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Pawanesh Abrol*

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EDITORIAL

Dear Readers

Welcome to the reading of January-June issue of *Researcher!*

In Science & Technology section, Richha Sharma & Pawanesh Abrol paper on "Point Cloud Classification of 3D Objects using CNN" focuses on experiments for the classification of point cloud using PointNet as a classifier on the popular ModelNet10 dataset presented with the data visualization results.

In Social Sciences section, Neelam Kumari paper on "Job satisfaction among working women employed in Education and Banking sector: A case study from Jammu and Kashmir, India" points to various reasons including familial and social responsibilities, and dearth of skills resulting in lack of job satisfaction among women employees. Sarita Sood & Komal Sharma paper on "Role of job crafting in burnout of college teachers in Jammu district" examines the role of job crafting on the burnout level of college teachers with special focus on task crafting, relational crafting, and cognitive crafting analysis of the job crafting. S.K. Panda & Ranjana Sharma paper on "Status and Functioning of Government Pre-Primary Schools in Jammu District: An Evaluative Study" examines the status and functioning of government pre-primary schools in Jammu district to underscore that the prominent reason behind the low enrolment of pre-primary students in the schools is parents preference to send their children to private schools instead of government schools. Mohd Shabir paper on "Evaluation of Education Among Tribals and Suggestive Remedial Measure" gives an overview of the educational scenario of the tribals, difficulties in receiving education and suggestive remedial measures with special reference to Bhatyas zone of Doda district. Pakiza Masood paper on "Nature of Physiography, Level of Development and Socio-Political Exclusion: A Case Study of Middle Himalayan Region in Jammu and Kashmir" examines the developmental process and the regional representation of Middle Himalayan Jammu and Kashmir in comparison to other three zones.


In Business Studies section, Meena Gupta paper on "Assessing the Impact of Perceived Relationship with Anthropomorphic SST and Consumers' Technological Self-Efficacy on Consumers' Attitudes toward Anthropomorphic SST" tries to analytically examine consumers' attitudes toward Anthropomorphic Self-Service Technologies (ASSTs) based on consumers' perceptions of the relationships they form with the ASSTs and their technological self-efficacy.

In Arts and Humanities section, Manish Prasad review paper on "Eco-Translation and Translation and Ecology in the Age of the Anthropocene" elucidates how translation practice can be helpful to connect the global concern about the climate crisis and its effect on human beings at the level of food, travelling, and technology. Sangita Neogi paper on "Muses in Abyss: Violence Masqueraded by Music in the Holocaust Movie *Playing for Time*" explores the role of music in the unimaginable setting of starvation, disease, and death in the Holocaust movie *Playing for Time*, which is the first film to introduce the topic of music in the realm of Holocaust film adaptations.

We are thankful to our contributors and also to our reviewers for their patience, commitment, consistency and dedication which has given visibility to the journal.

As editor of the journal, I am thankful to my dedicated editorial board members for their commitment to the job.

Hope you will enjoy reading the research articles and the multidisciplinary nature of the journal will infuse in you multidisciplinary and interdisciplinary research as also outlined in NEP-20.


Prof. Anupama Vohra
Editor

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SCIENCE AND TECHNOLOGY

Point Cloud Classification of 3D Objects using CNN

Richha Sharma * & Pawanesh Abrol **

ABSTRACT

Three-dimensional data offers an excellent domain for studying representation learning and has lately been attracting attention owing to its extensive application areas, like computer vision, autonomous driving, and robotics. However, deep learning in the arena relating to point cloud is still relatively new owing to the nature of challenges met in dealing with point clouds with deep neural networks. As the elementary task of point cloud study, the challenge of classification is fundamental yet challenging. The objective is to classify the objects represented as point cloud. In this work, experiments for the classification of point cloud using PointNet as a classifier on the popular ModelNet10 dataset are presented with the data visualization results. Overall, a good test accuracy was achieved when the model was implemented.

Key Words: Image processing, feature point, point cloud, deep learning, 3D data

Introduction

Recent advancements in deep learning methods have dominated many research areas including speech recognition, computer vision, and natural language processing. Most of the deep learning architectures require using a huge amount of training data. Fortunately, with the progress in 3D sensing technologies and the increased accessibility of affordable 3D data acquisition devices like structured-light 3D scanners [1] and time-of-flight cameras, the quantity of 3D data has significantly increased. 3D data forms like depth images, mesh models, etc. [2], offers extensive information about the geometry of 3D objects. Deep learning on point cloud data [3][4] has been captivating additional attention in the last few years resulting in the flourishing of the field of deep learning on point clouds. Also, several methods are being proposed to address different problems. Point cloud, an illustration of 3D shapes (solids that have three dimensions such as length, width, and depth) has gained importance in current times. Point cloud is a set of points in the 3D space with an unorganized structure having no order or hierarchy and is not connected. The file size of point cloud data is huge and requires high configuration devices to store, manage, and utilize such data for further processing. As the illustration is both non-structured and point-wise unordered, it presents a challenge [5] in the processing of data. Point clouds commonly represent the sensory data related to 3D objects [6] and scenes. Point clouds can represent the 3D model of an object. A 3D model is a three-dimensional mathematical depiction of an object that defines the surface characteristics like color, light play, texture, etc., Every point is expressed as a vector that indicates the 3D coordinate and feature channels of the point.

Recently used sensing technologies gather reliable and accurate data and are currently being used in numerous applications. Classification and semantic labeling of the point cloud aims at assigning a unique class label to every point of the input data [7]. Typically, the classification of point

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cloud involves two core steps: feature extraction and semantic classification. Extraction of features for further classification is a process of abstracting local geometric information of data points in a local neighborhood, encapsulating them into feature vectors. CNN is a specific type of artificial neural network designed for the processing and analysis of structured arrays of data. Convolutional neural networks [8] contain stacked convolutional layers, each capable of recognizing further sophisticated shapes.

The major contributions of this work include a brief study of various 3D data representation techniques. This paper specifically focuses on the classification of 3D point cloud on a benchmark CAD model dataset. The structure of this paper is as: Section 2 presents a brief review of 3D data and work related to the processing of point cloud for classification problems. Section 3 gives the methodology of the work that has been done along with the CNN architecture used. Section 4 describes the dataset used with some experimental results. The conclusion and future outline of the work is given in section 5.

1 Related works

2.1 3D Data representation

3D data can be embodied in different forms with varying structures and geometric [9] properties. Representation of 3D data is majorly classified as Euclidean and Non-Euclidean. Euclidean data consists of a primary grid structure allowing for a generic parametrization and shared system of coordinates.

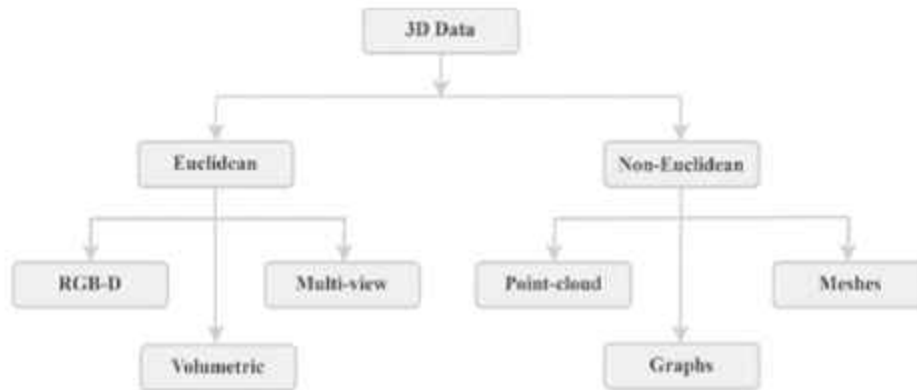


Fig. 1: 3D Data Representation Techniques

Euclidean data is effective for rigid objects with minimal deformation, like chairs, beds, etc., with non gridded array structures and no global parametrization. Detailed classification of 3D data is shown in Figure 1 and Table 1 gives a brief description. DL on 3D data is a field in itself, with ongoing activities in computer vision, medical imaging, image processing, etc.

Table 1: Description of different 3D data representation techniques

Data representation	Description
RGB-D	RGB-D data [10] delivers information about the captured 3D object by providing a depth map with 2D color information.
Volumetric	It models 3D data by describing how a 3D object is distributed through the three dimensions of the scene.
Multi-view	3D data is represented as a combination of multi-view 2D images of the same object from different viewpoints [11].
Point-cloud	Set of unstructured 3D points representing the geometry of 3D objects.
Graphs	3D graph-structured data contains nodes that correspond to the vertices and edges over the object surface. Graphs can be directed or undirected [12].
Meshes	It consists of a set of polygons described in terms of a set of vertices that describe how the mesh coordinates exist in the 3D space. These vertices are associated with a connectivity list that describes how these vertices are connected [13].

While deep learning techniques are mainly applied to data with a structured grid, point cloud, on the other hand, is unstructured and simple. The un-structuredness of point clouds makes use of deep learning for its processing directly very challenging. Earlier approaches overcome this challenge by pre-processing the point cloud into a structured grid format at the cost of increased computational cost or loss of depth information. But there are very few techniques that take raw point cloud directly as input. As the selected CNN architecture deals directly with raw point cloud data, it was implemented for classification problem.

2.2 Deep Learning on 3D data

3D data can be characterized using several different ways: (a) multi-view (b) volumetric grid (c) mesh (d) point cloud. For each representation, there is a different approach for modifying the data to the form required by deep learning methods.

A point cloud can be used to represent any object's entire surface in 3D, which is normally aligned, covering the whole surface of the object. For point cloud features, there are two main groups - local and global descriptors. They perform adequately for several tasks. The comprehensive performance evaluation suggests guidelines for feature selection. However, optimal feature selection remains non-trivial and highly data-specific. A descriptor, view feature histogram (VFH) was presented in [14] as a 3D point cloud descriptor. To maintain a constant rotational scale, further viewpoint information was added during the calculation of the angle between the relative normals. The descriptor showed high recognition performance and fast computational properties and worked well with noisy real-time acquired data. As VFH takes the geometric data of the whole 3D object surface, low accuracy is shown when finding objects with alike geometric information. In [15], a novel shape descriptor has been proposed to enhance the descriptiveness of global features. Object recognition rate achieved through experimentation on a publicly available dataset of real-world objects with 200 categories outperforms the state-of-the-art descriptors. A hybrid feature convolutional neural network (HFCNN) model [16] has been proposed that simultaneously discusses the local, global, and single-point properties giving the complete description of 3D point cloud features. It permits the semantic segmentation of the individual points and by using point sets find the target class. The author in [17]

presented the local shapes classification of point clouds using the surface shape description method reconstructing only a few vital feature points. Existing 3D feature descriptors are less robust and also suffer from low descriptiveness. Dong et al. proposed a descriptor known as a Binary Shape Context (BSC) descriptor, an efficient 3D descriptor that caters to the problem of low descriptiveness and showed a high recognition rate on popular benchmark datasets. [18][19] presents a descriptor for matching surfaces that offers an effective way for many applications to address issues like object recognition, 3D reconstruction, and shape retrieval. SHOT outdoes state-of-the-art local descriptors in a systematic experimental study on datasets attained through different sensors. A learning method enabled by four new ways given in [20] that learn from non-uniformly sampled point clouds effectually has been presented. The robustness of the over-fitting data with improved generalization was observed after experimental work. Better flexibility and popularity of CNN models over traditional methods have been valuable for the area of classification problems [21] yet, it is hard to apply CNNs to 3D point clouds directly because of the unstructured and irregular format. Su et al. [22] presented a CNN architecture that utilizes multi-view information of 3D shape contributing to better recognition performance. CNN architecture uses multiple pictures of a 3D object employing the multi-view method to aggregate data in the form of a descriptor for object classification. Many of the prevailing volumetric 3D CNNs are bulky with intricate structures resulting in extreme computational costs and storage necessities. LightNet [23], is a lightweight volumetric CNN architecture that comprehends real-time 3D object classification problems through foreseeing class and direction labels from complete and fractional shapes.

Even though there are many datasets available, the widely used datasets to access the performance of various models are ModelNet10 and ModelNet40. The classification performance on 3D data from the published literature with ModelNet40 dataset is shown in Table 2.

Table 2. Classification performance on ModelNet 40

Methods	Input	Learning	Accuracy %
FoldingNet [28]	Points	Unsupervised	88.4
PointNet (vanilla) [6]	Points	Supervised	87.2
PointwiseCNN [27]	Points	Supervised	86.1
Deep Sets [19]	Points	Supervised	87.1
3D GAN [30]	Voxels	Unsupervised	83.3
VoxNet [29]	Voxels	Unsupervised	85.9
Used CNN model	Points	Supervised	89.0

2.3 Point Cloud Classification

Classification of point clouds is commonly known as 3D shape classification. The models on 3D shape classification [24] are similar to those of image classification in that they start with a global embedding with a decoder and then pass it through several layers that are fully connected to arrive at the classification value. The problem relating to object classification in the 3D domain aims to categorize object shapes into semantic classes according to their global topological configuration of local geometry primitives [25]. A point cloud is a prevalent shape representation in the area of 3D object classification owing to its simple structure and easy acquisition as the direct output of 3D scanners such as the LiDAR in real-world applications. 3D object classification has become a very involved research field.



Fig. 2. Point cloud classification

A large number of deep networks such as PointNet [5], PointNet++ [6], and DGCNN [8] have been developed to handle data-specific challenges sparsity and irregularity of the point cloud representation, which is under an ideal condition where point clouds are uniformly sampled from the whole surface of the object [26]. The author in [31] presents Point Cloud Transformer (PCT), a novel framework based on the transformer, suitable for learning about unstructured point clouds with the irregular domain. MS-VDCNN [32] considers both local and global features to learn from partial and full parts of the object and improved the classification performance with less memory utilization and faster execution.

Based on the point cloud aggregation method, classification models can be generally divided into two categories: projection-based methods and point-based methods. To overwhelm the challenges posed by point cloud structure, the PointNet [5] architecture applies a symmetric function that is indifferent to the order, of a high-dimensional depiction of the distinct points. PointNet inputs point cloud directly and give either the class labels or part labels for the entire input and each point of the input respectively as output. Each data point is represented by three coordinates (x, y, z) . By computing normal and other features (local or global), additional dimensions can be added, the PointNet approach smears a symmetric function that is insensitive to the order, on a high-dimensional representation of the individual points.

3 Methodology

In Figure 3, a general workflow of our proposed method is given, involving four major steps that are transformation, scatter plot, point cloud, and CNN as shown.

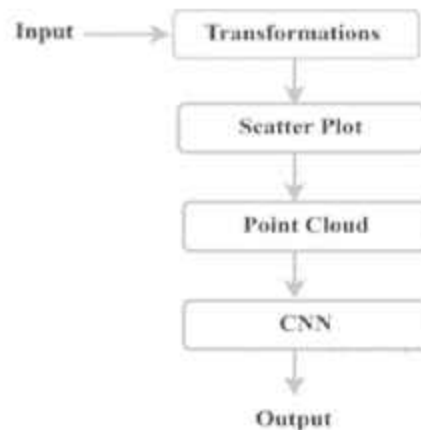


Fig 3: Methodology of the work done

The input is a CAD model which is represented as a triangular mesh file. For conversion of a mesh file to a point cloud, sample points are selected using uniform random sampling on the mesh

surface. The classifier (DNN) takes n points as input, transforms the input data by applying input and feature transformations, and then sums point features by max-pooling as shown in Figure 4. The output is classification scores for k classes. Also, the overall validation accuracy and loss are given as output values for the implementation. Validation accuracy is given as:

$$V_{acc} = (\text{correct}/\text{total}) * 100$$

Loss is a summation of the errors made for each data in training or validation sets. For the experiment, Negative Log Likelihood Loss (NLL) is taken as it is useful to train a classification problem. NLL is represented as $L(y) = -\log(y)$. loss is calculated as:

$$l = \sum_{n=1}^N \bar{l}_n$$

where N is the batch size.

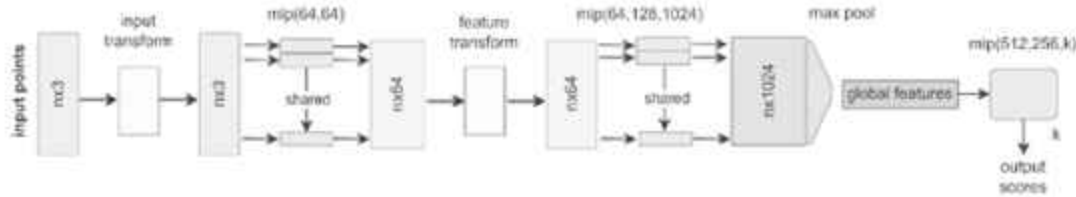


Fig 4: CNN architecture

The classification architecture inputs n points, apply transformations (input and feature), and sums extracted point features by the max-pooling function. The input transformation network takes raw point cloud as input and regresses to a 3×3 matrix. It comprises a shared MLP network that maps each of the n points from three dimensions (x, y, z) to 64 dimensions. The feature transformation network is similar to the input transformation network except that the output is a 64×64 matrix. Here, the shared MLP maps n points from 64 dimension 64 to 1024. With the points in higher-dimensional embedding space, max pooling is used to create a global feature vector. Finally, a three-layer fully-connected network is used to map the global feature vector to k output values which is the classification score for k (40) classes. Dropout with a keep ratio of 0.7 is applied on the last fully connected layer whose output dimension is 256, before class score prediction. Adam optimizer with initial learning rate of 0.001 is used with a batch size of 32.

4 Experimentation and Results

A benchmark point cloud classification dataset that is broadly used among point cloud models, ModelNet is used in the experiments. ModelNet10, is a subset including 4,899 CAD models for 10 classes of distinct objects. ModelNet40 is another subset of 12,311 CAD models from 40 man-made object categories as Object File Format (.off) files, used to represent the geometry of a model by specifying the polygons of the model's surface. The polygons can have any number of vertices. The data is represented as a triangle mesh

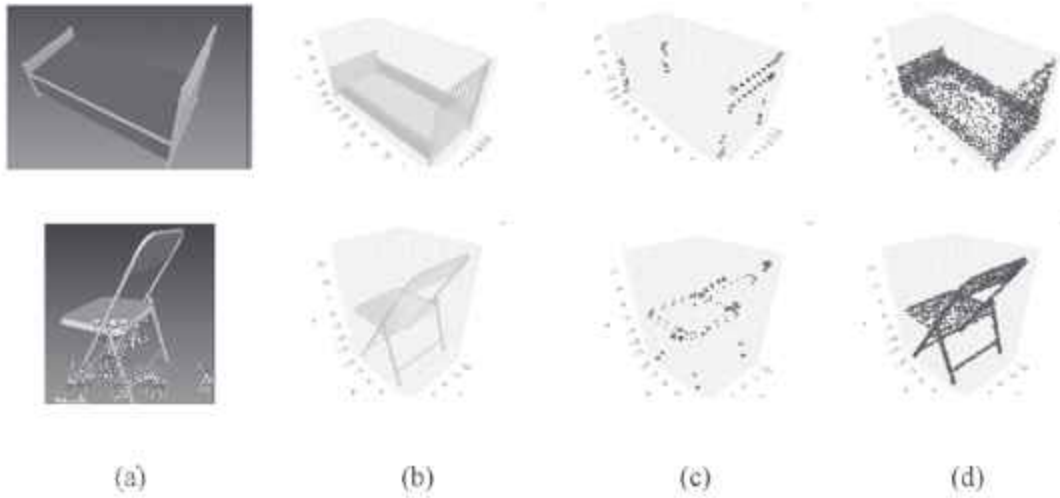


Fig 5: Output visualization is given as (a) The CAD models (b) Mesh representation (c) Scatter plot of mesh vertices (d) Point cloud

containing vertices and triangular faces. Dataset is divided into training and testing sets with 9,843 (80%) models for training and 2,468 (20%) models for testing. Figure 5 shows the visualization outputs of two test data models. The statistics of the results are given in Table 3.

Table 3: Validation Accuracy and Loss for epochs

Epochs	Validation accuracy %	Loss
1	70.1	0.901
2	67.3	0.717
3	73.4	0.581
4	80.6	0.527
5	82.2	0.498
6	83.7	0.376
7	84.5	0.324
8	86.5	0.307
9	87.1	0.298
10	89.1	0.275

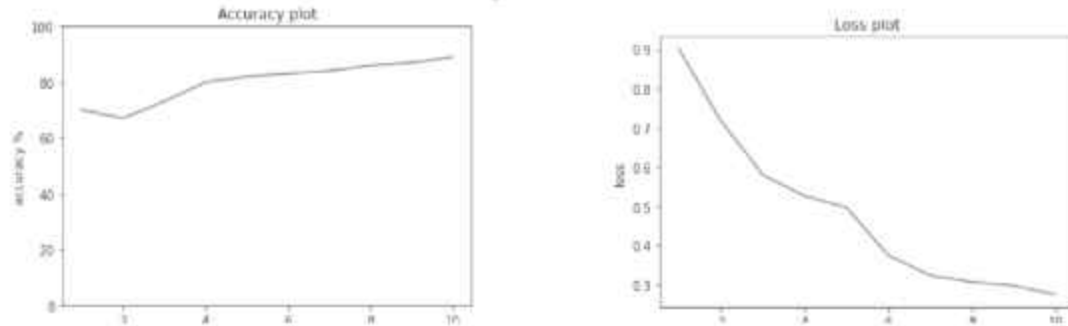


Fig 6: Graph plot shows the validation accuracy and loss

5 Conclusion

The hierarchical description of various 3D data representations techniques and a point cloud classification model have been discussed. The proposed CNN architecture directly consumes raw point cloud data for the object classification. The model comprises transformations and shared MLP's and a max pooling layer to extract features from raw point cloud data. Then, three fully connected layers are used for classification. The model was tested on the ModelNet40 dataset. The implementation shows the validation accuracy and loss of the CNN architecture for ten epochs. Test accuracy of 89% has been achieved after running for ten epochs. It has been observed that with the increase in the number of epochs the accuracy also increased. In future work, the CNN can be implemented for changeable parameters like batch size, dropout, the number of epochs and the effect on accuracy can be observed. Also, the local features can be considered for classification in addition to global features to increase the accuracy as the model confused objects with similar shapes in the dataset.

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SOCIAL SCIENCES

Job satisfaction among working women employed in Education and Banking sector: A case study from Jammu and Kashmir, India

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ABSTRACT

Job satisfaction is about one's feelings or state of mind concerning the nature of their work. Job satisfaction can be influenced by a variety of factors, e.g. the quality of one's relationship with their supervisor, the quality of the physical environment in which they work, degree of achievement in their work etc. women's contribution in economic activity varies significantly from country to country and from one region to another region. In many of the rising countries, women are entering gainful employment in larger numbers in recent years. However, in all countries, women employees are less skilled than men counterparts and are often working in distress driven works earning less and maintaining their children's responsibility very well.

Objectives of the study are-

1. *To assesses the level of Job satisfaction among the working women.*
2. *To understand the impact of different demographic variables on Job satisfaction among working women.*
3. *To evaluate the impact of type of profession has no impact on Job satisfaction among working women.*

Findings- *The study reveals that different demographic factors like age, status of children, monthly salary of the respondent, educational qualification, educational qualification of spouse, husband's occupation, no of family members, marital status, religion, region, type of family, status of dependents and disabled members of the family have no impact on the job satisfaction among working women. Also, the type of profession (i.e. women working in the Banking and Teaching sectors) has no impact on Job satisfaction among working women.*

Policy implications

1. *The Government should take some steps to provide Crèches facilities, flexible working hours, for working women's children in the lower age group.*
2. *Women workers are often subject to sexual harassment then the Government should put strict rules for these types of crimes.*
3. *Equal distribution of workload should be done especially in banks.*
4. *Women employed in education sector should receive appreciation of their outstanding efforts. This can be conducted in the form of continuous appraisals, staff awards or creating an innovative rewards system that will heighten their morale and at the same time acknowledge their good performance.*

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Key Words: Job satisfaction, rising countries, Working women, Demographic factors, Education sector, Banking sector, Crèches facilities etc.

Introduction

Job satisfaction

The extent of Job satisfaction among women is an important aspect of their labour market experience for it may signify the degree to which they have made a successful accommodation to the world of work. This issue is especially important in the case of women in their thirties and forties because the children of those in this age group are generally school age and decreasing home responsibilities allow considerable re-entry into the workforce. However successful accommodation to workforce may be inhibited by special labour market problems that quently confront such women: conflicting responsibilities at home and work, obsolescence of skills, readjustment problems occasioned by long absences from the workforce or sex discrimination by employers. Clearer understandings of the forces that shape Job satisfaction these women promise a better insight into the process of labour market accommodation among women particularly as they re-enter the force. Such insight should help policymakers to design strategies to make social and economic institutions serve the needs of working women better. Job Satisfaction is a part of life contentment. The nature of one environment of Job is an important part of life as Job satisfaction influence one general life satisfaction. Job satisfaction, therefore, is the consequence of a variety of attitudes possessed by a worker like Supervisors of employment, circumstances of work, social relation on the job, prompt settlement of grievance and fair behaviour by the employer. Such factors as employee's age, health temperature, desire and level of objective should be considered. Further his family association, Social status, recreational outlets, activity in the organizations etc contribute ultimately to Job satisfaction.

The employment of women has increased qualitatively and quantitatively all over the world. In most countries, there is a noticeable boost in employment opportunities for women, especially after the Second World War. But women's contribution to economic activity varies significantly from country to country and from one region to another for the very reason that economic, social, and cultural circumstances be different from one to the other. In many of the rising countries, women are entering gainful employment in larger numbers in recent years. However, in all countries women employees are less skilled than men, working in badly paid jobs and many earn less than men do holding similar Jobs. It is rare to see a woman holding a highly accountable position. Also, many of them seek work, not for disruption or rational stimulation but because their income is a requirement to their families. The present circumstances however are characterized by a rising shift of employment of women from agriculture to industry, commerce, and service. In most, industrialized country women have been gradually abandoning agriculture and seeking employment in other sectors. many countries have witnessed a noticeable change in the attitude of women to take up more challenging Jobs.

The constitution of independent India affirmed that there should be no bias against the employment of women. This also shaped major chances for their employment. Previously employment rate was seen more predominantly among rural women. Now married women's approaching out of the four walls of their home to all seek gainful employment. As married women hold a job, it increases the burden of responsibility, physical labour, and financial responsibility and creates a sense of guilt for divided responsibilities among workplace and home that reduces the time for her.

The Job of a woman seems to be linked with certain factors like her age, nature of employment, experience, financial demands, qualification, training etc. Not all women work since they are bound to do it. Some work because they want to do it with their attention. In our society irrespective of her employment status society still, visualize her as the primary caretaker of children and family members. Traditionally the major task of women has been apparent to be the homemaker while breadwinning was the main responsibility of men. However, with more and more women entering the workforce and pursuing Jobs these distinct gender roles were forced to change. The working woman has to play a dual role as a homemaker and also a worker linked with some institution. The balance between Job and marriage is one of the important issues in working married women's lives. Engaging in numerous roles can also negatively impact one or more areas of life. At times, fulfilling diverse role obligations and demands may need inconsistent actions that may put a strain on their life. A married woman that has a demanding job will most likely use up most of her daily supply of energy at work? This important consumption of the day's resources leaves the person with a decreased amount of time and energy that she can use to fulfil family roles and every day Jobs Education and employment has brought independence self-confidence, passion and a sense of identity in the women. As a consequence of being educated and employed they are now better familiar with new knowledge, outgoing, ready to exchange new ideas, well informed, independent and aware of their rights and surroundings. They have acquired a sure level of maturity and psychological strength for survival. This change has got important implications not only for the woman but family too. Family and work are two main domains of life. When conflict between these two domains occurs it unfavourably affects life. Although men show interest in a more balanced commitment to their work role it is women who experience the highest levels of conflict between work and family since they are predictable to carry out the bulk of family and household tasks and duties with job side by side professionally. Consequently, it seems as if working married women in the present era have the excellent challenge of balancing the multiple tasks associated with their home and Job profile, namely, fulfilling the responsibilities of a spouse, daughter in law, mother, caregiver and employee simultaneously. Working women often have to attend all household everyday jobs and often at the same time child-rearing ones along with professional responsibilities. It is also clear that women's ability to balance these manifold roles has a straight effect on their physical and mental well-being, marital change as well as family environment and in the end life satisfaction. The question arises of whether working outside the home affects her role as a wife and mother. Married working women face many challenges in life that can affect their marital relationship, the environment of family and in the end life satisfaction.

Review of literature

Job satisfaction is a crucial factor that determines the retention of employees in all Industries. It is influenced by a multiplicity of factors. Vashu et al.(2013). Helen A. Moore. (1985). David, A., & Paul, M., & Garwal, S. Y.(2020) investigated the influence of marital status, the number of children and the number of dependents on Job satisfaction of women employees. Likewise, Kitana, A & Ali karam, A. (2017) concluded from their studies that job satisfaction is strongly related to other main variables, including satisfaction with the environment of work and also with some other factors. Somashekher, C., L, Asha. (2014) the quality of one's relationship with their supervisor, the quality of the physical environment in which they work, degree of fulfilment in their work. Similarly, P.N Tharakan. (1992) occupational stress and job satisfaction were significantly associated with each other. likewise, a strong positive and significant relationship between job satisfaction and age (Musa Shallal. (2011) and type of Occupation, mode of transport, family type, income has also been well established by scholars(e.g. Parashar, M.,& Singh, M.,& Lal, P.(2018). One of the key findings of

these studies was that as compared to the husband's income, these other factors were better equipped to explain job satisfaction among women. Apart from these studies, few others give a contrasting conclusion. In other words, many scholars have examined the negative relationship between demographic factors and job satisfaction. Salary (Qahtani, Al, F, Mona., & Haroon, Al, Hind, Neog & Barua.2014), age and education (Jayashree et al.(2005), Shiryayev. (2014) and overload (Mittal, M., & Bhakat, S. S.2018) are negatively associated with job satisfaction. Yet another account can be presented of scholars belonging to a school of thought observing no (e.g. Harris, H, P., & Crossman, A.(2006), Menon, E, M., & Reppa, A, A.(2010) or weak relationship between demographic factors and Job satisfaction (e.g. Gupta, G., & Kumar, R.(2017). While, Lima et al.(2018) most of the employees are dissatisfied with sexual harassment, child care facilities the opportunity for career development and transportation facilities. In the same line of thought, Kodikal, R., & Pkkeerappa, p.(2012), Shukla et al.(2013) women workers have steadily started to control the workforce in recent times in banks and also, Mallika, N.(2010)., & Mamun et al.(2016)., & Panchantham. (2011) shows the effect of demographic factors like educational qualification, marital status, income on the job satisfaction among working women in the banking sector likewise, Sonika et al.(2020) the factors which most influenced the job satisfaction of working women in Banks are Job Security, Job relation, Job enrichment, Salary promotion, Working condition, Nature of Work, Benefits, Relationship with Co-workers, Supervision, Demographic factors etc likewise, Dr K, K, Jacob. (2012) to face troubles exclusive to their gender likewise, Indirajith., & Annammal, R.(2014) analyze all the socio-demographic profile of the working women respondents and accomplished that private banks give more facilities to their employees like a high salary, good promotion opportunity and public sector banks need to more focus on women empowerment whereas some more studies talk about other different factors. Similarly, Karam et al.(2017) low level of Job Satisfaction is affected by Control regulation, duty, indecisiveness, non-attendance of staff etc also some of the studies which are done on Job satisfaction among banking sector. Similarly Tasnim, S.(2006)., & Akhtar, I.(2012), Mehta. (2012)., & Sarier et al.(2012) Some factors which affect female teachers. The Factors are salary, academic qualification, career prospects, supervision, management, working environment culture, Jegadeeshwaran, M., & Bhavani, M.(2014) there is the positive impact of job satisfaction on the quality of work-life of women teacher's. Likewise, many studies have been done on the teaching sector, Pandey, Y.(2017)., & Kukarni et al.(2009) women in academics have no relation with various factors and Job satisfaction. Moorthy. (2013), Archanta., & Reddy. (2014) explains that females are more satisfied in the teaching sector.

