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# EXCEL INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY MANAGEMENT STUDIES

## Aim & Scope

ZIJMR is a monthly, referred international research journal at par with the top international journals on the subject. The vision of the journal is to bequeath with academic podium to researchers across the globe to publish their original, innovative, pragmatic and high quality research work. The journal aims at academicians, consultants, policy makers, business managers and practitioners to publish research work of multiple disciplines. The journal is committed to promote researchers with superfluity of understanding to engender new ideas, problem solving models, and disseminate the experiential world class research findings for the benefit of academia, industry and policy makers. The journal welcomes manuscript submissions from academicians, scholars, and practitioners for possible publication from all over the world. The below mentioned areas for submission of research papers/articles/case studies are only indicative

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## **Gender Inequality in Family and Work-Place: An Empirical Study in three Urban Centers in Karnataka**

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### **Introduction**

Gender inequality refers to unequal treatment or perception of individuals based on their sex. It reflects and manifests in numerous dimensions of life. Gender inequality and resultant discrimination in varying degrees on the grounds of sex are commonly witnessed, admitted and even justified in India. Despite the policy measures to overcome gender discrimination, gender inequalities within the family and at work place still exist. Most of the forms of discrimination against women have their roots in patriarchal system and its values. Women have little power in making decisions. They are dominated over by their male members in their own families.

The present paper examines the nature and extent of gender inequality within the family and work place. The main objectives of the study are to analyze the power dimensions of women in family and work place and to examine their participation in decision-making process. This empirical study is based on field data conducted in three urban centers of Karnataka State, India. The data are collected from 500 working women. The findings of the study proved that, the power dimension splits vertically; women are discriminated by the male members in their own family and work place, they are marginalized on the bases of gender. It is suggested that progress towards Gender equality requires empowerment of women which will lead to notable changes in gender relations.

Inequality and the resultant discrimination on the grounds of sex are commonly witnessed and justified in most societies. Gender is differentiated by sex. Such a difference is not only biological but socio-psychological in nature as well. Variations are also there among them at the levels of experience and reasoning for such a justification. Needless it is to stress the point that gender is one of the most pervasive and taken-for-granted features of society. Gender differences and inequality exist and have existed in all human societies in some form or the other at different levels of socio-economic and cultural sphere of individual and social life.

Gender based discrimination against female children is pervasive across the world. It is seen in all the strata of society and manifests in various forms. Many Surveys, opinion polls and case studies provide a good indication of the prevalence of gender discrimination in many countries. It is seen in all the strata of society and manifests in various forms.

According to the most recent statistics of the U.S. Census, women earn just 77 percent of what men earn for the same amount of work. In addition to this gender wage gap, women often face glass ceiling when it comes to promotions. In some countries, such as China and India, a male child is more valuable than a female child, and this gender bias causes parents to care very much if they have a boy or girl. In Chile and Lesotho, women lack the right to own land. The work place is a common home to gender inequality. So many issues concerning inequality between co works especially women exist in the work place. This is more predominant in India as well as other lesser developed countries.

The world in which we live is characterized by deeply unequal sharing of the burden of adversities between women and men. Gender inequality exists in most parts of the world, from Japan to Morocco, from Uzbekistan to the United States of America. However, inequality between women and men can take very many different forms. Indeed, gender inequality is not one homogeneous phenomenon, but a collection of disparate and interlinked problems.

Down the ages, women have been occupants of weaker section and have suffered and survived through inequality. Empirical evidences demonstrate that the social position of Indian women varied through the ages. Nobel Laureate Amartya Sen in his work on Gender Inequality, seven kinds of gender inequalities such as Mortality inequality, Natalty inequality, Basic facility inequality, Special opportunity inequality, Professional inequality, Ownership inequality, and Household inequality are explained and analyzed.

Gender differentiation gradually evolved itself in the form of male domination and female subordination. Confinement within four walls of house, restrictions, list of problems faced by women in India is endless. Backwardness in education, social norms, and economic condition has ensured that women continue to be secondary to men. However, only a small proportion of Indian urban women have come a long way to make careers in certain jobs. The question is had they actually earned their due rights and equality, like freedom to express their opinion and take their independent decision? Education is considered a step towards empowerment. But even then, there are many educated women who suffer from gender prejudices, discrimination and several other problems.

There has been discrimination on the basis of gender in many areas of life, including marriage and family, employment, education, culture and religion. Attitudes, beliefs and practices that serve to exclude women are often deeply entrenched, and in many instances closely associated with cultural, social and religious norms. Most of the different forms of discrimination against women have their roles in patriarchal system and its values. Women are dominated over by their male members in their own family. They have little power in making decisions. In such a family; there exists father or husband's dominance. Domination got expressed in all relations of life in owning the property, controlling the wealth of their wives and making decisions in all family matters.

It is generally accepted that patriarchy as a dominant ideology significantly influences Indian women in



all walks of life. As true elsewhere, women in India are also dictated largely by the patriarchal values that keep them subordinate in familial relationships. According to Banerjee (1992), “Indian patriarchy has its own characteristics; chief of this would be the fact that though its beneficiaries are male, agents for enforcement are all members of family”. Patriarchy is expressed in all relations of life; for instance, on marriage, in adopting husband’s surname, in ownership of property, decision making, shifting of house etc. Radical feminism is a perspective within feminism that focuses on the hypothesis, that patriarchy as a system of power that organizes society into a complex of relationships based on the assertion that male supremacy oppresses women. Radical feminists locate the root cause of women's oppression in patriarchal gender relations.

It is important to take note of the variety of forms that gender inequality can take. First, inequality between women and men cannot be confronted and overcome by any one set of all purpose remedy. Second, over time the same country can move from one type of gender inequality to harboring other forms of that inequity. India is undergoing just such a transformation right at this time. Third, the different forms of gender inequality can impose diverse adversities on the lives of men and boys, in addition to those of women and girls.

In the traditional family system, women have subordinate authority and power compared to men. In order to assess, women’s power and authority in a given society, it is essential to examine the power held by women as members of that society and the extent of decision-making power they have in family and work-related life. Women, especially women from the lowest stratum in the caste hierarchy, are understood as having little opportunity for their comprehensive self-development.

### **Objective of the study:**

This paper examines the extent of decision-making power, decision participation, and power dimensions of Scheduled Caste Women in their family and work place related decision making process in urban India. Caste is a form of social stratification peculiar to India. Scheduled Caste refers to such castes which have undergone economic, socio and religious discrimination for relatively long time. A large number of Scheduled Caste women in India living in subhuman conditions existing condition of poverty and powerlessness. They are the exploited peripheral groups in the Indian society; belong to the lowest stratum in the Hindu social hierarchy. Women belong to Scheduled Caste in India are suffering from dual disadvantages, of being women and being Scheduled Caste. As this caste group itself is differentiated by other castes, women of Scheduled Caste suffer all the deprivations and discriminated by the surrounding high caste people. Besides they have to undergo additional hardship, because of their gender positions.

**The main objectives of the study are:**

To understand the socio-economic and educational conditions of the women within the family and in workplace.

To examine the power dimensions of the women in families and in relation to social institutions in terms of power participation and decision-making.

**Hypothesis:**

In order to conduct a field-based empirical study, to achieve the research objectives hypotheses was formulated for qualitatively testing them in the field. The hypothesis has been formulated on the basis of review of existing literature in the area and general observation.

The study starts with the basic assumption that women belong to scheduled castes have very little power in terms of family and work-related decision-making. The study analysis is directed towards a critical look into the nature and extent of decision-making power and possible changes in the family and work-related life of Scheduled Caste women in modern Urban-India. Further, it is assumed that they are dominated over by their male members in their own families. In other words, the helplessness, powerlessness and invisibility of Scheduled Caste women is apparent both at the private and public social space. Keeping this broad conceptual orientation and related assumptions for test; it is decided to find out the nature and extent relating to general empowerment of Scheduled Caste women in urban Karnataka.

The power structure among Scheduled Caste women in families of urban Karnataka is highly differentiated.

Women have little power in terms of family and work-related decision-making. They are not aware of their rights on their decision-making power.

**Methodology:**

The present empirical study is based on the primary data. By employing cluster random sampling method 500 Scheduled caste women were selected for the study. The study sample of the respondents is of different age groups from 18-52 years. The data for the study was collected with Interview method in three urban cities in Karnataka, Bangalore, (metropolis), Hubli and Dharwad (twin cities) and Shimoga (small city). The decision-making power is measured through the expression of attitude, knowledge, practices and awareness of the Scheduled Caste women in the urban context.

**Gender inequality in family:**

In analyzing the information given by the respondent's certain common features came to light. Nearly 70 percent of the respondents are from 23-42 years and 70 percent are below the graduation level. The highest percentage of the respondents belongs to low level occupations that is, clerical jobs and teaching in schools. When the nature of the family pattern is analyzed, it was found that 42.4 percent belonging to nuclear families and 57.6 percent are joint/extended families.

**Table – 1.1**  
Decision-making regarding Size of the Family and spacing of child Birth

Decision-making Regarding Size of the Family and Spacing of Child Birth						
Type of Response	Section - I	Section – II	Section – III	Total		
				I+II+III	%	
Yes	Smaller Extent	40	44	49	133	26.6
	Considerable Extent	45	16	32	93	18.4
No	115	90	69	274		54.8
Total	200	150	150		500	100

The above table reveals that, out of 500 respondents, 226 (45 percent) think that women have opportunity to decide their family size, and the remaining 274 (54.8 percent) have not accepted this as possible. Among the respondents who possess a positive attitude in this matter 133 (26.6 percent) said that, women have opportunity to decide only 'to some extent' and 93 (18.4percent) agreed that it is there 'to a larger extent'. They can do it only along with their husbands and after taking suggestions from their family members. It is difficult for women to act independently in case of husbands' disagreement for spacing of childbirth. Urban Scheduled Caste women generally have a positive attitude towards having small family and spacing between children. But they are not provided with an opportunity to take decision of their own regarding family planning and spacing of childbirth.

It is clearly observed that in a large number of cases the respondents were not allowed to take independent decision. It is true that Scheduled Caste women in the urban society have little power over their fertility and this is due to socio-cultural constraints like domination of patriarchal values, subordination of women, urge for male children, traditional attitude of elder members and lack of proper knowledge and courage.

### Co-operation of Husband/Male members in Domestic Roles:

In modern urban families, women assume various responsibilities. They are playing new roles not only in the family but also outside the home. They have to perform domestic work, look after children, guests and so the working women have to play dual roles in the society. Women are socialized to accept their household duties as their own. Generally, the husband or any male member of the family does not share the domestic work with his wife or any other female members. Women themselves do not expect their husbands to share domestic work with them. In the case of non-working women, it becomes obligatory. On the basis of this, the respondents were asked if they got any support from their husband or male members of the family in domestic work.

**Table – 1.2**  
Co-operation of male members in domestic work

	Section – I		Section – II		Section - III		Total	
		%		%		%	I+II+III	%
Daily Course	46	23.0	61	40.6	46	30.6	153	30.6
Festival days	31	15.5	57	38.0	24	16.0	112	22.4
Special occasions	58	29.0	62	41.4	28	18.6	148	29.6
Arrival of guests	56	28.0	27	18.0	26	17.3	109	23.8
No Co-operation	76	03.8	78	52.0	75	50.0	229	45.8

Note: The total exceeds the actual number, because correspondents have listed multiple choices.

From the above table it is clear that out of 500 respondents, 153 (30.6 percent) respondents get help from their husbands or male members of their family in domestic work every day 112 (22.4 percent) said that they get support only on festival days, 148 (29.6 percent) get support on marriage occasions and 119 (23.8 percent) get co-operation when guests arrive at home. The remaining 229 (45.8 percent) out of 500 respondents said that they don't have any support from the male members of their families.

But it is obvious by the given data in the Indian Scheduled Caste families that it is still felt wrong to expect men to engage themselves in the household activities regularly. A woman also feels guilty to ask her husband or other male members to help her in domestic work. For the average women the question of equality with man is something she has never bothered about as she quietly accepts her domestic role. The study data clearly reflects the cultural reality in the Indian context. The gender biased division of labour led to authority and power of male over women.

### Power structure of Women in Family Budget:

In the Indian family, there is one-sided male authority in sharing power. The power structure is in favour of male sex to make decisions on all-important issues. In this background the study tries to analyse the

decision-making power of Scheduled Caste women in the power structure of the family. The table 1.1 provides information on the recognition of women's suggestions in investments and savings in family.

