Assessing the relationship between profile characteristics and occupational stress among the farmers of Mahbubnagar district of Telangana state, India

Abstract

For countries like India, where most agricultural households are small, marginal, medium, or semi-large, equitable agricultural growth is critical.Today, agricultural performance in the country is a major cause of concern, as farming has become financially unsustainable, particularly for small, marginal, and semi-medium farmers.The study was conducted in Mahbubnagar district, Telangana, during 2020-2021 to examine the relationship between farmers' profile characteristics and their occupational stress. Mahbubnagar district was purposively selected from the 31 districts in Telangana due to its high illiteracy rate and backwardness. Occupational stress was found to be more prevalent among cotton farmers, and since most farmers in Mahbubnagar grow cotton, the district was chosen for the study. Within Mahbubnagar, Midjil Mandal was specifically selected from 15 mandalas because of its limited technological advancements and the prevalence of cotton farming. Out of 28 villages, 5 were purposefully chosen for the study. Approximately 5% of farmers from each selected village were included using proportionate random sampling, resulting in a total sample size of 170 farmers. An Ex-post-facto research design was employed, and data were collected through a well-structured interview schedule tailored to the study's objectives. The data were then analyzed, classified, and tabulated. Statistical tools like frequency, percentage, mean, standard deviation, and coefficient of correlation were used to interpret the findings and draw conclusions. The study found that indebtedness had a positive and significant relationship with occupational stress, while variables such as age, education, farming experience, landholding, and annual income had a negative and significant relationship with stress levels. Family size, mass media exposure, economic motivation, scientific orientation, and risk orientation were found to have no significant relationship with occupational stress among the farmers.These findings suggest the need for debt management programs and enhanced financial literacy among farmers, alongside support for educational and income-generating opportunities to reduce stress and improve financial sustainability.

Keywords: Profile characteristics of farmers, occupational stress, relationship, occupational stress, independent variables

Introduction

For countries like India, where the most of agricultural households are small, marginal, medium, or semi-large, equitable agricultural growth is critical. Exports, the balance of payments, and resilience to external shocks have all shown phenomenal growth in the post-reform period, as have the service sector, foreign exchange accumulations, stock market and Information technology. However, real development in terms of economy that benefits all segments of the population has yet to take place. Agriculture, which had slow development and experienced farmer suicides in the previous decade, was one of the areas excluded from reforms (Galab,2012). Agricultural performance in the country is a major cause of concern today because farming has become financially unsustainable, specifically for small, marginal and semi-medium farmers. Stress is defined by Selye Hans (1956) as “the body's non-specific response to any demand placed upon it.” Furthermore, stress can be defined as any external or internal event that disrupts an organism's balance (Selye Hans 1956). Occupational stress, according to Beehr and Newman (1978), is a condition that arises from people's interactions with their occupations and is characterized by internal changes that

compel people to develop beyond their usual functioning. Farming is now one of the highly dangerous occupations in terms of injuries and diseases caused by hazardous situations and a variety of physical, biological, chemical, psychological, and sociological elements and farmers are at a significant risk of suicide due to the demands of the agricultural profession, the nature of farming lifestyle, and the risks farmers are exposed to (Dhonadhiram,2018).In a study by Shravani et al. (2024), it was found that 70.59% of participants experienced a medium level of overall occupational stress.Mahbubnagar district of Telangana state is also facing the issue of farmers suicides because of various reasons. The reasons or aspects which compelled to do the suicides by the farmers is because of their increased stress. But if the farmers have coped ability of the adverse conditions or skill of management of stress, the suicides would not have occurred. It is therefore to know the extent of occupational stress in the Mahbubnagar district of Telangana the present research has been undertaken which will help to sort out the problems of suicides and also to know the level of occupational stress among the farming community.

Materials and methods

This study was carried out in the Mahbubnagar district of Telangana during 2020-2021 to investigate the relationship between farmers' profile characteristics and their occupational stress. Mahbubnagar district was specifically selected from the 31 districts of Telangana due to its high levels of illiteracy and underdevelopment. Additionally, since occupational stress is higher among cotton farmers, and most farmers in Mahbubnagar cultivate cotton, this district was chosen to examine occupational stress levels. Midjil Mandal was deliberately chosen from the 15 mandalas in Mahbubnagar district for the study because many farmers in this area are lagging in technological adoption and primarily grow cotton. Five villages were purposefully selected from a total of 28 in the Mandal. From each village, approximately 5% of farmers were selected through proportionate random sampling, resulting in a total sample size of 170 farmers. The study followed an Ex-post-facto research design, and data were collected using a well-structured interview schedule designed according to the study's objectives. The data were analyzed, classified, and tabulated. Statistical tools such as frequency, percentage, mean, standard deviation, and coefficient of correlation were employed to interpret the findings and draw conclusions.