Conceptual Framework

Job satisfaction among women working in Banks

The working atmosphere for Women in India is varying at a very fast speed and pace due to progressive decline in trade barriers, modern improvement in technologies, globally consistent marketplace, fastest competition and business rivalry and varying family and population structures. These factors bring out tense anxiety into the life of the women and then it is exaggerated many times if both the husband-wife work and they have children of growing age and old age parents. This constant worry can reason disorder on the psychological console of the women due to a feeling of diminished control over one's life and a hopeless opinion that there is never enough time to have a sensible constancy and balance in life. Apart from it, there is a variety of factors that make women workers feel optimistic or negative about their job. Moreover, some workers may be content with a few aspects of their work but discontented with all other aspects. Factors that lead to holding positive or negative perception of their Job have their impact on work-life balance. This mental stress for women

can lead to physical stress and cause ill health, headache, gastritis, body ache, de-motivation, low morale etc, leading to long term cardiac harms, high blood pressure, diabetes or other psychiatric troubles and low job performance etc. All these problems make Work-life disagreement and Job displeasure particularly for the women labor force which results in:

Increased Absenteeism, Increased worker Turnover, Reduced Productivity, Reduced Job contentment, Increased Managerial Stress, Damage of Family and Social association.

Job satisfaction among Teachers

Over the last two decades, a lot of studies has an effort to know the source of teacher satisfaction and dissatisfaction (Kyriacou and Sutcliffe, 1979; Mykletun, 1984; Kyriacou, 1987; Friedman and Farber, 1992). According to these studies, teacher satisfaction is linked to levels of intrinsic empowerment i.e, motivation (Papanastasiou and Zembylas, 2005). Although motivation is an individual matter since needs and needs are interior states most employees know that the way they feel about their work is affected by several factors (Bush and Middlewood, 2006). Research on teacher Job satisfaction globally (Baron, 1986, Shann, 1998, Hargreaves, 1999, Dinham and Scott, 2000, Koustelios, 2001, Scott and Dinham, 2003, Day et al., 2006, Van Houtte, 2006, Klassen and Chiu, 2010, Eyal and Roth, 2011) has familiar a variety of 'internal' and 'external' factor that organize Job satisfaction/disappointment and inducement grouped into four main categories:

- 1 Individual factor, such as a person's gender, age, marital status, number of children and work experience.
- 2 Factors connecting to the real work of teaching; working with young people, the intellectual confront of teaching, autonomy and independence
- 3 Organizational factors connected to the teachers' working surroundings such as school leadership, staff supervision, facilities and infrastructure, school culture and contribution in decision making, circumstances of service, salary, promotion prospects, group support, etc.
- 4 Factors emanate from the wider social condition and the state such as unrelenting and forced educational change, constant media criticism, perception of how teachers are viewed by society, support services to teachers, etc factor at the system level, as well as wider social forces, such as teacher status, required educational change and the representation of teachers in the media. Generally, a key issue linked with teachers' Job contentment hold the ability to work with children, the intellectual confront and opportunities that teaching offers, the autonomy they advantage from the classroom enable them to be creative, school's leadership style that foster contribution, cooperation, personal and professional growth support, teacher participation in decision making, interpersonal relations and friendships developed in the circumstance of work as well as detection (Hackman and Oldham, 1975; Kyriacou and Sutcliffe, 1979; Mykletun, 1984; Friedman and Farber, 1992; Leithwood, 1992; Perie et al., 1997; Shann, 1998; Mueller et al., 1999; Dinham and Scott, 2000; Evans, 2001; Koustelios, 2001; Bogler, 2005). Good workplace circumstances have also been related to teachers' job contentment regardless of neither the school type and level or school demographics nor the teachers' background character (US Department of Education, National Center for Education Statistics, 1997). In contrast, factors contributing to teachers' job displeasure include: numerous and imposed educational reforms, lack of professional independence and empowerment, teachers' low participation in decision making, role vagueness and confusion, ambivalent evaluating criteria, low forecast for professional development, heavy workload and

bureaucratic-administrative tasks, lack of effectual school management and the feeling of not being valued by society, inadequate resources, bad physical working circumstances, poor pay, steady criticism from the media and teachers' perception of how their work is not valued by society (Varlaam et al., 1992; Rice and Schneider, 1994; Thompson et al., 1997; Dinham and Scott, 2000; Hutchings et al., 2000; Van den Berg, 2002; Scott and Dinham, 2003; Johnson and Birkeland, 2003; Papanastasiou and Zembylas, 2005; Smithers and Robinson, 2003; Lukens et al., 2004).

Earlier women have a wider responsibility to play as homemakers. They play an active role in their house activities as wives and mothers responsible for the growth of their children and homemaker in charge of the operation of their homes. But with the augment in educational amenities they have steadily in progress taking employment outside the home. They take the double burden of jobs and homework. The majority of the women are working in industries and social associations like schools, colleges and hospitals. Due to new economic, dynamic and following scenarios, their roles are altering and getting a better place and justice. Their attitude towards employment, marital status and maternal status affects their mental health also. After independence with the fast augment in industrialization and urbanization on the one hand and the augment in poverty and unemployment on the other women's lifestyles are undergoing major change. The constitution of independent India affirmed that there should be no bias against the employment of women this also formed a major employment opportunity for employment. Previously employment rate was seen more mostly among rural women working for living in the field all along with their men. Now, married women's upcoming out of the four walls of their home to seek of use employment. As married women hold a job, it increases the burden of responsibility, physical labour and financial responsibility and creates the feeling of guilt for divided loyalties between the place of work and home that reduce the time for her. Job contentment consequences from an assessment of the character of the job as the emotion of people about a dissimilar aspect of their jobs (Hedge and Borman, 2012). Job contentment is the degree to which people like or hate their jobs and the amount to which they feel positive or negative about a diversity of features of their jobs. According to Salazar et al. (2006), people are capable to please with their jobs, satisfactions-dissatisfactions level and appear at a common conclusion. Higher the opportunity for expert development advanced will be the job contentment of the teachers (Rao, 1986). The higher the approach towards teaching, amenities obtainable in the departments, the higher will be the job satisfaction (Malik and Patel, 1990). Das and Bishnoi (1999) report that the uppermost satisfied work-related group were doctors and newsreaders (66.67%) followed by the self-employed person (60%). It may be due to the enjoyment they obtain by serving the humanities, bright future, social status and good earning. Job contentment for working women is of great significance to the family, society and employer. It helps the noticeable change in the state of mind of working women and the employer to change its policy for resultant productivity and enhance job contentment. As emotional instability is more frustrating the government and non-government agencies must review the occupied policies and practices to improve job contentment. The present study was undertaken to examine the job contentment of employed women in organized sectors. A teacher is a backbone of a country and its development depends upon the teaching system. The role of a teacher is very important in the growth of a country. He acts as a coach, mentor, trainer, and guide. But his presentation depends on the working environment ability and performance is the key judgment factor teacher's performance. Both Students learn in government and private schools play a vital role in the growth of the nation. A high degree of Job contentment has been found when the character of both employer and workers' prospect meet. Job contentment is how people feel about their job and

dissimilar feature of their jobs (Spector 1997). It is one of the most significant variables which control an individual as well as a whole organization. It is intimately connected to elements such as productivity, absenteeism, and turnover. The excellent work has been done by active dedicated and satisfied teachers. A displeased teacher can never carry out his duty properly. The teachers would get involved to teach their students in effect when they are contented with their jobs (Nigama, et.al., 2018). If they are contented with their job then they can carry out to maximum capacity and meet with the challenge of globalization. Teacher's retention, commitment can be predicted by job satisfaction (Shann 2001). Many studies on job contentment like Suki (2011), Nagar (2012) and Zilli & Zahoor (2012) help to enrich the management with the wide range of in order relating to the job, organizational commitment, environment and the workers which augment the chances of choice-making ability.

Factors regarding Job satisfaction: Job satisfaction is the resultant of many consistent factors. Every factor has its proposition and which cannot be neglected. These whole factors are subject matter to change from time to time and as a result study of this factor is important. These factors are:

Personal Factors

1. **Sex:** In most of the examination on the topic it is exposing that usually women are satisfied with their job than a man. This may be because of many roles of women when they take place exterior home. It was found that women favour working with sociable people in good social circumstances despite less pay.
2. **Age:** Studies have established different outcomes in diverse groups on the association of age with job contentment. Some experience that age has little relationship with job contentment but this relationship has significance in some job situations. In some groups job satisfaction is higher with rising age in other groups it is lower.
3. **Education:** In this association, some studies show that there is a tendency for the more educated employees to be less satisfied and equally the less knowledgeable employees to be more satisfied. But other studies show no association at all and definite variables such as the company's progress policy concerning education have to be considered.

Time of Job

1. Several studies show that job contentment is advanced in the first few days then falls slowly.
2. **In Job Type of Work:** The most main factor in the job is the type of job. Studies have exposed that in job cause greater job contentment than regular work. Another study has shown that a majority of factory employees to be dissatisfied whereas a minority of professionals were dissatisfied.
3. **Skill Required:** Where skill exists to a substantial degree it tends to happen to the first source of contentment to the employees. Satisfaction in state of work or wages became well-known only where contentment in skill has materially decreased.
4. **Occupational Status:** Occupational status shows a very high association with intelligence, income and year of education. It has been found that workers are more discontented in the jobs which have less common status and prestige.

Factors Controlled By the Management

1. **Wages:** Wages are the main significant factor in job satisfaction. Higher the earnings more the job fulfilment but this is not of necessity lead to cover all employees' contentment. Studies explain that in some cases salary was rated well below in job satisfaction but safety and

opportunity for development by highly educated class of people are much higher than salary.

1. Working Condition: Comfortable work situations are ranked the main factor also. Better the work condition less will be tiredness and more will be job contentment.
1. Benefits: Other benefits have been ramped as a significant factor also. Since study show that extremely educated workers having good pay give more significance to benefits and facilities.
1. Security: All the studies show that workers want firm work The high will be the job contentment when there is job protection and vice -versa. But the study also shows that protection is also less essential to better-educated persons.
1. Opportunity for Promotion: Studies show that after years in the job people will give more significance to progression than pay. Job satisfaction is happier where there is ample opportunity for career advancement.

Factors of Job Satisfaction

There are numerous factors influencing job satisfaction.

- 1) Work itself (content and character),
- 2) Income,
- 3) Work conditions,
- 4) Management,
- 5) Colleagues,
- 6) Work system,
- 7) Physical work conditions,
- 8) Human resources.

Objectives

1. To assess the level of Job satisfaction among the working women.
2. To understand the impact of different demographic variables on Job satisfaction among working women.
3. To evaluate the type of profession has no impact on Job satisfaction among working women

Methodology:

Selection area and sample size

This study is conducted in Jammu division of the state of J&K. Jammu division consists of 10 districts. Out of these, three districts-Jammu, Udhampur, Kathua, is chosen purposively since these areas have the maximum no. of Female Teachers (Primary government schools, Secondary schools, higher secondary schools) and maximum No of Commercial and Cooperative Banks. Two Blocks from each district namely R.S. Pura, Marh (Jammu), Chenani, Udhampur (Udhampur) and Hiranagar, Barnoti (Kathua) districts having maximum no. of schools and commercial and cooperative Banks was selected purposively in order to cover the districts. Thus two blocks from each district is selected to serve the purpose of our study. From these Blocks different no of schools and banks have been chosen according to the purposive sampling and schools have been chosen randomly according to their convenience.

Data Collection

The study is based on both primary data as well as secondary data. Secondary data is collected from journals, books, newspapers, RBI annual reports and other websites as well as the NSSO, Census Digital Library, PLS, Annual report, Economic Surveys, Census data, village directory etc. Primary data is collected through a self-designed questionnaire. It is having three parts- Part A, consisting of demographic profile of the respondents; Part B, consisting of questions (items) based on Likert -Scale on major dimensions and Part C, comprising some open ended questions and general remarks of the respondents regarding their problems & issues.

Hypothesis

1. H0: There is no impact of demographic factors on job satisfaction among working women.
2. H0: There is no difference between the job satisfaction of working women employed as teachers and bankers respectively.

Statistical Data and Its Analysis Part.

To test the hypothesis, two non-parametric tests have been run, depending on whether the Categorical Independent variable has two or more than two levels (categories). In case of former, Mann-Whitney test has been used, while Kruskal Wallis has been used in case of the latter.

Kruskal-Wallis Test: The Kruskal-Wallis test was run, with the following demographic factors:

- 1) Age

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
JS_Mean	435	4.0062	.46850	2.19	6.27
Age	435	2.29	.544	1	3

Ranks

	Age	N	Mean Rank
JS_Mean	<25	20	238.13
	25-40	271	226.38
	40-60	144	199.43
	Total	435	

Test Statistics^{a,b}

	JS_Mean
Chi-Square	4.865
Df	2
Asymp. Sig.	.088

a. Kruskal Wallis Test

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of JS_Mean is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	.088	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Since P value is >0.05 , this does not show any statistically significant differences between different categories of Age with regard to distribution of JS_Mean. In other words, we fail to reject the null hypothesis, which means that the different categories of Age of working women have no effect on Job satisfaction among working women. Hence the null hypothesis is retained.

b) Status of Children

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
JS_Mean	435	4.0062	.46850	2.19	6.27
Status_Children	435	2.39	.814	1	4

Ranks

	Status_Children	N	Mean Rank
JS_Mean	No Children	66	244.02
	One	159	206.53
	Two	184	219.30
	More than two	26	212.90
	Total	435	

Test Statistics^{a,b}

	JS_Mean
Chi-Square	4.216
Df	3
Asymp. Sig.	.239

a. Kruskal Wallis Test

b. Grouping Variable:
Status_Children

Hypothesis Test Summary

Null Hypothesis	Test	Sig.	Decision
The distribution of JS_Mean is the same across categories of Status_Children.	Independent-Samples Kruskal-Wallis Test	.239	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Since P value is >0.05 , this does not show any statistically significant differences between Status of children with regard to distribution of JS_Mean. In other words, we fail to reject the null hypothesis, which means that the Status of children of working women has no effect on Job satisfaction among working women. Hence the null hypothesis is retained.

c) Monthly Salary of the Respondent

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
JS_Mean	435	4.0062	.46850	2.19	6.27
Monthly_Salary_Respondent	435	3.39	.720	1	4

Ranks

	Monthly_Salary_Respondent	N	Mean Rank
JS_Mean	<15000	7	172.43
	15000-25000	40	193.39
	25000-50000	166	222.35
	>50000	222	220.62
	Total	435	

Test Statistics^{a,b}

	JS_Mean
Chi-Square	2.750
Df	3
Asymp. Sig.	.432

a. Kruskal Wallis Test

b. Grouping Variable: Monthly_Salary_Respondent

Hypothesis Test Summary

Null Hypothesis	Test	Sig.	Decision
The distribution of JS_Mean is the same across categories of Monthly_Salary_Respondent.	Independent-Samples Kruskal-Wallis Test	.432	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Since P value is >0.05 , this does not show any statistically significant differences between monthly salary of the respondent with regard to distribution of JS_Mean. In other words, we fail to reject the null hypothesis, which means that the monthly_Salary of respondent of working women has no effect on Job satisfaction among working women. Hence the null hypothesis is retained.

d)Educational Qualification

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum
JS_Mean	435	4.0062	.46850	2.19
Educational_Qualification	435	2.91	.762	1

Ranks

	Educational_Qualification	N	Mean Rank
JS_Mean	12th pass	9	147.39
	Graduation	105	212.38
	PG	254	214.57
	Doctorate Degree	51	193.40
	Total	419	

Test Statistics^{a,b}

	JS_Mean
Chi-Square	3.769
Df	3
Asymp. Sig.	.287

a. Kruskal Wallis Test

b. Grouping Variable:
Educational_Qualification

Hypothesis Test Summary

Null Hypothesis:	Test	Sig.	Decision
The distribution of JS_Mean is the same across categories of Educational_Qualification.	Independent-Samples Kruskal-Wallis Test	.252	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Since p value is >0.05 , this does not show any statistically significant difference between women of different Educational Qualification with regard to distribution of JS-Mean. In other words, we fail to reject the null hypothesis, which means that the Educational Qualification of working women has no effect on Job satisfaction among working women. Hence the null hypothesis is retained.

(e) Educational Qualification of Spouse.**Descriptive Statistics**

	N	Mean	Std. Deviation	Minimum	Maximum
JS_Mean	435	4.0062	.46850	2.19	6.27
Educational_Qualification_of_Spouse	435	2.94	.899	1	5

Ranks

	Educational_Qualification_of_Spouse	N	Mean Rank
JS_Mean	12th pass	12	203.08
	Graduation	129	196.98
	PG	191	213.30
	Doctorate Degree	79	203.53
	Total	411	

Test Statistics^{a,b}

	JS_Mean
Chi-Square	1.509
Df	3
Asymp. Sig.	.680

a. Kruskal Wallis Test

b. Grouping Variable:

Educational_Qualification_of_Spouse

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of JS_Mean is then dependent same across categories of Educational_Qualification_of_Spouse.	Samples Kruskal-Wallis Test	.495	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Since P value is >0.05 , this does not show any statistically significant differences between Qualification of spouse with regard to distribution of JS_Mean. In other words, we fail to reject the null hypothesis, which means that the Qualification of spouse of working women has no effect on Job satisfaction among working women. Hence the null hypothesis is retained.

f) Husband Occupation

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
JS_Mean	435	4.0062	.46850	2.19	6.27
HO_FO	435	2.06	.791	0	4

Ranks

	HO_FO	N	Mean Rank
JS_Mean	Self Employed	96	208.01
	Government Employee	210	200
	Private Employee	113	216.35
	Total	419	

Test Statistics^{a,b}

	JS_Mean
Chi-Square	.427
Df	2
Asymp. Sig.	.808

a) Kruskal Wallis Test

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1.	The distribution of JS_Mean is the same across categories of HO_FO.	Independent-Samples Kruskal-Wallis Test	.780	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Since P value is >0.05 , this does not show any statistically significant differences between Husband occupation marital with regard to distribution of JS_Mean. In other words, we fail to reject the null hypothesis, which means that the Husband occupation of working women has no effect on Job satisfaction among working women. Hence the null hypothesis is retained.

g) No of Family Members**Descriptive Statistics**

	N	Mean	Std. Deviation	Minimum	Maximum
JS_Mean	435	4.0062	.46850	2.19	6.27
Family_Members	435	1.99	.742	1	3

Ranks

	Family_Members	N	Mean Rank
JS_Mean	<4	122	218.45
	4-6	196	209.35
	>6	117	232.02
	Total	435	

Test Statistics^{a,b}

	JS_Mean
Chi-Square	2.388
Df	2
Asymp. Sig.	.303

a. Kruskal Wallis Test

a. Grouping Variable: Family_Members

Hypothesis Test Summary

Null Hypothesis	Test	Sig.	Decision
The distribution of JS_Mean is the same across categories of Family_Members.	Independent-Samples Kruskal-Wallis Test	.303	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Since P value is >0.05 , this does not show any statistically significant differences between different family members with regard to distribution of JS_Mean. In other words, we fail to reject the null hypothesis, which means that the different categories of family members have no effect on Job satisfaction on working women. Hence the null hypothesis is retained.

h) Marital status

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
JS_Mean	435	4.0062	.46850	2.19	6.27
Marital_Status	435	2.02	.559	1	4

Ranks

	Marital_Status	N	Mean Rank
JS_Mean	Unmarried	47	246.74
	Married	347	215.67
	Widow	25	205.02
	Divorcee	16	204.31
	Total	435	

Test Statistics^{a,b}

	JS_Mean
Chi-Square	3.035
Df	3
Asymp. Sig.	.386

a. Kruskal Wallis Test

b. Grouping Variable:
Marital_Status

Hypothesis Test Summary

Null Hypothesis	Test	Sig.	Decision
The distribution of JS_Mean is the same across categories of Marital_Status.	Independent-Samples Kruskal-Wallis Test	.388	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Since P value is >0.05 , this does not show any statistically significant differences between marital status with regard to distribution of JS_Mean. In other words, we fail to reject the null hypothesis, which means that the marital status of working women has no effect on Job satisfaction among working women. Hence the null hypothesis is retained.

i)Religion**Descriptive Statistics**

	N	Mean	Std. Deviation	Minimum	Maximum
JS_Mean	435	4.0062	.46850	2.19	6.27
Religion	435	1.37	.806	1	4

Ranks

	Religion	N	Mean Rank
JS_Mean	Hindu	340	212.25
	Sikh	49	237.64
	Muslim	24	237.40
	Christian	22	241.98
	Total	435	

Test Statistics^{a,b}

	JS_Mean
Chi-Square	3.282
Df	3
Asymp. Sig.	.350

a. Kruskal Wallis Test

b. Grouping Variable: Religion

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of JS_Mean is the same across categories of Religion	Independent-Samples Kruskal-Wallis Test	.350	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Since p value is >0.05 , this does not show any statistically significant difference between women of different Categories of Religion with regard to distribution of JS-Mean. In other words, we fail to reject the null hypothesis, which means that the different categories of religion of working women has no effect on Job satisfaction among working women. Hence the null hypothesis is retained.

Mann-Whitney Test was run in the following cases:

j)Region

Test Statistics^a

	JS_Mean
Mann-Whitney U	23060.000
Wilcoxon W	48260.000
Z	-.437
Asymp. Sig. (2-tailed)	.662

a. Grouping Variable: Region

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
JS_Mean	435	4.0062	.46850	2.19	6.27
Region	435	1.51	.500	1	2

Ranks

	Region	N	Mean Rank	Sum of Ranks
JS_Mean	Rural	211	220.71	46570.00
	Urban	224	215.45	48260.00
	Total	435		

About 211 from rural areas in the family and 224 are from urban areas in the family having mean ranks 220.71 and 215.45 respectively. P value is >0.05 , which leads us to the conclusion that we fail to reject the null hypothesis that the region has no impact on the job satisfaction among working women. In other words, there is no statistically significant difference between the two groups of women.

k) Type of Family**Descriptive Statistics**

	N	Mean	Std. Deviation	Minimum	Maximum
JS_Mean	435	4.0062	.46850	2.19	6.27
Type_family	435	1.51	.500	1	2

Ranks

	Type_family	N	Mean Rank	Sum of Ranks
JS_Mean	Nuclear	212	222.86	47246.00
	Joint	223	213.38	47584.00
	Total	435		

Test Statistics^a

	JS_Mean
Mann-Whitney U	22608.000
Wilcoxon W	47584.000
Z	-.786
Asymp. Sig. (2-tailed)	.432

a. Grouping Variable: Type_family

About 212 no of respondents belong to nuclear family and 223 no of from joint family having mean ranks 222.86 and 213.382 respectively. P value is >0.05, which leads us to the conclusion that we fail to reject the null hypothesis that the type of family has no impact on the job satisfaction among working women. In other words, there is no statistically significant difference between the two groups of women.

l) Status of dependents in the family**Descriptive Statistics**

	N	Mean	Std. Deviation	Minimum	Maximum
JS_Mean	435	4.0062	.46850	2.19	6.27
Dependents	435	1.10	.299	1	2

Ranks

	Dependents	N	Mean Rank	Sum of Ranks
JS_Mean	Yes	392	214.38	84037.50
	No	43	250.99	10792.50
	Total	435		

Test Statistics^a

	JS Mean
Mann-Whitney U	7009.500
Wilcoxon W	84037.500
Z	-1.813
Asymp. Sig. (2-tailed)	.070

a. Grouping Variable: Dependents

About 392 dependents are in the family and 43 say not having dependents in the family having mean ranks 214.38 and 250.99 respectively. P value is >0.05, which leads us to the conclusion that we fail to reject the null hypothesis that the dependents in the family has no impact on the job satisfaction among working women. In other words, there is no statistically significant difference between the two groups of women.

m) Status of Disabled in the Family

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
JS_Mean	435	4.0062	.46850	2.19	6.27
Disabled	435	1.88	.370	1	5

Ranks

	Disabled	N	Mean Rank	Sum of Ranks
JS_Mean	Yes	57	231.92	13219.50
	No	377	215.32	81175.50
	Total	434		

Test Statistics^a

	JS Mean
Mann-Whitney U	9922.500
Wilcoxon W	81175.500
Z	-.932
Asymp. Sig. (2-tailed)	.351

a. Grouping Variable: Disabled

About 57 say there are disabled are in the family and 377 says not having disabled in the family having mean ranks 231.92 and 215.32 respectively. P value is >0.05, which leads us to the conclusion that we fail to reject the null hypothesis that the disabled in the family has no impact on the job satisfaction among working women. In other words, there is no statistically significant difference between the two groups of women.

Hypothesis : 2 There is no difference between the job satisfaction of working women employed as teachers and bankers respectively. The perception of the women has been taken in the form of Job

satisfaction (JS) Mean score. To test the hypothesis, non-parametric tests have been run, depends on the Categorical Independent variable has two levels (categories). In this case Mann-Whitney test has been used.

Mann-Whitney Test

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
JS_Mean	435	4.0062	.46850	2.19	6.27
Profession	435	1.68	.467	1	2

Ranks

	Profession	N	Mean Rank	Sum of Ranks
JS_Mean	Bank Employee	139	202.99	28215.00
	Teacher	296	225.05	66615.00
	Total	435		

Test Statistics^a

	JS_Mean
Mann-Whitney U	18485.000
Wilcoxon W	28215.000
Z	-1.708
Asymp. Sig. (2-tailed)	.088

a. Grouping Variable: Profession

About 139 are Bank Employee of the respondent and 296 are teachers of the total respondent having mean ranks 202.99 and 225.05 respectively. P value is >0.05 , which leads us to the conclusion that we fail to reject the null hypothesis that the Profession of the female has no impact on the Job satisfaction among working women. In other words, there is no statistically significant difference between the two groups Teachers and Bankers among the working women.

Results and Discussions- Age is having 3 categories <25 , $25-40$, $40-60$ and sig p value is $0.08 > 0.05$ so accepting the null hypothesis which means age is having no impact on Job Satisfaction among the working women. Age has does not impact on women's participation in the workforce and if the work opportunities are preferable she is determined to work. Few earlier studies (Andrisani, 1978; Shallal, 2011, Msuya, 2016). The Status of Children is having 4 categories with no children, one children, two children, More than two Children and significant value is $.239 > 0.05$ so accepting the null hypothesis which means no. of children has no impact on job satisfaction among working women. Status of Children has no impact on Women's participation in the workforce and Job satisfaction among working women is not attained by the status of children. This study is supported the hypothesis result (Solane & Hanson, 1992; Kalva & Shiryayev, 2016) finds that young children have no effect on the Job satisfaction of women workers. This study is against the hypothesis testing (Garwal et al, 2020; Andrisani, 1978). The Dis-satisfaction or less satisfaction is related to the high responsibilities that married women employees with children have at home. These responsibilities distract the women's feelings of satisfaction. Monthly Salary of the respondent is having 4 categories < 15000 , $15000-25000$, $25000-50,000$, $>50,000$ and sig p value is $.432 > 0.05$ so accepting the null hypothesis which means monthly salary of the respondent with regard to J-S Mean. It means different monthly

salary of the respondent has no impact on job satisfaction among working women. Hence the null hypothesis is retained. Studies which is against the null hypothesis (Dey & Ghosh, 2017; Mamun et al, 2016). Educational Qualification of the working women is having 4 categories 12th pass, Graduation, PG, Doctorate Degree significant p value is $.680 > 0.05$ so accepting the null hypothesis which means that the Educational Qualification of the working women has no effect on the Job satisfaction among the working women. The study which is in support to the hypothesis testing (Pandey, 2017; Qureshi, 2001) study is against (Singh & Shukla, 2015). Educational Qualification of Spouse is having four categories 12th pass, Graduation, PG, Doctorate Degree, and significant p value is $.495 > 0.05$ so accepting the null hypothesis which means that the Educational Qualification of Spouse has no effect on the Job Satisfaction among the working women. Husband's Occupation has no impact on the Job satisfaction among the working women. Hence the null hypothesis is retained. No of Family members is having 3 categories <4 , $4-6$, >6 and significant p value is $.303 > 0.05$ so accept the null hypothesis which means that no of family members has no effect on the Job satisfaction among the working women. Hence the null hypothesis is retained. Marital Status has 4 categories unmarried, Married, Widow, Divorcee and significant p value is $.386 > 0.05$ which means marital status of the working women whether she is Unmarried, Married, Divorcee, Widow does not have any impact on the Job satisfaction among working women. Studies which is against (Pandey, 2017; Kalva & Shiryayev, 2014; Joseph & Adhiambo, 2018; Sell et al, 1979) and studies which is in support of the null hypothesis (Azim et al, 2013). Religion is having 4 categories Hindu, Sikh, Muslim, Christian and p value is $.350 > 0.05$ religion of working women has no effect on Job satisfaction among the working women. Hence the null hypothesis is retained (Ali et al, 2015; Alotaibi et al, 2015). It can be concluded from the results that different demographic variables doesn't have any impact on the job satisfaction among working women.

Main findings of the Study

- From studying a vast Review of literature we can find that Women workers are more satisfied with their Jobs. Women's feels themselves more responsible for family issues in contrast with their husbands.
- 31% of Single Working women's were more satisfied by their Jobs.
- The Job Satisfaction among women teachers the different factors like Salary, Educational Qualification, Career prospects, Job Security, Culture does not affect their satisfaction in the workforce.
- While Culture, Supervision, Physical Environment, Social Environment and Social Status affects the Job Satisfaction among working women.
- Women have attained significant positions in the banking sector and are satisfied with their works.
- Factors which mostly focused on Job Security, Job relation, Job enrichment, Salary promotion, working condition, nature of work, benefits, relationship with Co-workers, Supervision support, Demographic factors affect job satisfaction of working women.
- Women must have Job satisfaction and at the same time be capable to grow up in his occupation when a working women capable to attain and enjoy her proficient and personal life.
- It can be concluded from the 1st hypothesis that Different demographic factors like Age, Status of Children, Monthly Salary of the respondent, Educational Qualification, Educational Qualification of Spouse, Husband occupation of women, No of family members, Marital Status,

Religion , Region, Type of family, Dependents, Disabled has no impact on the Job Satisfaction among the working women.