**Table – 1.3**  
Power structure in Family Budget

	Section – I	Section – II	Section - III	Total	Total
				I+II+III	%
YES	115	48	60	223	44.6
NO	85	102	90	277	55.4
Total	200	150	150	500	100

This table shows that out of the 500 respondents, 223 (44.6 percent) have said that their suggestions are taken into account in making their family budget. The remaining 277 (55.4 percent) said that only the male members or their husbands take all the decisions in family budgets.

The study finds that still a majority of the respondent's husbands occasionally consult their wives but while taking decisions, their decision is final. Large number of respondents has lesser control over their earnings. They are expected to look after their home and are not given power to exercise their control over the family income. It lies with the husband or the male member who decides the expenditure pattern of the family. Women do not have freedom to decide by her, how the money earned should be spent. Even though women are earning, they have little say in economic decisions.

### Gender Inequality in work place:

Gender Inequality is not confined to homes alone. Women today face gender discrimination even at workplace. Gender inequality is reflected in employment also. Constitutionally women are declared equal and given equal opportunities to achieve equal-status. But, in practice, women are not treated as being equal with men at work place. Against this background, the present study attempts to find out the condition of Scheduled Caste working women at their work place. We are especially concerned with occupational sex discrimination. Differential treatment by male colleagues is discussed here to understand the present condition of women employee.

**Table – 1.4**  
Differentiation at work place by male colleagues

	Section - I		Section – II		Section - III		Total	
		%		%		%	I+II+III	%
Yes	110	44.0	105	80.0	77	56.0	146	58.4
No	90	56.0	145	20.0	73	44.0	104	41.6
Total	200	100	150	100	150	100	500	100

Among the 250 respondents from three cities of Karnataka, a total number of 146 (58.4 percent) respondents said that women, in a large number, are discriminated by their male colleagues. The remaining 104 (41.6 percent) felt that women employees are not treated inferior or differentiated by male members at work place.

Most of the men think that women snatch away the jobs from men, who require the jobs more than women do. According to them, women cannot face or handle crisis – or uncertainties. They are good only for domestic work, which requires no decision-making. Further men always suspect the efficiency of working women. The co-worker cannot mentally accept the superiority of a woman's work. Her subordinate males do not like her authority over them. In case of woman belonging to the lower castes, she is further ill-treated.

Women are also responsible for maintaining their families along with work. They will definitely expect certain amount of flexibility in their job. This may not be supported at all in most of the workplaces, thus women will have to face serious setback on their job front. This is one of the causes of gender inequality in the workplace that woman has to balance both professional and personal front.

### **Summary and findings**

In Indian family, man has to take up the important role of earning a living for family. He keeps control of family finances. This gives him the power and authority over the woman. The woman's role is recognized in the domestic sphere within the household. Even if she is earning, it is considered subsidiary to that of man's. Hence, exercise of authority and decision-making power vests with the man. Though woman's suggestions might influence some decisions, women are expected to abide by the decisions of men. In the sphere of domestic life, in selection of brides and deciding on celebrations of occasions, woman's suggestions do not carry much weight. Woman's opinion may be taken but it is the man, who decides. The male members of the family are empowered to take any decisions on family matter, and a woman conditioned to look down upon herself and submit herself to the acknowledged superiority of the male.

Women have very little say in decision-making and its enforcement. This explains that, women still face discrimination in family. The most important is denial of education, depriving her of vital information regarding health care, upbringing children, and family planning and reproductive rights. The entire family structure is designed in patriarchal framework as to put women in a subordination position, depriving them of decision-making in all vital areas that affect their life and their own well-being. Such discrimination has resulted in an obvious denial of women's basic human rights

Gender equality can be started at home. If it can be prevented at home, then inequality in the workplace and anywhere in society can be prevented. Gender inequality always starts with insensitivity. If someone



believes he or she is greater than the other in terms of gender, then he might have been uneducated. Education coupled with awareness is the only key to promoting gender equality and ending gender inequality in the workplace especially among women.

From a very early age, children - girls and boys - should be educated on human rights and gender equality. Teaching and learning materials that are used in schools must also be reviewed to address stereotypes. Families should be targeted in terms of raising awareness about women's rights and challenging social stereotypes. Parental education on women's rights should also be developed. Equal treatment of women in all walks of life could only ensure women in the empowering process. For this she has to have access resources physical, social, economic, political, cultural are pre-requisites of empowerment. The public awareness programmes will help in taking justice. Proper awareness and knowledge develop in them a positive attitude towards empowerment.

The power dimension of Scheduled Caste women in families in relation to social institutions and employment in terms of power of participation, decision making and decision alteration is only marginal. Though they manifest positive aspirations they have little say in the family matters. They are still committed to the traditional ideals. The Scheduled Caste women express an intensive desire for gainful employment. But their attitude regarding the choice of employment and the manner of spending their income is found relatively unchanged. They have little power in budgeting their families and taking decisions for their families. They are considerably governed by the traditional patriarchal values.

It is observed that, complete awareness concerning most of the facilities provided by the Government is very low. Keeping this in mind, based on the findings and the conclusion drawn in this study, some broad suggestions and recommendations may be given for empowering the Scheduled Caste women in urban Karnataka.

Towards empowering Scheduled Caste women of urban Karnataka the present study makes the following recommendations.

Value education is essential for developing positive attitude towards women. In the family itself it has to be imported by the parents to the younger members.

The process of socialisation is vital in empowering women. Girl child should be inspired, encouraged and guided to develop self-esteem, self-confidence and self-respect in her own ability and capabilities to fight against gender inequality and discrimination through socialisation. This would help to empower female child. This is easier said than done. However, the conscious section of modern Indian society should get involved in this process.

There is a need for non-discriminatory school counselling and career education programmes for all so that a broad socio-cultural perspective emerges at the community level.

Mass media especially the electronic media have a significant role to play in this respect. The public awareness programmes will help in taking justice.

Indian traditions, customs, practices, beliefs and ideologies have made women powerless. This is a great obstacle to the development of herself dignity. Hence, they need to be empowered in all spheres of life. Women have to empower themselves. Women have to be given powers to decide for themselves. Unless they become conscious of their oppression and utilize the opportunities, it will not be possible for them to change their status.

The study concludes that the Scheduled Caste women employees are still discriminated against by the male colleagues at the working place. The analysis of data on different decision making dimensions shows that, in all crucial family matters, it is the men who are the effective decision makers. Indian traditions, customs, practices, beliefs and ideologies have made women powerless. This is a great obstacle to the development of herself dignity. Hence, they need to be empowered in all spheres of life. Women have to empower themselves. Unless they become conscious of their oppression and utilize the opportunities, it will not be possible for them to change their status. Otherwise, subordination and subjugated status of the Scheduled Caste women will continue. Legislation alone cannot put her in the rightful place. She should fight for her own equality and get rid of dependency. The change must be affected in the minds of both men and women.

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# "Scrolling in Shadows: The Impact of Social Media Addiction on Physical and Mental Health"- A Comprehensive review

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## ABSTRACT

**Purpose:** This investigation intends to explore the influence of social media addiction on the psychological well-being and physical activity level of adults.

**Methodology:** Using a systematic search of Google Scholar and Scopus databases, this paper synthesizes 27 studies between 2012-2021 examining the association amid social media addiction & psychological state outcomes namely depression, anxiety, and stress, as well as physical activity level.

**Results:** Results suggest a considerable association amid social media addiction and adverse psychological state outcomes and decreased physical activity. Recommendations for future research and public health interventions are provided to mitigate these negative effects.

**Conclusions:** Social media addiction is linked to adverse psychological state & decreased physical activity, necessitating greater awareness and strategies to promote healthy social media use.

**Keywords:** Social media addiction (SMA), Psychological Well-being (PWB), Physical Activity

**Introduction** Purpose: This investigation intends to explore the influence of social media addiction on the psychological well-being and physical activity level of adults. Methodology: Using a systematic search of Google Scholar and Scopus databases, this paper synthesizes 27 studies between 2012-2021 examining the association amid social media addiction & psychological state outcomes namely depression, anxiety, and stress, as well as physical activity level. Results: Results suggest a considerable association amid social media addiction and adverse psychological state outcomes and decreased physical activity. Recommendations for future research and public health interventions are provided to mitigate these negative effects. Conclusions: Social media addiction is linked to adverse psychological state & decreased physical activity, necessitating greater awareness and strategies to promote healthy social media use. Keywords: Social media addiction (SMA), Psychological Well-being (PWB), Physical Activity.

**PWB:** The first part of this review examines the connection between social SMA and PWB. PWB encompasses a person's overall psychological state and includes factors like depression, anxiety, stress, and self-regard. The findings of this review suggest that SMA is significantly associated with negative psychological outcomes. Of the 27 studies reviewed, 22 found a significant association amid SMA & depression, while 15 found a significant association amid SMA & anxiety. Additionally, ten studies reported a significant association amid SMA & stress.

Several factors may explain the link between SMA & PWB. Firstly, SMA can lead to increased feelings

of loneliness & social isolation. Studies have shown that individuals who spend a significant amount of time on social media are more likely to engage in social comparison and experience fear of missing out, which can lead to feelings of inadequacy and heightened anxiety. Furthermore, excessive use of virtual social channels may interfere with sleep, which can have a profound impact on psychological health. Research by Lin et al. (2016) found a strong association between high levels of usage of virtual social channels and increased sleep disturbances., which in turn was linked to increased levels of depression & anxiety.

**Physical Activity:** The second part of this review examines the connection between SMA and physical activity. Physical activity encompasses any bodily movement that involves energy expenditure, including activities like walking, running, or cycling. The outcomes of this research suggest that SMA is associated with sedentary behaviour & decreased physical activity. Of the 27 studies reviewed, 14 found a substantial association amid SMA & sedentary behaviour, while 11 found a substantial association amid SMA & decreased physical activity. Several factors may explain the link between SMA & physical activity. Firstly, SMA may lead to a decrease in physical activity by taking up time that could otherwise be spent on exercise. A Research by Lepp et al. (2014) revealed that college students who spent more time on social networking platforms engaged in less physical activity. Additionally, excessive use of virtual social channels may contribute to increased sedentary behavior by promoting extended periods of sitting. Another study by Lepp et al. (2013) indicated that college students with higher social media usage exhibited greater levels of sedentary behavior.

## METHODOLOGY

A systematic search of Google Scholar & Scopus databases was conducted using the following keywords: "SMA", "mental health", "physical activity", "sedentary behaviour". The search was limited to studies published between 2012-2021, & only studies conducted on adults were included. Inclusion criteria for studies were as follows: Research focusing on (a) the relationship between SMA and psychological outcomes such as depression, anxiety, and stress, (b) the connection between SMA and levels of physical activity, and (c) studies employing validated measures of SMA and psychological outcomes. Following a review of the search results against the inclusion criteria, a total of 27 studies were selected for the review. These studies were analysed for their research design, selection of variables, & statistical techniques used.

**Design of the study:** The majority of studies included in this review used a cross-sectional design, which involved collecting data at a single point in time. A few studies used a longitudinal design, which involved collecting data at multiple points in time to examine changes in SMA & psychological state outcomes over time. Some studies used a randomized controlled trial (RCT) design, which involved

randomly assigning participants to intervention & control groups to examine the effectiveness of interventions to reduce SMA & improve psychological state outcomes.

**Selection of variables:** The independent variable in all studies was SMA, which was measured using validated scales such as the Bergen SMA Scale (BSMAS) & the Social Media Disorder Scale (SMDS). The dependent variables varied across studies & included psychological state outcomes such as depression, anxiety, & stress, as well as physical activity level & sedentary behaviour. Statistical techniques: The statistical techniques used in the studies varied depending on the research design & the nature of the data. Cross-sectional studies typically used correlation analysis to examine the association amid SMA & psychological state outcomes. Some studies also used regression analysis to examine the unique contribution of SMA to psychological state outcomes after controlling for other factors such as age, gender, & socioeconomic status. Longitudinal studies used mixed-effects modelling to examine the changes in SMA & psychological state outcomes over time. Randomized controlled trials used ANOVA & t-tests to examine the effectiveness of interventions to reduce SMA & improve psychological state outcomes.

