Schools	4
	Average schools per village	0.16		Average schools per Village	0.06
	Secondary Schools	7		High Schools	6
	Average schools per village	0.08		Average Schools per village	0.09
	Middle Schools	52		Middle Schools	49
	Average schools per village	0.61		Average schools per village	0.74
	Primary Schools	110		Primary Schools	81
Punhana	Average schools per village	1.3	**Nagina**	Average schools per village	1.2
Sub-total	All schools	183	**Sub-total**	All schools	140
	SS Schools	19		S.S. Schools	8
	Average schools per village	0.18		Average schools per village	0.1
	High schools	11		High Schools	5
	Average	0.10		Average schools per village	0.06
	Middle Schools	65		Middle Schools	50
	Average	0.63		Average schools per village	0.62
Nuh	Primary schools	113	**Firozpur Jhirka**	Primary Schools	101
	Average	1.09		Average schools per village	1.26
Sub-total		208	**Sub-total**	All Schools	164
	S.S. Schools	11			
	Average per village	0.13			
	High Schools	4			
	Average	0.05			
	Middle Schools	44			
	Average	0.55			
Taoru	Primary Schools	79			
	Average	1.0			
Subtotal	All Schools	138			
Total	All Five Blocks (S.S.+ Secondary+ Middle+ Primary) Schools				**833**

Source: Haryana's Director of Secondary, Middle, and Primary Education

The situation at the High and Senior Secondary levels is very grim having only 89 recognized schools in the district. In the case of recognized primary schools, the situation has improved a bit over the past decade with an increase from 468 to 484 with each village having a primary school.

The enrollment data shows that girls are consistently underrepresented in upper grades across all levels. With an increase in school grades, there is a decrease in the percentage of girls enrolled. Table-1.3 shows the reduced enrolment of girls in schools. Due to early marriage or restrictions on leaving the home, the cultural ethos is a major factor in the decline of girls' enrolment in schools. Though the enrolment of girls in primary schools is equal to that of boys, it falls with increasing grades with almost double.

Table-1.3 School Infrastructure in Mewat District

Schools Enrolment in Mewat District					
Senior Secondary Schools in 2010-11		**Middle Schools in 2011-12**		**Primary Schools in 2011-12**	
Boys	Girls	Boys	Girls	Boys	Girls
71.8	28.2	64.4	35.6	55.4	44.6

Teaching Staff in Schools								
S.S. Schools			**Middle Schools**			**Primary Schools**		
Male teachers	Female teachers	Ave.	Male teachers	Female teachers	Ave.	Male teachers	Female teachers	Ave.
73.1	26.9	9.4	82.6	17.4	2.8	19	81	4.8

Source: Haryana's Director of Secondary, Middle, and Primary Education

Table-1.3 reveals the stark gender imbalances in the availability of teachers in the schools. Resources like teachers are thought to be crucial for ensuring that high-quality education is provided. It has been discovered that student success levels and teacher availability are closely associated. Extremely few female instructors are found in the teaching profession. In comparison to male instructors, there are more female instructors in primary schools. However, the percentage of female instructors is steadily dropping at upper levels. According to published research, an imbalance in the gender ratio of students and teaching personnel is related.

The district's educational status is negatively impacted by the school facilities, poor teaching practices, and a lack of teaching staff. The lack of teachers, the inadequate school facilities, the distance from the hamlet, and other problems all have a direct impact on enrollment. Distance is the biggest factor discouraging parents and girls to attend school and also children. It has been noted that while girls are not allowed to attend the same remote schools as boys in remote areas, male youngsters are sent there to attain education.

The general level of literacy in the Mewat district reflects the lack of accessibility to the necessary educational facilities (54.04 percent). The literacy rate in the district rose from 43.5 percent in 2001 to 54.1 percent in 2011. Despite this improvement, literacy rates still fall well short of both national and Haryana benchmarks.

Table-1.4 Educational Facilities Availed by the People under various Schemes

Educational facilities					
Blocks	**Yes**	**%age**	**No**	**%age**	**Total**
Firozpur Jhirka	52	43.33	68	56.16	120
Nuh	43	35.83	77	64.16	120
Nagina	41	34.16	79	65.83	120
Punhana	53	44.16	67	55.88	120
Taoru	67	55.88	53	44.16	120
Total	256	42.66	344	57.33	600

Source: Field Survey

Table-1.4 depicts the government schools and services that the locals can access. A district-level analysis reveals that only 42.66 percent of people are taking advantage of educational resources, including attending public schools, purchasing textbooks and uniforms, and accessing the Mid-Day Meal programme. Taoru is the block with the highest percentage of residents using government-funded educational resources (55.88%), followed by Punhana with 44.16%. However, neither the Taoru block nor the Punhana block offer enough facilities. They claim that people aren't even making use of the basic educational resources available in public schools.