- Also from the second hypothesis, women working in the Banking and Teaching sector have no impact on Job satisfaction among working women.

Conclusion

Job Satisfaction is a part of life contentment. Employment of women has increased qualitatively and quantitatively all over the world. As marital women hold a job it increase the burden of responsibility, physical labor, financial responsibility and create sense of guilt for divided loyalties among work place and home that reduce the time for her. Married working women face much challenge in the life that can affect their marital relationship, environment of family and in the end life satisfaction. Stress, anxiety, tensions experience by working women when she is more dedicated to the organization, overall job contentment, satisfaction with exact aspect of the Job and individual-life satisfaction. The Job Satisfaction among women teachers the different factors like Salary, Educational Qualification, Career prospects, Job Security, Culture does not affect their satisfaction in the Job. Women have attained significant positions in the banking sector and are satisfied with their works.

Policy Implications

1. The Government should take some steps to provide Crèches facilities for working women's children in the lower age group
2. Flexible working hours should be provided for working women to maintain home and work responsibilities in a better way especially for those women with children of lower age group.
3. Trade unions should be made to improve conditions of working women.
4. Women workers are often subject to sexual harassment then the Government should put strict rules for these types of crimes.
5. Public transport sometimes danger for woman and government should put more inspection.
6. The employees feel that the work load is not equal between Colleagues. So equal distribution of workload should be done especially in banks.
7. Employees of education sector should receive acknowledgement for their outstanding efforts this can be conducted in the form of continuous appraisals, staff awards or creating an innovative rewards system that will heighten their morale and at the same time acknowledge their good performance.
8. Work life balance is another reason for Job Dis-satisfaction. So a supportive management is required to minimize the conflict between work and family. Top management of both the sectors should realize the importance of work life balance and its adverse affect on Job Satisfaction.
9. Certain modern techniques like Yoga, Instrumental activities should be included in Organization to reduce the job stress in both the sectors.
10. Open the lines of communication between administration, Board members, Trade Union and Employees as they should be interested in the common goal of improving productivity and performance of the organization.

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Role of job crafting in burnout of college teachers in Jammu district

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ABSTRACT

The incidence of stress, burnout, and impaired quality of life among teachers is observed globally. Due to shortages and hostile work environments, educators lose vitality and develop a negative attitude toward their jobs. Consequently, the study aimed to investigate the role of job crafting on the burnout level of college teachers. Furthermore, a dimension-wise (task crafting, relational crafting, and cognitive crafting) analysis of the job crafting with burnout was also explored. The data was collected using convenience sampling to a sample of 313 teachers working in the government colleges of the Jammu district. A negative and significant relationship was found between job crafting and burnout. Furthermore, the dimensions of job crafting also significantly predicted the level of burnout amongst college teachers. Teachers who craft their work to better suit their preferences and needs will obtain greater meaning in their work and experience a lesser amount of burnout.

Key Words: burnout, job crafting, teachers, task crafting, relational crafting, cognitive crafting.

Introduction

The teaching profession involves a range of professional responsibilities that often contribute to feelings of excessive workload (Mulholland et al., 2013). However, increasing work pressure in the teaching profession appears to be a global phenomenon (Mulholland et al., 2013; Scott et al., 2001). Moreover, teaching is a unique profession that has been identified as one of the most demanding jobs with the potential to be harmful to health. Teachers' job difficulties such as burnout were brought to light by high turnover intentions and high sick leave rates.

Burnout is a psychiatric illness characterized by exhaustion, cynicism/depersonalization, and decreased professional competence (Maslach & Leiter, 1997). Traditional risk variables such as high demands, little job control, high workload, low reward, and job insecurity have been found to increase the likelihood of developing boredom and feelings of burnout in various occupational groups (Aronsson et al., 2017).

Frequent meetings that interfere with preparation time, administrative paperwork generated by management, and being subjected to constant reforms and changes that necessitate reorganization of work and work assignments are all instances of occupational demands (Brown et al., 2005). Reduced job control, a well-known risk factor for stress, can also be a consequence of the complicated work environment and increased time pressure (Aronsson et al., 2017). Furthermore, teaching is a profession that requires a significant amount of face-to-face engagement with students, some of whom may exhibit bad behavior, attitudes, motivation, or performance (Chakravorty & Singh,

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2022; Brown et al., 2005; Naring et al., 2011). All these factors contribute to the emotional demands of teachers. Given the working conditions outlined above, it becomes clear that teachers' personal resources are important to counteract the effects of a stressful work situation.

Job crafting is a personal resource important to performance. It refers to behaviors undertaken by employees to make their work more manageable, enjoyable, and meaningful. It involves teachers' efforts to meet the demands they experience in the workplace by drawing on the resources at their disposal to successfully meet those demands. Job crafting could act as a personal resource by influencing perceptions of work demands and resources; which can have broader implications for teacher well-being and health (Dreer, 2022).

The present study contributes to teacher burnout literature by positioning job crafting as a proactive coping strategy.

Job crafting and burnout

Teachers' stress can affect their psychological well-being, and physiological health (Salvagioni et al., 2017). In addition, it has a negative impact on students such as low student satisfaction (Ramberg et al., 2019). As reported in previous studies (Carlotto & Câmara, 2019; Molero et al., 2019), emotional exhaustion is associated with work overload, interpersonal conflicts, negative feedback, and low levels of social support, autonomy, and job satisfaction. Previous research has demonstrated that burnout has several negative effects on teachers' psychological well-being and health (Gallardo-López et al., 2019; Martínez et al., 2020). Burnout as an adverse condition can occur in any occupation when there is an imbalance between demands and potential resources (Contreras et al., 2020; Dickson, 2020; Singh & Singh 2018; Trudel et al., 2021). A systematic review of studies conducted by Tripathi, 2020 on the Indian teaching community reveals the widespread prevalence of burnout among teachers. It is indicative of the need for future research to investigate and find ways to prevent burnout among teachers. In a recent study, Chakravorty and Singh (2022) found a relationship between job demands and burnout in primary school teachers. Further, it revealed the negative effect of burnout on the teachers' physical and psychological health.

Thus, it is essential to find out the ways teachers cope with burnout.

Coping strategies are the behaviors, attitudes, and emotional efforts that employees master, tolerate, and reduce stressful situations. These behavioral or psychological responses are intended to alter the nature of the stressor or its perception (Deklava et al., 2014). Job crafting, or the proactive modifications made in one's work by balancing existing job needs and resources, has been shown in studies to have a variety of positive effects at an individual, job, and organizational levels. Job crafting reduces employee exhaustion and is also effective in work-related burnout (Tims et al., 2013; Petrou et al., 2015; Lazazzara et al., 2020). A study conducted in the Indian context among information and technology professionals shows that job crafting is an effective proactive strategy to reduce stress and burnout (Singh & Singh, 2018). Job crafting predicted significantly better internal recovery, greater engagement, and lower fatigue at the end of the workday. Job crafting is believed to enhance not only teachers' work engagement but also produce positive student experiences in terms of their satisfaction and loyalty towards educational institutes (Zahoor, 2018). The most notable effect of job crafting in the teaching profession is consistent with Toyama et al. (2021). In a meta-analytic study, they found that increasing structural job resources was the strongest positive predictor of employee well-being outcomes such as job satisfaction and work engagement, as well as the strongest negative predictor of ill-being outcomes such as burnout.

The job demands-resources (JD-R) hypothesis has become one of the most popular conceptual frameworks for evaluating and analysing aspects affecting teachers' workplace well-being. Job demands (e.g., workload, disciplinary issues, time pressure) and job resources (e.g., perceived autonomy support, opportunities for professional learning, and relationships with colleagues) that influence teacher engagement, burnout, and organisational outcomes are explored in JD-R theory in teaching populations.

The JD-R theory proposes two distinct psychological processes involving job demands and job/personal resources: the health impairment process, where job demands uniquely predict burnout, and the motivational process, in which job/personal resources are inherently motivating and lead to higher work engagement and wellbeing (Bakker & Demerouti, 2017). Through these two processes, links to important personal and professional outcomes, such as organizational commitment, burnout, job performance, and turnover intentions, can be explored (Collie et al. 2018; Esteves & Lopes 2017; Taris, 2006). Researchers used a paper survey to collect data and analyzed job demands across three indicators namely disruptive pupil behavior, work overload, and a poor physical work environment (Hakanen et al. 2006). The study results backed up the central claims of the theory that high job demands are associated with increased ill-health from burnout.

Early versions of the JD-R paradigm assumed that workers had little control over their working conditions, which were thought to be set by employers and organisations (Bakker and Demerouti 2017). Employees frequently make proactive changes to improve their employment experiences, according to longitudinal JD-R theory studies (e.g., by actively seeking challenges, mobilising job resources, and finding ways to manage their job demands; Alonso et al. 2019; Tims et al. 2013). This technique, known as job crafting, is an example of how JD-R theory may be put into practice to improve teacher wellbeing. Highly motivated teachers are more likely to use job-crafting strategies. This results in more resources and, as a result, increased motivation (van Wingerden et al. 2017a). This gain spiral has been linked to higher job performance as well as increased employee satisfaction (van Wingerden et al. 2017b). Academic administration can help employees by giving opportunities for choice, additional skills training, and mentorship, in addition to professional learning focused on teaching staff about job crafting and how such behaviors might be enacted in the workplace. Thus, as suggested by Granziera et al. (2020), the present research examines how different types of crafting may be related to burnout and occupational outcomes in teachers.

At all levels of the educational system, teacher fatigue has been associated with unfavorable outcomes. A study conducted by Teles et al. (2020) considered burnout among higher education teachers as a serious problem that should be measured. Burned-out teachers are more likely to leave the profession, so administrators and districts must deal with teacher attrition (Goddard & Goddard, 2006). Burnout has also been associated with higher levels of absenteeism (Burke & Greenglass, 1995), resulting in greater expenditures and problems in finding and paying substitutes. Teacher burnout can have serious physical and psychological consequences for the teachers themselves. Headaches, gastrointestinal problems, weariness, low back pain, ulcers, high blood pressure, and depression are common symptoms of burnout among teachers (Guglielmi & Tatrow, 1998). Furthermore, teachers who have burned out have lower levels of self-efficacy, which means they believe that they are less capable of carrying out their teaching duties (Skaalvik & Skaalvik, 2010). Subsequently, an intervention-based study conducted on teachers reveals that job crafting interventions decreased the perceptions of job demands, which significantly affects the job stress (Vandiya & Hidayatb, 2019).

Rationale of the study

Based on the review of literature, the present study aims to fill the gaps. Extant literature recognized the problem of burnout among teachers. However, a few researchers have identified the coping mechanisms to overcome burnout (Chakravorty and Singh, 2022; Tripathi, 2020). Job crafting is a potent personal resource that could reduce burnout among teachers. To the best of our knowledge, not even a single study has been carried out exploring the relationship between the dimensions of job crafting and burnout. Further, the present study makes a theoretical contribution by incorporating the JD-R perspective to understand the role of personal resources (job crafting) for teachers working in colleges. Research has also shown that specific job crafting dimensions can have different predictors as well as outcomes. For example, the promotion focus is related to increasing job resources (structural and social) and challenging job demands, whereas the prevention focus is related to decreasing hindering job demands (Lichtenthaler & Fischbach, 2018). This study indicates that job crafting positively influences teachers' job satisfaction, and has work-related positive and the work-related negative effects.

Therefore, we posit that job crafting will be instrumental in the improvement of job performance by proactively coping with burnout.

H1. Job crafting will be negatively related to burnout.

H2. Task crafting will be negatively related to burnout.

H3. Relational crafting will be negatively related to burnout.

H4. Cognitive crafting will be negatively related to burnout.

Methodology

Participants and procedure

By following cross-sectional design, data were collected using a convenience sampling technique from 313 college teachers working in the Jammu district, Jammu, and Kashmir (India). Data were collected from July 2019 to December 2019. Only teachers with at least one year of teaching experience were contacted. The teachers were contacted after obtaining permission from the heads of the institutes. The objective and voluntary nature of the research was explained before the survey was conducted. Written informed consent was obtained from the participants. They were assured of the confidentiality of their responses. It took participants nearly 10 minutes to fill out the questionnaires. Out of 313 teachers who completed the survey, 171 (54.6 %) were females, while 142 (45.4%) were males. The majority of the participants were married 259 (82.7%) while only 54 (17.3%) were unmarried. The demographic profile of the participants is presented in Table 1.

Table 1. Demographic profile of the respondents

Demographics	Frequency	Percentage (%)
Age		
Below 40 years	168	53.6
41-60	145	46.3
Marital Status		
Married	259	82.7
Unmarried	54	17.3
Gender		
Male	142	45.4
Female	171	54.6
Education Qualification		
Master's	71	22.7
M. Phil	45	14.4
Ph. D	197	62.9
Work Experience		
Less than 5 years	117	37.3
5-10 years	37	11.8
10-15 years	79	25.2
15-20 years	29	9.26
More than 20 years	51	16.3

Measures

The measures used in the present study are presented below:

Job crafting: The job crafting was measured using the Job Crafting Questionnaire by Slemp & Vella-Brodrick (2013). It consists of 15 items rated on a 6-point Likert scale from 1 (hardly ever) to 6 (very). The scale consists of task crafting (5 items), cognitive crafting (5 items), and relational crafting (5 items) as three sub-dimensions of the job crafting measure.

Burnout: Oldenburg Burnout Inventory by Demerouti et al. (2010) was used to assess burnout among teachers. It consists of 16 items ranging from 1 (Strongly agree) to 4 (Strongly disagree). The two subscales of the burnout inventory are disengagement and exhaustion. A higher overall score indicates a higher level of burnout.

Statistical analysis

In the present study, the preliminary analysis, as well as the main analysis (Pearson's correlation, and multiple linear regression analysis) were performed to test the relationships between the variables using SPSS version 23.

Results

Before data analysis, data cleaning was done. Next, assumptions for normality, homoscedasticity, and linearity were checked. The normality of the variables was sufficient. Skewness and kurtosis were significantly normal and within the range ± 2 .

The means, standard deviations, and Pearson's correlations were estimated to gain an initial overview of the relationships between the study variables. The correlation results $r(313) = -.307^{**}$, $p .001$ two-tailed indicated a low but highly significant and negative relationship between the scale of job crafting and burnout (Table 2). The sub-dimension task crafting ($r(313) = -.197^{**}$, $p .001$), relational crafting ($r(313) = -.253^{**}$, $p .001$) and cognitive crafting ($r(313) = -.356^{**}$, $p .001$) shares significant negative correlation with burnout.

Table 2. Means, standard deviations, Cronbach's alphas, and bivariate correlations

S. no	Variable	1	2	3	4	5	6	Mean	SD	α
1	Gender	-	-.020	-.057	.037	-.032	.030	1.54	0.49	-
2	Job crating	-		.853**	.838**	.864**	-.307**	66.53	12.06	.90
3	Task crafting	-	-		.525**	.631**	-.197**	21.44	5.04	.82
4	Relational crafting	-	-	-		.610**	-.253**	21.57	4.85	.77
5	Cognitive crafting	-	-	-	-		-.346**	23.51	4.28	.84
6	Burnout	-	-	-	-	-		34.15	5.34	.76

Notes: SD= Standard deviation, α = Cronbach's alpha.

** correlation is significant at 0.01 level.

* Correlation is significant at 0.05 level.

Next, the regression analysis was done. The model $F(32, 282, 1)$, $p = .000$ significantly predicts burnout at both .01 and .05 level (2-tailed). Our regression model shows a significant impact of job crafting on the burnout of college teachers. The R^2 value (.104) means that 10.4 percent variance in the dependent variable i.e. burnout is because of the independent variable i.e. job crafting. This leads to acceptance of H1. Job crafting will be negatively related to burnout.

Next, dimensions-wise analysis reveals that the model $(14, 620, 3)$, $p = .000$ is significant at the .01 level (2-tailed). The R^2 value (.124) reflects that 12.4 % of the variance in burnout is because of the dimensions of job crafting (Table 3).

Table 3. Results for hypothesis testing using a Bootstrap Analysis With a 95%

Confidence						
S. no	Predictors	β	t value	F value	R square	Sig.
1	Job crafting	-.307	-5.68**	14.620	.124	.000
2	Task crafting	-.054	-.769			
3	Relational crafting	-.078	-1.13			
4	Cognitive crafting	-.333	-4.39**			

The β tells us the regression line's gradient and the relationship's strength between a predictor and the outcome variable. The t value shows that there exists a negative relationship between task crafting and burnout.

For task crafting ($\beta = -.054$; $t = -.769$) and relational crafting ($\beta = -.078$; $t = -1.13$) is non-significant (Table 3). Thus, it leads to rejection of hypotheses H2 and H3.

However, cognitive crafting ($\beta = -.333$; $t = -4.39$) was significant at .01 level. This leads to the acceptance of H4. Cognitive crafting will be negatively related to burnout.

The study assessed the direct impact of the dimensions of job crafting (task, cognitive and relational crafting) on burnout of the college teachers working in the Jammu district. The results revealed a negative and significant direct impact of job crafting on burnout.

Discussion

Job crafting can lead to several positive outcomes for teachers and can act as a protective factor that contributes to increased meaningfulness and engagement at work. Increased work engagement and psychological meaningfulness may positively affect the practice of teaching, thus highlighting the pivotal role of job crafting.

Our findings were in line with the previous studies (Collie et al., 2018; Singh & Singh, 2018; Vandiya & Hidayatb, 2019). Job crafting predicted burnout among teachers working in different colleges in Jammu district. Being in a highly stressful occupation, teachers need to continuously find ways to craft their work practices to deal effectively with their job demands and capitalize on their

available job resources. Individual behavior is important for the well-being of teachers. For instance, teachers can use relational crafting by providing and in turn seeking social support from colleagues, leaders, and students that have important implications for engagement and wellbeing (Collie et al., 2018). Furthermore, the teachers can actively select how and to what extent they engage in social activities. They can tailor their work and communication style with different types of coworkers (e.g., welcoming new employees or attending work parties). Thus, to fulfill their need to interact and form social connections with others, teachers engage in relational crafting. Another way of teachers can reduce burnout is through the use of cognitive crafting. Cognitive reappraisal is the process of deliberately restructuring one's thinking, and it entails changing the way one thinks about an event to change the feelings associated with that event. This can help to avoid getting into an emotional spiral due to negative thought patterns. Concerning teacher burnout, our study empirically supported the impact of job crafting and particularly cognitive crafting among teachers. To make work more fulfilling, teachers can alter their attitudes, perceptions, and ways of thinking. By using cognitive crafting, teachers re-consider their observations in relation to their work and determine whether it matches their life's purpose, aims, enabling them to feel that they can make a difference at work. Thus, cognitive crafting might act as an important personal resource for teachers.

Our study supports the JD-R theory. Teachers who have greater access to personal and job resources probably are better able to manage job demands, which in turn could reduce their risk of emotional exhaustion. In addition, teachers may be better able to handle difficult and adverse situations when they have an access to a range of personal resources. For instance, student misbehavior might be emotionally and physically demanding. However, teachers who are able to draw on personal resources such as adaptability, and job resources namely social support may be better able to manage better. Thus, the academicians can modify their attitudes (cognitive crafting), actions, seek advice and consolation from their peers (relational crafting). Further, while there is substantial evidence to support the use of JD-R theory-driven interventions to improve teachers' well-being, such programs must be used with caution. Teachers' stress levels can increase by participating in such interventions, which add to their workloads (Van Wingerden et al., 2013). Given that such interventions are frequently organized by the same administrators who may be blamed for the teachers' initial heavy workloads, some teachers may be reluctant to get involved. Therefore, interventions must be tailored to the needs of instructors and conducted in such a way that teachers can see the direct advantages to themselves and their children. Furthermore, it is critical to recognize that teachers should not bear complete responsibility for the well-being of their students; rather, educational systems play a critical part in this process.

Limitations and practical implications

Firstly, teachers' self-reports were used to collect data for this study, which can only provide a restricted perspective. Individual self-reports may have limited validity when it comes to burnout characteristics in particular. Furthermore, a mixed-method approach may be more valid for evaluating job crafting. Self-report data should be coupled with more objective data collection procedures, such as whole-school evaluations, and should include a variety of additional data sources, such as field observations, protocol data, or diary assessment, in future studies.

Secondly, the sample was limited to a single region in the Jammu district. To analyze the reported results, replication studies with larger samples from different places inside and outside Jammu, and different cultural backgrounds, are recommended.

Thirdly, the demographic variables could influence the relationship between the dimensions of

job crafting and burnout. Therefore, future research must include demographic variables (for example gender, age, educational qualifications, and years of work experience) to confirm its impact on the relationship between job crafting and burnout.

Fourthly, the findings and conclusions offered here should be scrutinized further using longitudinal designs with longer time frames, experimental designs, and appropriate data processing methods.

Despite its limitations, the current study offers new insights that can be used to inform both research and practice. Training programs and/or group-based interventions targeting job crafting techniques can be particularly useful in the context of college teachers. These may include work-related behavior patterns, strategies for coping with high workloads and stress, and preventive habits, such as mindfulness or compassion. This study highlights the importance of job crafting for teachers' burnout levels. In addition, it contributes to the literature on job crafting and teaching in particular, as well as to the limited job crafting research that has been conducted in the Indian teaching context.

Conclusion

Given the overall rise in influences on teachers' occupations, scholars and practitioners are paying more attention to the relationship between such influences and work outcomes. A lot of aspects must be considered to comprehend these dynamics, such as proactive work behaviors such as job crafting or self-initiated work-related changes made by balancing job demands and resources. This study reveals that job crafting serves as an essential element by channeling the negative effect of burnout, so supporting the view of individual resourcefulness in an organisational setting. Thus, higher education institutions seeking teachers capable of coping should look for individuals who job craft or have the potential to job craft, while organisations should strive to create a work environment that recognises and encourages teachers' job crafting, which will reduce stress and burnout, and thus improve psychological availability and performance at work. This is significant because teachers' personal and professional well-being affects their own physical and mental health, as well as the physical and mental health of their students.

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Status and Functioning of Government Pre-Primary Schools in Jammu District: An Evaluative Study

S.K. Panda & Ranjana Sharma***

ABSTRACT

Pre-primary education provides a platform where individual capabilities and potentialities of each child are recognized and developed so that the foundation of a productive and prosperous life is laid in later years. The aim of the present paper was to assess the status and functioning of government pre-primary schools in Jammu district. The population of the study included all the government pre-primary schools (521 in total) in Jammu district. Out of these only 50 Govt. pre-primary schools were selected randomly and from each school two pre-primary school teachers were purposively selected and hence, 100 Govt. pre-primary school teachers were included in the sample of the study. Data were collected through self-prepared tools i.e. semi-structured Interview Schedule and a Checklist. The results of the study showed that the prominent reason behind the low enrolment of pre-primary students in the schools is that the parents of students prefer to send their children in private schools instead of government schools. There is no practice of play-way method in the schools for teaching pre-primary students particularly and even teachers were not trained. Government should ensure the availability of required play material and audio visual aids as well as the necessary infrastructure in the school so that pre-primary education can run smoothly and educational administrators should bear the responsibility of providing guidance to society regarding the development of children in early years.

Key Words: Pre-primary education, Play-way Method, Pre-primary schools.

Introduction

Pre-primary education is the education that is given to students before they enter the formal schooling in primary education. The age group of these children ranges between 3-6 years of age. Pre-primary education ensures gradual smooth transition of the students from the pre-primary stage to primary stage of education. Pre-primary education is helpful in bringing down the percentage of dropouts as well as the rate of wastage and stagnation at the primary and secondary schools. It is very essential to provide opportunities and experiences that help young children to enter into the formal system of education. Pre-primary education envisions making children ready to take part in the school activities. It develops basic language and numeracy skills so that a smooth transition can take place from pre-primary to primary stage. Every child is blessed with individual capabilities and potentialities and pre-primary education provides a platform where these are recognized and developed so that the foundation of a productive and prosperous life is laid in later years. It must aim at developing

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communicative skills, creativity, good values and healthy attitude in the students. Global brain research puts emphasis on the significance of early years for the development of brain of an individual in the later years. It shows that the rate of development in the early years is very rapid than that takes place at any other stage of life. Therefore, children should be provided stimulating environment enriched with learning activities so that their long term development may be facilitated (Venkatacharya et al., 2018).

Features of pre-primary education:

- ▶ Pre-primary education provides early care and development that help cumulative learning experiences of children in their later life. It allows them to grow out of the past experiences in order to utilize them fully in the present situation.
- ▶ Pre-primary education adopts such techniques and methods that help children meet their individual differences.
- ▶ Pre-primary education considers that children are born players as play is an inborn instinct in children. Play helps children practice important behavior required for their survival as well as their success in the future life.
- ▶ Play way method provides children a lot of opportunities to interact and bond their relationship with their peers and teachers.
- ▶ In play based learning, adults play an important role in creating and organizing play activities for the children keeping in mind certain learning outcomes to occur.
- ▶ Pre-primary education set the foundation of an individual's lifelong learning and development.
- ▶ Early years' experiences make neural connections and influence brain development that influences learning outcomes to occur and to remain sustained in the long run.
- ▶ The foundation of development of personality of an individual is laid in the early years therefore; pre-primary education must aim at the holistic development of an individual at this stage of education.

HISTORICAL BACKGROUND OF ECCE/PRE-PRIMARY EDUCATION IN INDIA

In India preschool education has shown a steady but gradual progress. In the post-independence period, it was only in the fifth five-year plan (1974-79) that the significance of preschool education was recognized and rupees 1000 crore were separately allocated for the provision of pre-primary education (Lumrity, 2012). National Policy for Children, 1974 and National Policy on Education (NPE)- 1986 both stressed upon the importance of Early Childhood Care and Education (ECCE). Government of India in 1975 launched Integrated Child Development Services (ICDS) that provides preschool education along with nutritional needs and health checkup services to children under 6 years of age and their mothers. 86th Constitutional Amendment Act, 2002 substituted Article 45 for a new article in directive principles of state policy part IV of the Constitution that obligates the states for the provision of ECCE to the children until they attain the age of six years. India ratified the United Nations conventions on the rights of the child (UNCRC, 1989) in 1992 and is signatory to Education for All (EFA, 1990). EFA has assumed ECCE to be the very first goal to be achieved in the journey towards achieving EFA. In the 11th five-year plan, it was surveyed and found that the PSE component of ICDS-Anganwadi is very weak. Hence, 12th five-year plan made a commitment to keep the accessibility to quality. In this endeavour, major initiatives of government towards bringing quality reforms in ECCE are done through the Ministry of Women and Child Development (Chandra et al., 2017). National

Education Policy (NEP) 2020 recognizes the importance and significance of early care and stimulation for healthy growth and development of brain. It states that young children should have an access to ECCE particularly children belonging to economically backward families. It also draws its attention towards providing quality ECCE to children to enable them to participate in educational system and thereby, preparing them to flourish throughout their entire life. The policy states that ECCE makes children school ready. It focuses in strengthening quality infrastructure required in the ECCE centres, enriching learning environment with provision of play equipments and training ECCE teachers. It promotes the importance of early numeracy and literacy through ECCE. Building for early childhood education must be well constructed, classrooms must be child friendly, well designed and properly ventilated. In the curricular structure (5+3+3+4) suggested by the policy, foundational stage of learning is of 5 years for children falling in the age group of 3-8 years including preschool of 3 years and grades 1, 2. After attaining 2 years of preschool education in the Anganwadi centres from the age of 3-5, a child shall enter in the primary school for the 3rd year of his/her preschool education which will be called a preparatory class. The learning in the preparatory class shall be play and activity based learning focusing on the development of cognitive, affective and psychomotor domains of the children. It will prepare children for early literacy as well as for early numeracy which will help them in getting ready for the grade 1 and 2. It ensures extending provision of mid day meal programme for the preparatory class along with the other children reading in the primary school. Medical health checkup and growth monitoring facilities shall also be available for the children in preparatory class as they are available in the Anganwadi centres. NCERT will develop curricular and pedagogical framework for ECCE children. It will be constituted of two sub frameworks or two parts, one for 0-3 year olds and the other for 3-8 year olds as per the mentioned guidelines. It will incorporate art, stories, poetry and songs developed over the years related to rich Indian culture and traditions. MHRD will ensure the promotion of curriculum as well as pedagogy from preschool to primary school. Towards producing high quality teachers at ECCE stage, current teachers working at the Anganwadis shall be provided training in a very systematic manner following the curricular and pedagogical framework designed and created by NCERT. Teachers possessing the qualification of 10+2 shall be trained in a 6 month certificate course programme in ECCE. Those who possess qualification less than 10+2 will be required to do one year diploma in ECCE covering all the important aspects of ECCE. These training programmes will be run either through distance mode or online mode. School education department through their cluster resource centres will mentor these ECCE trainings by making monthly contact with the Anganwadi workers. Teachers teaching preprimary classes attached to primary/middle/high schools will also be trained in the above mentioned curriculum as well as pedagogy of ECCE. ECCE is a flexible, multidimensional and discovery based learning. Different play activities at this stage of education include songs and music, drama and stories, and indoor and outdoor plays which will develop them holistically including their logical and rational skills and problem solving capacities. NEP 2020 sets the target of making provision of quality ECCE universally accessible by 2030 (MHRD, 2020).

PRESENT STATUS OF PRE-PRIMARY EDUCATION IN J&K

Government of J&K has been seen making considerable efforts for providing pre- primary education in the union territory of J&K. United Nations International Children's Emergency Fund (UNICEF) provided support to government of J&K to strengthen pre-primary education and collaborated with SSA and State Institutes of Jammu and Srinagar and designed manual for teachers at early grades. With the launching of ICDS in 1975 across the country including J&K, the government of J&K has been providing Early Childhood Care and Education through the Anganwadi centres. Various philosophers and educationists including Froebel, Maria Montessori, Rousseau etc. has

revolutionized the field of early childhood education through their philosophies and researches that led to increasing the importance of pre-primary education in the country. Subsequently, various private institutions started providing 3 years' pre-primary education including Nursery, L.K.G and U.K.G. to the children. With the expansion of private educational institutions, the enrolment in government schools declined. In order to attract enrolment in government schools as well as providing pre-primary education to the children in the schools, the government of J&K ordered the government schools to start pre-primary classes in the schools. In 2010, the government of J&K made some rules published vide SRO (self regulatory organization) 123 dated 18th of March, 2010. These rules included providing three classrooms, one playroom, two teachers trained in early childhood care and education and one trained and experienced caretaker in pre-primary schools. These rules were general and were not made mandatory by the J&K govt. till date either for government pre-primary schools or for private pre-primary schools. Presently, there are 521 government pre-primary schools in Jammu district that are providing pre-primary education to the students.