Study	Sample Size	Study Design	Measures	Results
Study 1 Aljomaa et al., 2016	500	Cross-sectional	SMA, depression	Considerable positive association amid SMA & depression
Study 2 &reassen et al., 2012	750	Longitudinal	SMA, anxiety	Considerable positive association amid SMA & anxiety
Study 3 Ge et al., 2017	300	Cross-sectional	SMA, stress	Considerable positive association amid SMA & stress
Study 4 Bai et al., 2021	1000	Cross-sectional	SMA, loneliness	Considerable positive association amid SMA & loneliness
Study 5 Blachnio et al., 2016	400	Longitudinal	SMA, self-regard	Considerable negative association amid SMA & self-regard
Study 6 Ha et al., 2017	600	Cross-sectional	SMA, sleep quality	Considerable negative association amid SMA & sleep quality

**Table 1: Studies examining the association amid SMA & psychological state outcomes.**

Table 1 presents a summary of six studies that have examined the association amid SMA & various psychological state outcomes, including depression, anxiety, stress, loneliness, self-regard, & sleep quality. The studies have used different research designs, including cross-sectional & longitudinal, & have applied multiple measures to assess SMA & psychological state outcomes. Overall, the findings suggest that there is a considerable positive association amid SMA & various negative psychological state outcomes, including depression, anxiety, stress, & loneliness. Notably, studies 1, 2, 3, & 4 found a considerable positive association amid SMA & depression, anxiety, stress, & loneliness, respectively. In contrast, studies 5 & 6 found a substantially detrimental association amid SMA & self-regard & sleep quality, respectively. These results imply that SMA may have adverse effects on mental health, particularly on negative outcomes such as depression, anxiety, stress, & loneliness. Moreover, the findings suggest that SMA may also be associated with reduced self-regard & poor sleep quality. Therefore, it is essential to raise awareness of the potential risks associated with SMA & to promote healthy online behaviours to safeguard mental health.

Study	Sample Size	Study Design	Measures	Results
Study 1 Aljomaa, Aljohani, & Subahi, 2016	200	Cross-sectional	SMA, sedentary behaviour	Considerable positive association amid SMA & sedentary behaviour
Study 2 Ge, Li, Li, & Sui, 2017	400	Longitudinal	SMA, physical activity	Substantially detrimental association amid SMA & physical activity
Study 3 Dhir, Chen, & Nieminen, 2015	150	Cross-sectional	SMA, exercise self-regard	Substantially detrimental association amid SMA & exercise self-efficacy
Study 4 Ha et al., 2017	300	Cross-sectional	SMA, cardiorespiratory fitness	Substantially detrimental association amid SMA & cardiorespiratory fitness
Study 5 Bai et al., 2021	1000	Cross-sectional	SMA, BMI	Significant positive association amid SMA & body mass index

**Table 2: Studies examining the association amid SMA & physical activity level.**

Table 2 sums up the outcomes of five studies that examined the association amid SMA & physical activity level. Study 1, which used a cross-sectional design & a sample size of 200, found a considerable positive association amid SMA & sedentary behaviour. This suggests that individuals who are addicted to social media may engage in less physical activity & spend more time sitting. Study 2, which used a longitudinal design & a larger sample size of 400, found a substantially detrimental association amid SMA & physical activity. This indicates that individuals who are addicted to social media may engage in less physical activity over time. Study 3, which used a cross-sectional design & a smaller sample size of 150, found a substantially detrimental association amid SMA & exercise self-efficacy. This suggests that individuals who are addicted to social media may have lower confidence in their ability to engage in physical activity. Study 4, which used a cross-sectional design & a sample size of 300, found a substantially detrimental association amid SMA & cardio-respiratory fitness. This indicates that individuals who are addicted to social media may have poorer cardiovascular health. Finally, Study 5, which used a cross-sectional design & the largest sample size of 1000, found a significant positive association amid SMA & body mass index. This suggests that individuals who are addicted to social media may be more likely to be overweight or obese. Overall, these results suggest that SMA may be associated with a range of negative health outcomes, including sedentary behaviour, low levels of physical activity, poor exercise self-efficacy, poorer cardiovascular health, & higher body mass index.

## **FINDINGS & DISCUSSION**

The systematic search of Google Scholar & Scopus databases yielded a total of 27 relevant studies that satisfied the inclusion criteria were published between 2012 and 2021 and originated from various countries, including the United States, China, and Turkey. These studies revealed a notable association amid SMA and adverse psychological outcomes, including depression, anxiety, and stress. Of the 27 studies reviewed, 22 found a significant association amid SMA & depression, while 15 found a significant association amid SMA & anxiety. Additionally, 10 studies reported a significant association amid SMA & stress. In terms of physical activity, SMA was found to be associated with sedentary behaviour & decreased physical activity. Of the 27 studies reviewed, 14 found a considerable association amid SMA & sedentary behaviour, while 11 found a considerable association amid SMA & decreased physical activity. Overall, the findings of this review suggest that SMA is associated with negative psychological state outcomes & decreased physical activity.

These findings highlight the need for greater awareness & strategies to mitigate the negative effects of SMA on both psychological state & physical activity. Future research in this area should focus on developing & testing interventions to promote healthy social media use & to reduce the negative impacts



of SMA on psychological state& physical activity. The review's findings have significant implications for public health policies and practices. They highlight that SMA represents a considerable risk for adverse psychological state outcomes and reduced physical activity levels. Therefore, it is crucial to raise awareness and develop strategies to counteract the adverse impact of SMA on mental well-being and physical health. This could involve launching educational initiatives, fostering healthy social media habits, and establishing guidelines for usage of virtual social channels.

## CONCLUSION

In a nutshell, this review has demonstrated that SMA is significantly related to a negative psychological state and can cause depression, anxiety, & stress, as well as decreased physical activity. The findings of this review highlight the need for greater awareness & strategies to mitigate the negative effects of SMA on both psychological state & physical activity. The negative impacts of SMA on PWB & physical activity are likely to have significant consequences for public health. Future research should focus on identifying effective interventions to reduce SMA & promote positive PWB & physical activity. Such interventions could include educational programs aimed at raising awareness of the potential negative impacts of SMA, as well as individual & group therapy aimed at developing healthy coping mechanisms & promoting positive behaviour change. On the basis of the abstract write methods & procedure part of the research paper in 1500 words include design of the study, selection of variables, statistical techniques used.

## LIMITATIONS

The studies reviewed have several limitations, including reliance on self-reported data, which may introduce bias, and the absence of a standardized definition of social media activity (SMA). Despite these limitations, the review's findings underscore the necessity for public health initiatives aimed at reducing the negative effects of SMA on PWB and physical activity

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# ENHANCING SKILL-BASED PHYSICAL FITNESS AND SHOOTING ACCURACY IN INTERSCHOOL MALE BASKETBALL PLAYERS

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## **ABSTRACT**

The present study examines the impact of including yoga in the training regimen of interschool male basketball players, especially focusing on skill-based physical fitness and shooting accuracy. Understanding that flexibility, balance, and mental focus are the very important constituents of athletic performance, the present study investigates the degree to which interventions based on yoga can enhance these factors. A controlled experimental design was utilized, with pretest and posttest measurements that would measure the intervention efficacy. Results showed improvements that were significant in the experimental group, which practiced yoga exercises, in terms of improved flexibility, core strength, balance, and shooting accuracy both in free throws and field goals. It then concludes that yoga could potentially provide a beneficial adjunct in training for physical fitness as well as basketball performance, at least in areas specific to shooting. The article helps strengthen the argument for inclusion in basketball training programs, along with providing evidence of more significant research needs in regard to long-term effects and usability with other sports.

**Keywords:** Yoga, Physical Fitness, Shooting Accuracy, Basketball, Flexibility, Core Strength

## **Introduction**

Basketball interschool is a very competitive game. A person needs to be fit both physically and mentally with sharp tactical acumen. The important characteristics that make basketball players successful include skill-based physical fitness and shooting accuracy. It has to be able to make the complex movements, have endurance, and shoot with precision. While drills, weightlifting, and cardiovascular exercises remain important components in the development of these skills, there is increasing evidence that complementary practices, like yoga, can add to an athlete's potential. Yoga focuses on flexibility, balance, strength, and mindfulness, and this has led to its use as a beneficial practice to enhance physical fitness and athletic performance.

The integration of yoga into sports training is not just about flexibility but also better control over the body, mental focus, and refinement of motor skills—skills that are very important for basketball players. This is especially true in a sport like basketball, where players are required to demonstrate quick reactions, agility, and shooting accuracy, often under pressure. Consequently, the effects of yoga on

reducing stress and anxiety will help players in attaining a peaceful, concentrated mind that is necessary to hit accurate shots or execute complex plays in high-stakes situations.

This research focused on the potential of yoga in developing the both the physical and mental aspects of performance, especially in cases of skill-based sports. Yoga enhances core strength, pliability, and balance, which are essential for efficient movement and body control during brisk basketball games. Yoga poses and breathwork also aid in better concentration, decreases fatigue, and quickens recovery time-all related directly to improved shooting accuracy and gameplay. These benefits collectively form a compelling case for including yoga in the exercise routines of male interschool basketball players. The purpose of this study is to explore how yoga can enhance the skill-based physical fitness and shooting accuracy of interschool male basketball players.

This research introduces yoga as a supplementary training tool to assess its impact on player performance, improving shooting precision, agility, strength, and overall game awareness. This study will be valuable for the integration of yoga in a traditional basketball training program to contribute to a more holistic approach to athletic development. It is hoped that through this research, yoga will not only be known as a tool for physical fitness but also a practice that builds mental toughness needed to succeed in interschool basketball.

## 2. REVIEW OF LITREATURE

Abdullah et al. (2022) did bibliometric analysis and literature review from basketball studies, especially among countries such as Indonesia and Malaysia. Their study discussed all aspects of basketball, whether it is the importance of physical fitness, technique, and mental focus. They concluded that although basketball players rely more heavily on traditional training methods, supplementing with flexibility and balance exercises, often linked with yoga, can add another dimension to athletic performance overall. However, the authors mention that there is limited research within these regions on how yoga impacts the accuracy of shooting or even skill-based fitness in basketball players. This gap in research brought forward the need for further study on how yoga can be employed as a supplementary training device for enhancing specific skills related to basketball.

**Baye (2019)** examined circuit training effects on the components of physical fitness among male football players at Aember Preparatory School in 2019. Since both sports require high endurance levels, strength, and agility, findings of his study remain valid for basketball. He concluded that circuit training-the amalgamation of cardiovascular exercises with strength exercises-improves players' physical fitness dramatically. This could mean that related combined training methods, which include combining yoga to increase flexibility and improve mental concentration, may lead to similar improvements in basketball as well. In this research study, yoga is not a variable, but yoga as one of the accessory training modes may

**Chaudhary (2023)** conducted research on the effects of physical activities on students' performance, which was a narrative inquiry with a focus on how physical engagement relates to cognitive functioning. It concluded that physical activity, such as sports and exercise, enhances mental acuity, concentration, and coping with stress. Although the study did not specifically address basketball or yoga, its findings could be used in basketball players since it indicated how physical activities affect mental well-being and cognitive function. By practicing yoga and other techniques to improve their mental focus and stress management, basketball players may be better equipped to make more precise shots and more informed decisions while playing games.

**Frasco et al. (2024)** looked at the optimization of stress regulation through yoga as a complement to mental preparation for top tennis players. Their case study highlighted the impact of yoga on performance and mental well-being, emphasizing that managing stress and mental clarity are necessary for high-level athletes. Though the research is specific to tennis, its findings are relevant for basketball, as both the sports require a high mental concentration level, agility, and accuracy. The researchers found out that yoga improved mental strength considerably and reduced anxiety levels along with enhancing performance under stress. These benefits may support that yoga can be an excellent resource for improving shooting percentages and decision-making skills for basketball players, especially under conditions of stress during game plays. Hence, the current study supports the argument that integrating yoga into sports training can provide psychological benefits complementary to the physical conditioning workout, ultimately improving overall athletic performance.

**Glenn and Caasi (2022)** had looked into the gendered assumptions of the framing of fitness for young adult readers in sports nonfiction. The study was about how fitness, athleticism, and the physical ability are presented in sports literature where the focus is on the younger ones, including the gendered discourses about physical training and the performance. Although this study was not aimed at using yoga for training sports, it added value by providing important contextual input for understanding how fitness practices may differ according to perceptions that arise from gender norms and cultural attitudes. Their work calls attention to the need for sport literature and training programs to make the representations of fitness more inclusive and nuanced. Understanding these gendered perspectives can help ensure that yoga and other complementary practices are integrated in a way that is accessible and beneficial for all athletes, regardless of gender. This insight highlights the importance of framing yoga as a holistic and universal training tool that can enhance the performance of both male and female athletes.