Results and Discussion

Profile Characteristic of farmers

Table 1: Profile Characteristic of farmers

S.No.	Characteristics	Farmers (N=170)	
		Frequency	**Percentage**
1	**Age**		
	Young age (below 35 years)	28	16.48
	Middle age (between 35 to 50 years)	117	68.82
	Old age (above 50 years)	25	14.70
2.	**Education**		
	Illiterate	3	1.76
	Read and write only	14	8.23
	Primary school	25	14.70
	Middle school	31	18.23
	High school	51	30
	Higher secondary school	27	15.90

	Undergraduate and above	19	11.18
3.	**Family size**		
	Low (below 3)	1	0.60
	Medium (3 to 6)	162	95.29
	High (above 6)	7	4.11
4.	**Farming experience**		
	Low (below 8)	17	10
	Medium (8 to 26)	124	72.94
	High (Above 26)	29	17.06
5.	**Land holding**		
	Marginal (up to 1.00 ha)	2	1.18
	Small (1.01 to 2 ha)	32	18.82
	Semi-medium (2.01 to 4.00 ha)	75	44.12
	Medium (4.01 to 10.00 ha)	57	33.53
	Large (more than 10.00 ha)	4	2.35
6.	**Annual income**		
	Low	33	19.41
	Medium	108	63.53
	High	29	17.06
7.	**Indebtedness**		
	Low	35	20.59
	Medium	95	55.88
	High	40	23.53
8.	**Extension contact**		
	Low	11	6.47
	Medium	145	85.29
	High	14	8.24
9.	**Mass media exposure**		
	Low	38	22.35
	Medium	103	60.59
	High	29	17.06
10.	**Economic motivation**		
	Low	22	12.94
	Medium	134	78.82
	High	14	8.24
11.	**Risk orientation**		
	Low	0	0
	Medium	169	99.41
	High	1	0.59
12.	**Scientific orientation**		
	Low	16	9.41
	Medium	129	75.88
	High	25	14.71

Relationship between independent variables and occupational stress level among the respondents

Table2: Relationship of profile of characteristics with occupational stress level among the respondents.

S.NO.	Independent variables	Correlation co-efficient 'r' value
1.	Age	-0.380**
2.	Education	-0.399**
3.	Family size	-0.138^{NS}
4.	Land holding	-0.200**
5.	Farming experience	-0.277**
6.	Annual income	-0.391**
7.	Indebtedness	0.327**
8.	Extension contact	-0.427**
9.	Mass media exposure	-0.009^{NS}
10.	Economic motivation	0.091^{NS}
11.	Risk orientation	0.058^{NS}
12.	Scientific orientation	-0.028^{NS}

** Significant at 0.01 level of probability*Significant at 0.05 level of probability
NS- Non significant

Age with Occupational stress

From the Table 2 it was observed that there was a negative and significant relationship between age and occupational stress of farmers. It could be related to the fact that farmers in their forties and fifties were more interested in farming and had a more enjoyable experience than those in above fifties, as well as being more efficient. They are eager to work and contribute to the financial well-being of the family. The findings were in line with the findings of Nirmala *et al.,* (2013) and Rathod*et al.,* (2014).

Education with Occupational stress

Education had a negative and significant relationship with occupational stress in farming (Table 2). The data suggest that farmers are increasingly striving to improve their skills and educational levels, believing that a good education will enhance their future success. Typically, villages only offered educational facilities up to the primary and secondary levels, and pursuing higher education required moving to cities, which was often unaffordable for most farmers. These findings are consistent with those of Rathod*et al.* (2014) and Gosave (2015).

Family size with Occupational stress

It was observed that there was negative and non-significant relationship between family size and occupational stress among the farmers. This might be due to moving of their children to cities for their job purpose. This result was in accordance with the findings of Gavhane (2012) and Ghonge (2015).