JUSTIFICATION OF THE STUDY

In the current scenario, country is facing multiple challenges like increasing unemployment, rapid growth of population, environmental degradation, and pollution etc. along with the very recent pandemic of COVID-19. Solving these issues requires the creativity of our present leaders, scientists, doctors, teachers and engineers. Children of today will represent our future leaders, doctors, engineers and scientists. Future human resource development of the country depends entirely on the education and growth and development of young children. In other words, the investment for the future human resource development needs to be put in the early years of the present generation of young children. Therefore, education must enable today's children to be creative enough to solve the problems of today and tomorrow by utilizing their brain power and functioning. Therefore, there is nothing more challenging for today's educational system than activating the hidden talents of the children and cultivating their potentialities of applying the power of full brain. Research studies have showed that the growth and development in the early years is faster than any other stage of growth and development (Singh, 1997). Pre-primary education should aim at the development of curiosity and creativity of children but the irony is that it is seen to be completely formal. After reviewing literature on pre-primary education, it was found that despite the recognition of the importance of pre-primary education by the Government of India, the challenges in implementation still remain as pre-primary is facing a lot of problems like poor physical facilities, lack of play apparatus, untrained teachers teaching pre-primary children and growth of unplanned pre-primary education institutions. Mghasse and William (2016) found that there is lack of necessary teaching-learning material, qualified teachers and shortage of classrooms which hinders the proper management of pre-primary education. Dibaba (2016) found that there is lack of training among pre-primary teachers, lack of organization of parent-teacher meeting, lack of play equipments and lack of outdoor space in the school. Pre-primary education is known as the foundational stage of education as it sets the foundation of development of child's full potential. The effective functioning of pre-primary education depends upon the effective functioning of all the aspects connected to it. After reviewing literature on pre-primary education, it was also found that there are limited studies conducted on pre-primary education in J&K. Therefore, the researchers had undertaken the present study to evaluate the pre-primary education in Jammu district of J & K UT.

OBJECTIVES OF THE STUDY

1. To study the existing status of government pre-primary schools in Jammu district.

2. To study the functioning of government pre-primary schools in Jammu district.
3. To obtain suggestions from government pre-primary school teachers for the effective functioning of pre-primary schools.

RESEARCH QUESTION OF THE STUDY

1. What is the existing status and functioning of government pre-primary schools in Jammu district?

METHODOLOGY

In the present study, the researchers have employed descriptive method that describes or explores the existing status of the current phenomenon. The population of the present study included all the government pre-primary schools of Jammu district. There are 521 government pre-primary schools distributed in the 14 educational zones of Jammu district. The present study was delimited to 5 educational zones which were selected randomly out of the 14 educational zones of Jammu district. These educational zones were- Bishnah, Satwari, Gandhinagar, Miran Sahib and Jammu. After that 50 Govt. pre primary schools (10 schools from each educational zone) were selected randomly. Thereafter, two pre-primary school teachers were selected purposively from each pre-primary school. Thus, 100 pre-primary school teachers comprised the sample for the present study. The researchers prepared an interview schedule for the pre-primary teachers containing a list of questions (both open ended and closed ended) to be asked by an interviewee in a face to face conversation. The open ended items were interpreted in a descriptive manner. In the closed ended items, positive (yes) was attributed score '1' and negative response (no) was attributed score '0' and thereafter, the researcher analyzed and interpreted the data by calculating frequency percentages. In addition to that, the data was collected through check list to know the availability of infrastructure facilities in government pre-primary schools.

ANALYSES AND INTERPRETATION OF THE DATA

Analyses and interpretation of data have been presented in two sections. Section-I deals with the responses given by teachers regarding status and functioning of government pre-primary schools, and section-II deals with availability of infrastructure in government preprimary schools.

Section I: Showing the responses given by the teachers regarding the status and functioning of government pre-primary schools.

Table 1
Status of enrollment of pre-primary school students

No. of students enrolled	No. of schools (N=50)	Percentage
1-10	28	56%
10-20	13	26%
20-30	5	10%
30-40	1	2%
50-60	3	6%

The Table 1 shows that out of 50 pre-primary schools, 28 (56%) schools have the strength of 1-10 pre-primary school students; 13 (26%) schools have the strength of 10-20 students; 5 (10%) schools have the strength of 20-30 students; 1 (2%) schools have the strength of 30-40 students and 3 (6%) schools have the strength of 50-60 students. The reason behind the low enrollment in the government pre-primary schools was found that people prefer to send their children in private pre-primary/ play way schools instead of sending children to government pre-primary schools.

Table 2
Functioning of Government Pre-primary Schools

N=100

Sr.No.	Items	Yes (in %)	No (in %)
1	Do the enrolled pre -primary school students attend the school regularly?	62 (62%)	38 (38%)
2	Does the enrollment of pre -primary school students increase every year?	58 (58%)	42 (42%)
3	Is the minimum age of admission of students in the pre-primary school 3 years?	69 (69%)	31 (31%)
4	Is there any prescribed curriculum for the pre -primary school students?	0% (0%)	100 (100%)
5	Are the co -curricular activities organized in the school for the pre-primary school students?	58 (58%)	42 (42%)
6	Do you teach pre-primary school students only?	13 (13%)	87 (87%)
7	Do you have undergone any kind of teachers' training related to pre-primary education?	39 (39%)	61 (61%)
8	Do you teach pre -primary school students through play -way method?	66 (66%)	34 (34%)
9	Do you come across any sort of problem while teaching pre -primary school students through play-way method?	46 (46%)	54 (54%)
10	Do you conduct morning assembly for the pre -primary school students?	100 (100%)	0% (0%)

The table 2 shows that:-

Out of 100 pre-primary school teachers, 62 (62%) teachers responded that the students attend the school regularly while, 38 (38%) of the teachers responded that the enrolled students do not attend the school regularly, however, all of them varied in their responses about the reasons behind the students' being absent in the school. Some teachers responded that the parents of the students are not educated and don't understand the importance of the pre- primary education and hence, don't send their children in the school regularly. While, some teachers told that poor conditions of the infrastructural facilities in schools in different seasons remain the reason behind the little students' being absent in the school. Some teachers responded that parents of the most of the pre-primary students coming in the schools belong to labour class

and they remain migrated from one place to another in search of their livelihood and hence, their children do not come to school regularly. Some teachers responded that their school has been merged with a middle school because of the low enrollment of the students in their schools and therefore, the distance for the students to arrive at the school gets increased which ultimately becomes the reason for their not coming regularly in the schools.

Out of 100 pre-primary school teachers, 58 (58%) teachers responded that the enrollment of the students increases every year; While, 42 (42%) teachers who responded negatively regarding the enhancement in the enrollment of the pre-primary children, specified the reason that the strength of the pre-primary students' remains constant as only two or three students has been there in the pre-primary class. These teachers also told that although this is a welcome step from the government side to start this class yet parents prefer to send their children in the private or play way schools.

Out of 100 pre-primary school teachers, 69 (69%) teachers responded that the minimum age of admission of pre-primary school students is 3 years, While, 31 (31%) teachers responded that the minimum age of admission of pre-primary school students is 4 years and above.

All the 100 (100%) pre-primary school teachers responded that they don't have a prescribed curriculum for the pre-primary school students. The teachers told that they themselves design curriculum for the pre-primary school students.

Out of 100 pre-primary school teachers, 58 (58%) teachers responded that co-curricular activities like skits, dance and singing songs/poems in the independence and republic day celebrations, fancy dress competitions and other activities are organized for the pre-primary school students. They also responded that the students play games like lemon race, musical chair game, hide and seek, skipping, racing and jumping in the school, While, 42 (42%) teachers responded that co-curricular activities are not organized for the pre-primary school students. The teachers told that pre-primary children are too small to participate in co-curricular activities.

Out of 100 pre-primary school teachers, there are 13(13%) teachers who teach pre-primary school students only and hence, their all focus remains upon teaching the pre-primary school students. While, there are 87 (87%) teachers who teach pre-primary school students along with students of other classes due to the fact that there is shortage of rooms in the schools.

Out of 100 pre-primary school teachers, 39 (39%) teachers have undergone teachers' training related to pre-primary education. The teachers said that the in-service training including the orientation courses and workshops conducted by District Institute for Education and Training (DIET) cover the component of pre-primary education too. Also, during the period of COVID-19 they attended online workshops organized by the Directorate of School Education Foundation in collaboration with the EDUWEAVE foundation for ECCE teachers. Whereas, 61 (61%) teachers answered that the in-service teachers' training does not properly cover the component of pre-primary education and also they did not attend the above mentioned training during the COVID-19 period.

Out of 100 pre-primary school teachers, 66 (66%) teachers responded that they teach children through play way method. While, 34 (34%) teachers told that they teach children through rhymes and teaching aids like blocks, puzzles, charts, pictures and educational toys including plastic toys having shapes of fruits and vegetables.

Out of 100 pre-primary school teachers, 46 (46%) told that they come across certain problems while teaching students through play-way method. These teachers answered that activity based method demands a lot of participation on the part of the teachers for structuring creative activities, preparing and structuring lesson plan for the students. Whereas, 54 (54%) teachers told that they do not come across any sort of problem while teaching students with the help of play way method.

All the 100 (100%) pre-primary school teachers responded that morning assembly was organised for the pre-primary school students. Some of the teachers told that the students recite poems, tell name of the alphabets, colours, fruits and vegetable in the assembly.

In addition to the above items, other items were analyzed in descriptive manner which are mentioned as follows:

The following were the responses obtained regarding the subjects taught to the students:

- ▶ English and Hindi alphabets and counting
- ▶ Environmental science (EVS) including name of the fruits, name of the vegetables, name of the colours, name of the parts of body and name of the days in a week.

The following were the creative activities organized in the school:

- ▶ Drawing
- ▶ Art and craft activities including clay modeling, paper craft, collecting leaves and pasting them on drawing pads.

The following were the benefits of teaching pre- primary school students with the help of play way method:

- ▶ Students learn easily and do not get bored while learning through play-way method.
- ▶ Students enjoy learning while learning through play-way method.
- ▶ Play-way method creates interest and develops understanding.

The following were the teaching aids used by the teachers while imparting education to pre-primary school students:

- ▶ Alphabets, Toys, Charts and Pictures
- ▶ Flash cards
- ▶ Liquid crystal display (LCD): Rhymes, poems, alphabets and counting are played by inserting pen drive into it
- ▶ Models
- ▶ Projector

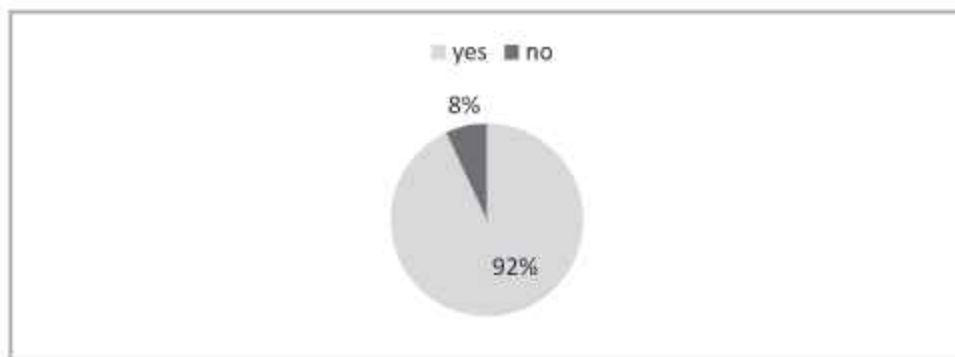
Section II: Showing the analysis of availability of infrastructural facilities in government pre-primary schools

Table 3
Availability of infrastructural facilities in government pre-primary schools

N=50

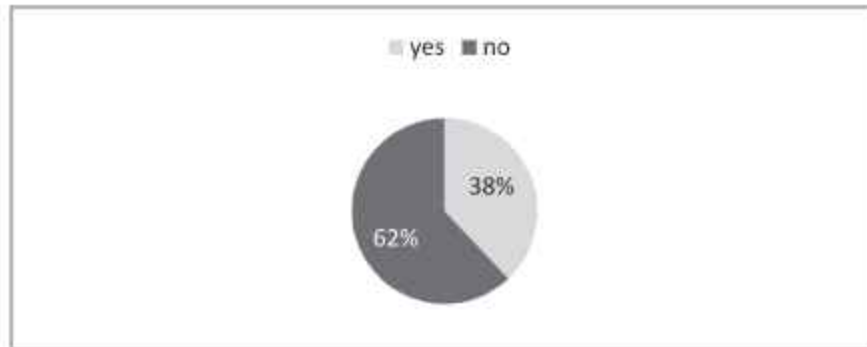
S.No.	Items	Yes (in %)	No (in%)
1.	Is the building of the pre-primary section of the school attached with the main building of the school?	46 (92%)	4(8%)
2.	Is separate classroom for the pre-primary school students available in the school?	19 (38%)	31 (62%)
3.	Is the environment of the classroom for the pre-primary school students hygienic (neat and clean)?	50 (100%)	0 (0%)
4.	Are the walls of the classroom colourful?	50(100%)	0 (0%)
5.	Are the pre-primary school students sit on baby chairs?	14 (28%)	36 (72%)
6.	Is electricity facility available in the school?	50 (100%)	0 (0%)
7.	Is toilet facility available in the school?	50 (100%)	0 (0%)
	a) Indian	19 (38%)	---
	b) Western	16 (32%)	---
	c) Both 'a' and 'b'	15 (30%)	---
8.	Is drinking water facility available in the school?	50 (100%)	0 (0%)
	a) Tap water	17 (34%)	----
	b) Hand pump water	19 (38%)	----
	c) Both 'a' and 'b'	14 (28%)	----
9	Is ventilation facility available in the classroom?	50 (100%)	0 (0%)
10.	Is facility of indoor space available in the school for conducting indoor activities?	28(56%)	22(44%)

Figure no. 1 showing the percentage regarding whether building of the pre- primary section of school attached with the main building of the school



The table 3 and figure no. 1 show that out of 50 pre-primary schools, in 46 (92%) of the schools the building of the pre-primary section of the school is attached with the main building of the school whereas in 4 (8%) of the schools it was found that that the pre- primary section of the school is located in the separate building within the premises of the school.

Figure no. 2 showing the percentage regarding whether there is separate classroom for the pre-primary school students in the school

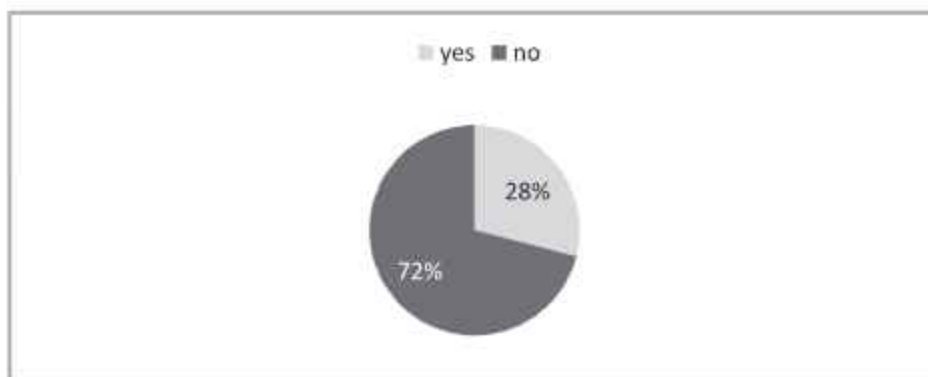


The table 3 and figure no. 2 show that out of 50 pre-primary schools, in 19 (38%) schools separate classroom for the pre-primary school students is available in the school. This is found in the govt. primary schools where the total no. of rooms in the school is 2 or 3 only. While, separate room for the pre-primary school students is not available in 31 (62%) schools as pre-primary students are adjusted with the 1st class.

The table 3 shows that in all 50 (100%) schools, environment of the classroom for the pre-primary students is hygienic (neat and clean).

The table 3 shows that all 50 (100%) schools have colorful classroom walls painted with the alphabets, counting, name of fruits and vegetables.

Figure no. 3 showing the percentage regarding whether pre-primary students sit on baby chairs



The table 3 and figure no. 3 reveals that out of 50 pre-primary schools; in 14 (28%) schools, students sit on baby chairs, while 36 (72%) schools don't have baby chairs and students sit either on desks or mats.

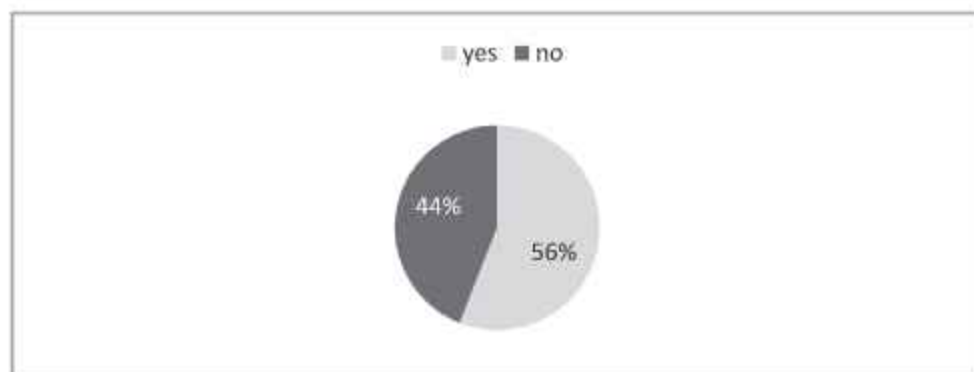
The table 3 shows that all 50 (100%) schools have electricity facility. Both fan and bulb are available in the classroom.

The table 3 shows that in all 50 (100%) schools toilet facility is available. Out of 50 pre-primary schools, in 19 (38%) schools Indian toilet is available. In 16 (32%) schools Western toilet is available. While in 15 (30%) schools both Indian and western toilet are available.

The table 3 shows that in all 50 (100%) schools drinking water facility is available. Out of 50 pre-primary schools, in 17 (34%) schools tap water is available. In 19 (38%) schools hand pump water is available. Whereas in 14 (28%) schools both tap water and hand pump water are available.

The table 3 shows that in all 50 (100%) schools, ventilation facility is available in the classroom.

Figure no. 4 showing the percentage regarding the availability of facility of indoor space for conducting indoor activities in the school



The table 3 and figure no. 4 show that out of 50 pre-primary schools, 28 (56%) schools have space for conducting indoor activities in the school while, 22 (44%) schools do not have space for conducting indoor activities in the school.

MAIN FINDINGS OF THE STUDY

Findings of the study have been presented under three sections. Section-I deals with findings related to responses given by teachers regarding status and functioning of government pre-primary schools, section-II deals with findings related to availability of infrastructural facilities in government pre-primary schools and Section-III deals with findings related to suggestions given by the teachers for effective functioning of government pre-primary schools which is presented as under:

Section I: Findings related to Status and Functioning of Government pre primary schools.

1. 56% schools have the strength of 1-10 pre-primary school students; 26% schools have the strength of 10-20 students; 10% schools have the strength of 20-30 students; 2% schools have the strength of 30-40 students and 6% schools have the strength of 50-60 students. The reason behind the low enrollment in the government pre-primary schools was found that people prefer to send their children in private pre-primary/ play way schools instead of government pre-primary schools.

2. Majority (62%) teachers responded that the students attend the school regularly
3. Majority (58%) teachers responded that the enrollment of the students increases every year.
4. Majority (69%) teachers responded that the minimum age of admission of pre-primary school students is 3 years.
5. All the pre-primary school teachers responded that they don't have a prescribed curriculum for the pre-primary school students. The teachers told that they themselves design curriculum for the pre-primary school students.
6. Majority (58%) teachers responded that co-curricular activities are organized for the pre-primary school students like skits, dance and singing songs/poems in the independence and republic day celebrations, fancy dress competitions and other activities. They also responded that the students play games like lemon race, musical chair game, hide and seek, skipping, racing and jumping in the school.
7. Majority (87%) teachers who teach pre-primary school students along with students of other classes due to the fact that there is shortage of rooms in the schools.
8. Majority (61%) teachers answered that they do not have undergone any kind of teachers' training related to pre-primary education and they also told that the in-service teachers' training does not properly cover the component of pre-primary education
9. Majority (66%) teachers responded that they teach children through play-way method. teachers told that they teach children through rhymes and teaching aids like blocks, puzzles, charts, pictures and educational toys including plastic toys having shapes of fruits and vegetables.
10. Majority (54%) teachers told that they do not come across any sort of problem while teaching students with the help of play way method.
11. All the pre-primary school teachers responded that morning assembly was organised for the pre-primary school students. The teachers told that some students recite poems, tell name of the alphabets, colours, fruits and vegetable in the assembly.

In addition to the above items, the analyses of the items in descriptive manner are mentioned as follows:

The following were the responses obtained regarding the subjects taught to the students:

- ▶ English and Hindi alphabets and counting
- ▶ Environmental science (EVS) including name of the fruits, name of the vegetables, name of the colours, name of the parts of body and name of the days in a week.

The following were the creative activities organized in the school:

- ▶ Drawing
- ▶ Art and craft activities including clay modeling, paper craft, collecting leaves and pasting them on drawing pads.

The following were the benefits of teaching pre- primary school students with the help of play way method:

- ▶ Students learn easily and do not get bored while learning through play-way method.

- ▶ Students enjoy learning while learning through play-way method.
- ▶ Play-way method creates interest and develops understanding.

The following were the teaching aids used by the teachers while imparting education to pre-primary school students:

- ▶ Alphabets, Toys, Charts and Pictures
- ▶ Flash cards
- ▶ Liquid Crystal Display (LCD): Rhymes, poems, alphabets and counting are played by inserting pen drive into it
- ▶ Models
- ▶ Projector

Section II: Findings related to the availability of various physical infrastructural facilities in the pre-primary schools

1. In majority (92%) of the schools, the building of the pre-primary section of the school is attached with the main building of the school
2. In majority (62%) of the schools, separate room for the pre-primary school students is not available.
3. In all the schools, environment of the classroom for the pre-primary school students is hygienic (neat and clean).
4. All the schools have colorful classroom walls painted with the alphabets, counting, name of fruits and vegetables.
5. Majority (72%) schools don't have baby chairs and students sit either on desks or mats.
6. All the schools have electricity facility. Both fan and bulb are available in the classroom.
7. In all the schools, toilet facility is available.
8. In all the schools drinking water facility is available.
9. In the schools, ventilation facility is available in the classroom.
10. Majority (56%) schools have space for conducting indoor activities in the school

Section III: The following were the suggestions obtained from the pre-primary teachers regarding the effective functioning of the pre-primary schools:

- ▶ The section of the pre-primary education must be separate so that teachers could plan and execute the activity based teaching well.
- ▶ Separate staffs are required for teaching pre-primary students so that teachers could get enough time for planning and structuring the activities for the students.
- ▶ Training should be provided related to pre- primary education so that teachers could properly teach the small children.
- ▶ Strength of the teachers must be increased in the schools, where there are only two teachers in total especially in the primary schools, so that teachers do not compromise with their teaching being overburdened of the other tasks of the school.
- ▶ There must be provision of required infrastructural facility and audio-visual aids in the schools.

- ▶ Govt. must provide mid-day-meal for the pre-primary students too so that every student of the school could have the meal.

CONCLUSION

Pre-primary education set the foundation of an individual's lifelong learning and development. The early years' experiences shape the later life of an individual. Therefore, pre-primary education can contribute a lot in the human resource development. And if the early years of children go unnoticed and unrecognized, it may not be possible for the children to attain sustained learning achievements. During childhood period, play is the only medium through which children learn.

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Evaluation of Education Among Tribal and Suggestive Remedial Measure

Mohd Shabir*

ABSTRACT

A tribe consists of a group of families who are bound together by kinship, usually descending from a common mythical or legendary ancestor and who live in a common region, speak a common dialect and have a common history. A tribe is invariably endogamous. All tribal groups which can be covered by this general definition of a tribe are not necessarily Scheduled Tribes. Scheduled Tribes is one of the major tribes of India. Tribal students are facing lots of problems in education, they are facing economic, social and education problem, they have lack of tribal schools, lack of infrastructure, lack of separate girls school, lack of separate girls toilet, distance of the school, lack of awareness about new initiative scheme implemented for tribal students like free coaching scheme, scholarship scheme, NOS scheme, etc. They are also facing family issue because majority of parents of tribal students are illiterate, unemployed, poor and dependent on agriculture.

Tribals constitute 8.14% of the total population of the country and cover about 15% of the country area. The fact is that tribal people need special attention, they can be observed from their low social, economic and particularly participatory indicators. Tribal community is lagging behind in every aspect of development whether it is child mortality rate, size of agriculture holding or access to drinking water, electricity and most important in education; 52% of tribal population is below poverty line.

Education is the only primary agent to overcome the income barriers and expand the horizon of the community, and upgrade the economy and social status of the Scheduled Tribes.

Key Words: Kinships, Marginalized, Democratizing, Seasonal-centre, Upliftment

Introduction

Definition and Classification

A tribe consists of a group of families who are bound together by kinship, usually descending from a common mythical or legendary ancestor and who live in a common region, speak a common dialect and have a common history. A tribe is invariably endogamous. All tribal groups which can be covered by this general definition of a tribe are not necessarily Scheduled Tribes.

Background of Tribals in J&K

The Jammu and Kashmir Union Territory is in fact a mixture of several ethnic groups such as Kashmiri, Dogras, Gujjars and Bakerwals, Dards, Baltis, Gaddis, Pothwari speaking Muslims and non-muslims and Chibalis. Kashmiris are mainly concentrated in the Kashmir valley; Dogras are spread throughout the Jammu region but Gujjars and Bakerwal live in the mountains and kandi area

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of J&K. Gujjars and Bakarwals are mainly cattle herders. They are believed to have emigrated from Rajasthan and adopted Islam. They travel with their sheep, goats and cattle from the plains to the uplands in search of verdant pastures in the summer. The Dard and Balti Muslims have their home in Gurez, Tiel and Drass. The Gaddis live in the southeastern part of the mid-mountain ranges of the Jammu region. Pothwari and Chibalis speaking Muslims and non-Muslims live between Chenab and Jhelum, in addition many small ethnic groups such as Bhatas, Gaddis and Sikhs are significantly concentrated in isolated pockets of the J&KUT. The Gujjar and Bakarwal of Jammu and Kashmir are nomads. Gujjar and Bakarwal are two names of a tribe commonly referred to as Gujjar in the Indian subcontinent. Gujjar are an important ethnic and linguistic group in Jammu and Kashmir and constitute 20% of the total population of the J&KUT. Scattered in most districts of the J&KUT; J&K Gujjars who are mainly Muslims carry along the age old traditions and customs of prehistoric time. Jammu and Kashmir, located in the Himalayas, shares its border with the states of Himachal Pradesh, Punjab and UT of Ladakh. Internationally, it shares the borders with Afghanistan and Pakistan. It is further divided into 20 districts, 10 in Jammu region and 10 in Kashmir region. As per Census 2011, Jammu and Kashmir has population of 1.25 crores which is an increase from figure of 1.01 crore in 2001 census. The total population of Jammu and Kashmir, as per Census 2011, is 12,541,302 including male population 66,40,662 and female population 59,00,640 respectively. In 2001, total population was 10,143,700 in which males were 5,360,926 while females were 4,782,774. The total population growth in this decade was 23.64 percent while in the previous decade it was 29.04 percent. The population of Jammu and Kashmir forms 1.04 percent of India in 2011. In 2001, the figure was 0.99 percent.

Jammu and Kashmir is inhabited by a number of tribal communities who have settled down in all parts of this Himalayan state. The two regions of Jammu and Kashmir are inhabited by various tribes which make up the authentic ethnic culture of this UT and its tribal culture. The Scheduled Tribes constitute 11.9 % of the total population of the J&KUT. Jammu and Kashmir has twelve tribes including Gujjars, Bakarwals, Balti, Beda, Bot (Boto), Brokpa (Drokpa), Changpa, Garra, Mon, Purigpa, Gaddi and Sippis. Gujjars are the most populous tribe in the J&KUT having a population of 7,63,806 thus 69% of the total Scheduled Tribe population of J&K. Bot is the second major tribe having a population of 96,698; followed by Bakarwals who are 60,724 in number. The Scheduled Tribes are predominantly rural as 95.3 per cent of them reside in villages. Among the districts Poonch has 40 percent while Rajouri has 33.1 per cent. Out of twelve Scheduled Tribes of J&K, Gujjar is the most populous tribe having a population of 763,806, thus forming 69.1 percent of the total Scheduled Tribe population. The Gujjars and Bakarwals tribes are the two nomadic tribes which form the third largest community in Jammu and Kashmir and constitute 8.1 percent of the total population in J&K, according to the census of India 2001. In UT of Jammu and Kashmir, Gujjars and Bakarwals are found in all the two regions including Jammu (comprising districts of Jammu, Kathua, Udhampur, Poonch, Rajouri etc.) and the Kashmir Valley (comprising the districts of Srinagar, Baramulla, Kupwara, Pulwama, Budgam and Anantnag etc.). According to census 2011 there are 7,63,806. Gujjars in Jammu and Kashmir which is 69% of the total Scheduled Tribes population

Origin of Gujjar

To trace the origin of Gujjar one needs to interpret the word "Gujjar". Till now the word Gujjar has been interpreted in a number of ways. First perspective has been forwarded by Prof. Abdul Gani Shashi after a detailed study of Arabic and Persian history. According to him, Gujjars share with Badou tribe of Arab, a common lifestyle, way of living and culture. It is believed that Gujjars along with Badu tribe are associated with Khizir tribe, who left Koh-e-Kaf during the era of Christ along with their

camels and other domestic animals. According to him, the word Khizir got changed to Garzar and then with the passage of time this tribe came to be called as Gujjar.

Background of Education system

Education in India has an ancient tradition that dates back to the Vedic Period (1500 to 500 BC). Before the time European colonialists arrived, education mostly took place in traditional Hindu village schools called gurukuls, or in Muslim elementary and secondary schools called makhtabs and madrasas. The British colonialists then imposed an education system based on the British system and introduced English as the language of instruction. The first institutions of higher learning in Western sense to emerge in British India were the University of Calcutta, the University of Bombay, and the University of Madras, all founded in 1857 based on the model of British universities.

On the eve of independence in 1947, India had 17 universities and about 636 colleges teaching approximately 238,000 students.

The period after independence was characterized by a rapid proliferation of teaching institutions across India as the country attempted to create a modern mass education system.

Tribal Education in India

Education is a wealth that cannot be stolen nor can be divided amongst brothers, neither it is burdensome to carry, but it increases day by day by giving to others. It is the supreme of all possessions.