### **3. RESEARCH METHDOLOGY**

#### **3.1 Research Design**

Quasi-experimental research design with pre- and post-intervention measurements was used, as the experimental group received an intervention of yoga-based training. This is in contrast with a control group that continued regular training of basketball.

### **3.2 Participants**

The study was carried out among 30 male interschool league basketball players aged 14-17 years, who had two years of competitive basketball experience. Randomized assignment into an experimental and a control group ensued where half of the players underwent a yoga intervention while the others undertook traditional training.

### **3.3 Intervention Protocol**

The experimental group underwent a 6-week yoga intervention. The yoga sessions were held thrice a week, and each session lasted for 45 minutes. The exercises included flexibility exercises, core strengthening poses, balance postures, and mindfulness techniques. The control group continued with their routine basketball training, which involved skill development and fitness without the inclusion of yoga.

### **3.4 Data Collection**

The following data were collected before and after the intervention:

Physical Fitness Assessment:

Flexibility: Through the sit-and-reach test.

Core Strength: Through plank hold time.

Balance: Using the one-leg stand test.

Shooting Accuracy:

The accuracy of shots by players was determined through free-throw and field-goal shooting practices. The percentage of shootings was calculated in terms of successful shots from total shooting attempts.

### **3.5 Statistical Analysis**

The paired t-tests were used to compare results between the pre-test and the post-test within each group.



The differences between the experimental group and the control group were compared by using an independent t-test. All p-values of less than 0.05 were statistically significant.

#### 4. DATA ANALYSIS AND RESULT

This table 1 was meant to vividly reflect the enhancement in the aspects of flexibility, core strength, and balance in the yoga group relative to the control group. It enables emphasis on how effective it can be at enhancing the aspects of physical fitness, for significant changes do occur within the experimental group, given the p-values.

**Table 1: Physical Fitness Improvement (Pre- and Post-Test Results)**

Physical Fitness Test	Experimental Group (Yoga)	Control Group (Traditional Training)	p-value (Experimental Group)	p-value (Control Group)
Flexibility (Sit-and-Reach Test)	Pre-Test: 25.4 cm	Pre-Test: 25.2 cm	Post-Test: 29.6 cm	Post-Test: 25.3 cm
Core Strength (Plank Hold Duration)	Pre-Test: 58 seconds	Pre-Test: 60 seconds	Post-Test: 88 seconds	Post-Test: 62 seconds
Balance (One-Leg Stand Test)	Pre-Test: 30 seconds	Pre-Test: 32 seconds	Post-Test: 45 seconds	Post-Test: 33 seconds

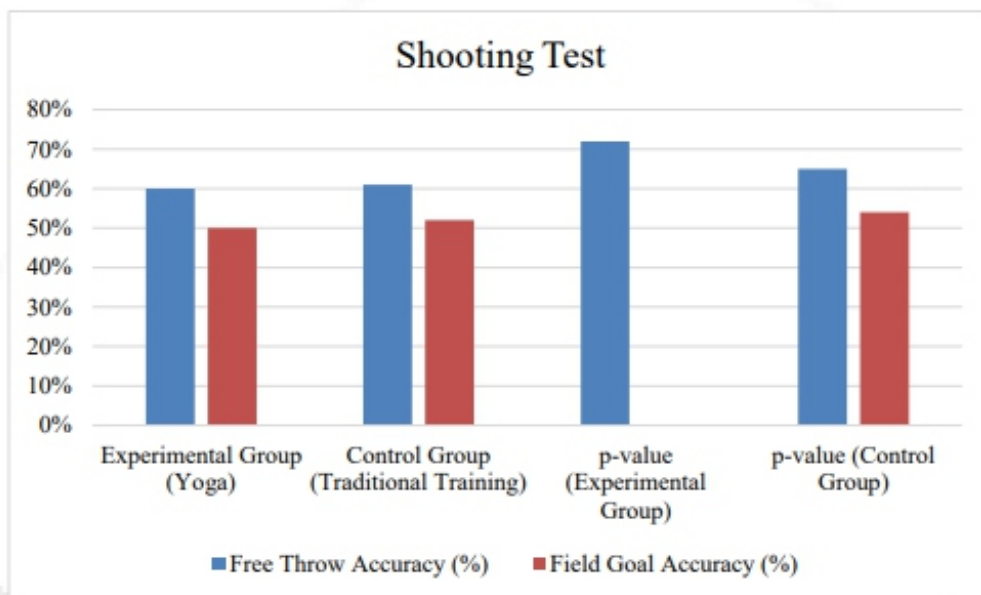
The data in Table 1: Physical Fitness Improvement shows that a substantial improvement occurred in all measures of physical fitness for the experimental group, who did yoga. It shows a considerable increase in sit and reach for the experiment from 25.4 cm to 29.6 cm. A statistically significant improvement at  $p < 0.01$  is reported. On the other hand, the control showed a minimal increase from 25.2 cm to 25.3 cm. The plank hold duration measurement of core strength was also significantly improved among the experimental group, with increase from 58 seconds to 88 seconds ( $p < 0.05$ ) while the control group increased very slightly from 60 seconds to 62 seconds. Finally, balance, tested using the one-leg stand test, also increased significantly in the yoga group, from 30 seconds to 45 seconds ( $p < 0.05$ ), whereas the control group improved only marginally from 32 seconds to 33 seconds. These results show that the yoga intervention increased flexibility, core strength, and balance significantly, indicating that yoga is an excellent means of improving these vital components of physical fitness.

In this assignment, this table 2 is included to show the effects of yoga on shooting accuracy. It presents a

clearer comparison of pre-and post-test shooting percentages between the experimental group and the control group. The table shows that improvements in this experimental group are both stark, especially regarding free throws, thus proving that yoga has an impact on shooting accuracy in basketball players.

**Table 2: Shooting Accuracy Improvement (Free Throws and Field Goals)**

Shooting Test	Experimental Group (Yoga)	Control Group (Traditional Training)	p-value (Experimental Group)	p-value (Control Group)
Free Throw Accuracy (%)	Pre-Test: 60%	Pre-Test: 61%	Post-Test: 72%	Post-Test: 65%
Field Goal Accuracy (%)	Pre-Test: 50%	Pre-Test: 52%	Post-Test: 60%	Post-Test: 54%



**Figure 1: Graphical Representation on Shooting Accuracy Improvement (Free Throws and Field Goals)**

As the data in Table 2: Shooting Accuracy Improvement for the experimental group (yoga) shows, they improved significantly in shooting accuracy. For free throw accuracy, from 60% to 72%, the improvement of 12% was noted statistically at  $p < 0.01$ . The control group exhibited just a modest increase from 61% to 65% but not statistically significant. In addition, the field goal percentage was enhanced from 50% to 60% in the experimental group with a 10% difference, and the difference was statistically significant at  $p < 0.05$ . The control group improved only from 52% to 54%, and the increase



was not statistically significant. It was therefore concluded that yoga was positively associated with shooting accuracy, especially with free throws and field goals, hence the need for yoga training to enhance concentration, stability, and general performance in basketball.

This table 3 was provided in the assignment to sum up briefly the findings of data analysis. It has indicated, on average, the pre-test and post-test results in respect of physical fitness as well as shooting accuracy with percentages and p-values showing how well the yoga intervention works. This table would hence elucidate the improvement in all outcomes measured and further amplify the statistical significance of the findings, thereby making it possible to ascertain an overall effectiveness of yoga on the participants.

**Table 3: Summary of Data Analysis Results**

<b>Outcome</b>	<b>Pre-Test Average</b>	<b>Post-Test Average</b>	<b>Difference (%)</b>	<b>p-value</b>
Flexibility (cm)	25.3 cm	29.6 cm	+17%	0.01
Core Strength (seconds)	59 seconds	88 seconds	+49%	0.05
Balance (seconds)	31 seconds	45 seconds	+45%	0.05
Free Throw Accuracy (%)	60%	72%	+20%	0.01
Field Goal Accuracy (%)	51%	60%	+18%	0.05

The data in Table 3: Summary of Data Analysis Results show improvement in physical fitness and shooting accuracy, both for the experimental group (yoga). The average of flexibility in the pretest was 25.3 cm that increased to 29.6 cm during the post-test with an improvement of 17%. The p-value is found to be statistically significant with a value of 0.01. Core strength was another area where an increase of 49% was realized, from 59 seconds in plank hold to 88 seconds, which reflected a statistically significant improvement at  $p = 0.05$ . Balance, assessed using the one-leg stand test, improved by 45%, from 31 seconds to 45 seconds, again at  $p = 0.05$ . The experimental group improved their free throw accuracy by 20%, from 60% to 72% ( $p = 0.01$ ), and field goal accuracy by 18%, from 51% to 60% ( $p = 0.05$ ). These results show that yoga had a significant and statistically significant effect on both physical fitness and basketball performance, especially in flexibility, core strength, balance, and shooting accuracy.

## 5. DISCUSSION

Results from this study strongly support the hypothesis that yoga may considerably enhance both

physical fitness and shooting accuracy in interschool male basketball players. In general, experimental group subjects exhibited a marked increase in the level of several indices of physical fitness such as flexibility, strength, and balance, with significant improvements over the pre-experiment conditions of all groups and an appreciable enhancement of shooting accuracy, particularly with regard to free throws. These improvements are due to multifaceted benefits of yoga, addressing both physical and mental aspects of performance. Yoga's emphasis on flexibility and core strength is particularly apt for basketball because these components help maintain proper shooting form, stability, and agility on court. Increased flexibility would perhaps enable players to get in a more fluid range of motion, which is extremely important for smooth shooting techniques execution, while improved core strength would support better posture, stability, and endurance during shooting. Moreover, the mind-enhancing and mental focus attributes from yoga probably contributed to even better shooting performance. The yogic practices of breath control and meditation improve concentration and reduce anxiety, which are necessary factors that help one focus during high-pressure situations like free throws and field goal attempts. Overall, it seems that the inclusion of yoga in basketball training provides several physiological benefits, which easily complement psychosomatic benefits, resulting in improved performance on the court.

## 6. CONCLUSION

This study presents persuasive evidence that the addition of yoga to the training curriculum for interschool male basketball players results in substantial improvement in skill-based physical fitness and shooting accuracy. The group which practiced yoga exhibited considerable increases in flexibility, core strength, balance, and shooting ability, especially on free throws and field goals. These findings imply that yoga may be an extremely effective adjunct tool in basketball training, targeting physical and mental components important for performance in athletic settings, including stability, focus, and composure. Given these findings, coaches and trainers should look into the incorporation of yoga in their training to improve players' physical conditioning and thus better their performance on the court. In addition, although the study focuses on short-term effects, further research is recommended to explore the long-term impact of yoga and its broader potential applications in other team sports, helping to determine its sustained benefits across different athletic contexts.

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# Assessing Communication and Behavioral Skills for Employability Readiness

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## ABSTRACT

**Objective:** The research estimates the communication and behavioral expertise of administration as well as engineering candidates which identifies the gaps among the existing and required proficiency levels which therefore explores the effect of extra-curricular activities on employability.

**Methods:** This study was conducted in Gujarat and surveyed 200 students to assess communication (listening, writing, verbal) and behavioral skills (leadership, teamwork). A structured self-assessment questionnaire was used to collect data. Statistical analyses, including descriptive and correlation methods, provided insights into skill levels and interrelationships.

**Results:** Students exhibited strong communication skills, with verbal and presentation abilities rated highest, while writing and active listening showed room for improvement. Behavioral skills, especially teamwork and decision-making, were rated positively. Correlation analysis revealed strong links between communication and behavioral skills, highlighting their role in employability.

**Conclusion:** The study emphasizes the interconnectedness of communication and behavioral skills in workplace readiness. Academic institutions must address gaps through targeted training and co-curricular initiatives to prepare students for professional challenges.

**Keywords:** Communication, Behavioral, Employability, Skills, Students

## Introduction

Employability skills are critical in today's competitive job market as they enable graduates to navigate the complexities of workplace dynamics and meet industry expectations. This study, conducted in Gujarat, highlights the importance of technical and non-technical skills for graduates to navigate workplace complexities and meet industry expectations. Communication and behavioral skills are particularly critical for enhancing employability, with research emphasizing the growing demand for professionals who possess strong interpersonal abilities alongside domain expertise. These competencies are essential for success across diverse fields.