Farming experience with occupational stress

Farming experience was negatively correlated with occupational stress demonstrated in Table 2. It is due to the fact that the majority of the respondents were in their forties, with the young and old following closely after. Younger generations are more likely to have chosen farming as their major employment, which was formerly primarily carried out by their parents. Many farmers went into agriculture after finishing secondary or intermediate education. As a result, the vast majority of respondents had previous farming experience. The results were in accordance with the findings of Truchot*et al.,* (2018).

Land holding and occupational stress
A negative and significant relationship between landholding and occupational stress was observed in Table 2. This may be attributed to the transition from joint to nuclear families and the division of large landholdings into smaller, semi-medium ones. These findings align with the results of Owolabi*et al*. (2015) and Gosave (2015).

Annual income with occupational stress
From Table 2 it was clear that there was a negative and significant relationship between annual income and occupational stress. The fact that agriculture is sensitive to climate change, as well as the fact that small and semi-medium land holdings are among the primary reasonsfor their low and medium income. Aside from that, due to a little marketable surplus, the farmer's bargaining power is constrained. As a result, the farmer's agricultural revenue is limited. Additional factors included the rising cost of basic commodities and the low Minimum Support Price. The findings are in line with Rathod*et al.*, (2014) and Tandekar (2014).

Indebtedness with occupational stress
It was evident from Table 2 that there was a positive and significant relationship between indebtedness and occupational stress among the farmers. The reason was that farmers take loan to buy inputs like seeds, fertilizers, and plant protection chemicals because their farming income is insufficient to pay even their basic necessities. Furthermore, the bulk of Indian farmers are low- and middle-income folks with little financial resources. The findings are supported byGosave (2015) and Ghonge (2015).

Extension contact with occupational stress
Table 2 confirms that there was negative and significant relationship between extension contact and occupational stress among the farmers. It can be attributed to the fact that extension contact provides services such as improved access to information, problem-solving support, risk mitigation strategies, social support networks, increased productivity, market knowledge, and stress management training. The findings are in accordance with Khushpe&Kadam (2012) and Tandekar (2014).

Mass media exposure with occupational stress
Table 2 shows a negative but non-significant relationship between mass media exposure and occupational stress among farmers. This might be because middle-aged and younger farmers are increasingly aware of current technologies and actively seek more information through media. These findings are consistent with those of Tandekar (2014) and Patel (2011).

Economic motivation with occupational stress
It was noted that there was a negative but non-significant relationship between economic motivation and occupational stress among farmers. This trend could be attributed to farmers still viewing agriculture primarily as a subsistence activity rather than a business venture. Statistically, the respondents have limited opportunities and avenues for growth. This finding aligns with the results of Hingonekar (2011) and Dhodia*et al.* (2014).

Risk orientation with occupational stress
Risk orientation had negative and non-significant relationship with occupational stress among the farmers. Because of their limited land holdings, time constraints, and lack of knowledge of precise farming methodologies, they do not practice crop diversification or engage in

supplementary occupations. The findings are in accordance with the findings of Patel (2011) and Sesane*et al.*, (2012).

Scientific orientation with occupational stress

Scientific orientation was negatively correlated with occupational stress among farmers, but the relationship was non-significant (Table 2). This could be due to their low education levels and lack of awareness about scientific advancements. Additionally, farmers tend to show little interest in new technologies until they have been successfully adopted by a significant portion of the farming community. These findings are consistent with those of Dhenge (2013) and Ansari *et al*. (2018).

Conclusion

The study conclusively demonstrated that indebtedness had a positive and significant relationship with occupational stress, indicating that financial burdens are a critical factor contributing to stress among farmers. In contrast, factors such as age, education, landholding, farming experience, annual income, and extension contact were found to be highly significant and negatively correlated with occupational stress levels, suggesting that experience, knowledge, and financial stability play protective roles. Additionally, there was no significant relationship between family size, mass media exposure, economic motivation, scientific orientation, and risk orientation with occupational stress. From these findings, it can be inferred that targeted interventions to reduce farmers' indebtedness, such as offering financial literacy programs, debt relief schemes, and better access to affordable credit, could be effective in lowering stress levels. Moreover, enhancing education, promoting sustainable land management practices, and expanding extension services could further mitigate stress by empowering farmers with the knowledge and resources needed for better decision-making and resilience. Policymakers should prioritize these areas to improve the well-being of farmers and create a more supportive and sustainable agricultural environment.

Disclaimer (Artificial intelligence)

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc) and text-to-image generators have been used during writing or editing of manuscripts.

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