India has traditionally been the home to different cultures and people, Unity in diversity is one of the most prominent features of India. Among the diversified population a significant portion comprises of the tribal people, the original inhabitants of the land.

The tribal population is varied and diversified. Among tribes each one of them is a distinctive community either migrated from one place or another. These different tribes still inhabit in different parts of the country. The distinctiveness of the tribes is their rituals, cultures, beliefs and above all the harmony in which they survived in unison with nature. Tribals constitute 8.14% of the total population of the country and cover about 15% of the country area. The fact is that tribal people need special attention, they can be observed from their low social, economic and particularly participatory indicators. Tribal community is lagging behind in every aspect of development whether it is child mortality, size of agriculture holding or access to drinking water, electricity and most important in education; 52% of tribal population is below poverty line.

Education is the only primary agent which can help individuals to overcome the income barriers and expand the horizon of the community. Education is the major way to upgrade the economy and social status of the Scheduled Tribes.

Government planners see education as indispensable for helping tribal people cope with national integration. Education will also determine their prosperity, success and security in life. The tribes which remain either deprived or negligent toward education will suffer the consequence.

Education helps in reducing the socio-economic gap between the privileged class and disadvantaged. It helps to create an equal society where everyone has an equal opportunity to succeed according to their abilities. Education has special importance for the Tribal who are facing multiple challenges. Education helps them to adjust with the developing society and to progress in economic, political and social aspects. Education gives them the awareness and strength to face the challenges of day to day life. The Tribal are backward in every walk of life. They have been

marginalized and suppressed even before independence and are still being alienated. Main cause of this injustice is illiteracy.

Education is widely accepted, a necessary device for achievement of developmental goals. Education is the fundamental right of every child in India. This is bound to the fundamental rights of the tribals in India too. Constitution of India has made various provisions for tribal education. Government of India has made various programs and implemented various schemes for the education of the tribal children. With the adoption of Constitution, the promotion of education of Scheduled Tribes has become a special responsibility of the government.

Constitutional Safe Guards

The Constitution of India has made various provisions to safeguard the interests of the tribals. Article 15 of the Constitution provides equal rights and opportunities to all the citizens of India (including the tribals) without discrimination.

- ▶ Article 16(4), 320(4) and 335 reservation in employment is made for the tribals.
- ▶ Article 330, 332, 334 seats have been reserved for the tribals in the legislatures (in Lok Sabha and State Vidhan Sabhas).
- ▶ Articles 19(5) the tribals can own property and enjoy it in any part of the country.
- ▶ Article 275 a large amount of money can be taken from the consolidated fund of India to be spent on the tribal welfare activities.
- ▶ Article 338 empowers the President of India to appoint a Commissioner to look after the tribal welfare activities.
- ▶ Article 339(2) the Central government can give directions to the states in the formation and execution of tribal welfare plans, projects and programs.
- ▶ Article 275(I) the Centre is required give grants-in-aid to the States for approved schemes of tribal welfare.
- ▶ Article 164 empowers the state government to appoint a separate minister to look into the welfare of the tribals.
- ▶ Article 46 consists of provisions that protect the economic and educational interests of the tribals.
- ▶ Articles 224 give instructions to the administrator to take special care to protect tribal interests in "scheduled tracts" or "areas".
- ▶ Article 342 gives powers to the President of the India to declare on the recommendation of the Governor some groups or communities as "Scheduled Tribes".
- ▶ Recently, the 93rd Constitution amendment Bill making education a fundamental right for children between 06 and 14 years has secured the Parliament's nod.

Table 1: District Wise Population in J&K as per Census 2001 & 2011:-

Name	Population of STs Census 2011	Total Population Census 2011	Total Population Census 2001
Jammu	69193	1,526,406	1,343,756
Srinagar	8935	1,250,173	990,548
Doda	39216	409,576	320,256
Kathua	53307	615,711	550,084
Kishtwar	38149	231,037	190,843
Poonch	176101	476,820	372,613
Rajouri	232815	619,266	483,284
Ramban	39772	283,313	180,830
Reasi	88365	314,714	268,441
Samba	17573	318,611	245,016
Udhampur	56309	555,357	475,068
Anantnag	116006	1,069,749	734,549
Badgam	23912	755,331	629,309
Baramulla	37705	1,015,503	853,344
Ganderbal	61070	297,003	211,899
Kulgam	26525	423,181	437,885
Kupwara	70352	875,564	650,393
Pulwama	22607	570,060	441,275
Shopian	21820	265,960	211,332

Source: census by GoI.

Rationale for the Study

"..Education is a liberating force and in our age it is also a democratizing force cutting across the barriers of caste and class, something out of inequalities imposed by birth and other circumstances..."

(Indira Gandhi)

Research Problem

Critically examined, the implementation of Tribal education in Jammu and Kashmir is not encouraging. It remains low performing UT due to issue of connectivity from the far flung areas. The review of many Indian states on Tribal education mentions various problems. For example, Doda district of Jammu and Kashmir is one of the remote and hilly district of Jammu and Kashmir. It is one of the backward districts in J&KUT. The education process among tribal people is also negligible. There are few tribal schools, few schemes for the welfare of tribal people to promote development. The main source of tribal's livelihood is agriculture, nomadism, daily wage laborers, etc. Mostly people are not aware about the new schemes and program initiated for tribals. Initiatives of new program and schemes, especially free education, scholarship scheme, MDM, free coaching, etc., play a significant role for promoting awareness and development among the tribal people and it is a dire need, especially for far flung and hilly areas like Doda district. Realizing the benefits of Education government should build proper mechanism to provide free education among tribal people. Government should introduce various schemes for the development of tribal people and better service of delivery. There is lack of literature available in regional language like Gojri, Dogri and Pahari, etc. So, it is a dire need for more literature that is helpful to address the main problems of the society.

Objectives of the Study

1. To review the effectiveness of different educational programs and schemes and their impact on tribals.
2. To assess the educational gap and suggest remedial measures for improvement of their education.
3. To know about the cause of school dropout among the tribals.
4. To know the level of education among the Tribal people of Doda.

Research Question

- Q1. What is the problem faced by tribal people?
- Q2. What is the impact of tribal education?
- Q3. What is the problem faced by teacher in a tribal school?
- Q4. What are the constitutional safeguards regarding the implementation of tribal education?
- Q5. How is the overall implementation of tribal scheme and tribal education?

Research Methodology

The study is descriptive in nature. Both the primary and secondary sources are used for conducting the study. It uses descriptive survey research (Questionnaire) for collecting primary data. The study uses only quantitative data for analysis and interpretation. Books, journals, articles, and documents are consulted for secondary data. Suitable statistical techniques have been used for data analysis and interpretation.

Research Gap

From the previous study and literature review, it has been observed that the focus of previous studies was more on to explore the level of participation of tribals in education. But very few studies talk about the overall implementation of various schemes for tribals with respect to the problems faced in schools and also backward areas. Very few studies talk about establishment of tribal schools. And very few studies have been conducted in Jammu and Kashmir and no study has been conducted in Doda district to study the implementation of Tribal school and scheme for tribal people, nor any study has been conducted for the participation of Tribals in Education.

Data Analysis & Interpretation

To observe the issue, status and implementation of tribal education in the rural area of Bhatyas Zone of Doda district, Jammu and Kashmir; household survey of respondents, answer from a sample of 70 respondents from 07 village of Chilly and Pingal Tehsil of Doda District was collected and recorded.

Table 2: List of Villages in Gandoh, Doda District selected for field survey

S. No.	Name of the Village	No. of Respondents
1	Champal	15
2	Amarie	11
3	Sanwara	11
4	Malath	10
5	Jhurri chilly	10
6	Haddal	8
7	Champal Nalah	5
	Total no of respondents	70

Source: Field Survey, 2021

Summary of Findings and Conclusion

The major findings of the study are given below

FINDINGS OF THE STUDY ON THE BASIS OF HOUSEHOLD SURVEY

- * The majority of respondents that is, 64.29% is from 30-40 and 40-50 age group only, which shows that the responsibility of family and tribal education is mostly given to the person whose age is above 30 years
- * The majority of respondents that is 95.71% are male which show that maximum respondents are male. It means mostly head of the family is male.
- * It shows majority of tribal people are unemployed and depend on agriculture, maximum respondents are farmer.

- * During field survey, majority of respondents responded that the tribal people of J&K are backward and facing educational, political, social, economic and cultural issues which means tribal people are facing various problems in real life.
- * 88.57% respondents are aware that Government of India provides free and compulsory education for the development of nation, while 11.42% of respondents are not aware of it.
- * Tribal education is a successful practice toward the development of nation. 100% of the respondents agree with this argument. It shows education is most important pillar for the development of nation. No respondent said no to this question.
- * 52.85% of respondents believe that tribal people are facing discrimination at many levels. While 42.85% respondents do not believe in it, which shows that tribal people are discriminated.
- * All respondents responded that Government of India has not provided any Tribal School in District Doda. This shows a basic need for the establishment of tribal schools.
- * 68.28% of respondents believed that Panchayats, School Management Committees (SMC), Village level committees and Administration groups supervise the implementation of mid-day meals scheme, scholarship scheme and funds. 35.71% of respondents do not believe in it.
- * 74.28% of the respondents agree that good quality learning material like uniform, books etc., is given to the students by the government, while 25.74% of the respondent disagree.
- * 60% of the respondents are aware that Government of India provides free & quality coaching for the tribal students to bridge the gap between tribal student while 40% of respondents are not aware about this scheme.
- * It is clear that 100% respondents are aware regarding the Ministry of Education providing seasonal centre for nomadic tribals which shows that tribal people are fully aware about the establishment of seasonal centre for nomadic tribals. There are total 96 seasonal centers in Bhatyas zone.
- * Only 5.71% respondent gave response that their children have cleared competitive exam. 94.28% of the respondents gave response no of this question. Only 04 out of 70 respondents said yes to this question. It shows that only 5% students had cleared competitive exam. During field survey it was observed that in Tehsil Chilly and Pingal only 4 tribal students have completed competitive examination.
- * 100% of the respondents confirmed of not getting National Overseas Scholarship Scheme.
- * Majority of tribal people are illiterate, 42.85% respondents are illiterate and 15.71% of respondents studied till primary education, while 38.57% of respondents studied till secondary education and 2.85% of respondents are Post graduates and above.

OBSERVATIONS

It has been observed that tribal student are facing lots of problems in education; they are facing economic, social and education problem : lack of tribal school, lack of infrastructure, lack of separate girls school, lack of separate girls toilet, distance of the school, lack of awareness about new initiative schemes implemented for tribal student like free coaching scheme, scholarship scheme, NOS scheme, etc. They are also facing family issue because majority of the parents of tribal students are illiterate, unemployed, poor and dependent on agriculture.

It has also been observed that teachers of seasonal centre are facing lots of difficulties while imparting education and during the implementation of new schemes because of their low salaries and that too delayed. The funds for infrastructure, MDM and for other facilities are also not given on time. Government has not provided school building, infrastructure, library and reading room for seasonal centre. During lockdown due to COVID-19 teachers in-charge were not able to impart education. It was also observed that, there was also the problem of internet connectivity in the village, so students were unable to get online education. There is no survey or audit conducted in seasonal centre and tribal school.

RECOMMENDATIONS

The respondents suggest some ways to overcome the problems faced by tribal students and teachers in-charge for imparting of education and in the implementation of various schemes:

- ▶ Establishment of tribal schools and enrollment of all children who are not able to go to other educational institutions.
- ▶ Establishment of static and mobile schools and enrollment of all tribal school going children in them.
- ▶ Making new empowerment schemes and making them accessible to everyone.
- ▶ Establishment of Gujjar and Bakerwal hostels in every District of J&K for tribal students. Such hostels seek to provide accommodation to tribal students who otherwise have been unable to continue their education due to economic reasons.
- ▶ Take steps to aware tribal students for coaching and introduce more coaching centres to bridge the gap in literacy levels between the general population and tribal people and reducing dropout at elementary level by creating the required ambience for education.
- ▶ Provision of jobs for educated Gujjar and Bakerwal candidates.
- ▶ Establishment of Eklayva Model Residential Schools (EMRS) to provide quality middle and high level education to Scheduled Tribes students. There are 285 EMRS functional schools already established in the country; most of the EMRS are not running well, have poor infrastructure, and inadequate teaching staff. This study recommends that the Ministry must devise a mechanism that will help to uplift the standard of these schools and make them properly functional.
- ▶ Establishment of Ashram schools for girls and boys who are not able to get good quality modern education.
- ▶ Construct separate girls toilet to address sanitation issue.
- ▶ Provide Pre-Matric and Post-Matric scholarship for tribal students.
- ▶ Construct school building for tribal school and construct roads for Gujjar and Bakerwal families children to reach school.
- ▶ Providing professional skills to illiterate Gujjar men and women so as to establish their own units.
- ▶ Providing assistance and easy term education loan to Gujjar and Bakerwal for education.
- ▶ Enhancement of seats in technical / professional institutions for Gujjar and Bakerwal students.
- ▶ To make MDM and scholarship scheme more effective and successful, it is urgently required to ensure timely transfer of funds in schools.

- ▶ Funds should be given at regular intervals to the schools to avoid discontinuation or financial burden. Provision of advance payment should be made.
- ▶ There should be random checking and auditing of funds and scheme by a team of NGOs, VLC or Government official.

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Nature of Physiography, Level of Development and Socio-Political Exclusion: A Case Study of Middle Himalayan Region in Jammu and Kashmir

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ABSTRACT

The erstwhile state of Jammu and Kashmir constituted the four Physiographic zones i.e. Lower Himalaya or Shivalik Range, Middle Himalaya or Peer Panjal Range, Greater Himalaya or Ladakh Range and Kashmir Valley between Middle and Greater Himalayas. Jammu and Kashmir is located completely in the Himalayan Mountains but all the 22 districts of this prior state are not located in one zone of Himalaya but in four physiographic zones of Himalaya and the three ranges. The former state of Jammu and Kashmir is a constituent unit of Indian Union for politico-administrative purpose was divided into two divisions- Jammu Division and Kashmir Division. Kashmir Valley and Ladakh were constructed as regions on geographical features in Kashmir Division, but Jammu Division was considered as only one region, i.e. Jammu Region, which is actually constituted by two geographical zones, that is Lower Himalaya or Shivalik and Middle Himalaya or Peer Panjal. This paper attempts to examine the developmental process and the regional representation of Middle Himalayan Jammu and Kashmir with the comparison of other three zones. The region of Middle Himalaya is completely marginalised in the image of Jammu Region despite its geographical basis it has remained unimagined and unarticulated, hence unrepresented because of the unimaginativeness and silence of its inhabitants. The discrimination and grievances of Middle Himalayan Jammu and Kashmir is as old as the formation of modern Jammu and Kashmir in 1947, and the narrative continues to be unchanged till today. In the plain regions developmental process remains high as compared to the remote areas like in the Middle Himalayan Jammu and Kashmir where the development is challenging. Due to the developmental deficit the political representation affected in this region. If any region or any district is socially and economically backward at a particular point of time its crisis could be improved by special developmental measures. This region i.e Middle Himalayan includes six districts out of 22 districts of Jammu and Kashmir. Any representative politics of this region cannot be hegemonic but has to be accommodative to the multiple competitive intra regional interests.

Key Words: Middle Himalaya, Physiography, Region, Representation, Developmental Deficit, Backwardness, Exclusion, Identity.

1.1. Introduction

Geo-Political Mapping of Jammu and Kashmir: The Himalaya extends from west to east from the eastern border of Pakistan to the western frontier of Myanmar. Its southern limit is formed by

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the upper boundary of the Indo- Gangetic plain and its northern boundary generally overlaps with the international boundary between India and Tibet. The total area of the Himalaya from west to east and north to south can be broadly classified into three divisions- the Western Himalaya, the Central Himalaya, and the Eastern Himalaya. The Western Himalaya consists of the state of Jammu and Kashmir and Himachal Pradesh, the Central Himalaya comprises of Uttarakhand along Nepal and the Eastern Himalaya includes Bhutan, the north eastern states of the Indian Union and Darjeeling district of West Bengal (C. D. Deshpande, 1992).

Geographers classify Himalaya into three physiological regions ascending from south to north throughout its stretch from north west to south east. The southern part of Himalaya which is geologically the oldest in age and adjacent to another geographical region of India – the Gangetic Plains is called Sub Himalaya throughout the Himalayan Stretch. Above sub- Himalaya zone is Lesser Himalaya and above Lesser Himalaya is Greater Himalaya (Tirtha, 2000). The geologists and geographers have classified the zones of Himalaya on the basis of nature of the rocks and height of the mountain ranges in the zone. The sub Himalaya zone is generally made of sedimentary rocks and is constituted by low hills. The Lesser Himalaya or Middle Himalaya is normally made of metamorphic rocks and it consists of high mountain ranges. The Greater Himalaya consists of even more higher mountain ranges. The highest peak Mount Everest is part of the Greater Himalaya.

Erstwhile state of Jammu and Kashmir includes all the three zones of Himalayan mountains, Sub-Himalaya/Outer Himalaya, Lesser Himalaya/Middle Himalaya and Greater Himalaya. In addition to these three zones of Himalayas, it also includes the largest valley of Kashmir in it. The Outer Himalaya in this part of Himalaya is known as Shivalik Range, Middle Himalaya as Peer Panjal Range and Greater Himalaya as Ladakh Range. The valley is located between Lesser/Middle Himalaya and Greater Himalaya. On the basis of its topography and terrain the state could be classified into four physical regions- Outer Himalaya, Middle Himalaya, Kashmir Valley and Greater Himalaya.

The districts located in Shivalik Hills or sub Himalayan zone of Himalaya covering southern and south western part of Jammu and Kashmir are broadly Kathua, Sambha, Jammu and Udhampur. In addition to lower mountains of Shivalik the region also include a stretch of plain in the foot hills of Shivalik located between River Ravi on the one end and River Chenab on the other. This plain is an extension of Punjab plains. River Ravi forms the natural boundary of the state with Himachal Pradesh in south and both Indian and Pakistani Punjab in south west. This region also consists of the broken mass of the foot-hills known locally as the 'kandi' areas. The average height of this region is about 2,000 feet above sea- level. The important rivers of the regions are- Tawi, Basanter and Ujj. Chenab also passes through it after completing its course in Middle Himalaya before entering into Pakistan.

The second physical region of Jammu and Kashmir located north of Shivalik physical zone, is called Middle Himalaya which runs parallel to the sub Himalaya from north west to south east covering the whole territory of the former state of Jammu and Kashmir. This is sparsely inhabited, rough and rugged valleys and high mountainous territory includes the districts of Poonch, Rajouri, Upper Chenab areas of Reasi, Ramban, Doda and Kishtwar. The chief characteristic of this region is the deep cut ravines with precipitous falls all along the elevated tract. Through these deep cut gorges flow the perennial rivers fed with snow or glaciers on the mountains. The numerous range of Peer Panjal rise as high as 3000 to 5000 meters above sea level (Singh, 1971).

The geologists and geographers are unanimous about the west to east limit of Middle Himalaya/Peer Panjal Range in Jammu and Kashmir. In their opinion it encompasses the whole territory of Jammu and Kashmir from north west to south east below Kashmir Valley and above

Shivalik Range. The range is in the shape of the bowl in which the Valley is located. They are also unanimous on the fact that the northern extent of the Middle Himalaya is the high rising Peer Panjal peaks. North of Peer Panjal Range is the flat Valley of Kashmir. They also have one opinion that south of Middle Himalaya is sub Himalaya or Shivalik Hills. They vary in their opinions about the limit of Shivalik Range in the north in political geography (Bhat, 2020).

In other words they have difference of opinion on the limit of frontiers of Shivalik Range in north and Peer Panjal in Jammu and Kashmir. In one opinion almost all the territory of districts Poonch, Rajouri, Reasi, Ramban, Doda Kishtawar and Chinaini sub division of Udhampur district, and Bani sub division of Kathua districts, are located in the Lesser/Middle Himalaya or Peer Panjal. In another opinion a portion of sub division Ramban of Ramban district, sub division Reasi of Reasi district, sub division Sunderbani and Nowshera of Rajouri district and the south western portions of Rajouri and Poonch districts including Rajouri and Poonch towns are part of Outer Himalaya or Shivalik. The non technical generic name of the whole stretch of Middle Himalayan zone from north west to south east located in the Jammu and Kashmir identified by the name of its most prominent mountain range is Peer Panjal. When the most distinct part of the Lesser/Middle Himalaya located in the former Jammu and Kashmir state is specifically called Peer Panjal Range by the geologists and geographers, it is appropriate to identify the whole territories located in the Middle Himalayan zone of Jammu and Kashmir as Peer Panjal Region to give the area a common identity. The name Peer Panjal for the whole region beginning from Peer Panjal Range in the north and extended southward up to the border of Middle Himalaya with the Outer Himalaya in Jammu and Kashmir gives the area a more specificity, particularity and identity than the term Lesser or Middle Himalaya which is common for all the territories located in the zone from Jammu and Kashmir to Mizoram (Ahmed, 2020).

The third geographical region with its own distinct physiographical features is the valley of Kashmir. This basin measures 135 km in length from west to east with varying width at various places. The maximum width of the valley from north to south at some places is 40 km. The total area of the valley is 15, 948 sq. km. In the north and east the valley is surrounded by the Zaskar range of the Greater Himalaya. In the south west and south east it is surrounded by Peer Panjal Range (Hussain, 2000). The river Jhelum with its numerous tributaries, pursuing a zigzag course, flows through the whole length of the valley originating in south west part of the valley flowing in north west direction. The average height in the valley above sea level is 5,500 feet, while the average height of mountains surrounding it is 12,000 feet with a dip of about 9,000 feet at Banihal pass. The region has fertile alluvial soil (Learnmonth, 1984).

The valley has been accessible from Rajouri Poonch side or Punjab through Peer Panjal Pass. This was the route of the Mughal caravan reconstructed as Mughal Road in twenty first century. From Jammu side it is accessible through Banihal Pass. This route was made suitable for carts during the reign of Pratap Singh by building Banihal Cart Road or BC Road. After the construction of Jawahar Tunnel during post independence era the valley has been connected with Jammu and rest of India through this National Highway No. 1. The first motarable all weather road called Jhelum Valley Road or JV Road was constructed along the bank of Jhelum river in the late 19th century. It connected the valley with Rawalpindi (Qazi, 2000).

This region consisted of ten administrative districts of Anantnag, Kulgam, Shopian, Pulwama, Srinagar, Budgam, Gandarbal, Bandipura, Baramulla and Kupwara. In area, it was the smallest among the four regions of the erstwhile state but due to sustainability of the topography, its population density is highest. According to 2011 census its total population is 6,907,623 whereas the population

of Jammu Division consisting of ten districts is 5,350,811 (census of India, Jammu and Kashmir, 2011).

The fourth and the largest region of the erstwhile state of Jammu and Kashmir is Ladakh. Physiographically the whole region is located in the Greater Himalaya. The important ranges of Ladakh are Zaskar and Ladakh ranges. This area consists of almost entirely of snow-capped mountains and plateaus, rocky river valleys and wastes. There are a number of mountains over 20,000 feet in height. In terms of area, Ladakh was the largest region of this previous state. Its total area is 59, 146 sq. km., and the combined area of Jammu Division and Kashmir Valley is 42,241 sq. km. Ladakh consists of about 59% of the total area of the erstwhile state presently under India.

The Jammu & Kashmir Commission of Inquiry or Gajendragadkar Commission which was appointed by Government of Jammu and Kashmir in consultation with the Union Government on 6th November, 1967 took note of the fact of physiographic variation in the state. The commission was appointed to examine the overall development programmes of the Government of J&K and to examine that there is equitable share of all regions and communities within the state particularly in the development programmes, recruitment policies and higher education provided by state government and to ensure that all the regions of the state feel the same thrust of participation in the unity and integrity of the state. The report titled, *The Jammu & Kashmir Commission of Inquiry, December 1968* popularly known as Gajendragadkar Commission Report, 1968. Working in the perspective of its mandate the commission in its report divided the erstwhile state into four natural regions or physiographic regions. These are: (i) The Sub-Mountainous and Semi-Mountainous tracts and plains bordering Punjab called Kandi areas including whole Jammu and part of Kathua districts; (ii) the Outer Hills region includes the areas of Udhampur, Poonch, Doda and part of Kathua; (iii) Jhelum Valley or Kashmir Valley region consisting of Kashmir valley; (iv) Indus Valley or Tibetan or Semi Tibetan tract which includes Kargil and Leh in the frontier district of Ladakh in Kashmir province.

According to the present day political geography the commission recognized the plains, Sub-Mountainous and Semi-Mountainous tracts or kandi areas of Shivalik Zone as one natural region or physiographic zone which includes Samba, Jammu and larger portions of Kathua and Udhampur and lower portion Reasi below Aras. The hilly terrains of Shivalik Zone and mountainous areas of Middle Himalaya or Peer Panjal Zone which include parts of districts Udhampur, Kathua and the present districts of Poonch, Rajouri, Reasi, Ramban, Doda and Kishtawar is the second natural region or physiographic zone. The commission considered the Kashmir Valley as the third natural region and Greater Himalayan territory of the state i.e. Ladakh as the fourth natural region (P.B. Gajendragadkar, 1968).

With apparent contrasting physiography of Jammu Division, Kashmir Valley and Ladakh with each other, the erstwhile state is popularly divided into three regions not only geo-politically but also geographically. The division of the prior state into three regions is primarily uncritical continuation of the administrative arrangement of the monarchical era into democratic era. The three provinces of the monarchical period – Jammu, Kashmir and Ladakh- Baltistan-Gilgit had been uncritically carried and popularized as three regions despite the fact that Baltistan and Gilgit are under Pakistani occupation and for administrative purpose Ladakh had become part of Kashmir Division. The primacy of ethno-religious identity over politico-legal territorial identity and dominance of one area by one ethno-religious group had made the construct of three regions an undisputed truth. The three regions of the erstwhile state represented the three competitive communalisms- Kashmiri Muslim communalism in Kashmir valley, Dogra Hindu communalism in Jammu Division and Buddhist communalism in Ladakh.

The scientific analysis of the physiography of the erstwhile state presented above explicitly shows that the state consisted of four geographical regions not three regions. Jammu Division constituted by two separate zones of Himalaya- Sub Himalaya/Outer Himalaya/Shivalik and Lesser Himalaya/Middle Himalaya/ Peer Panjal. This is an undisputed fact which geologist or geographer cannot deny. The middle Himalaya from northwest to southeast is running parallel to the Outer Himalaya is also an uncontroversial fact. In reality, the erstwhile state of Jammu and Kashmir consisted of two administrative divisions and four physical regions- two in Kashmir Division and two in Jammu Division (Lone, 2019).

Valley of Kashmir consists of three sub regions: Maraz (southern and south eastern region), Kamraz (northern and north-west region), and Srinagar and its neighbouring areas. Shivalik region comprises the plains, hills and mountains. The plains/foot hills plains stretching from south east to south west includes the tehsils of Kathua, Hiranagar, Samba, Bishnah, Rambirsingpura, Jammu and Akhnur. This tract is locally known as khads. The hills known as Jammu hills separated from the Lesser/Middle Himalayas by flat bottomed valleys, termed as "duns". The hill slopes bordering the plains, between Ravi and Chenab broken by ravines, which is locally known as kandi or dry belt. The mountain tract constitutes the northern part of Shivalik Region.

Research Problem

Research problem undertaken in this study is to understand the socio-economic and political situation in Middle Himalayan Jammu and Kashmir. This area is unexplored, marginalized and underrepresented in documentation and studies. The available literature and study both on erstwhile Jammu and Kashmir and on zones/ regions in Jammu and Kashmir either do not cover and or cover it passingly. All studies political, economic, cultural are either Srinagar centric, Jammu centric or Leh centric. The Jammu province or Region includes this area into its territorial universe but not in its norms of allocation of development fund and representation in decision making and policy making bodies in democratic fashion. This study explores the overall situation of the Middle Himalayan Jammu and Kashmir and compares its status with other Ranges and the Valley of the former state of Jammu and Kashmir.

Objectives of the Study

The followings are the objectives of the present study:

1. To understand the zones/regions, their rationale and their comparative profile in erstwhile Jammu and Kashmir.
2. To critically examine the reasons for making Middle Himalayan Jammu and Kashmir a hinterland despite locationally its being the heartland of Jammu and Kashmir.
3. To identify the factors and reasons responsible for comparative socio-economic backwardness and political marginalization of Middle Himalayan Jammu and Kashmir.
4. To examine how the concept of three zones/regions in Jammu and Kashmir is not inclusive and representative to all areas and to the aspirations of all the peoples in the erstwhile state of Jammu and Kashmir.
5. To understand the reasons of unfair representation of the Middle Himalayan Jammu and Kashmir in the state politics and its comparative socio-economic backwardness.
6. To workout the socio-cultural, economic and political rationale of Middle Himalayan Jammu and Kashmir.

7. To explore the rationale of democratic politics in Middle Himalayan Jammu and Kashmir.
8. To understand the nature of the sub-regional politics in Middle Himalayan Jammu and Kashmir and socio-economic profile of the sub zones/regions.
9. To map out the geo political limits of Middle Himalayan Jammu and Kashmir vis a vis the other zones and Kashmir Valley in Jammu and Kashmir.

Hypotheses

The followings are the hypotheses of the present study:

1. The parameters of zone/region identification in the former state are not fair, uniformed and equitable to every physiographically distinct area in the erstwhile state.
2. The parameters for zone/region identification in Jammu and Kashmir are camouflage for competitive communalism and competitive ethnicism in state politics which hinders evolution of all inclusive statist and unionist polity and politics in the state.

Methodology

The research is based on the data collected through primary and secondary sources. The main use of primary sources is census, annual reports of different government departments, statistical reports, directorates of economics and statistics, annual surveys and interviews where ever required. Interdisciplinary approach also adopted for collection of secondary data. The secondary data collected from books and journals from field of geography, geology, history, politics and sociology related to Jammu and Kashmir and peripheral areas.

In addition to books and journals from the discipline of social sciences even relevant literary sources – fictions, poetry, and memoirs also be consulted. The tertiary source of data - magazines and news papers also be consulted and referred. All the collected data is studied and examined by analytical method. In preparation of the report descriptive method is used to explain the phenomenon, analytical method to examine the reason and rationale of the phenomenon. The Researcher uses comparative method to explore, understand and present the overall situation in terms of socio-economic, cultural and political parameters.