Table-1.5: Steps taken to Improve State of Education by the Panchayats

Blocks	Visit schools regularly	%age	Form Village Education Committee	%age	Spread awareness	%age	Other steps	%age	None	%age	Total
Firozpur Jhirka	0	00	41	34.16	21		9	7.5	49	40.83	120
Nuh	0	00	37	30.83	26	21.66	7	5.83	50	41.66	120
Nagina	0	00	38	31.66	2	1.66	28	23.33	52	43.33	120
Taoru	0	00	56	46.66	27	22.5	5	4.16	32	26.66	120
Punhana	0	00	46	38.83	3	2.5	23	19.66	48	40	120
Total	0	00	218	36.33	79	13.16	72	12	231	38.5	600

Source: Field Survey

Table-1.5 lists the initiatives and measures implemented by the Panchayats to raise educational standards in public schools and boost enrollment. A district-level analysis reveals that Sarpanches do not frequently visit schools. However, 36.33 of the respondents claimed that village panchayats had established village education committees or school management committees to keep an eye on the schools and deal with any issues that might arise. 13.16 percent of respondents, a very tiny percentage, claim that village panchayats organise educational awareness campaigns in their communities. However, 38.5 percent of respondents claim that Panchayats are doing nothing to raise educational standards or school enrollment. People's prosperity and progress are tied to education, however in the Mewat district, neither the Panchayati Raj Institutions nor the local residents are doing anything to encourage parents to enrol their children in schools. However, some claim that for a high-quality education, they prefer private schools to public ones.

Results and Discussions

The level and quality of education are not sufficient, notwithstanding the upward movement and development over time that the study saw. Although the central and state governments have implemented a number of programmes like SSA, MDM (Mid-Day Meal), ICD (Integrated Child Development Scheme), and SHP to increase enrollment and improve the quality of education, the district's literacy rate is still poor, even though it is lower than the state and national averages.

The study shows that women's literacy rates are significantly lower than men's. Data indicates that girls' education is not given the same priority as boys' education, and women are less likely than males to pursue higher education. Parents are hesitant to send their female children to school since they are required to complete household that does not require a formal education. We do, after all, inhabit a society that is rich with preconceptions and customs. One of the main causes of females' persistently below-average performance in the country is due to this.

The data indicates that there are primary schools, but for secondary education, children must travel to neighbouring villages that are unsafe for females. Dropouts can happen for a number of reasons, such as this one coupled with financial difficulties and the requirement to finish domestic chores. Another reason why girls aren't sent to higher education is the distance between primary,middle and senior secondary schools. Despite the fact that the SSA provides free education, parents are still liable for costs such as books, uniforms, transportation, etc.

Many other problems are impacting the enrolment of children in schools. The lack of female teachers and the absence of other qualified teachers are forcing many parents to pull their girl children out of school which is sharply evident after they attain puberty.

All children receive textbooks each year as part of the SSA campaign, but by the time they receive them, they are mainly no longer necessary. The availability of cash award and stipend programmes is irregular, and there is no clear trend in either direction. Villagers believe that teachers are unmotivated and uninterested in their students. Although instructors' attendance has increased after biometric attendance was implemented, they are not committed to teaching. The desire for education among boys and females to attend school is another indicator of the gender difference. The village education committee was set up in almost every village, although it's typically seen as a waste of time. The pupils and the villagers don't know anything about it. Increased access to and affordability of education for everyone are crucial, as is support for girls' education.

Recommendations & Implementations

It is necessary to initiate an education campaign for children, teachers, and parents. Parents and instructors must value education, especially for girls, and teachers must show up to work each day and impart a high degree of education to the students.

Teachers need to be reviewed frequently to ensure the quality of the work. To ensure the calibre of the work, teachers must be evaluated on a regular basis. Teachers' teaching abilities should be enhanced, and conferences and seminars should be held to help them become more community-minded. Locals have complained about the teachers' lack of interest in classroom activities, which restricts the kids' motivation to learn.

For parents to be able to send their girl children to school, financial and material support is required. The gender ratio shows that girls are typically kept at home for a variety of reasons. The enrollment of females in education is significantly influenced by economic factors. Additionally, it is necessary to promote gender equality at every level, particularly among instructors. Female educators must persuade parents to enroll their daughters in schools.

Village Education Committee needs to be revamped to bring more transparency to the mechanism. It will aid in raising community awareness of the value of universal education. The Village Education Committee and other associated bodies must be held more accountable through the use of efficient monitoring systems. The monitoring mechanism is also necessary to make sure that government programs and policies are carried out effectively. Coordination with NGOs is also necessary since they may provide the district's teaching and learning a lot of momentum.

Steps should be undertaken to make learning and teaching interested for both students and teachers through the introduction of new techniques and new modes of learning and teaching. Now we have two education models one from the Delhi government and another from the Kerala government to take inspiration from and replicate in our state and targeted districts.

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