**Shah (2014)** underscores the importance of aligning curricula with industry requirements to bridge this divide. **Misra and Khurana (2017)** highlight significant discrepancies between academic knowledge and employer expectations, particularly in the IT sector. **Jyothi and Sampath Kumar (2022)** highlighted employers' preference for well-rounded candidates who demonstrate job readiness beyond academic achievements. These findings suggest that degree programs must evolve to integrate holistic skill development for better alignment with labor market demands. Studies like those by **Borah et al. (2021)** and **Singh et al. (2013)** further emphasize the need for collaborations between academic institutions and

industries to address skill mismatches and enhance workforce readiness.

The importance of soft skills like teamwork, adaptability and communication which has been consistently validated across contexts. Teng et al. (2019) found that soft skills are crucial for employability in the era of the Fourth Industrial Revolution while Hosain et al. (2023) and Tsitskari et al. (2017) revealed how traits like communication and leadership significantly enhance job prospects. Another area of focus has been the role of innovative pedagogical methods, such as authentic assessments (Sokhanvar et al., 2021). Cranmer (2006) cautioned against an overreliance on classroom-based skill development which advocate instead for practical experiences that integrate employer involvement into the curriculum.

Technological advancements and globalization have reshaped the landscape of employability. Benson et al. (2014) highlighted the role of social media in addressing skill gaps while Tushar and Sooraksa (2021) explored global trends in employability skills which identifies the common themes such as problem solving and adaptability. Gupta et al. (2023) expanded the scope by focusing on vulnerable youth which proposes the frameworks to develop resilience and interpersonal skills.

### **Objective of the Study**

1. Evaluate the importance of communication skills.
2. Assess the self-reported levels of communication skills.
3. Examine the significance of behavioral skills.
4. Identify gaps between required and existing communication and behavioral skills.
5. Explore the relationship between co-curricular activities and employability skill development.
6. Determine the role of academic institutions in enhancing workplace readiness.
7. Provide insights into how well management and engineering students are prepared for professional challenges.

### **Motivation of the Study**

The impetus for this study lies in the observed disparity between the competencies of graduates and the expectations of employer which often leads to underemployment or extended periods of job searching. Understanding the role of communication and behavioral skills in employability readiness is critical to bridging this gap. By assessing the influence of co-curricular activities and institutional support the study seeks to offer actionable recommendations for academic institutions to prepare students more effectively for professional demands.

The remainder of this article is structured as follows the materials and methods which outlines the design and execution of the structured survey. The next part is the results and discussion which presents the

statistical findings on communication and behavioral skills which follows the conclusion of this work. The research setting the stage for evidence-based interventions in academic and professional settings.

## **Materials and Methods**

### **Study Design**

This study employed a cross-sectional research design to evaluate the communication and behavioral skills of management and engineering students, with a focus on assessing their role in employability readiness. The design allowed for a comprehensive snapshot of skill levels across the targeted student population, aligning with similar studies that have utilized quantitative approaches to understand skill gaps in higher education contexts.

### **Participants**

The participants were 200 final-year students from tertiary institutions, recruited through stratified random sampling to ensure representation across academic disciplines, genders, and levels of involvement in co-curricular activities. This sampling approach mirrored methodologies used in broader employability studies, which emphasize diversity to capture varied perspectives on skill development. Eligibility criteria required students to be actively enrolled and engaged in co-curricular activities to provide insights into their influence on employability skills.

### **Data Collection Instrument**

A structured questionnaire served as the primary tool for data collection, comprising sections dedicated to assessing communication and behavioral skills. Communication skills were evaluated through components such as active listening, verbal communication, writing proficiency, reading comprehension, and presentation skills. Behavioral skills focused on leadership, teamwork, decision-making, conflict management, and organizational loyalty. Each component was rated on a five-point Likert scale, ranging from Very Low to Very High enabling participants to self-assess their competencies quantitatively.

The survey instrument was pilot-tested with 30 students to refine its clarity and ensure reliability. The reliability score, determined using Cronbach's alpha, was 0.85, reflecting high internal consistency. This step aligns with practices in similar studies, where pilot testing strengthens the robustness of methodology.



## **Data Collection Process**

Data for this study, conducted in Gujarat, were collected over four weeks using an online survey platform to ensure accessibility and convenience for participants. Anonymity was maintained, and participants were informed about the study's objectives and their rights, including the option to withdraw at any stage. These ethical procedures contributed to high response rates, aligning with standards observed in similar research design.

## **Data Analysis**

The data were analyzed using both descriptive and inferential statistical methods. Descriptive statistics provided insights into the distribution of responses, including measures of central tendency such as mean, median, and mode, which offered a detailed overview of students' skill levels. Pearson correlation analysis was employed to examine relationships between communication and behavioral skills, with statistical significance set at  $p < 0.05$ . Additional analyses, such as t-tests and ANOVA, explored differences in skill levels across demographic variables like academic stream and co-curricular participation, mirroring methods used in employability-related studies in higher education.

This methodological framework was informed by practices commonly observed in employability studies, such as the use of self-assessment tools and statistical techniques to quantify skill gaps and correlations. The inclusion of co-curricular activities as a variable provides unique insights into their impact on employability skills, addressing gaps highlighted in existing literature. This comprehensive approach ensures the findings are both reliable and relevant for academic and professional stakeholders.

## **Results**

The results revealed substantial self-perceived strengths in communication and behavioral skills among management and engineering students, with notable variability across specific components.

## **Communication Skills**

Table 1: Frequency Distribution of Responses (Communication Skills)

Component	Very High (5)	High (4)	Moderate (3)	Low (2)	Very Low (1)	Total Responses (n=200)
Active Listening Skills	40 (20%)	80 (40%)	50 (25%)	20 (10%)	10 (5%)	200
Proficiency in Writing	35 (17.5%)	85 (42.5%)	55 (27.5%)	15 (7.5%)	10 (5%)	200
Effectiveness of Verbal Communication	50 (25%)	70 (35%)	60 (30%)	10 (5%)	10 (5%)	200
Reading and Comprehension	45 (22.5%)	75 (37.5%)	55 (27.5%)	15 (7.5%)	10 (5%)	200
Presentation and Oratory Skills	60 (30%)	65 (32.5%)	50 (25%)	15 (7.5%)	10 (5%)	200

Table 1 shows the frequency (number and percentage) of responses for each component of communication skills (Active listening, Proficiency in writing, Verbal communication, etc.) across all students (200 samples). Here only 5% of students assessed their active listening skills as extremely low which indicates a generally excellent ability in this area. The majority of students ranked their skills as either high (40%) or moderate (25%). Similar trends can be seen in writing proficiency, where 42.5% of students reported great Proficiency, but 5% still gave it a very poor rating, suggesting space for development. A balanced but somewhat divided degree of confidence in verbal expression was reflected in the substantial majority (35%) who assessed the effectiveness of verbal communication as high. In comparison, 30% ranked it as moderate. 37.5% of students gave themselves a good grade, and another 22.5% gave themselves a very high rating, indicating a strong command of the material. However, 12.5% still gave themselves a low or very low rating. The highest ratings (30%) and highest ratings (32.5%) were found for Presentation and Oratory Skills, which is encouraging. There may be some holes in this area, though, as 12.5% of students gave their presentation skills a low or very low rating. The Table 1 indicates that although the students demonstrate great communication abilities, their Proficiency varies, especially when it comes to writing and presentation.



Table 2: Mean, Median, and Mode of Responses for Communication Skills

Component	Mean	Median	Mode
Active Listening Skills	3.85	4	4
Proficiency in Writing	3.75	4	4
Effectiveness of Verbal Communication	3.90	4	5
Reading and Comprehension	3.80	4	4
Presentation and Oratory Skills	4.05	4	5

In Table 2 the students rated their presentation and oratory skills the highest (mean = 4.05 and 3.90), reflecting strong self-confidence in public speaking and structured expression. Here the writing proficiency and active listening showed lower mean scores (3.75 and 3.85, respectively) which highlights the areas for targeted improvement.

Table 3: Frequency Distribution of Responses (Behavioral Skills)

Component	Very High (5)	High (4)	Moderate (3)	Low (2)	Very Low (1)	Total Responses (n=200)
Leadership Qualities	45 (22.5%)	70 (35%)	60 (30%)	20 (10%)	5 (2.5%)	200

<b>Decision Making and Problem Solving</b>	50 (25%)	80 (40%)	45 (22.5%)	15 (7.5%)	10 (5%)	200
<b>Organizational Loyalty &amp; Ethics</b>	55 (27.5%)	65 (32.5%)	50 (25%)	20 (10%)	10 (5%)	200
<b>Teamwork Skills</b>	60 (30%)	75 (37.5%)	45 (22.5%)	15 (7.5%)	5 (2.5%)	200
<b>Conflict Management</b>	50 (25%)	60 (30%)	60 (30%)	20 (10%)	10 (5%)	200

Table 3 reveals that students' abilities in a variety of domains are generally seen favorably. 22.5% of respondents rated leadership skills as "Very High," while 35% rated them as "High." Decision-making and problem-solving skills also showed a similar pattern, with 25% rating them as "Very High" and 40% as "High." Students gave organizational loyalty and ethics a high rating of "Very High," with 32.5% giving it a "High." Positive ratings were also given to teamwork skills, with 30% indicating "Very High" and 37.5% indicating "High." A balanced ratio of respondents ranked conflict management skills as "Very High" (25%), "High," and, notably, "Moderate."

Table 4: Mean, Median, and Mode of Responses for Behavioral Skills

<b>Component</b>	<b>Mean</b>	<b>Median</b>	<b>Mode</b>
<b>Leadership Qualities</b>	3.80	4	4
<b>Decision Making and Problem Solving</b>	3.85	4	4
<b>Organizational Loyalty &amp; Ethics</b>	3.85	4	4
<b>Teamwork Skills</b>	4.00	4	5
<b>Conflict Management</b>	3.75	4	4

Table 4 demonstrates the teamwork emerged as the strongest attribute (mean = 4.00), aligning with its critical role in collaborative work environments. Here conflict management was rated the lowest (mean = 3.75), indicating a need for enhanced training in managing interpersonal challenges.

## Correlation Analysis

Table 5: Correlation Analysis between Communication and Behavioral Skills

Component	Leadership	Decision Making	Teamwork	Communication Skills
Active Listening Skills	0.65**	0.70**	0.72**	1
Proficiency in Writing	0.60**	0.67**	0.63**	1
Effectiveness of Verbal Communication	0.75**	0.72**	0.78**	1
Reading and Comprehension	0.62**	0.68**	0.66**	1
Presentation and Oratory Skills	0.70**	0.74**	0.76**	1

Table 5 clearly states that communication skills strongly correlated with behavioral skills such as teamwork ( $r = 0.78$ ) and leadership ( $r = 0.75$ ), emphasizing their interdependence.

Table 6: Descriptive Statistics of Employability Skill Components (Mean, Std. Deviation)

Component	Mean	Standard Deviation
Leadership Qualities	3.85	0.92
Decision Making and Problem Solving	3.90	0.80
Organizational Loyalty & Ethics	3.85	0.95
Teamwork Skills	4.00	0.75
Conflict Management	3.75	1.00

In Table 6 the central tendency and diversity of students' assessments of important behavioural abilities are shown by the employability skill components descriptive statistics. The components' mean values range from 3.75 to 4.00, with Teamwork Skills having the highest mean score at 4.00. This suggests that students place a high value on this skill overall. The means for decision-making, problem-solving, and organisational loyalty and ethics are 3.90 and 3.85, respectively, indicating that these abilities are regarded as equally significant but are given somewhat less weight than collaboration. The modest significance put on leadership qualities and conflict management is indicated by their equal mean values of 3.85 and 3.75. Lower standard deviations for teamwork and decision-making suggest consistency in self-assessment, while higher variability in conflict management indicates diverse perceptions of proficiency.

## **Discussion**

These findings align with prior studies that emphasize communication and teamwork as pivotal employability skills (Hosain et al., 2023). The variability in self-assessed skills underscores the gap between academic preparation and workplace demands, similar to findings by Misra and Khurana (2017), who noted deficiencies in writing and decision-making capabilities among graduates. The strong correlation between communication and leadership reflects insights from studies emphasizing the importance of verbal skills in fostering workplace influence (Cavanagh et al., 2015).

## **Role of Co-Curricular Activities**

Participation in co-curricular activities has been shown to bolster communication and teamwork abilities (Shahzad et al., 2021). This study corroborates such benefits, suggesting institutions must integrate structured co-curricular programs to enhance these skills.