II. Socio-Economic Profile of the Middle Himalayan Jammu and Kashmir

For the purpose of administrative convenience and developmental planning the Middle Himalayan Jammu and Kashmir/Peer Panjal range could be divided into three sub regions- western Peer Panjal consisting of Poonch and Rajouri districts, Central Peer Panjal consisting of Reasi and Ramban districts and Eastern Peer Panjal consisting of Doda and Kishtawar districts. The eastern Peer Panjal is linguistically most diverse part of the Jammu and Kashmir. The majority population of this sub region also called Chenab Valley is Kashmiri Muslims. They speak Kashmiri but the minority Hindu habituating different parts of the sub region speak different dialects. These dialects are generally identified with the respective areas. Some of the prominent among them are- Shirazi in Shiraz- Doda sub division of Doda district, Bhadarwahi in Bhadarwah, Bhaleshi in Bhalesa, Khistawari in Kishtawar and Padari in Padar and so on. For intra regional interaction Hindustani is used as communicative language. Socially, culturally, linguistically and religiously Peer Panjal/Middle Himalayan Jammu and Kashmir is the most diverse region of Jammu and Kashmir. Peer Panjal region for the purpose of sub state administration is part of Jammu Division. For the purpose collective bargaining in democratic politics it is identified as one region vis a vis Kashmir region and Ladakh region. Peer Panjal is not only physiographically different from Shivalik region- the heartland of

Jammu regional identity politics but also distinct in its society and culture. This area is different from Jammu in terms of ethnic, linguistic, cultural and religious terms. The majority of the region shares its religion with the valley people. But religious commonality has never become a basis common aspiration. The mindset of the valley people because of geographical seclusion has been exclusive. Historically also this area has its own kingdoms and principalities.

Conceptualization

Based on the research objectives, the following conceptual framework has been constructed. The only some important indicators of socio-economic and physical infrastructure taken from the statistical reports are given below:

Table 1. Zone wise Educational Institutions in Jammu and Kashmir on the basis of 2011 census:

S. No.	Zone / Ranges	Primary Schools	Middle Schools	High Schools	Higher Sec. Schools	Total
01	Kashmir Valley	5349	2685	419	258	8711
02	Ladakh	469	397	60	27	953
03	Middle Himalaya/Peer Panjal	3631	1538	286	176	5631
04	Shivalik	2798	1054	267	70	4189
Total in State		12247	5674	1032	531	19484

Source: Department of School Education, J&K Government

Table 2. Higher and Technical Education in different Physiographic Regions of Jammu and Kashmir

S. No.	Regions	Colleges	University Campus	ITI	Total
01	Kashmir valley	30	06	22	58
02	Ladakh	02	02	Zero	04
03	Middle Himalaya/Peer Panjal	19	05	13	37
04	Shivalik	22	04	09	35
Total	State	73	17	44	134

Source: Higher Education Department, J&K Government

Table 3: Zone wise list of Health Institutions in Jammu and Kashmir on 2018:

S. No.	Region	DHs	CHs	PHCs	NTPHCs	MAC	SC	New SCs	Total
01	Kashmir Valley	10	40	214	104	93	855	308	1674
02	Ladakh	2	7	17	17	129	96	38	304
03	Peer Panjal	6	19	80	79	93	504	290	987
04	Shivalik	4	18	89	39	50	500	140	840
State Total		22	84	398	239	355	1910	826	3834

Source: Health and Family Welfare Department of J&K Government

Table 4 : Zone wise percentage of inhabited census (2011) Villages up to ending 2015-16 :

S. No.	Zones	Total inhabited	Electrified	Percentage of Electrified
01	Kashmir Valley	2673	2655	99.32%
02	Ladakh	236	220	93.22%
03	Middle Himalaya/Peer Panjal	1482	1408	95%
04	Shivalik	1942	1942	100%
Total	State	6337	6229	98.30%

Source: Development Commissioner Power J&K

Table 5: Category and zone wise road length maintained by State PWD (excluding national) Highways as on 31.3.2017

Category of Road (Kms)							
S. No.	Region	Surfaced			Un-Surfaced		Total
		Black Topped	Metalled	Shingled Weather	Fair	Jeepable	
01	Kashmir Valley	8152.36	4326.93	467.7	536.47	134.35	13403.62
02	Ladakh	1264.97	858.78	553.12	1418.92	0.00	4309.98
03	Middle Himalaya/Peer Panjal	2390.95	482.36	365.68	836.55	0.00	4075.54
04	Shivalik	6314.98	96.51	58.67	46.26	10.00	6526.47
Total in four Regions		18123.26	5764.58	1445.17	2838.20	144.40	28315.61

Source: Public Works Department Kashmir/Jammu

If a district or any administrative unit is socially and economically backward at a particular point of time its plight could be improved by special developmental measures without actually pushing for a change in the administrative mechanism. However, if situation has not changed over decades it calls for closer examination of the causes. The discrimination grievance of the Middle Himalayan Jammu and Kashmir is as old as the formation of modern Jammu and Kashmir in 1947 and the narrative continues to be unchanged till now (Choudhary, 2012). The statistics and figures put before the Ganjendragadkar Commission in late 1960s are still being used with same proportion. However, fact of the matter is that Jammu province had registered tremendous progress and surpassed Kashmir in most of the economic indicators but within the province there is huge developmental imbalance.

The relative rate of improvement from last three- four decades to present set-up, the reference period used by the State Finance Commission, had been at a low pace in case of the Kashmir region and relatively faster in Jammu and Ladakh regions. There does not seem to be built-in discriminatory tendencies in developmental processes to bring about inequity in development levels between the regions. While the Jammu region improved its development activities by 42.65 per cent between 1980–81 and 2006–07, the Kashmir region improved just by 25.22 per cent and Ladakh by 38.74 per cent in terms of index values during the period under investigation. As per the index value of sectors, it is the social sector, agricultural sector and development sector which have grown fast thereby moving the regional aggregate development index of Jammu on higher side. While lower Himalaya of Jammu Kashmir or Shivalik region's (four districts of Jammu province- Kathua, Samba, Jammu and Udhampur constituting around 65 % of the provincial population) aggregate development index has registered a tremendous hike, the conditions in 6 Districts of Peer Panjal / Middle Himalaya of Jammu Kashmir have either further deteriorated or remained static during this period.

Erstwhile Jammu and Kashmir had 24.74 per cent of its population living below the poverty line. At regional level it is still better in Kashmir where only 22 per cent of the population lives below poverty line while in Jammu it is 26 per cent, which is 2 per cent higher than the state average. However, at two regional level 32.65 per cent of the population of 6 districts of Middle Himalayan Region (Peer Panjal) live below poverty line while in the Shivalik region number people below poverty line is only 20 per cent which is better than the valley.

The literacy rate has been worked out at 54.86 percent. Jammu is at 59.14 per cent which is significantly above the state average but if districts of Middle Himalayan Jammu Kashmir (Peer Panjal) are taken out of the mean for Jammu, the rest of the province is at 67 per cent. Looked at separately, the Middle Himalayan J & K have a literacy rate of 52 per cent, which was below the state average. Graduates and above make only 5.5 per cent of all literates in erstwhile Jammu and Kashmir. This percentage is 6.5 for Kashmir Valley and 4.9 for Jammu province; therefore a wide gap exists. However, if Peer Panjal is taken out, it works out to 6.3 per cent for rest of Jammu province, which is above state average and close to the value for Kashmir.

If Peer Panjal/ Middle Himalayn Jammu and Kashmir looked at separately, this works out to only 3.7 per cent. Statistics showed a little over half of the total household in Jammu and Kashmir occupying permanent houses, or the pucca houses. This indicator of economic well- being is quite impressive for Kashmir at 67 per cent while Jammu is roughly half of this at 34.5 per cent. But if we look at Jammu without Peer Panjal this figure comes close to the state average of 50 per cent. However, if looked at separately, only 17 per cent of the total households in Peer Panjal have permanent houses. Financial inclusion had been a major issue in recent times. The RBI benchmark is 60 per cent and the achievement in Jammu and Kashmir is 47 per cent. Kashmir was above the state average at 51 per

cent and Jammu is far below at 27 per cent. However, at the inter- regional level it is 19 per cent for Peer Panjal and 34.8 per cent for Shivalik region.

Peer Panjal region location wise is in the heartland of J&K and Shivalik, Kashmir and Ladakh were its peripheral regions of the erstwhile Jammu and Kashmir. But in terms of geo politics all these peripheral regions were treated by the state and the union government as primary than the Peer Panjal region because of their strategic importance, their collective bargaining capability and identification of the state ruling elites with any of the three regions. Kashmir has historically been the most important region of the state. It has been the homeland of the largest ethnic group of people in the state and seat of power of the state government in the summer. The dispute between India and Pakistan make it further important for the country (Choudhary L. A., 2012). It attracts development projects for keeping the Kashmiri people happy and also to develop infrastructure necessary for its security. Ladakh due to its border with Pakistan and China which are issues of dispute with these countries attracts attention for its development.

III. Political Representation of Middle Himalayan Jammu and Kashmir

The basis of power share in representative democratic set up is constituency or collective identity. Constituency can be formed or identity constructed on territorial basis i.e. electoral constituency of panchayat, assembly or parliament in India or any other democratic country following first past the post electoral system. Each territorial constituency in this system from panchayat to parliament has a name or identity. In proportional representative system the universe of the constituency is the whole country and the total seat the assembly are distributed in proportion to the vote polled by the respective party. Constituency can be social, cultural, economic, religious or any other collective group who think and organise themselves as a constituency. All types of constituency formation are legal and legitimate in any democratic state.

All constituencies were organised or identities were constructed by a group of people who have some common interests. They are basically instrument of interest aggregation, interest articulation and interest representation. What type constituency is suitable for the protection and promotion of the common interests of a people depends upon the nature of the common interests. For protection and promotion of some interest's civil society organisation or non- governmental organisations are appropriate. These constituencies or organisations works as interest group or power groups. If the universe of the collective group is extensively large, association of its members is very strong and the canvass of the common interests is so broad, intensive and extensive that they can win a reasonable number of seats in electoral battles then the collective group may organise themselves into a political party.

In some situations the most appropriate constituency formation or identity construction for empowerment or maintaining status quo in the prevailing power structure is territorial organisation i.e. carving of territorial electoral units in which the group of people have dominant presence. The politically conscious group influence the delimitation of boundary of the electoral unit in such a manner that its candidates have fair chance of victory than its opponent or indifferent group. The process of delimitation of electoral constituencies of panchayat, assembly and parliament and reservation of seats SCs and STs in India is influenced by the politically dominant group in this manner.

The nature politics in the former state or constituency formation- identity construction is unconventional. In every state of India or for that matter in any territorial political entity the universe of the first and primary constituency is inclusive of all its members. The constituency, identity or political community is formed by all the rightful domiciles of the territorial universe or political entity. The

politico- legal constituency is constituted by each and every member residing in the territory. Since all the people living in the defined territorial universe collectively are the source of all authority and they have constitutionally defined rights. The most visible example is the preamble and first chapter of the Indian constitution which defines the political entity of India its boundary and also defines its political community, constituency or identity as Indians.

India as a federal state simultaneously has two political entities- union and its member states hierarchically organised. The constitution defines both types of political entities- the union and its constituent provinces or states. As the constitutions of the union as well as all states, both are combined in the one single Indian constitution it defines the Indian political community as well as provincial political communities. All the people of India are members of the Indian political community and simultaneously they are members of their respective provincial political community i.e. Indian and Gujarati, Indian and Tamil, Indian and Punjabi and so on.

The erstwhile state of J&K was empowered by the Indian constitution to have its own constitution which was framed in 1956 and is the basic law of the land in concurrence with the Indian constitution also its preamble and chapter first defines the political entity of J&K and also defines the political community of its domiciles who were earlier 'state subjects' of the Maharaja and who are from now onward citizens of India and 'permanent residents' of the state of J&K. Unfortunately in the arena of democratic politics of claiming rights and aspiring power, the idea of single political community of Jammu and Kashmir is constituted by the permanent residents of the state was lost. The political leadership at the helm of affairs failed to create and strengthen the consciousness of Jammu Kashmiri identity among the permanent residents of J&K (Mann, 2008).

The first democratic regime in its composition, policies, programmes and rhetoric gave undue importance to Kashmir and at the cost of other regions. To protect their interests the other two power centres in the states organised themselves into region in the counter image of Kashmiri regional identity. If Kashmiri regional identity was constructed in the exclusive image of the Kashmiri Muslims as representative of their ideals and aspirations, the Jammu and Ladakh as regions were constructed in the image of their respective dominant communities as instruments to protect their interests. Kashmiri Pandits who generally felt excluded and actually or sentimentally cooperated with their coreligionists at Jammu to construct the identity of Jammu. The maiden organisation that grew to become LBA- the guardian of Ladakh identity was constructed by some Kashmiri Pundits who claimed to be neo Buddhists and custodian of their interests because the Buddhists are unable to protect their interests because of their backwardness.

The fragmenting the single political community of former Jammu and Kashmir into three competing communities of Kashmiris, Dogra and Ladakhi in the image of the respective dominant groups was detrimental to the interests of their respective minorities. The greatest losers were the residents of Middle Himalay/Peer Panjal and Kargil who due to their backwardness were unable to protect their interests. The Kashmiri leadership in their short-sightedness preferred their hegemony in the valley at the place of an all state inclusive politics for the whole state where they would have been first among the equals as the largest ethnic group of the state.

The Kashmiri leadership sacrificed the interests of the Kargil and Peer Panjal people to win the support of the Dogra and Buddhist leadership. The Jammu based intellectuals and civil society organisations included the whole province of Jammu in the purview of Jammu region. The administrative division of Jammu for all practical purpose became Jammu region. Kashmir as administrative division includes Ladakh also but even then it was legitimately constructed as separate

region on the ground of its distinct physiography, ethnicity, culture and developmental problems. Despite its distinct physiographic, ethnicities, cultures and challenging developmental problem of Peer Panjal geographical zone Jammu Division was constructed into Jammu Division.

The Middle Himalayan Jammu and Kashmir or Peer Panjal range had been the worst sufferer of the politics of three region competitive communalism. They have the last priority of the policy planners and decision makers both in the state and the centre. In terms of all types of infrastructures development, amenities and facilities creation, educational institutions and political representation the region is top from below. The Dogra leadership of Jammu identity always use the statistical data of poverty, backwardness and marginality to justify their claim of discrimination and domination by Kashmiri leadership but resources procured for the whole division is either cornered exclusively by Dugger Pradesh or the lion share is utilised by them.

The share of Middle Himalay/Peer Panjal in former state government ministerial portfolios had either been a token gesture or nil. From the first democratic government till date the share of cabinet ministers from Shivalik and Ladakh had progressively increased but the position of Peer Panjal has been structurally the same. Out of the 37 assembly seats of Jammu Province the Peer Panjal region had 16 seats distributed among the six districts of the region and the rest 21 seats were in Shivalik region. Irrespective of the number of seats from these two regions belonging to the ruling party or coalition almost all cabinet position given to the Jammu division normally go the MLAs or MLCs from the Shivalik region. The representatives of the ruling party or coalition from Peer Panjal region generally get minister of state portfolios. From 1948 to this present ministry there had been one or two cabinet ministers.

In parliamentary representation both in Lok Sabha and Rajya Sabha the situation is not different. The delimitation of constituency of the two Lak Sabha seats has been done in such a way that Peer Panjal voters have been marginalised vis a vis Shivalik region voters. The territory of Jammu constituency in its jurisdiction included western Peer Panjal and the constituency of Udhampur include central and eastern peer Panjal. The delimitation of both the constituencies has been done in the interest of the Dogra voters of the Shivalik region who constitute about 60 % of the population of the Jammu division. Both the seats irrespective of party have been won by Shivalik candidates with rare exception. The Rajya Sabha seats allotted to Jammu division have gone to Shivalik based candidate with one or two exceptions.

Since 1952, the Rajya Sabha had 39 members representing Jammu and Kashmir from time to time. Total members from Kashmir are 23, from Jammu-Shivalik region 09, from Jammu-Peer panjal region 06, and from Ladakh 01. In which only six were from Peer Panjal region and nine from the Shivalik region. In the Rajya Sabha where legislators make the Electoral College, although candidates sailed through their party whips, the Peer Panjal range was never a choice for any party in Jammu province. Parliament of India is another area where Peer Panjal region have been clearly discriminated. (www.rajyasabha.nic.in).

In the communal political logic of state politics, the share of the Muslims was appropriated by Kashmiri Muslims in the distribution of portfolios in the state ministries in due and undue manner so the case of parliamentary representation. The Muslims outside valley and Hindus outside Dugger Pradesh forfeit their rights of due representation in any representative of the state or from the state. They have to 'feel good' because their coreligionists from their respective heartlands are representing them and defending their cause. Almost all the institutions of higher education, health, industrial units, research and development institutes both of state and central government are located either in

Srinagar or Jammu. In some cases their rivalry has succeeded getting two at the place one which was the national norm. The Middle Himalayan Jammu and Kashmir or Peer Panjal had been left high and dry.

The most important reason of the continuation of marginality and backwardness of Middle Himalay/ Peer Panjal in a vicious circle is confusion and division of the Peer panjalis on the issue of their collective identity. Only a competent, sincere and honest leadership based on an all inclusive territorial identity on the basis of peaceful struggle through constitutional means can bring change in their situation. The Srinagar and Jammu based political leaders, civil society organisations and public intellectuals had never addressed their problem. They have kept them pacified by asking them to think and behave as their coreligionists.

In 1980s the first generation of educated persons from the region realised that they are being deceived by their respective coreligionists. Though they were disillusioned from their respective coreligionist leadership but failed to construct an appropriate politics. The Congress Party became an alternative party at the place of National Conference which articulated their grievances to win their support. The core of the vote and support of Congress Party came from Dugger Pradesh. Hence Congress became a champion of Dogra community's interest and tried to pacify the Peer panjalis by lip service.

With the recognition of Gujjars as STs a new era of ethnic identity politics began in western Peer Panjal. The Paharis living in the sub region united themselves as a political constituency vis a vis Gujjars and vociferously agitated at every fore that they should also be given ST status. Earlier on the recommendation of the Anand Commission the residents of the inaccessible backward areas of the state mostly located in Peer Panjal have been identified as other backward class on the basis of their habitation as 'Resident of Backward Area'.

The Jammu based intellectuals in their researches constructed the ethnic identity of Gujjars and sympathised with them in their grievances against Kashmiris. Kashmiri Muslims living in Peer Panjal have no alternative in this new ethnic competition but to strengthen their ethnic identity. Lack of avenues of intra regional interaction and absence of trans- regional transport facilities were also big hurdle in the way of idea sharing on their common problems.

In late 1990s the idea of sub regionalism was articulated by Jammu based progressive intellectuals like Balraj Puri. The proposition was that though Kashmir and Jammu are regions but they have sub regions. The two sub regions of Jammu regions are Chenab Valley and Peer Panjal. The Chenab Valley is the sub region through which river passes i.e. Kishtawar, Doda and Ramban districts and Peer Panjal sub region is constituted by two districts of Poonch and Rajouri. When Ladakh Autonomous Hill Council, Leh was constituted in 1995 the consciousness of Chenab Valley increased. The demand for organisation of an autonomous hill council for Chenab valley emerged. Recognition of Kargil as autonomous hill district in 2002 provided impetus for the residents of Poonch-Rajouri to articulate their demand of forming Peer Panjal autonomous hill council for their area also (Puri, 1999).

Sheikh Abdur Rahman, MLA from Bhaderwah presented a private member bill in the state assembly in 2000 regarding the formation of the Chenab Valley Autonomous Hill Council. The bill was sent to the standing committee of the assembly and died after the end of the term of the assembly in 2002. The members of civil society in Poonch and Rajouri have formed a Peer Panjal Regional Forum in 2010 to articulate and agitate for the region specific demands main among them is organise the autonomous district of Peer Panjal.

Since 1948 till now the people of the Middle Himalaya or Peer Panjal are confused about the appropriate instrument and identity to achieve their demands in competitive democratic politics. None of the instruments adopted by them was based on flawless political rationality. Their first political identity was based on religion. They tried to pursue their interest through their respective religious identity. Political articulation and behaviour on the basis of religious identity or for that matter any primordial identity based on other markers- language, race and ethnicity cannot bring successful result in democratic politics because of their exclusionary nature. Apart from benefiting the individuals who were associated with this religious identity based politics it did not bring any visible benefit for the masses (Rehman, 2014).

The second instrument to champion their collective interests was assertion of their ethnic identity in 1990s. The ethnic identities of Gujjars, Paharis and Kashmiri also were exclusive for the persons of respective ethnic groups. Over assertion of the ethnic collectivity like religious collectivity in civic space for achieving public demands creates intra community ill will and hostility. Ethnicity can be a tool to demand and enjoy positive discrimination i.e. reservation in education and job for the specific ethnic group but it can never become a vehicle for all round development of a territorial space. The logic of the ethnic politics is that all its demands must be for the specific ethnic group. There is no space in India or any part of the world where no person of other ethnic identity resides. The ethnic competition between Gujjars and Paharis brought rivalries in the personal life of the people belonging to either of the two ethnic groups. Their ethnic consciousness was misused and abused by the political leaders of their respective ethnic groups for vote gather without bringing spatial development for the whole territory.

The third strategy of the people of Peer Panjal was constructing and asserts their sub regional identity of Chenab Valley and Peer Panjal. This idea is better and progressive than the other ideas of religion and ethnicity. But it has its own flaws. The idea of Chenab Valley has been conceived and constructed arbitrarily. To define a region on the basis of the course of its main river must include all the territory through which it passes. The tributaries of Chenab originate and flow through Himachal Pradesh before entering into J&K in Kishtawar. Across Ramban it flows through Reasi and Akhnoor before entering into Pakistan. If for the logic of nationalism we exclude Chenab beyond Indian border, its course in India or at least in Reasi and Jammu district can be arbitrarily excluded. In the vision of Chenab valley the district Reasi and Jammu are not included which is illogical.

The idea of Peer Panjal as propounded and propagated by the protagonists of Peer Panjal based civil society organisations and Peer Panjal Awami Party is also arbitrary. The Middle Himalayan Jammu and Kashmir range starts in Poonch Rajouri but passes through Reasi, Ramban, Doda and Kishtawar. The Peer Panjal of their notion is actually one sub region of Peer Panjal i.e. western Peer Panjal. The other two regions are central and eastern Peer Panjal. Another flaw of these two sub regions of Chenab and Peer Panjal is that neither of them includes the area of Reasi district in their vision of their respective sub region. Geologists and geographers may differ about the location of Reasi town and Reasi sub division as part of Peer Panjal or Shivalik but there is no consensus among them that areas north of Arnas is part of Peer Panjal. It is totally unfair to exclude Reasi from both the regional constructs.

The politically rational and all inclusive identity of the region and its people inclusive of all religions, ethnicity, castes and languages is Peer Panjal/ Middle Himalayan Jammu and Kashmir which is identified by geographers and geologists. All communities living in the area are suffering the problem of under development and under representation. This problem could be addressed only they

unitedly assert their demands. Nature has given a common identity which is the most appropriate vehicle of their interests. They will to bear the annoyance of both Kashmiris and Dogras because it will hurt their parochial interests. Their politics has to be non sectarian all inclusive and secular. The identities of regions have to be subordinated by to the identity of the state and the political community of state has to supersede the regional political communities for the democratic solution of the problems of the people of Jammu and Kashmir.

IV. Conclusion

The former state of J&K for administrative purpose was divided into two Divisions : Jammu Division and Kashmir Division. The Kashmir Division included the ten districts of Kashmir Valley and the two districts of Ladakh and the Jammu Division also included its ten districts. For the purpose of popular demand articulation and assertion and democratic power politics the state was perceived to be constituted by three regions. These three regions were: Jammu, Kashmir and Ladakh. The whole Jammu Division consisting of two physiographic zones was considered as one region- Jammu but the physiographic zones of Kashmir Valley and Ladakh were considered as two district regions in their respective names. Both of these two zones were administratively in the Kashmir Division but for popular politics they were considered two distinct regions. According to the logic of effective administration Ladakh would have been a separate division. The arbitrary and irrational construction of traditional regions in the former state is visible. After the segregation of Ladakh in 2019, the former region of the erstwhile state has been elevated into an autonomous polity with union territory status. The remaining territory of state has been changed into another union territory constituted by the same two conventional- Jammu, and Kashmir regions bearing the historical name of the former state.

The division of the state into three regions had been an undisputed truth because it was according to the aspirations of the dominant community of each region. In the UT of J&K the grammar of politics is still two regions. The idea of three regions is legacy of the pre accession monarchical governance. The three constituent units of the governance were three provinces of Jammu, Kashmir and Ladakh- Baltistan-Gilgit. This legacy had been uncritically carried forward in the constitution based polity and politics of the state. The idea of three regions was popularized as the basis of democratic politics in the state despite the radical changes which the successor polity has to bear in the aftermath of partition and accession. Baltistan and Gilgit had gone under de facto occupation of Pakistani and a portion of Ladakh including Aksai Chin had been under de facto occupation of China. The remaining territory of Ladakh for administrative purpose had become part of Kashmir Division. It is primarily uncritical continuation of the administrative arrangement of the monarchical era into democratic era.

The primacy of ethno-religious identity over politico-legal territorial identity of the polity and the aspiration of dominance of the respective ethno-religious group of each of the three regions had made the construction of three regions an obvious fact of the polity. These three regions were imagined and constructed on the basis of primordial identities of language, religion and ethnicity not on the basis of modern democratic citizen centric politics. Liberal democratic politics is based on the political community of all the citizens of the polity. In contrast to this national and international norm democratic politics in the state is based on the three regions and the regional political communities. These regional political communities and their respective politics do not equally represent the interests of all communities in the regions but they largely represent the aspirations and interests of the respective dominant community. The marginal communities of the regions are included only rhetorically.

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BUSINESS STUDIES

Assessing the Impact of Perceived Relationship with Anthropomorphic SST and Consumers' Technological Self-Efficacy on Consumers' Attitudes toward Anthropomorphic SST

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ABSTRACT

In recent times, the use of Self-Service Technologies (SSTs) has shown rapid growth and has attracted the attention of researchers and scholars all around the globe. SSTs have revolutionized the way consumers interact with service providers. To make service encounters more interactive, many service providers have embedded these SSTs with anthropomorphic (also known as human-like) features, characteristics, or behaviour to keep in place the factor of human touch in service delivery. However, previous studies have not specifically examined consumers' attitudes toward these Anthropomorphic Self-Service Technologies (ASSTs) based on consumers' perceptions of the relationships they form with the ASSTs and their technological self-efficacy. As such, this study aims to close this gap by addressing the following questions: (a) What effect do the perceived relationships formed between consumers and ASST (partner/servant) have on consumers' attitudes towards ASST? (b) What influence does the Consumers' Technological Self-Efficacy (high/low) have on consumers' attitudes towards ASST? (c) What impact does the joint interaction effect of the relationship consumers perceived to form with ASST and their Technological Self-Efficacy have on their attitudes towards ASST?

Key Words: Technological Self-efficacy, Perceived Relationship, Anthropomorphic Self-Service Technologies, Attitude

1.1. Introduction

We are living in a century where the most inevitable thing is change. This is true for all areas and most strongly for technology (Si et al., 2023). Technology that we are using today will become obsolete tomorrow and it is further replaced with something more advanced and newer. Also, the Covid-19 pandemic has made humans more dependent on technology (Chen et al., 2023; Ajmal et al., 2023; Alotaibi & Khan, 2022; Kumar et al., 2020). The concept of social distancing, and working from home has brought huge advancement and innovation (Lazarova et al., 2023; Ajmal et al., 2023; Errichiello et al., 2020). In such an era, service providers are envisaging various innovative strategies to facilitate human-service provider interactions (Roberts & Maier, 2023). One such innovation is Anthropomorphic Self-Service Technologies (ASSTs) (Liu et al., 2023; Wang et al., 2022; Fan et al., 2016; Eyssel et al., 2012).

Anthropomorphism is defined as the practice of ascribing human features, motives, or

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behaviour to non-human entities (Fakhimi et al., 2023; Yang et al., 2022; Laksmidewi et al., 2017). Non-human entities that are attributed to such features, motives, or behaviour are known as anthropomorphic entities (Nguyentran & Weisberg, 2023; Uysal et al., 2023; Eyssel et al., 2011). Disney animal characters like Donald Duck, Goofy, Mickey Mouse, and others that can walk, talk, sing, or dance like humans are examples of anthropomorphic entities. Further, SSTs are the technologies that enable consumers to get service without the direct involvement of employees (Liu & Hung, 2021). For eg: Automated Teller Machines (ATMs), Self-check out at hotels, etc. SSTs have transformed the way consumers interact with service businesses (Kim et al., 2023), resulting in better service outcomes such as increased consumer satisfaction and increased efficiency (Liu & Hung, 2022; Lee & Leonas, 2021; Tsou & Hsu, 2017; Hien, 2014; Gounaris et al., 2010). To make these SSTs more interactive and add a human touch, service providers have embedded human-like behavior, features, and characteristics (Sheehan et al., 2020). Such SSTs that have human-like characteristics, features, or behavior embedded in them are known as Anthropomorphic Self-Service Technologies (ASSTs) (Liu et al., 2023; Wang et al., 2022; Eyssel et al., 2012; Eyssel et al., 2011; Lisetti et al., 2004). The humanoid robot developed by Boston Dynamics, an American robotic design company is an example of ASSTs, which is intended to aid emergency services such as driving a utility vehicle or opening a closed door, in search and rescue operations (Mathew et al., 2023). However, consumers' actual relationship with these ASSTs is complicated (Fan et al., 2020; Hoffman & Novak, 2018) and therefore solicits further investigation. The present study aims to understand the impact of the relationship consumers perceived to form with ASSTs and Consumers' Technological Self-Efficacy on consumers' attitudes towards ASSTs.

1.2 Review of Literature

Anthropomorphic Self-Service Technologies (ASSTs)

SSTs have offered various benefits to consumers as well as service providers in terms of efficient service delivery, reduced labor cost, fewer human errors, etc (Alboqami, 2023; Liu & Hung, 2022; Lee & Leonas, 2021; Wirtz et al., 2018; Bolton et al., 2014). However, the lack of human touch has taken away warmth, empathy, authenticity, and hospitability from the whole service experience, leaving a gap in service delivery (Solnet et al., 2019). To overcome this and to facilitate human-machine interaction, anthropomorphism has evolved as a reasonable balance that incorporates human-like characteristics into the design of SSTs (Liu et al., 2023; Fan et al., 2016). ASSTs have recently attracted a lot of attention from academicians and scholars across the world (Liu et al., 2023; Wang et al., 2022; Sheehan et al. 2020; Fan et al. 2020; Aggarwal & McGill, 2012). However, no research has specifically examined the influence of attributes of consumers and the kind of relationship consumers perceived to form with these ASSTs on their attitudes towards them. Consequently, the purpose of this study is to fill existing gaps by exploring the impact of the perceived relationship consumers formed with these ASSTs and their Technological Self-Efficacy on their attitudes towards ASSTs based on three theoretical frameworks: Customer Participation Theory, Social Response Theory, and Self-Expansion Theory.

Perceived relationship between Consumers and ASSTs

Prior research has shown that consumers treat machines as social agents (CASA paradigm) and apply interpersonal relationship standards to human-machine interactions (Pentina, et al., 2023; Kim et al., 2019). Also, consumers form human connections with non-human things and attach sentiments to them (Liu et al., 2023; Pentina, et al., 2023; Hart et al, 2013; Miles & Ibrahim, 2013). To strengthen consumers' impressions of social presence and to facilitate consumer-machine

interactions, marketing managers have embedded SSTs with human shape and characteristics (Sheehan et al., 2020; Niemela et al. 2017; Bartneck et al. 2009), but the type of bond that consumers form with these ASSTs is still open to conjecture (Schweitzer et al., 2019). However, if we look back at earlier research, we can see that there has been a lot of research into the relationship between consumer and anthropomorphic brands-servant and partner brands (Han et al. 2020; Aggarwal & McGill, 2012; Fournier, 1998). Based on these studies and theories of social response and self-expansion we sought to apply the relationship type of either partner or servant between the consumer and ASST. This dichotomy is also compatible with Gruenfeld et al. theory (2008) which suggested that any interaction between two components entails varying degrees of hierarchy. Resultantly, one entity can either be an equal partner to the other (partner) or potentially dominate the other (servant).

Social response theory (Moon, 2000) explains how social interactions and human-technology interactions are comparable (Xie & Pentina, 2022). This theory proposes that when individuals encounter anthropomorphic technology, they are more likely to respond socially by assigning social attributions to such anthropomorphic agents (Fan, 2020; Moon, 2003; Nass & Moon, 2000; Reeves & Nass, 1996). Social extension theory, on the other hand, suggests that humans knowingly or unknowingly, deliberately, or inadvertently extend by including others in their selves so that they can do things that otherwise they would be incapable of doing (Belk, 2013; 1988). Self-extension generally happens when consumers have control over other things with moderately little autonomy. Consequently, consumers may regard anthropomorphized entities as either others or extensions of themselves. Also, these ASSTs contribute to the extended self in varying degrees, since some are critical for consumers and others are not (Schweitzer et al., 2019). Because of these tendencies, ASSTs have an influence on consumers' attitudes based on attributes that convey dominance or friendliness (Novak & Hoffman, 2019; Maeng & Aggarwal, 2018; Aggarwal & McGill, 2007; Landwehr et al. 2011). Together, these streams of literature lay the theoretical groundwork and lead to the formulation of the following hypothesis;

H01: The perceived relationship(partner/servant) between consumers and ASST has a significant influence on consumers' attitudes towards ASST.

Consumers' Technological Self-Efficacy

Consumers' Technological Self-Efficacy refers to the belief of consumers in their ability to successfully perform or handle technologically sophisticated tasks (Pan, 2020; McDonald & Siegal, 1992). Consumers' Technological Self-Efficacy in the context of SSTs refers to consumers' belief in their capacity to operate and execute SSTs (Fan et al., 2020; Compeau & Higgins, 1995; Robertson & Shaw, 2009). In the service industry, consumers are the co-producers (Wu et al., 2023) as they have an important role in service delivery (Bolton et al., 2014; Wirtz et al., 2018). The way they perform their role has a great impact on service outcomes (Hong & Ahn, 2023; Fan et al., 2020). Moreover, their role becomes more important in the case of SSTs, as there is no direct involvement of employees and the entire service delivery depends upon how consumers interact with these SSTs. This relationship becomes more interesting when SSTs are embedded with human-like characteristics, that is, ASSTs as it gives an impression to consumers as if they are interacting with some other human (Liu et al., 2023; Wang et al., 2022).

Customer Participation Theory (Dabholkar, 2015) provides a theoretical framework for developing a hypothesis. Customer Participation Theory (CPT) refers to the extent consumers participate in the service delivery process in terms of their efforts, preferences, expertise, and other factors (Dabholkar, 2015; Dong et al., 2015; Chan et al., 2010). SSTs require a high level of consumer

participation (Bourdin et al., 2023; Guan et al., 2021; Dong et al., 2015) as consumers are co-producers here and have a significant impact on service outcomes (Bolton et al., 2014; et al., 2018). Previous research has shown that technological self-efficacy is a critical factor in consumer participation (Fan et al., 2020; Dong et al., 2015) as technological self-efficacy encompasses knowledge and confidence, and conviction in consumers' talents (Ashrafi & Easmin, 2023; Al-Hammouri et al., 2022; McKee et al., 2006). According to Robertson & Shaw (2009) consumers that have a high level of technological self-efficacy are confident in their abilities to operate and manage the SST machine. On the other hand, consumers with poor technological self-efficacy have limited faith in their ability to deliver a satisfactory outcome (Kim et al., 2022; Celik & Yesilyurt, 2013). Also, consumers with high technological self-efficacy have a more favorable attitude and intention to utilize technology-based services than consumers with poor technological self-efficacy (Ashrafi & Easmin, 2023; Kim et al., 2022; Huffman et al., 2013; Yang, 2010). Based on these findings, the study then offered the following hypothesis;

H02: Consumers' Technological Self-Efficacy (high/low) has a significant impact on consumers' attitudes towards ASST.

Like any intricate phenomenon, anthropomorphism is influenced by a variety of factors that involves both motivational and cognitive determinants (Blut et al., 2021; Epley et al., 2007). In such a scenario, sociality motivation and curiosity to know other phenomena with the help of existing knowledge are among the few drivers that characterize anthropomorphism as a medium of interaction between consumers and SSTs (Blut et al., 2021; Airenti et al., 2019; Damiano & Dumouchel, 2018; Epley et al., 2007). When consumers have a sense of social connectivity or ease with technology, they believe they can utilize it more effectively and vice versa (Blut et al., 2021). As a result, consumers may have diverse attitudes toward ASSTs in terms of varying levels of technological self-efficacy and different types of relationships consumers perceive to establish with ASSTs. Thus, considering the above, the study proposes the third hypothesis as follows;

H03: Attitude towards ASST will be different for consumers based on the kind of relationship consumers perceive to form with ASST and this effect will be significantly different across varying Consumers' Technological Self-Efficacy.

Building upon this backdrop, the present study proposed the conceptual model as shown in Figure 1.

1.3 OBJECTIVES

Therefore, as mentioned above, the present study has the following objectives;

O1: To investigate the impact of the kind of perceived relationships consumers formed with ASST on consumers' attitudes towards ASST.

O2: To examine the influence of Consumers' Technological Self-Efficacy on consumers' attitudes towards ASST.

O3: To study the joint impact of Consumers' Technological Self-Efficacy and the kind of perceived relationship consumers form with ASST on consumers' attitudes towards ASST.

1.4 Research Methodology

Research type

To test the aforementioned hypothesis and establish cause-and-effect relationships, an experiment was designed using Google Assistant, an ASST, as it has a voice like a human

(male/female) and offers conversational interactions that help in finding information online, controlling music, sending messages, making phone calls, etc.

Materials and Methods

The perceived relationship type between consumers and ASST was manipulated. A 2 (perceived relationship types: partner vs. servant) X 2 (consumer technological self-efficacy: high vs. low) between-subjects design was employed (Table 3). Participants were randomly assigned to one of the two manipulated conditions (i.e., partner vs. servant), while their technological self-efficacy was measured. Depending on a variety of factors, a voice assistant might be portrayed as a partner or a servant (Kim & Kramer, 2015; Schweitzer et al., 2019; Wu et al., 2017; Aggarwal & McGill, 2007). Accordingly, two presentations for Google Assistant were created to modify its perceived relationship. For the relationship- partner, the participants were introduced to the Google Assistant with a message- "Treat Google Assistant as your partner as it listens to understand you." Alternately, for the relationship type-servant, participants were introduced to the Google Assistant with a message- "Treat Google Assistant as your servant as it listens to obey you."

Participants and procedure

A total of 245 participants were recruited from a college of a major university in North India, India using a convenience sampling method. However, only individuals who had previously used Google Assistant were eligible to participate in this survey. Participants who had never used Google Assistant or any other voice-controlled ASST before were unable to progress to the next round of the survey. As a result, only 208 participants qualified for the experiment. One of the four experimental conditions (Table 1) was given to each participant at random. They were given the experiment instructions as soon as they entered the classroom setting, where they were allowed to interact with the Google Assistant for ten minutes. Self-introduction, weather recommendations, general knowledge, and entertainment were among the subjects discussed with the Google Assistant during the interaction. Finally, the participants were asked to answer a series of questions about their interaction with Google Assistant. The final sample included 54% males and 46% females. The participants' average was 21 years.

Measurement Scales

Scale items derived from Yim et al. (2012) and McKee et al. (2006) were used to measure participants' technological self-efficacy (1 = strongly disagree, 7 = strongly agree; Cronbach's = 0.911). To measure our dependent variable- consumers' attitude, a seven-point bipolar semantic differential scale was used with endpoints good-bad, like-dislike, and pleasant-unpleasant (Curran & Meuter, 2007)

Manipulation and realism

A manipulation check was necessary to determine whether respondents genuinely received the presentation as intended. Respondents were asked how much they perceive Google Assistant as a "partner" or a "servant" using a seven-point Likert scale adapted from Kim & Kramer (2015). Other questions asked in the survey were related to demographic information (i.e., gender, age, and education) and past self-service technology experiences. Table 2 lists all of the measuring scales that were utilized in the study, along with their associated reliability coefficients and scale items.

1.5 Results

As stated earlier, Consumers' Technological Self-Efficacy and the kind of relationships

consumers perceived to form with ASST are the independent variables of the study, whereas attitude towards ASST is the dependent variable of the study under consideration.

In this context, we explored the influence of the perceived relationship between consumers perceived to form with ASST on consumers' attitude towards ASST (H01) and the effect of Consumers' Technological Self-Efficacy on consumers' attitude towards ASSTs (H02). Additionally, we also investigated the impact of the interaction effect of Consumers' Technological Self-Efficacy and the perceived relationship between consumers and ASSTs on consumers' attitudes toward ASSTs (H03). Using a two-way ANOVA, we investigated these hypotheses. Levene's test for equality of variances was used before the main analysis to check for equality of variances. The test findings revealed no significant variations in variances across groups [$F(3, 204) = 1.935, p = .125 > 0.05$], implying identical variances (Table 4). Results concerning H01 and H02 (Table 5) showed that the main effect of the perceived relationship between consumers and ASST [$F(1, 204) = .657, p = .419 > 0.05$] and Consumers' Technological Self-Efficacy [$F(1, 204) = 1.562, p = .213 > 0.05$] on consumers' attitude towards ASST was not statistically significant. However, when we tested the interaction between Consumers' Technological Self-Efficacy and the perceived relationship between consumers and ASST on consumers' attitude towards ASST (Table 5), 2-way ANOVA results showed that the interaction was statistically significant [$F(1, 204) = 23.763, p = .000 < 0.05$]. Further, to better understand two-way interactions, the results of a follow-up slope analysis (also known as profile plots) are also given (Figure 2). The crossed lines in Figure 2 showed the interaction effect, that is, the effect of Consumers' Technological Self-Efficacy interacting with the kind of perceived relationship consumers formed with ASST and vice versa. To be more precise, as can be seen in Figure 2, attitude levels are more positive and higher for consumers with low technological self-efficacy, and that forms a partner relationship with ASST. Conversely, attitude levels are more positive and higher for consumers with high technological self-efficacy, and that forms a servant relationship with ASST.

1.6 Discussions

The first objective of our study was to determine the impact of the kind of perceived relationships consumers formed with Google Assistant, an ASST, on consumers' attitudes towards ASST. Surprisingly, countering the proposed hypothesis, the findings from the current study suggested that the kind of relationships consumers perceived to form with Google Assistant does not have much influence on their attitude towards Google Assistant (ASST). It is worth noting here that in this study the relationships perceived to form between consumers and Google Assistant were merely verbal and were based on how Google Assistant was introduced to the respondents. Google Assistant is a voice-controlled technology that has no physical personality of its own, thus only a verbal relationship was formed between respondents and Google Assistant and that does not have much influence on consumers' attitudes towards Google Assistant. In the second objective, we aim to examine the impact of Consumers' Technological Self-Efficacy on consumers' attitude towards ASST. The results of the study suggested that Consumers' Technological Self-Efficacy also does not have an impact on consumers' attitudes toward ASST. The reason for such outcomes is probably regarding the age group that is under consideration. The respondents were young adults who had previously used Google Assistant, and thus do not require many skills to interact with Google Assistant. Also, the kind of interaction respondents had with Google Assistant in this study was more verbal and thus respondents do not require their technical abilities and skills to interact with ASST. The last objective of the study was to determine the joint impact of Consumers' Technological Self-Efficacy and the kind of perceived relationship consumers formed with ASST on consumers' attitudes towards ASST. The findings were statistically significant and offered fresh perspectives on the limited body of research.

The results suggested that consumers with high technological self-efficacy have a significant impact on their attitude towards ASST when they perceive ASST as mere their servants as compared to consumers who perceive them as partners and vice-versa. The reason for such an outcome is that consumers with high technological self-efficacy perceive themselves as superior as compared to Google Assistant and this has a significant impact on their attitude. On the other hand, consumers with low technological self-efficacy have a significant impact on their attitude towards ASST when they perceive ASST as their partners in contrast to those who perceive them as servants and vice-versa. The reason for such a conclusion is the probability that such consumers feel lacking in technology and thus require assistance from someone, thus having a significant impact on their attitude towards ASST.

1.7 Theoretical/Managerial Implications

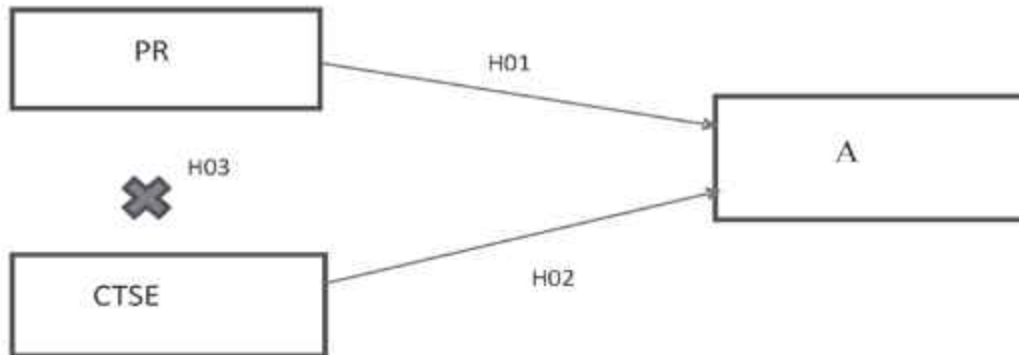
Understanding anthropomorphism in SSTs and how it influences consumers' attitudes have become more important than ever, especially due to the frequent growth of interest of researchers and scholars all around the globe. In such a scenario, the study suggests new directions for understanding anthropomorphism in self-service technologies. The study has both theoretical as well as practical implications. Theoretically, the study expanded the knowledge of ASSTs. No available literature measured the joint impact of Consumers' Technological Self-Efficacy and the kind of perceived relationship consumers formed with ASSTs in the context of consumers' attitudes towards ASSTs. Therefore, this study filled the gap in the existing literature by investigating these variables and by testing the interaction effect of Consumers' Technological Self-Efficacy and the kind of perceived relationship consumers formed with ASSTs on consumers' attitudes towards ASSTs. The paper also suggests implications from a managerial point of view. The current study proposes that consumers have a different level of attitude towards ASSTs depending on their level of technological self-efficacy and the kind of relationship they perceive to form with ASSTs. In simple words, consumers do not need to always have a positive attitude towards ASSTs. Therefore, features, functions, and types of relationships that consumers perceived to form with ASSTs also need to be taken into consideration by marketers to build strong consumer relationships.

1.8 Limitations and Future Recommendations

The current study has a few limitations. To begin with, the experimental context in which participants respond may differ from real-life events. As a result, it is suggested that the study be repeated with other stimuli in different environments. A researcher can replicate the study with different age groups and different ASSTs such as anthropomorphic ATMs, Siri, Alexa, and so on. In addition to the two kinds of perceived relationships (partner and servant) discussed in the study, future research can also examine other kinds of relationships that consumers can form with ASSTs. Another limitation of our study is that we experimented with only one anthropomorphic SST, that is, Google Assistant, future research can seek the most effective mix of two or more ASSTs to have more valuable outcomes of consumer responses about consumers' attitudes towards ASSTs that would be extremely valuable for future industry practices.

1.9 Appendix

Figure 1: Conceptual model of the present study



PR: Perceived Relationship between consumers and ASST. CTSE: Consumer's Technological Self-Efficacy, and A: Attitude of the consumer toward ASST.

Table 1: Experimental Setup

Consumers' Technological Self-Efficacy	Perceived relationship between consumer and anthropomorphic self-service technology
High	Partner
High	Servant
Low	Partner
Low	Servant

Table 2: Measurement scales

Scale Name	Cronbach Alpha	Scale Items
Technological self-efficacy	0.911	I have confidence in my ability to use Google Assistant effectively.
		I do not doubt my ability to use Google Assistant effectively.
		I feel comfortable using Google Assistant.
Partner presentation manipulation check	$\alpha=.895$	On a scale of 1 (strongly disagree) to 7 (strongly agree), indicate how much you agree with the following statements, taking into consideration the presentation: "To the user, Google Assistant is like a partner."; "To the user, Google Assistant is like a buddy."
Servant presentation manipulation check	$\alpha=.811$	On a scale of 1 (strongly disagree) to 7 (strongly agree), indicate how much you agree with the following statements, taking into consideration the presentation: "To the user, Google Assistant is like a servant."; "To the user, Google Assistant is like an attendant"
Attitude toward the SST	$\alpha=.852$	How good or bad do you feel about using Google Assistant?
		How pleasant or unpleasant is it to deal with Google Assistant?
		How much do you like or dislike Google Assistant?

TABLE 3: Between-Subjects Factors

		Value Label	N
PER_REL	1	PARTNER	104
	2	SERVANT	104
SELF_EFFICACY	1	LOW	104
	2	HIGH	104

Table 4: Levene's Test of Equality of Error Variances^a

Dependent Variable: ATTITUDE

F	df1	df2	Sig.
1.935	3	204	.125

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

- a. Design: Intercept + PER_REL + SELF_EFFICACY + PER_REL * SELF_EFFICACY

Table 5: Tests of Between-Subjects Effects

Dependent Variable: Attitude

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	77.540 ^a	3	25.847	8.661	.000	.113
Intercept	1659.141	1	1659.141	555.935	.000	.732
PER_REL	4.662	1	4.662	1.562	.213	.008
SELF_EFFICACY	1.960	1	1.960	.657	.419	.003
PER_REL * SELF_EFFICACY	70.918	1	70.918	23.763	.000	.104
Error	608.821	204	2.984			
Total	2345.503	208				
Corrected Total	686.361	207				

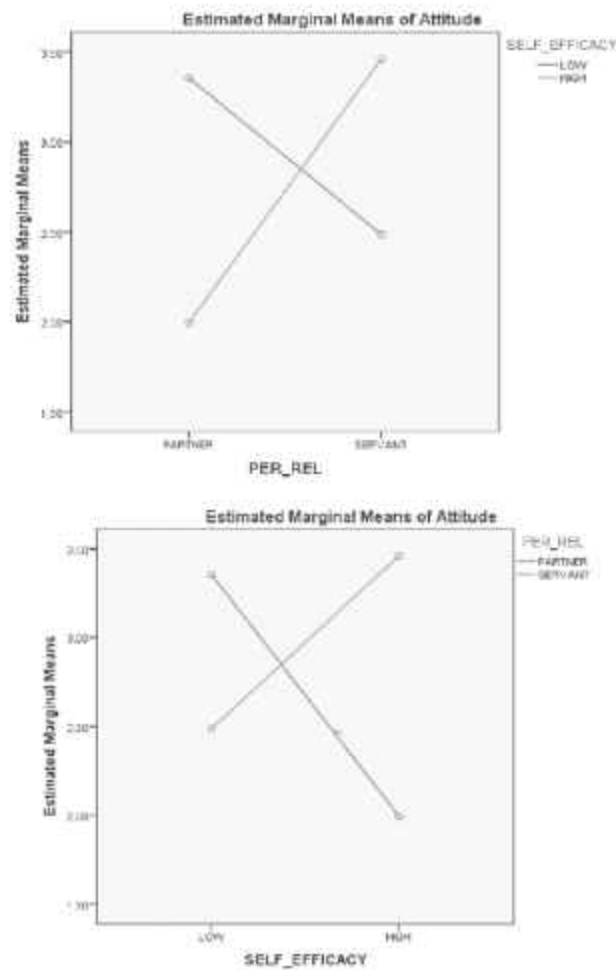
a. R Squared = .113 (Adjusted R Squared = .100)

Table 6: PER_REL * SELF_EFFICACY

Dependent Variable: Attitude

PER_REL	SELF_EFFICACY	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
PARTNER	LOW	3.356	.240	2.883	3.828
	HIGH	1.994	.240	1.521	2.466
SERVANT	LOW	2.487	.240	2.015	2.960
	HIGH	3.461	.240	2.988	3.933

Figure 2 : Interaction effect of Consumers' Technological Self-Efficacy and kind of perceived relationship formed between consumers and ASST.



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ARTS & HUMANITIES

Eco-Translation and Translation and Ecology in the Age of the Anthropocene

Manish Prasad*

ABSTRACT

With the beginning of the Industrial Revolution, the damage to the environment began because of human endeavour. And in the last few centuries, particularly after the Industrial Revolution, human beings have affected the regular course of the planet. Their effect is such that they have moved from biological agents to geological forces in their way. Throughout the ages, the preference has been given specifically to the history of human development and humanity and not to the history of environmental degradation. Against this, in the last few decades scholars and scientists have raised the alarm for global warming and climate change. But their writings and research works are of such a level that they are not accessible to the common human being. Thus, the need of the hour is to raise the voice and make people more aware of the effects of environmental degradation. Here one may note that one of the concerns of the translation studies is to pay apprehension to the global activity in the age of the Anthropocene and try to locate the specific impact of human beings on the environment. Therefore, the urgent necessity is to understand how translation can help to understand the impact of climate change. Following such a critical phase of climate change, the article would like to explicate how translation practice can be helpful to connect the global concern about the climate crisis and its effect on human beings at the level of food, travelling, and technology.

Key Words: Translation, Globalization, Climate Change, Anthropology, Hyperobjects

Introduction

Michael Cronin opens his discussion in the book with a reference to the soil damage because of the Indigo plantation and its after-effects on human beings and the environment. The central idea the book tries to express is to discuss how translation practice can be helpful to connect the global concern about the climate crisis and its effect on human beings.

The author at the beginning of the book writes about the significance of translation practice particularly in the case of minority language speakers. With a reference to Chinese scholars, the author tries to build the relationship between ecology and translation. Just like in the ecosystemic notion, there is a process of selection and adaptation, in the same way, translation practice works. The author has extended the general understanding of the term 'eco-translation' to describe the translator's psychological involvement with the text selected for translation; it includes the thought process the translation undergoes to relate the impact of his translation theory and practice on human beings and its effect on environmental change.

The book uses the term 'hyper-objects' to explain the causes and effects of climate change or global warming. It tries to make the readers understand the future lies here and now and these hyper-

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objects will help us to understand what is going to happen in the future. The translation is also one such hyper-object that helps to understand climate change because a translator is also a part of the cosmos and there shall always remain an impact of climate change in his thought and practice.

The history of the planet and the history of humanity runs parallel. And, the history of humanity includes the history of translation practice. Therefore, the history of translation and the history of the planet are linked to each other. The problem is that in translation only the product is valued and visible but not the process. By referring to the logic of inversion, a key concept from social anthropology – the book tries to discuss how the means needed to bring about a translation of this tyranny of giving importance to ends over means in translation also relate to the “more general concealment of the earth’s resources that have made human action possible” (3). Therefore, the task of ‘transitology’ is to pay attention to means seriously because it is the means which determine how and in what direction our societies will travel. Food and translation also go hand in hand; just as food goes through production, distribution, and consumption, in the same way, translation also has to surpass the same process. The way we need mouths to eat and speak together, in the case of migration or travel the understanding of food also requires the help of translation. Whereas, concerning translation and technology, the book pays attention to how technology has contributed to enlarging the dimension of translation. Similarly, traveling and translation also contribute to one another. Particularly, if one takes the context of globalization, translation has been the most important tool for making travel more comfortable and meaningful.

Referring to a case of “environmental consequences of deforestation in French” (7) and the German translation of the report, the book tries to focus on how important it is to translate the climate report from one language to another; and how difficult it is for the translators to find the exact words and phrases to explain the exact climate change. Therefore, the need of the hour is to understand how translation can help understand the impact of climate change. Further, by mentioning the well-known British Historian Timothy Garton Ash, the book tries to explain how the topic of climate change has been overlooked in the present discussion. In the last few centuries, particularly after the Industrial Revolution, human beings have affected the regular course of the planet. Their effect is such that they have moved from biological agents to geological forces in their way. One may note if the environment is part of human beings then human beings are also a species that is part of the environment. And since translation is a part of human beings’ activity, hence it is also a part of the environment. Just like one has access to socio-cultural history, there is a need to study human beings from a geological perspective because human social science has defined them in isolation from the natural world. Here, Anthropocene while engaging with translation scholars looks at it as a discipline that connects the earth sciences to animal sciences. The book critically tries to access how with the beginning of the Industrial Revolution, the damage to the environment began because of human endeavor. Therefore, the focus should be on the history of environmental degradation not only on the history of human development and humanity. One of the concerns of the translation studies is to pay apprehension to the global activity in the age of Anthropocene and try to locate the specific impact of human beings on the environment.

Denoting John McNeill’s *Something New Under the Sun : An Environment History of the Twentieth-Century World* (2000), the book points out that in those books which talk about the grand environment narrative, the focus is given primarily on figures, tables, and dates. As a result, the reader finds it difficult to understand the specific strategies of the principal agents of the grand environment narrative. Hence, proper analysis and assessment become a challenge.

Eco-Translation and Translation and Ecology in the Age of the Anthropocene has five chapters excluding "Introduction: Earthlings". The "Introduction: Earthlings" lays down the reason for connecting ecology with translation, the importance of understanding migration, food, technology, and more importantly climate change through translation. The "Introduction: Earthlings" provides the purpose and objective of this study and its significance in this present context. One of the central questions the book puts forward is how translation studies are related to the post-anthropocentric perspective. One of the paradoxes with translation is that it brings together people and languages and cultures, after crossing the chasms of cultural suspicion and historical aversion. As the world is self-centered, everything happening in the world is a product of self-enrichment. Against this regime of self-valuation translators are often considered as the forgotten agent of history, someone whose identity remains invisible; but their contribution at the global level needs to be foregrounded and celebrated. Therefore, there might be a possibility of celebrating the death of the author, but it is very difficult to celebrate the death of a translator as they have been entombed by indifference for centuries.

The introduction discusses the important role translation plays in encoding and decoding the messages given from different parts of the globe. The terms of the language used "in the context of the global enablement of mobile, digital technologies" (21), translation plays an important role in understanding the specific nuances and forms of usage of language. The book tries to point out the double-edged politics involved with the language English; on the first level all the documents, tables, and contents are available in English and it has turned into the official language of science and technology, and business and thus they erase translation-effects and etymological catastrophes. On the other hand, the identity of translators and the existence of translation remain hidden. One of the key issues the book addresses is that translation and intersemiotic communication has been overlooked by translation studies scholars.

One of the key issues the book raises in the first chapter "Paying attention", is that "one can only pay meaningful attention to what one can understand and translation in a multilingual world is central to the task of language mediation" (22). The central task of translation in the present era is to emphasize promotion above production. For instance, most numbers of internet users are those who are non-native English speakers; translation becomes an important tool to expand companies into new markets, attain a global audience, and increase international sales. All computer-assisted translation invokes technology dealings for emerging demands of translated texts. After pointing out Lawrence Venuti's concept about the translator's invisibility, the book points out how digital cyberspace and cyber time have extended the possibilities for the dissemination of translated works of literature. In this way, the writers and the text are visible in the electronic agora with the help of translation. However, translation has become the invisible hand in the market of global communication. In other words, translation has something in common with transport. Just like in transport, the primary concern is the destination, in a similar way translation is a process of straight information transfer from language A to language B in networks of international communication. In a similar context, when one tries to understand how the world is ecologically changed, one has to understand that it is the means which has brought the change. In this method, translation is also pre-eminently the 'means' that brings a literary work into another culture. And in this way, translation helps to "sell a product to speakers of a different language or to convey an important body of thought or set of beliefs" (32) into another setting.

The second chapter entitled "Eating our Words" discusses the consequences of translation after the movement of food across languages. If one tries to look from the point of the ecology of

translation, one may opine that the fortune of translation is bound up with the organization and economy of food production at the global level. Translation of food across borders often creates ethical dilemmas, particularly in the case of migrant workforce who have limited access to translation. One of the key issues the second chapter address is how translation operates as a strategic factor in the triangular relationship between food, mobility, and culture and how in the age of the Anthropocene, the ecological dimension is key to our understanding of this relationship.

In the very art of translating food writing the nature of foreign language and foreign food is involved. This prompts intralingual translation – where the translator also has the desire to domesticate the otherness of food. In this situation arises a case of foreignisation of translation strategy in food translation when translation is only present in the form of paraphrase; “where the composition of a drink might be described in definitional terms” (48) of the food items. As one can note in the case of the American company Starbucks is one of the greatest promoters of Italian beverages in the Italian language in the world such as Caffè Americano, Cappuccino, Caramel Macchiato, etc. One can translate the ingredients of the food example – meat, sauce, pasta, and water which will be used to produce a spaghetti bolognese, but the name of the food remains the same as the original. Translation and cooking in that case is an example of transformative practice.

“The more language resists translation, the more it invites translation” (53). The advancement of new communities leads to new ideas; therefore language also needs to be advanced to express the new ideas, community, and foods. And this pressure of expressing releases the creative potential of translation as all these new ideas of community, food, and others can be understood from the form of translation. Thus translation can be taken as a process to understand what happens to food in cultures.

The chapter orates that one of the biggest challenges for a translator is to decode the food language and makes it clear what it tries to suggest about the social setting, religious or folk beliefs, cultural background, aesthetics, and others. Another challenge appears when a number of the ingredients are specific to a culture and country. It's very difficult to find substitutes every time because the recipes and end product often get changed more than translation warrants. Therefore, a possible solution to this problem is that translators must try to remain as close as to the original and if there arises a need for substitutions, the translator must explain why they are needed.

The third chapter “Translating Animals” tries to examine how in the field of animal communication and human-animal communication the concept of translation is not referred to or used just as in debates around translation hardly has reflections of animal communication and human-animal communication. By giving reference to various scientists and researchers the book tries to show how their research has given an idea of observing the roles, natures, and habitats of animals living in different parts of the world. These nature and behavior patterns of animals are a form of language and this creates a situation for intersemiotic translation. However, there is also a need for some more advanced language technology and machines to understand the languages used by animals to communicate among themselves and how they can be used by human beings for understanding them more properly. By giving references to various geographical discoveries and scientific opinions the chapter clarifies that to understand the impact of climate change the voice of the animals are equally important. And here technology needs to work and develop together with translation to understand their view about climate change and human beings.