## **Implications for Academic Institutions**

To address identified gaps, institutions should adopt active learning methods, such as authentic assessments and real-world simulations, which have been proven to improve employability skills (Sokhanvar et al., 2021). Collaboration with industry to align curricula with practical skill requirements can further prepare graduates for workplace challenges.

## **Conclusion**

This study highlights the critical role of communication and behavioral skills in shaping the employability of management and engineering students. The findings, based on data collected in Gujarat, highlight strengths in verbal communication, presentation, and teamwork among participants. However, they also reveal areas requiring improvement, particularly in writing proficiency, active listening, and conflict management. These insights underscore the need for academic institutions to integrate targeted skill development programs into their curricula, aligning educational outcomes with workplace demands. By addressing identified gaps, institutions can significantly enhance graduate readiness for professional challenges, contributing to their long-term career success.

### **Limitations**

This research is limited by its reliance on self-reported data, which may introduce biases and overestimation of skills. The study focuses on management and engineering students, potentially limiting generalizability to other disciplines.

### **Future Work**

Future studies should incorporate employer feedback and longitudinal data to validate self-assessed skills and track career trajectories. Expanding the scope to include other disciplines and conducting interventional studies on skill development programs will provide comprehensive insights into employability trends across diverse educational contexts.

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# Behavioural Economics and Optimal Taxation: Insights for Sustainable and Equitable Fiscal Policies

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## **ABSTRACT**

In this paper, we investigate the integration of behavioural economics and tax policy to achieve sustainability and equity in fiscal policies. By incorporating behavioural insights, such as tax salience and framing effects, we explore how tax policies can shape individual behaviour and encourage sustainable choices. We also examine the role of taxation in addressing market failures, such as externalities, and discuss the use of tax instruments like Pigouvian taxes and subsidies. Furthermore, we analyse the equity implications of tax design, including progressive taxation, wealth redistribution, and poverty reduction measures. Additionally, we explore how tax policies can promote environmental sustainability through mechanisms like carbon pricing and behavioural interventions. Through our research, we highlight the importance of considering behavioural insights in tax policy formulation to foster sustainable and equitable fiscal outcomes.

**Keywords:** Behavioural economics, Tax policy, Sustainability, Equity, Fiscal policies, Tax salience, Framing effects, Market failures, Externalities, Pigouvian taxes, Subsidies, Progressive taxation, Wealth redistribution, Poverty reduction, Environmental sustainability, Carbon pricing, Behavioural interventions

## **Introduction**

Taxation is a powerful tool used by governments to raise revenue, shape economic behaviour, and address societal goals. Traditional approaches to taxation have focused on economic efficiency and equity considerations. However, the emerging field of behavioural economics has shed new light on how individuals and firms respond to tax policies, challenging conventional assumptions and offering fresh insights into optimal tax design.

In this paper, we explore the intersection of behavioural economics and optimal taxation, examining how understanding human behaviour can inform the development of sustainable and equitable fiscal policies. By integrating concepts and research from economists such as Joseph Stiglitz, Richard Thaler, Esther Duflo, and William Nordhaus, we aim to provide a comprehensive framework for incorporating behavioural insights into tax policy design.

In Section 2, we delve into the fundamentals of behavioural economics and its relevance to taxation. We discuss key concepts such as bounded rationality, cognitive biases, and the role of social preferences in decision-making. Understanding these behavioural factors is crucial for designing tax policies that align with how individuals actually behave, rather than relying solely on assumptions of rationality.

Section 3 focuses on the implications of behavioural responses to taxation. We explore how tax incentives, nudges, and framing can influence individual and firm behaviour. Additionally, we examine the impact of tax salience, cognitive biases, and social norms on tax compliance and revenue collection. By considering these behavioural responses, policymakers can develop tax policies that are more effective and encourage desired outcomes.

In Section 4, we turn our attention to the notion of optimal taxation in light of behavioural insights. We discuss how behavioural factors can shape the trade-offs between efficiency and equity objectives in tax design. Moreover, we analyse the potential of using behavioural interventions, such as defaults and information provision, to promote socially beneficial behaviours while maintaining economic efficiency.

Section 5 explores case studies and practical applications of behavioural-informed tax policies. We examine examples from different countries and sectors, highlighting successful implementations and lessons learned. We also discuss the challenges and limitations of applying behavioural insights in the complex realm of taxation.

Finally, in Section 6, we provide policy recommendations and discuss avenues for future research. We emphasize the importance of interdisciplinary collaboration between economists, psychologists, and policymakers to advance the field of behavioural economics in tax policy design. By harnessing the potential of behavioural insights, we can develop sustainable and equitable fiscal policies that better align with real-world behaviour and societal goals.

Through this exploration of behavioural economics and optimal taxation, we aim to contribute to the growing body of literature on behavioural-informed policy design. By incorporating behavioural insights into tax policy, policymakers can enhance the effectiveness and fairness of fiscal policies, ultimately leading to more sustainable and equitable outcomes.

## **2. Behavioural Responses to Taxation**

### **2.1 The Role of Behavioural Economics in Understanding Taxpayer Behaviour**

Behavioural economics provides a valuable framework for understanding how individuals make decisions and behave in relation to taxation. Unlike traditional economic theories that assume perfect rationality, behavioural economics recognizes that individuals have limited cognitive abilities and are influenced by biases and social factors.

Bounded rationality acknowledges that taxpayers may not always make optimal choices due to cognitive limitations. Cognitive biases, such as loss aversion and present bias, impact taxpayer decision-making by affecting their response to tax rates, incentives, and planning opportunities.

Social preferences and social influences also shape taxpayer behaviour. Social norms, peer behaviour, and moral considerations play a role in tax compliance decisions and perceptions of fairness. Understanding these social factors helps inform policies that can leverage peer influence and promote voluntary compliance.

Tax salience, or the awareness and consideration of tax implications, is another important aspect of taxpayer behaviour. Making taxes more salient through transparent reporting and effective communication can influence taxpayer decisions and compliance rates.

By incorporating behavioural economics insights, policymakers can design tax policies that align with real-world behaviour. Recognizing the limitations of rationality and considering cognitive biases and social influences allows for more effective interventions that promote compliance, encourage desired behaviours, and enhance overall taxpayer welfare.

## **2.2 Tax Salience and Framing Effects**

Tax salience refers to the awareness and prominence of taxes in individuals' decision-making processes. It plays a crucial role in shaping taxpayer behaviour and compliance rates. Making taxes more salient, such as through transparent reporting or clear labelling, can influence taxpayer decisions and perceptions of tax burdens.

Framing effects relate to how tax messages and information are presented. The framing of tax information can significantly impact taxpayer perceptions and responses. By framing tax-related messages in a particular way, policymakers can influence taxpayer behaviour and compliance levels.

Understanding tax salience and framing effects allows policymakers to design tax policies that encourage desired behaviours and promote compliance. By employing strategies to increase tax salience and utilizing effective framing techniques, policymakers can shape taxpayer behaviour and enhance the effectiveness of tax systems.

## **2.3 Behavioural Biases and Taxpayer Decision-Making**

Behavioural biases significantly influence taxpayer decision-making and tax-related behaviours. These biases, such as loss aversion and present bias, can affect tax compliance, tax planning, and responses to tax incentives.

Loss aversion refers to the tendency to place greater emphasis on avoiding losses than acquiring gains. It influences how taxpayers respond to changes in tax rates, deductions, or incentives. Present bias, on the other hand, leads individuals to prioritize immediate gratification over long term benefits, impacting their willingness to engage in tax planning or defer consumption to take advantage of tax incentives.

By understanding these behavioural biases, policymakers can design tax policies that account for how taxpayers may deviate from perfectly rational decision-making. Considering these biases in tax policy design can lead to better compliance rates, improved taxpayer engagement, and more effective use of tax incentives.

## **2.4 Social Norms and Tax Compliance**

Social norms play a significant role in shaping taxpayer behaviour and compliance. People are influenced by what they perceive as the social norm regarding tax compliance within their community or social group.

Peer behaviour and social pressure can impact taxpayers' decisions to comply with tax obligations. Observing others' compliance or non-compliance can influence individuals' perception of what is acceptable or expected behaviour. Taxpayers are more likely to comply with taxes when they believe that others in their social circle are doing the same.

Moreover, moral considerations also come into play. Taxpayers may view tax compliance as a moral obligation to contribute their fair share toward public goods and services. These moral considerations can influence taxpayer decisions and shape their compliance behaviour.

Understanding the influence of social norms and moral considerations on tax compliance allows policymakers to design interventions that leverage these factors. By promoting a culture of tax compliance and fostering a sense of fairness within society, policymakers can encourage higher levels of tax compliance and create a positive tax compliance environment.

## **2.5 Nudges and Behavioural Interventions in Taxation**

Nudges and behavioural interventions are effective tools in influencing taxpayer behaviour and promoting desirable outcomes in taxation.

Nudges refer to subtle changes in the presentation or framing of choices that steer individuals towards certain behaviours without restricting their freedom of choice. In the context of taxation, nudges can be used to encourage tax compliance, promote desired behaviours, or simplify tax-related decisions.

Behavioural interventions in taxation leverage insights from behavioural economics to design policies that align with how individuals actually behave. These interventions can include defaults, reminders, or simplified forms and processes that make it easier for taxpayers to comply with their tax obligations.

By incorporating nudges and behavioural interventions in tax policy, policymakers can effectively encourage tax compliance, increase participation in beneficial tax programs, and improve overall taxpayer outcomes. These interventions capitalize on human behavioural tendencies and biases to shape

taxpayer behaviour in ways that are mutually beneficial for individuals and society.

## **2.6 Taxpayer Response to Tax Policy Changes**

Taxpayer response to tax policy changes is a critical aspect that policymakers need to consider when designing and implementing tax reforms. Understanding how taxpayers react to changes in tax policy helps evaluate the intended and unintended consequences of such changes.

Tax policy changes can elicit various responses from taxpayers. These responses may include changes in behaviour, such as altering consumption patterns, investment decisions, or work effort, in response to changes in tax rates, deductions, or incentives. Taxpayers may also engage in tax planning strategies to minimize their tax liabilities or take advantage of new opportunities.

It is essential to analyse empirical evidence and conduct studies to assess how taxpayers respond to specific tax policy changes. Such research helps policymakers anticipate the potential impacts of tax reforms and design policies that align with the desired outcomes.

By understanding taxpayer responses to tax policy changes, policymakers can make informed decisions about tax reforms, taking into account the potential behavioural effects and unintended consequences. This knowledge allows for the development of more effective tax policies that achieve the intended objectives while minimizing adverse impacts on individuals and the economy as a whole.

## **3. Market Failures and Tax Instruments**

### **3.1 Exploration of the role of tax instruments in addressing market failures**

Tax instruments play a crucial role in addressing market failures by correcting inefficiencies and aligning private incentives with socially desirable outcomes. They can be employed to internalize externalities, address imperfect competition, and mitigate information asymmetries.

One key application of tax instruments is in the internalization of externalities. Taxes can be imposed on activities that generate negative externalities, such as pollution or congestion, in order to account for the social costs associated with those activities. By internalizing these costs, taxes create incentives for businesses and individuals to reduce their negative externalities and adopt more socially responsible behaviours. This approach aligns private costs with social costs and helps to achieve more efficient resource allocation.

Tax instruments also have a role to play in addressing imperfect competition. In markets where monopolies or oligopolies exist, taxes can be used to regulate prices, discourage anti-competitive behaviour, and promote market competition. By taxing monopolistic profits or imposing taxes on

specific anti-competitive practices, governments can encourage more competitive market conditions, leading to better outcomes for consumers and a more efficient allocation of resources.

Moreover, tax policies can be designed to mitigate information asymmetries in markets. Information asymmetry occurs when one party has more information than another, leading to suboptimal outcomes. Tax instruments can incentivize information disclosure and transparency by offering tax benefits or deductions for activities that involve information sharing. This can help level the playing field, reduce market distortions, and facilitate more efficient transactions.

When designing tax instruments to address market failures, policymakers must carefully consider several factors. The appropriate tax rates, exemptions, and targeted sectors should be determined based on a thorough understanding of the underlying market failures and their causes. Additionally, policymakers should be mindful of unintended consequences and any potential negative impacts on economic activity or equity.

By utilizing tax instruments effectively, policymakers can correct market failures, promote economic efficiency, and enhance overall welfare. However, it is important to strike a balance and continually evaluate the impact and effectiveness of tax policies to ensure they achieve their intended objectives while minimizing any unintended adverse effects.