In “The Great Transition”, the fourth chapter, the author points out the various significant role translation plays when there arises a situation for rewriting of the internet. Many websites function

properly because the process of technical translation is very effective in that case. By referring to Luis Von Ahn who is best known for 'reCAPTCHA' has promoted transcription which ultimately leads to harness of the collective computing power for translation: as 'reCAPTCHA' encourages users of the internet to learn a second language through Duolingo. Acknowledging the transition in the field of technology the chapter illuminates how Google translation and other machine translation software have created a revolution in human knowledge. The problems concerning lodging and accommodation are also getting resolved with the assistance of Google Maps and Google Earth.

Observing the transition in the field of food and migration the chapter elucidates that to develop local and global food cultures agricultural scientists, political economists, computer scientists, comparative literature specialists, biochemists, and translation scholars would have to come together to create such a faculty of food that are resilient and sustainable. If one tries to observe closely food translation is a matter of skill rather than professional creation. Therefore, one needs to understand that after the effect of technology, translation has turned out to be more for the skill than language transfer expert as in the case of a professional translator. Thus there arises a situation of collision between professional translators and skilled translators with technology. This drawback of professional translators because of technology can be clear if one tries to compare how the professionals have responded to technological change in the present and the past.

The fifth chapter "Language Worlds" gives an elaborate account of how language has an important role to play in traveling. By giving instances of various smaller countries the chapter tries to focus on how the marginalized local language becomes very difficult for the travelers to understand. Language in traveling is a powerful agent of re-enchantment for travelers as it not only registers experience but also helps in production for others. Therefore, the need is to look after those languages whose speakers are very limited and register them to understand society, habitat, and nature. And here travelers play a significant role in acknowledging them and making them available in written form. Once those languages are available in script form they can be translated and available at the global level. There are so many specifics about nature and climate that remains hidden from human beings. Hence, the process of translation can be really helpful in that venture. The reason for the special interest in method lies in the fact that the forgotten and marginalized forms of language not only help us to see the world in a new-refresh or simplify our idea – but also vivify and revive the expressions we regularly use to describe, exchange about or live in this world.

The chapter also explains the importance of children's language. The children have their language to express the world. But the elders try to make them explain their world. Hence their voice also gets marginalized and suppressed. For this reason, governments have taken the initiative to transform most of the literature into children's literature specifically those which are marginalized languages. And this process of transformation can turn into reality more effectively through the translation of children's literature into various languages of the world.

Explicating the politics of language and translation the chapter further discusses how the assessment of the language is possible through the act of translation. And the resistance to translation points to the place-based accuracies of language communication. However, one must note that it is this very confrontation that emboldens the translator to articulate a meaning of what the language is trying to express or describe for a broader community whose activities as a result of anthropogenic climate change are moving communities of language speakers over the world.

Eco-Translation and Translation and Ecology in the Age of the Anthropocene provides a different perspective to the discipline of Translation Studies. The methodology it follows to link climate

change and the need for translation is very qualitative and elevating. The details about migration, traveling, food, and technology help the reader to grow his/her interest more rigorously towards translation. The structure of the book is also very clear and digestible for scholars. However, the book also uses critical concepts and terms like "Negentropic acts of translation" and "hyper-objects" which are new and need more clarification in the area of translation studies. The book has also raised some relevant questions about the scientific practices which are difficult for a common reader to understand the process of climate change and its effect on the ecosystem. Giving importance to translation, the book points out new ideas concerning the values of translation, and when it is practiced how it becomes part of the cultural ecosystem in which the native language functions. If translation inhabits a dominant place in the life of the language to the detriment of other forms of oral and written creation in the language, then one must be concerned about the emergence of viability or sustainability of the native language as a distinct entity. The concept of eco-translation which is the fundamental idea of the book's discussion is often considered to be a much-overlooked sub-discipline of Translation Studies. Here one needs to note that one of the central concerns of eco-translation is to interpret community in its various forms similar to community interpreters who work as a pioneer to connect language with different authorities that control the lines and well-being of migrant workers around the globe. In other words, eco-translation includes the minoritized voices of migrant workers around the world who find their well-being extremely concerned by a lack of access to the resources of translation and community interpreters' services. The possibilities of translated information in local languages concerning agriculture, health, or education are central to the opinion of eco-translation so that it can allow any community to function in every sphere of life in their respective languages. Therefore, the very challenge to understand the impact of climate change and the importance of understanding ethnographic research depends in part on translation. However, the question still lies in whether the present co-researchers and linguistic mediators have the proper translation skills to go against the untranslatability of food, migration, climate, and culture.

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Muses in Abyss: Violence Masqueraded by Music in the Holocaust Movie *Playing for Time*

Sangita Neogi*

ABSTRACT

*This paper will try to investigate the role of music in the unimaginable setting of starvation, disease, and death, that is the Holocaust. The fundamental question regarding the darker usage of music specifically within the context of mass murder and maltreatment has always been a burning topic in the field of Holocaust studies. This paper will try to shed light on the notorious usage of music as a means of violence, terror, and torture as well as a coping mechanism for the Jews to survive in the face of impending death. While the demonic Nazis manipulated music to create an authoritative control over the Jew mind, the prisoners used music as a medium of self-expression and sometimes of self-defense. The entire research work has been based on the Holocaust movie *Playing for Time*, which is considered to be the first film to introduce the topic of music in the realm of Holocaust film adaptations.*

Key Words: Holocaust, Music, Mind-control Mechanism, Psychic Trauma, Nazis Ideology

Introduction

It has always been a challenging task to analyze and investigate the function accomplished by music within the ravaging Nazi system of genocide implemented between 1939-45, the period which is now referred to as the Holocaust. A study of the Holocaust as a subject of aestheticism and the multifarious exploitation of music by the Nazis within the concentration camps and death camps will be discussed here as a philosophical argument and investigative observation. The incongruous presence of music in such a setting of barbarity and genocide as a process of contamination, corruption, and dehumanization indisputably presents a striking contradiction to the age-old conception of music. It is precisely because music as an aestheticized subject has always been devoid of the notion of politicization and inviolable to perversion. The emergence of music within the process of mass killing- its felonious usage by the Nazis as a means of degradation, and dilapidation can well be comprehended from the manifold testimonies or memoirs of the former camp prisoners who played the role of musicians within the camps and also through their depiction of the persecutor's treatment. The initial concern in this paper however is to demonstrate the musical life within the ghettos and camps; to reveal the various incarnations of music both as a valuable source through which the victims could derive emotional comfort and relaxation and also to challenge the age-old conception of music as a confluence of art and beauty. This paper aims to investigate how music plays an operative role in inflicting a potentially excruciating effect, both physical and psychological, based on the CBS television film *Playing for Time* which is an autobiographical account of the French opera singer and pianist Fania Fenelon, being the first and the only document breaking out the silence of the role of women musicians in the holocaust.

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Although the topic of music with its ethical qualities in the context of the Holocaust may seem a bizarre one, suppressed under the ruthless description of the inhuman suffering, the significance of it both in the lives of the prisoners and the megalomaniac authorities turns the issue of music into a burning question. The vast repertoire of popular music that the musicians were forced to play while witnessing the unbearable sites of genocide or the moans and shrieks of the beaten victims, crying infants or the childless mothers appeared as desperate screams emitting from the verge of insanity. It was not singing, but yelling and wailing emitting from unhappy, exhausted, and maddened souls. Both the act of composing and listening to music became an experience of violence and persecution, of demoralization and humiliation—almost like an automatized activity. However, the visually arresting movie *Playing for Time* successfully portrays all these moments of paralyzing fear, conscious struggle, and the plight of the musicians of the only women's orchestra in Auschwitz. Although it becomes impossible to fathom any connection between the purposeful killing of six million Jews and the genuine sentiment and emotion attached to music, the film more or less effectively bridges a coherence between the two by chiefly focusing on the theme of music as an intrinsic element of inducing mind-control mechanisms.

Playing for Time makes its mark as a significant text in Holocaust cinema. As adapted for the screen by Arthur Miller, Fania Fenelon's autobiographical book is the basis of this engrossing piece of art directed by Daniel Mann. Film adaptations primarily based on pre-existing literary texts usually involve certain deviations to fulfil the storytelling aspect of the movie and also due to the creative addition of the director. Despite being a subject of frigid reception and malicious criticism for distorting the portrayal of Fania, as a visual narrative *Playing for Time* is effective in conveying the outrageously unbearable condition of the musicians of the women's orchestra in Auschwitz-Birkenau camp. This paper by utilizing Fania's memoir and Mann's film tries to interpret certain intrapsychic functions of music in the face of massive terror and trauma. Miller's film text not only explores the psychic mechanism involved in Fenelon's survival but also expatiates the resolution of trauma through music. It artfully illustrates the obliteration of music from its conventional boundaries and also establishes it as an expression of solidarity and survival during the unbearable days of harsh and indignant treatment by the Nazis. The paradox lying in the uncanny co-existence of art and barbarity has been skilfully articulated in this cinematic representation through the depiction of the struggle of the women musicians in Auschwitz-Birkenau concentration camp which not only keeps the audience on the edge of their seats with the necessary sensation of goose bumps but produces anxiety and eeriness to the brim. It is "a film utterly compelling, utterly bleak, and grotesquely effective in its portrayal of evil" (Eischeid 107).

The entire film right from its beginning is embedded with the portrayal of awful and traumatic incidents. It begins with a terrifying event of some eighty to hundred prisoners forcibly pushed into a railcar cattle truck like sick old hens. Herein the film's stupendous cinematography with the haunting use of sound and a claustrophobic situation created by lighting escalate the audience's anxiety. This extremely anxiety-provoking and daunting situation reminds one of Elie Wiesel's description of their journey to Auschwitz as has been depicted in his autobiographical account *Night*— "The doors clanked shut. We had fallen into a trap, up to our necks. The doors were nailed, the way back irrevocably cut off. The world had become a hermetically sealed cattle car." (Wiesel 24). After a journey of some three to four days, the train doors were abruptly opened. There were cries and shrieks and a dizzying succession of silhouetted monstrous figures wearing striped jackets and black pants, one of them being the infamous doctor Mengele holding a flashlight and sticks and yelling at them in a vague accent. They were immediately stripped down "All possessions ripped away, heads shaved, and then they are arbitrarily dispatched." (Smith 191). Right from the beginning Fania (acted by Venessa

Redgrave) has been projected more as a mature, caring, practical, and robust character with a sense of dignity than that of a vulnerable high school sophomore always crying like her fellow inmate Marianne. Haggard, tattered, shaken with terror Fania was flummoxed when she was asked whether she knew to sing Puccini's *Madame Butterfly* for what can be the purpose of music in such a lingering presence of death, amidst the agglomeration of stiffened corpses? She was even more awe-struck when she entered into the orchestra block and found girls sitting, well-dressed "with pleated skirts and jerseys, holding musical instruments; violins, mandolins, guitars, flutes, pipes...and a grand piano lording it over them all." (Fenelon). She thought that she is dead and has arrived in the paradise of music and the girls sitting there are none but angels, that her journey ends here and she has reached into heaven. Thus, it was music that ultimately saved her life from eternal perdition; it was music that provided her with some comfort and a better living condition than that of her fellow inmates. It was unimaginable that in the inevitable fate of exhaustion, starvation, and gassing in a crematorium one could be utilized as a musician in a camp orchestra. As Gilbert suggests quoting from Matetyahu Nissim's account, "In Auschwitz one could say that I didn't suffer, singing saved me. I am alive thanks to my singing." (160). Here precisely music serves as a saviour of life, a distraction from the violence, a transcendent healing from the deteriorated world.

Pitifully dressed, bald, helpless Fania was confronted with the weathered grand piano. Malnourished, dehydrated, exhausted Fania collapsed over the piano keys, her fingers crusted with dirt caressed the black and white keys, and she remained silent for some moments. The elegant display of an unconscious and intimate relationship between Fania and the piano bears consideration. On the command of Alma Rose, the conductor of the orchestra, the niece of the famous composer Gustav Mahler she started singing *Madame Butterfly*- "Crying? But why? Ah it's the faith you are lacking / One fine day we'll notice a thread of smoke arising / On the sea, in the far horizon / And then the ship appearing, then the trim white vessel" (*Playing for Time*). Puccini's exquisite music composition in Fania's voice created a wonderful combination full of emotion, all too searing, a true reminder of all that has been irretrievably lost. A close observation of the lyric reveals that there is a tinge of hope reverberating through the words which encourages the inmates to struggle on and provides "a false sense of momentary security" (Moreno 9). Puccini's music evoked and anticipated future events of victory, thereby reducing the state of tension even in the worst possible circumstances of constant oppression. The song acted as a symbol of protest and self-declaration. Its cadence, and rhythmic element instilled a home-like, familiar atmosphere. The language of music becomes the language of human emotion and feeling. An ineffable concordance created between the musician's inner world and her instrument makes the scene graphically arresting. However, the moment the monstrous feminine Frau Lagerfuhrerin Maria Mandel, the commandant of the women's camp entered into the block Fania's hallucinatory phase shattered. The music block metamorphosed into a grey, colourless, and sinister dungeon. The paradise-like ambience of it turned into an antechamber of hell. The angel-like musicians' faces became pale, emaciated with terror. Fania's performance pleased Mandel so much so that she exclaimed it as wonderful and commanded Alma that she must be taken to the orchestra. Desperately Fania proclaimed "I cannot accept to be in orchestra unless my friend 64862 can also join in orchestra. She has a beautiful voice." (*Playing for Time*). Facing the conductor's cold, blank stare without a sign of emotion the girls remained flabbergasted to see Fania's audacity. Both the lives of Fania and Marianne were spared because of their aesthetically enriched quality of producing music so magnificently. This "life-affirming survival mechanism" asserted by music has been rightly pointed out by Shirli Gilbert as "spiritual resistance" in *Music in the Holocaust Confronting Life in the Nazi Ghettos and Camps* (2).

Apart from this life-affirming, optimistic role that music played sometimes it also "served as a cathartic, cleansing function, providing the prisoners with some respite from their challenging emotional environment. Music was so powerful that for just a short moment one might escape the dramatic conditions of the prison life" (Posluszna and Posluszny 106). Music also evoked gleesome memories from the past spent with their families that disheartened them and tears ran down from the eyes of the prisoners. For instance, when one of the fellow inmates in the music block urges Fania to sing, her choice of song is really something interesting to look at. She sings along with Marianne: "Don't know why there's no sun up in the sky stormy weather/ Since my man and I ain't together, / Keeps raining all the time. / Life is bare, gloom and misery everywhere stormy weather. / Just can't keep my poor self together, / Keeps raining all the time." (*Playing for Time*). This wistfully melancholic lyrical content reflects the actual gloom and misery of the truncated lives of Jewish women. The lyric reminds them of the cheerful memories they spent with their husbands or lovers and the destruction of the bonds due to the anathema of Nazi atrocities. Here, music functions as an escape from persecutory anxiety. The psychological auditory event of listening to music which is occurring at the present potentially evokes the time before. The augmented power and sublimatory capacity of music help them recall memories since the impact of music helps in churning out formative experiences, split them off from the reality of inner torment, and also helps them taking refuge in an imaginary world devoid of the moments of duress. This example succinctly illustrates how music perception contributes to rebuilding and reconstructing emotion. This scene in particular clearly displays an interdependent relationship established between emotion and music where music becomes a medium through which emotions are modulated and acted out or in other words music acts as an adequate stimulus in spewing forth an emotion and bodily sensation as the sociologist of music Tia DeNora opines, music becomes a "part of the reflexive constitution of that [internal emotional] state" (Brauer, *How Can Music be Torturous*).

The strikingly paradoxical usage of music was deliberately implemented by the Nazis as an ideal tool of socio-psychological mechanism to validate the authoritative and dominating attitude of the German culture. To establish the fact that German is superior as a race the Nazis designed music as an effective weapon to establish total control over the Jews to annihilate them psychologically before their physical extirpation. There is a profound narcissistic urge vehemently pervaded in the German psyche which compels the Nazis to prove its greatness, uniqueness, and arrogance even by exploiting music. In this context, Naliwazek refers to the Jungian and Freudian process of *Übertragung* or transference through which the narcissistic characteristic was subconsciously embedded in the Nazi psyche. The oppressor's constant tendency to reinforce his domineering, authoritarian attitude getting intertwined with a kind of sadistic pleasure that the Nazis derived by humiliating the Jews enhanced on the one hand the psychological degradation of the victims and on the other provided satisfaction and personal enjoyment to the *Schutzstaffel* (SS). As Naliwajek-Mazurek writes "The German Nazis fancied themselves a 'master race' superior to all others, and they clearly regarded their dream of continental, if not world, domination to be an achievable goal. Their self-declared Third Reich signified a pretentious claim to be the successor to the Holy Roman Empire that had once dominated the civilized world" (*The Functions of Music* 85) or as Gilbert has opined, music provided them a platform from within which "the SS could maintain a self-image of refined German culture and personal 'decency'," (187). To insert into the Jewish mind the fact that they are much inferior a race compared to the Aryan, that they are characterized by an utter vulgarity and above all to exercise a total domination over music as well as to prevent German culture from getting contaminated by foreign influence, the musicians of the camps were given strict commands not to play

any musical compositions belonging to the Jewish composers such as Arnold Schoenberg, Mendelssohn, Mahler. Both in Fania's memoir and in the film adaptation Dr. Mengele's and Maria Mandel's constant reference and threat to the orchestra to prepare German songs and especially Beethoven, Schumann, and Mozart well establish the argument.

As K. Naliwazek Mazurek observes, "All torture is undoubtedly destined to induce a mind-control mechanism; it seems that this type of torture was considered by Nazis in some respects even more efficient than the intimidating effect of physical torture" (Music and Torture 33). This observation suggests that physical torture was less haunting to them than psychological torture and music was an immensely potent tool in heightening this psychological deterioration. To understand the inter-functional methodology of the mind control mechanism the inter-dependent connection between music and emotion needs to be discussed succinctly. While demonstrating the dynamic interplay between music and emotion Julian Brauer mentions that "emotions are neither purely physical reaction to external stimuli...nor are they solely cultural constructs. Their meaning can be located beyond the discourse -defining dichotomy somewhere between the physical and the psychological...body and mind" (How Can Music be Torturous). It serves as an intermediary between the physical body which is the self and the social body which is the society. When the body perceives music, the external auditory rhythm heightens the oscillations of brain waves and generates new emotions or stirs the existing ones. The central dimension between the inner and outer world where the emotion work generates is strongly influenced by the atmosphere where the music is perceived. Music perception can evoke multifarious contradictory emotions depending on its place of occurrence. When the outside stimuli are accompanied by utter physical persecution, the music that once was associated with the feelings of joy, exaltation, and tranquillity now instigates fear, awe, and disgust as Alexander Stein quotes Carol Prett, "music sounds the way emotion feels" (758). But the experience of violence along with atrocities and lacerating indignities discord one's ability to ascertain oneself via music and thus the music has been targeted by the Nazis as a mean of torture and dehumanization since it has the potential to construct and deconstruct one's identity and subjectivity. Music may appear as the greatest expression of the human soul but not in the horrible surrounding of hunger, thirst, and starvation, not in the tapestry of violence.

The condition of physical persecution of the Jews was even more intensified by the addition of psychological deterioration. In perpetrating the ritual of cruelty music was treated as an indispensable component of that strategy. Music allowed the tormentors to ascertain total domination over the mindful bodies and emotions of the prisoners. It was a decorative aspect powerfully utilized by them to enhance the habitual cycle of everyday torture. In the concentration camps where death was a tangible presence music no longer remained a resource of aesthetic delight but became yet another instrument of cruelty, inhumanity, and barbarity, a weapon to kill the Jews with self-inflicted pain. The songs performed by the emaciated, deprived musicians became fugue of death, songs of Thanatos, the glimpses of which can be found in Paul Celan's remarkable poem of technical virtuosity *Fugue of Death* – "He shouts play sweeter death's music death comes as a master from Germany/ he shouts stroke darker the strings..." (33). Day or night, rain or shine, heat or cold, they had to strike the strings harder until it met the demands of the SS. In the ghastly situations of immense exhaustion, amongst incessant cries, beatings, and suffering "He shouts stab deeper in earth you there and you others/ you sing and you play" (33). They not only forced them to sing and dance but also humiliated and ridiculed their Jewishness to pulverize their identities. The poem preserves the notion of *ubermensch* deeply rooted in the notorious Nazi figure. Celan's mysteriously compelling imagery of the blue-eyed Nazi guard who "writes when the night falls to Germany your golden hair Margarete/ Your ashen hair

Shulamith..." (33) becomes strikingly metaphoric of the notorious figure of Dr. Mengele who enthusiastically practiced killing at day time and quite ironically turned out into an ardent music lover at night after committing deliberate mass killing. It was music which on the one hand boosted up the blue-blood Aryan culture and on the other shattered the Jewish identity. Torture by singing getting twisted with torture by beating created an unbearable situation not only for the victims but for the musicians as well. It is an awful experience to witness the country of Bach, Beethoven, and Brahms manipulating music in the process of annihilation of millions of innocent lives.

Under the constant threat of incessant oppression, driven by the basic instincts of thirst, hunger, and physical and mental fatigue the musicians were treated like puppets whose only goal was to sensitize the murderer's temper. They could see hell in the faces of the SS, yet temporary pretension of being oblivion of death anxiety, of cloistered and suffocated surroundings, and masking were the only options left to please the SS. The orchestras served as an emblem to showcase the power and prestige of the Nazis and that is why they wanted the compositions and the musicians to be of admirable quality. The worn-out victims remained superficially poised and lost their selves in the degrading, infernal act of music-making while confronting the hopeless reality of the camps. They were compelled by the commandants to pretend how happy they were, and how luxurious their lives were in the wasteland. Even the slightest lack of enthusiasm and cheerfulness in their songs could lead them to the burning pits of the crematorium. They always had to gee themselves up into the face of utmost dejection and persistent mortal dread. In the visual narrative when Fania out of extreme disdain desperately remarked "But I prefer to think I'm saving my life rather than trying to please the SS", Alma Rose stringently replied, "And you think you can do one without the other?" (*Playing for Time*). Another significant thing that needs to be mentioned in this context is the extremely stern discipline Alma Rose imposed upon the musicians. Without her stringent discipline and strictness, the musicians would never have survived, she clearly understood the fact that the only way to sustain the lifeblood was to pacify the delirious Nazi nerves, to provide comfort to the killers of their own mothers and children. This overbearing, haughty attitude of the perpetrators to make the Jews forcibly entertain them "virtually on the ashes of murdered people thus constitutes an act of sadistic domination." (Mazurek, *The Functions of Music* 96).

Apart from the phenomenon of forced music-making imposed upon the prisoners, the deep intrinsic impact that music left on the Nazi psyche is also something interesting to look at. Did music provide psychological relief to the demonic Nazis as well? Was it an attempt to shake off the tragic hangover of the agonizing reality? Were there some remaining pangs of emotionality left behind the facade of the aggressively sadistic mentality? Or as Joseph Moreno raises the question "What of the mentality of the SS, those whose daily work revolved around the direct overseeing of the killing of thousands of people a day, for years on end, but who could at the same time genuinely enjoy the music that they heard?" (4). These inevitable questions find answers probably in the affirmative for masking was not only adopted as a medium of pretension by the victims, but was used by the SS as well as a mode of distraction. They often asked for sentimental music and were even found shedding tears in abject solitude. For example, in *Playing for Time* the monstrous feminine, the beast Mandel whose bloodcurdling frowning kept the inmates shuddering in fear was found intensely fond of Puccini's beautiful piece of composition *Madame Butterfly*. As has been projected in the graphically animated film, Maria Mandel picked up one tiny tot from among the crew of newly arrived deportees whose mother was immediately gassed. There grew an immense motherly affection within her, she took the child in her arms and clustered around the music room asking like a proud mother, "He's pretty, isn't he?". Yet, one night when Mandel was announced in the music room, her face grew abnormally pale,

eyes filled with inexplicable anguish she ordered to start the duet of Madame Butterfly—"Sweet, thou art sleeping cradled in my heart/ Safe in God's keeping while I must weep apart/ Around thy head the moonbeams dart/ Sleep my beloved" (*Playing for Time*)- tears ran down her cheeks, she turned into a weeping maternal figure, later it was known that she herself had surrendered the child to be taken to the gas chamber. The cruellest and worst act of killing was to be done with a smile on their face because any act of emotion or weakness was against the totalitarian Nazi's propaganda. Equally awe-striking was the moment when Josef Kramer, the camp commandant suggested that the orchestra provided them with some strength to commit their difficult work that was to lead thousands of lives to the burning pits whose smoke was seen from the windows of the music room. So, it can well be assumed that music worked as a therapy for the SS, it relaxed them, and benumbed their nerves, yet music did not humanize them or exacerbate any pity towards the victims they murdered every day. It rather helped them to shut their eyes from seeing their cruel selves.

The most horrible and intimidating work of the orchestra as has been demonstrated in the visual text was to produce musical compositions during the worst possible condition of the smoke of the chimneys with the stench of burnt bodies arising from the crematorium. They were compelled to play music at the entrance gate of the camps and even when the newly deported prisoners were whipped and prodded during their final run to the gas chambers or when they were herded to dig ditches. In one such moment in the film when the musicians got to know that the patients in the infirmary whom they were going to entertain will be gassed after the performance, they turned pale. In Auschwitz where to look outside was to look at death, the aural landscape was characterized by the omnipresence of the sounds of whips and gunshots, screams and groans. Besides the narcissistic-sadistic manipulation performed by music, it was also instrumental in benumbing the extremely anxious and shivering nerves of the deportees. Music was used as a form of deception to prevent the rise of panic and suspicion among them. It was even used to swallow up the horrible screams of madness and shrieks in pain when they were tortured by lashing. The ultimate purpose was to nurture a false sense of hope and complacency so that they did not feel that they all are doomed to death. Although it seemed that the frigid tunes of the death tangos and popular ballads neutralized their profoundly traumatized somatic and kinaesthetic registers, in reality, the continuous beating of the drums, the same monotonous deafening tune ringing intermittently morning, evening, and night dislocated and disintegrated their mental balance. We can presume their inner self proclaims-

"And when someone asks you: where is Hell? —

You can easily answer:

Birkenau, damned Birkenau,

Bathed in blood and tears,

Forgotten by God, the bottom of hell.

Birkenau — the most terrible ordeal,

The common grave of millions of victims," (Gilbert 164)

The prisoners had an intense hatred, jealousy, and anger towards the musicians as they were given certain privileges-as Fania describes, "We have showers every day with lukewarm water, while the others' have to go to all manner of lengths and risk being beaten ... We're decently dressed, we're not cold. Our room is heated; we have a blanket and a sheet while they have quite inadequate rags" (Fenelon). At one point in the film adaptation, one of the inmates spat on Fania's face and cursed her perversely which in a way emphasizes the freedom as well as the privilege the musicians were

provided with compared to the other inmates. This scene also highlights the pangs of guilt and resentment attached to Fania and how she became utterly morose after receiving the treatment of extreme abhorrence, couldn't concentrate on her work of orchestration, and also "shows the uneasy negotiations the players make to ensure their survival. The painful compromises required by the women to save their own lives..." (Smith 192). The lives of the women musicians in the camp were doubly problematic firstly because they were Jews and Poles and secondly because they were of the second sex. They were the vicarious victims of both anti-Semitism and sexism. Along with portraying the musical life in the camp the cinematic representation effectively includes the sexual abuse of women by the Nazis whose overbearing boastful ideology vehemently promotes patriarchy. Fania's friend, Marianne compromised her body and used her seductive charms for some scrap of food which shows how they were exploited as sexual objects by the Nazis and "prevaricates and makes light of the unspeakable horrors all Jewish women had to suffer." (Fuchs 56).

Another important aspect that must be fruitfully stressed is the physical as well as mental relationship the artists shared with their instruments. Several pertinent events entail the musical instruments as an object of the outside world with which the artists shared an intimacy, a "tactile (even sensual) relationship- coupled with a more metaphysical relationship" (Stein 761) – Fania's relation to the piano, Alma Rose's attachment to her violin and Paulette's, the only cellist in the orchestra bonding with the cello reflect their unconscious reliance upon the instruments. After a long period of detachment from her piano when Fania first confronted it and her fingers silently ran over the keys in the music room and she recapitulated in her mind's ear the music stored in her memory, she happened to be transcended into a musical-hallucinatory world of imagination. Again, after getting released from the hospital when Paulette entered into the music room and started playing Beethoven's Symphony No. 5, despite having intense fatigue and physical ache she seemed to have found her salvation through her connectedness with the cello. It seemed that their massive psychic trauma found expression through the language of music. In the face of painful traumatic isolation, loss, and suffering the instruments became the symbolization of internal associative responses, the ultimate heaven, and the gateway to freedom. A special reference must be made to the novel *Night* where Juliek, the boy who played violin in the Buna orchestra even when he was running out of breath and silently dying of suffocation asked of his violin- "I... I'm afraid... They'll break ...my violin... I... I brought it with me" (Wiesel). Wiesel witnessed Juliek performing a violin concert from among the pile of dead- "Who was this madman who played the violin here, at the edge of his own grave? Or was it a hallucination? It had to be Juliek. He was playing a fragment of a Beethoven concerto... All I could hear was the violin, and it was as if Juliek's soul had become his bow. He was playing his life." (94,95). In the film when Alma Rose was deliberately murdered by poisoning and her body was brought in a coffin Dr. Mengele placed her all too precious violin beside her lifeless physique. It was as if she would play her violin in her eternal slumber "bidding farewell to an audience of dying men". (Wiesel 95)

In Birkenau music was indeed the best and worst of things. The best because music oxygenated their brains and the worst because it turned the musicians into executioners. Although it was used as a breeding ground for spewing forth racism and anti-Semitism, dehumanization, and colonization over a Jew's mind, of absolute power and violence, music cannot be entirely blamed for emitting hatred. It also provided an alternative reality to escape the horrors of the world. While for the Nazis it was a conveyer to the mythical Germanic Eden, for the Jews it was of anguish and hysteria.

Although the film was severely criticized by Fania herself— "Miller's script is the opposite of what I was! What I am!" (Eischeid 100) and also because it has been presented entirely from one man's conception, as a visual narrative it is effective enough in conveying the uncanny concoction of culture and barbarism. It certainly establishes the fact that the character of music after Auschwitz is barbaric. Miller's dramatic sensibility along with the interfusion of abject, gory scenes of blood, the deafening audio landscape of bombing and shooting with the creative world of aesthetics, the binaries of music and genocide precisely negate the Adornoian doctrine that poetry and music is impossible after Auschwitz.

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