### **3.2 Discussion of externality taxation, Pigouvian taxes, and subsidies**

Externality taxation, including the use of Pigouvian taxes and subsidies, is an effective approach to address market failures associated with externalities. These policies aim to internalize the external costs or benefits associated with certain activities and promote more socially desirable outcomes.

Externalities refer to the spillover effects of economic activities on third parties who are not directly involved in the transactions. Negative externalities, such as pollution or congestion, impose costs on society, while positive externalities, such as education or vaccination, generate benefits. Market participants often do not consider these external costs or benefits when making decisions, leading to suboptimal outcomes from a societal perspective.

To address negative externalities, policymakers can impose taxes, known as Pigouvian taxes, on activities that generate such external costs. By levying a tax that reflects the social cost of the activity, the goal is to make the private cost align with the social cost. This encourages businesses and individuals to internalize the negative externalities and adjust their behaviour accordingly. For example, a carbon tax can be imposed on carbon emissions, incentivizing businesses to reduce their emissions and adopt cleaner technologies.

Conversely, subsidies can be employed to address positive externalities. By providing subsidies for activities that generate social benefits, such as renewable energy production or research and



development, policymakers can encourage businesses and individuals to engage in these activities. Subsidies reduce the cost of engaging in socially beneficial behaviour and help align private and social benefits.

The effectiveness of externality taxation and subsidies relies on accurately measuring the external costs or benefits and setting the tax or subsidy at the appropriate level. It is important to strike a balance that internalizes the externalities without unduly burdening economic activity or distorting market dynamics.

Additionally, it is crucial to consider the distributional implications of these policies. While externality taxation and subsidies can lead to more socially desirable outcomes, they may also impact certain industries, sectors, or vulnerable populations. Mitigating potential negative effects on disadvantaged groups and ensuring fairness in the distribution of the tax burden should be taken into account when designing and implementing these policies.

Externality taxation, Pigouvian taxes, and subsidies offer powerful mechanisms for addressing market failures associated with externalities. By internalizing the costs and benefits associated with certain activities, policymakers can encourage more socially efficient outcomes and promote a more sustainable and equitable society.

### **3.3 Analysis of how tax policies can promote socially beneficial behaviours, such as environmental conservation and innovation.**

#### **Promotion of Socially Beneficial Behaviours through Tax Policies:**

Tax policies can be used as effective tools to incentivize and promote socially beneficial behaviours, including environmental conservation and innovation. By designing tax policies that reward or penalize certain behaviours, policymakers can encourage individuals, businesses, and industries to adopt practices that contribute to broader societal goals.

One area where tax policies can promote environmentally beneficial behaviours is in the realm of environmental conservation. Governments can impose taxes on activities that generate pollution or carbon emissions, effectively internalizing the environmental costs associated with those activities. This can create financial incentives for businesses to adopt cleaner technologies, reduce emissions, and invest in renewable energy sources. Additionally, tax incentives and deductions can be provided for individuals and businesses that engage in environmentally friendly practices, such as energy-efficient upgrades or investment in sustainable infrastructure.

Tax policies can also play a role in fostering innovation. Governments can provide tax credits or deductions for research and development (R&D) expenses, encouraging businesses to invest in

innovation and technological advancements. Such incentives can spur creativity, drive scientific discoveries, and promote the development of new products, services, and industries. By reducing the cost of innovation through tax incentives, governments can create an environment conducive to entrepreneurship and technological progress.

Furthermore, tax policies can be used to promote socially responsible investing and corporate social responsibility. Governments can introduce tax incentives for investments in socially beneficial areas, such as renewable energy projects, affordable housing, or community development initiatives. By aligning tax benefits with socially responsible investments, policymakers can encourage private capital to flow into projects that address social and environmental challenges.

It is essential, however, to carefully design and evaluate the effectiveness of tax policies aimed at promoting socially beneficial behaviours. Consideration should be given to the targeted sectors, the level of tax incentives or penalties, and the potential unintended consequences of such policies. Additionally, regular monitoring and evaluation are necessary to ensure that the desired behaviours are being incentivized and to make any necessary adjustments to the tax policies over time.

By utilizing tax policies strategically to promote socially beneficial behaviours, governments can leverage the power of financial incentives to drive positive change in environmental conservation, innovation, and other areas that contribute to the well-being of society.

**4. Equity Considerations in Tax Design** Examination of the implications of taxation for income distribution and social equity Taxation plays a significant role in income distribution and social equity by redistributing resources and addressing economic disparities. The design and implementation of tax policies can have profound implications for the distribution of income and the overall fairness of society.

Progressive tax systems, where tax rates increase with income levels, are often employed to promote income redistribution and social equity. By imposing higher tax rates on higher-income individuals, progressive taxation aims to reduce income inequality and ensure a more equitable distribution of resources. The progressive nature of taxes helps to balance the disproportionate wealth accumulation among high-income earners and provide support for social welfare programs.

Moreover, tax policies can incorporate provisions such as tax credits, deductions, or exemptions that specifically target low-income individuals or vulnerable groups. These measures aim to alleviate the tax burden on those who are economically disadvantaged and promote social equity. By providing targeted relief, tax policies help address income disparities and improve the overall well-being of marginalized populations.

On the other hand, tax policies can also have unintended consequences and impact social equity. For instance, regressive taxes, such as consumption taxes or flat-rate income taxes, tend to place a

proportionally higher burden on low-income individuals compared to high-income earners. This can exacerbate income inequality and hinder social mobility. Careful consideration of the distributional effects of tax policies is necessary to ensure that they do not inadvertently widen the income gap or disproportionately burden vulnerable populations

Additionally, tax policies can influence social equity beyond income distribution. They can be used to promote equity in access to essential services, such as education, healthcare, or housing, by allocating resources through targeted tax measures. By incorporating tax incentives or deductions for specific expenses, governments can enhance social equity by making these critical services more affordable and accessible for individuals from all income levels.

Overall, tax policies have significant implications for income distribution and social equity. The design and implementation of tax systems should consider progressive taxation principles, targeted relief for low-income individuals, and the equitable provision of essential services. Regular evaluation and adjustment of tax policies can help ensure that they contribute positively to income distribution and social equity goals, fostering a more just and inclusive society.

### **Analysis of progressive taxation, wealth redistribution, and the role of tax policy in reducing economic disparities**

Progressive taxation and wealth redistribution through tax policy play a vital role in reducing economic disparities and promoting a more equitable society. By implementing progressive tax systems and employing targeted tax policies, governments can address income inequality and foster greater economic fairness.

Progressive taxation is a cornerstone of many tax systems, where higher-income individuals are subject to higher tax rates. This approach recognizes the principle of ability-to-pay, ensuring that those who can afford to contribute more bear a greater share of the tax burden. Progressive tax systems help redistribute wealth by shifting resources from the wealthiest segments of society towards funding social programs and public services that benefit the broader population.

Wealth redistribution through tax policy involves implementing measures that specifically target the accumulation of wealth and address wealth inequality. This can be achieved through various means, such as imposing estate taxes, implementing wealth taxes, or introducing higher tax rates on capital gains. These measures aim to reduce wealth concentration and promote a more equitable distribution of assets and resources.

Tax policies also play a broader role in reducing economic disparities by supporting social programs and public services. Revenue generated through progressive taxation can be used to fund education, healthcare, social welfare programs, and infrastructure development. These investments help provide

equal opportunities, improve social mobility, and narrow the wealth and income gaps between different segments of society.

Furthermore, tax policies can be used to incentivize behaviours that contribute to reducing economic disparities. For example, tax credits or deductions can be offered for activities such as investing in low-income communities, providing affordable housing, or supporting small businesses. By encouraging these activities through the tax code, governments can foster economic development in underserved areas and promote more inclusive growth.

While progressive taxation and wealth redistribution through tax policy can contribute to reducing economic disparities, it is important to strike a balance between equity and economic efficiency. Excessive tax burdens on high-income individuals or stifling taxation on investment and entrepreneurship can hinder economic growth and discourage productive activities. Careful design, evaluation, and adjustment of tax policies are necessary to ensure they achieve the intended objectives while maintaining a conducive environment for economic prosperity.

In summary, progressive taxation, wealth redistribution, and targeted tax policies play a crucial role in reducing economic disparities. By implementing progressive tax systems, addressing wealth concentration, funding social programs, and incentivizing inclusive economic activities, tax policies can contribute to creating a more equitable society and narrowing the gap between the affluent and the disadvantaged.

### **Consideration of how tax policy can be used to foster inclusive growth and address poverty.**

Tax policy can be a powerful tool for fostering inclusive growth and addressing poverty by promoting economic opportunities, providing targeted support to vulnerable populations, and facilitating wealth redistribution. By designing tax policies with a focus on inclusivity, governments can create an enabling environment for sustainable and equitable economic development.

#### **Economic Opportunities:**

Tax policies can be used to stimulate economic activity and encourage entrepreneurship, particularly among marginalized communities. This can be achieved through measures such as tax incentives for small businesses, reduced tax burdens for startups, and provisions that support job creation. By reducing barriers to entry and providing incentives for business growth, tax policies can foster inclusive economic opportunities and help lift individuals and communities out of poverty.

#### **Targeted Support:**

Tax policies can be tailored to provide targeted support to vulnerable populations, such as low-income individuals, families, and disadvantaged groups. This can be done through the implementation of refundable tax credits, social tax breaks, or direct income transfers. By providing financial assistance through the tax system, governments can help alleviate poverty, improve living standards, and promote social inclusion.

### **Wealth Redistribution:**

Tax policies can address wealth inequality by implementing progressive tax systems that require higher-income individuals to contribute a larger share of their income. This can be achieved through higher marginal tax rates for high earners, capital gains taxes, or estate taxes. The revenue generated from these measures can be used to fund social programs, education, healthcare, and infrastructure development, ensuring that the benefits of economic growth are more evenly distributed and shared by all segments of society.

### **Fair Taxation:**

Ensuring that tax policies are fair and equitable is crucial for fostering inclusive growth. This involves combating tax evasion and implementing measures that prevent tax avoidance by corporations and high-net-worth individuals. By enforcing tax compliance and closing loopholes, governments can generate additional revenue that can be directed towards poverty alleviation programs and initiatives that promote inclusive development.

### **Collaboration and Stakeholder Engagement:**

Inclusive tax policies require collaboration and engagement with various stakeholders, including civil society organizations, business associations, and marginalized communities. Governments should actively seek input from these stakeholders to ensure that tax policies address the specific needs and challenges faced by different groups, promote social dialogue, and foster participatory decision-making processes.

By considering these factors, tax policy can be a powerful tool for fostering inclusive growth and addressing poverty. Through a combination of economic opportunities, targeted support, wealth redistribution, fair taxation, and stakeholder engagement, governments can create a more inclusive and equitable society where individuals have equal access to economic opportunities and a fair share of the benefits of economic growth.

## **5. Sustainability and Environmental Taxation**

Discussion of the role of taxation in promoting environmental sustainability Taxation plays a significant role in promoting environmental sustainability by influencing individual and corporate behaviours, incentivizing environmentally friendly practices, and internalizing the costs of environmental degradation. Through various tax instruments and policies, governments can encourage a transition towards a more sustainable and environmentally conscious economy.

### **Environmental Taxes:**

One of the key mechanisms used in environmental sustainability is the implementation of environmental taxes. These taxes are levied on activities that generate negative externalities, such as pollution, carbon emissions, or resource depletion. By imposing taxes on these activities, governments create financial incentives for businesses and individuals to reduce their environmental impact. Examples include carbon taxes, emissions trading schemes, and taxes on the extraction of natural resources.

### **Green Incentives and Subsidies:**

Tax policies can also be used to provide incentives and subsidies for environmentally friendly practices and investments. Governments can offer tax credits, deductions, or exemptions for activities such as renewable energy production, energy-efficient technologies, and green infrastructure projects. These incentives help reduce the cost barriers and encourage the adoption of sustainable practices.

### **Pollution Control and Remediation:**

Taxation can be employed to finance pollution control and environmental remediation efforts. Governments can impose levies or taxes on industries that generate pollution or hazardous waste, with the revenue being earmarked for environmental cleanup and restoration projects. This approach ensures that polluting industries bear the costs of their environmental impact and provides funding for sustainable initiatives.

### **Behavioural Changes and Consumer Choices:**

Tax policies can influence consumer behaviour by providing incentives for eco-friendly choices. Governments can offer tax benefits or reduced rates for the purchase of energy-efficient vehicles,



environmentally friendly products, or recycling programs. By making environmentally conscious choices more affordable, tax policies encourage sustainable consumption patterns and contribute to reducing environmental harm.

### **Funding Environmental Programs and Conservation:**

Taxation can serve as a revenue source for financing environmental programs, conservation efforts, and the protection of natural resources. Taxes levied on industries benefiting from natural resources, such as mining or forestry, can be allocated to environmental conservation initiatives, wildlife protection, and the preservation of ecosystems.

### **Research and Development:**

Tax policies can promote research and development (R&D) in sustainable technologies and practices. Governments can provide tax credits, deductions, or grants to businesses engaged in R&D for environmental innovations. This encourages the development of clean technologies, renewable energy solutions, and sustainable production methods.

By utilizing tax policies strategically, governments can incentivize environmentally responsible behaviour, discourage harmful practices, and finance environmental conservation efforts. However, effective taxation for environmental sustainability requires careful design, monitoring, and evaluation to ensure that tax measures are appropriately targeted, balanced, and aligned with broader sustainability goals. Collaboration between policymakers, environmental experts, and stakeholders is essential for developing effective tax policies that promote environmental sustainability and contribute to a more sustainable future.

### **Analysis of carbon pricing mechanisms, green taxes, and their impact on climate change mitigation**

Carbon pricing mechanisms, such as carbon taxes and emissions trading systems, along with green taxes, have emerged as effective tools for addressing climate change and promoting mitigation efforts. These mechanisms internalize the costs of carbon emissions and incentivize the adoption of cleaner technologies and practices. Here is an analysis of their impact on climate change mitigation:

### **Carbon Pricing Mechanisms:**

Carbon taxes and emissions trading systems (ETS) put a price on carbon emissions, reflecting the social cost of carbon and the environmental damage caused by greenhouse gas emissions. These mechanisms create a financial incentive for businesses and individuals to reduce their carbon footprint.

**Carbon Taxes:** Carbon taxes impose a direct price on each ton of emitted carbon dioxide or its equivalent. By increasing the cost of carbon-intensive activities, businesses are incentivized to adopt cleaner technologies, reduce emissions, and invest in renewable energy sources. The revenue generated from carbon taxes can be used to fund climate-related initiatives or to lower other taxes.

**Emissions Trading Systems:** ETS establishes a cap on total emissions and allocates or auctions emission allowances to companies. Companies that emit less than their allocated amount can sell their excess allowances to those exceeding their limits. This creates a market-based mechanism where emission reductions are incentivized, and cleaner businesses can financially benefit by selling their unused allowances. ETS encourages emission reductions where they are most cost-effective.

### **Green Taxes:**

Green taxes are levies imposed on activities that have negative environmental impacts or consume natural resources. They encourage more sustainable practices by increasing the costs of environmentally harmful activities.

**Pollution Taxes:** These taxes are levied on activities that release pollutants into the environment, such as air or water pollution. By imposing a tax on polluting activities, businesses are incentivized to invest in pollution control technologies or alternative cleaner production methods.

**Resource Taxes:** Resource taxes target the extraction or use of natural resources, such as water, minerals, or timber. By levying taxes on resource consumption, governments can encourage resource efficiency, sustainable harvesting, and the transition to renewable alternatives.

The impact of carbon pricing mechanisms and green taxes on climate change mitigation can be significant:

**Reduction in Emissions:** By putting a price on carbon emissions, these mechanisms encourage businesses and individuals to adopt cleaner technologies, reduce energy consumption, and shift to low-carbon alternatives. This leads to a decrease in greenhouse gas emissions, contributing to climate change mitigation.

**Innovation and Technological Advancements:** The economic incentives created by carbon pricing mechanisms and green taxes stimulate research and development of clean technologies and sustainable practices. Businesses are motivated to invest in innovative solutions to reduce emissions and comply with environmental regulations, leading to technological advancements in the field of climate change mitigation.

**Revenue Generation:** The revenue generated from carbon pricing mechanisms and green taxes can be reinvested in climate-related initiatives, renewable energy projects, or supporting vulnerable communities affected by climate change. This creates a virtuous cycle where the generated revenue is utilized to further promote climate change mitigation efforts.

However, it is crucial to address potential challenges and ensure the equitable distribution of the costs and benefits associated with these mechanisms. Policymakers must consider the impact on different industries, vulnerable populations, and international competitiveness. Designing complementary policies and ensuring international cooperation are essential for the effectiveness and fairness of these mechanisms in achieving climate change mitigation goals.

In conclusion, carbon pricing mechanisms and green taxes are effective policy instruments for climate change mitigation. By internalizing the costs of carbon emissions and promoting sustainable practices, they drive emission reductions, incentivize innovation, and generate revenue for climate-related initiatives. However, careful consideration of their design, implementation, and the broader policy framework is necessary to maximize their impact while ensuring equity and international collaboration in addressing climate change.

### **Exploration of how behavioural insights can inform the design of sustainable tax policies.**

Behavioural insights, derived from behavioural economics and psychology, provide valuable perspectives for designing sustainable tax policies that are effective in promoting desired behaviours and achieving environmental sustainability. By understanding how individuals and businesses make decisions and respond to incentives, policymakers can shape tax policies that encourage environmentally friendly actions. Here is an exploration of how behavioural insights can inform the design of sustainable tax policies:

#### **Nudges and Default Options:**

Behavioural insights suggest that people are influenced by the way choices are presented to them. Nudges and default options can be used in tax policy design to guide individuals towards sustainable

choices. For example, defaulting individuals into renewable energy sources or sustainable investment options can encourage participation without imposing additional effort or decision-making burdens.

### **Salience and Framing Effects:**

Behavioural insights emphasize that the salience and framing of information can influence decision-making. In tax policy, highlighting the environmental impacts of certain activities and framing tax incentives as environmental rewards can increase awareness and motivate individuals and businesses to opt for sustainable options.

### **Behavioural Biases and Inertia:**

Behavioural biases, such as present bias or status quo bias, can hinder behaviour change. Sustainable tax policies can address these biases by providing immediate incentives or simplifying the process of adopting sustainable practices. For instance, offering upfront tax credits for energy-efficient purchases or providing pre-filled tax forms with default sustainable choices can overcome inertia and promote sustainable behaviour.

### **Social Norms and Social Influence:**

Behavioural insights emphasize the role of social norms and social influence in shaping behaviour. Tax policies can leverage social norms by providing public recognition or social incentives for sustainable actions. For example, offering tax credits or other benefits for businesses that achieve specific sustainability certifications or promoting green tax breaks as a status symbol can encourage others to follow suit.

### **Feedback and Information Provision:**

Behavioural insights suggest that providing feedback on behaviour and information about environmental impact can drive behaviour change. Tax policies can incorporate feedback mechanisms that inform individuals or businesses about their carbon footprint or energy consumption. This can help raise awareness, encourage self-reflection, and prompt action towards more sustainable practices.

### **Framing Incentives and Loss Aversion:**

Behavioural insights emphasize that individuals tend to be more sensitive to losses than gains. Tax policies can leverage loss aversion by framing tax incentives as avoiding penalties or preventing losses associated with unsustainable behaviours. This framing can create a sense of urgency and motivate individuals and businesses to adopt sustainable practices.

By incorporating behavioural insights into the design of sustainable tax policies, policymakers can overcome behavioural barriers and nudge individuals and businesses towards environmentally friendly choices. It is crucial to conduct rigorous research, monitor policy effectiveness, and iterate designs based on behavioural feedback to ensure the ongoing improvement and impact of these policies. Behavioural insights offer a valuable toolkit to enhance the effectiveness and acceptance of sustainable tax policies, ultimately contributing to environmental sustainability.

## **6. Policy Implications and Recommendations**

**Incorporate Behavioural Insights into Tax Design:** Policymakers should integrate behavioural insights into the design of sustainable and equitable tax policies. This includes utilizing concepts such as nudges, defaults, salience, and framing effects to shape taxpayer behaviour towards sustainable choices. By leveraging behavioural insights, tax policies can be crafted to effectively promote environmentally friendly behaviours and mitigate climate change.

**Enhance Taxpayer Awareness and Education:** Governments should invest in taxpayer awareness and education campaigns that highlight the environmental and social benefits of sustainable tax policies. Clear communication can help individuals understand the rationale behind tax measures, their role in promoting sustainability, and the potential incentives available for environmentally conscious behaviours. This can increase taxpayer engagement and compliance with sustainable tax policies.

**Continuous Evaluation and Adaptation:** Regular evaluation of the impact of sustainable tax policies is essential to assess their effectiveness and identify areas for improvement. Governments should monitor behavioural responses, environmental outcomes, and equity implications to ensure that tax policies align with sustainability objectives. Feedback from evaluations should inform policy adaptations to enhance their efficiency and equitable distribution of benefits.

**Strengthen Collaboration and Stakeholder Engagement:** Policymakers should engage with a diverse range of stakeholders, including behavioural economists, environmental experts, businesses, and civil society organizations. Collaboration can foster innovation, provide valuable insights, and ensure that tax policies incorporate multiple perspectives. Stakeholder engagement is particularly important for identifying potential unintended consequences and ensuring equity in the design and implementation of sustainable tax policies.

**International Cooperation and Knowledge Sharing:** Climate change is a global challenge, and international cooperation is vital for effective tax policy implementation. Governments should collaborate on sharing best practices, experiences, and research findings related to sustainable policies. This collaboration can help foster harmonization, avoid tax competition, and promote a coordinated global response to climate change mitigation.

**Provide Incentives for Green Investments and Innovation:** Tax policies should include provisions that incentivize green investments and foster innovation in sustainable technologies. This can be achieved through targeted tax breaks, research and development (R&D) tax credits, and accelerated depreciation for environmentally friendly assets. Encouraging investment in renewable energy, clean transportation, and sustainable practices can drive the transition towards a low-carbon economy.

**Consider Distributional Impacts and Equity:** When designing sustainable tax policies, policymakers must carefully consider the distributional impacts and ensure that the tax burden is fairly distributed. Progressive tax structures and targeted measures should be implemented to prevent disproportionately burdening low-income individuals and vulnerable communities. The revenue generated from sustainable tax policies can be utilized to fund social safety nets, support low-income households, and promote inclusive growth.

By incorporating these specific policy implications and recommendations, policymakers can enhance the effectiveness of sustainable tax policies in achieving environmental sustainability, promoting equity, and fostering behavioural change towards sustainable practices.

## 7. Conclusion

The paper highlights the importance of incorporating behavioural insights into the design of tax policies aimed at promoting sustainability and equity. The analysis has explored various aspects, including the role of behavioural economics in understanding taxpayer behaviour, the impact of tax salience and framing effects, behavioural biases in decision-making, the influence of social norms, and the use of nudges and behavioural interventions in taxation.

By integrating behavioural insights into tax policy design, governments can effectively shape taxpayer behaviour and encourage environmentally friendly actions. The implementation of nudges, defaults, and framing techniques can guide individuals and businesses towards sustainable choices. Moreover, by addressing behavioural biases and leveraging social norms, tax policies can encourage compliance and foster positive environmental behaviours.

The paper also emphasizes the importance of evaluating and adapting tax policies over time to ensure their effectiveness and alignment with sustainability goals. Collaboration and stakeholder engagement play a critical role in developing inclusive tax policies that consider the perspectives of various



stakeholders and address potential unintended consequences.

Furthermore, international cooperation and knowledge sharing are crucial in addressing global environmental challenges. By collaborating with other countries, sharing best practices, and promoting policy harmonization, governments can create a more coordinated and impactful response to climate change mitigation.

In conclusion, the integration of behavioural insights into tax policy design can enhance the effectiveness of sustainable and equitable fiscal policies. By promoting sustainable behaviours, addressing behavioural biases, and leveraging social norms, tax policies can contribute to environmental sustainability, promote equity, and facilitate the transition to a more sustainable economy.

However, it is important to recognize that tax policy alone cannot solve all sustainability challenges. It should be complemented by other policy instruments, such as regulation, investment in green infrastructure, and public awareness campaigns. A comprehensive and integrated approach is necessary to achieve sustainable development objectives.

The paper highlights the potential of behavioural economics in informing the design of sustainable and equitable tax policies. By leveraging behavioural insights and continuously adapting tax policies, governments can make significant progress in addressing climate change, promoting environmental sustainability, and fostering a more equitable society.

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