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Anusuya K
M.Sc. Agricultural Extension Education, VNMKV, Parbhani, Maharashtra, India

Kadam RP
Head, Department of Agricultural Extension Education, VNMKV, Parbhani, Maharashtra, India

Jakkawad SR
Senior Scientist, AICRP-WIA, VNMKV, Parbhani, Maharashtra, India

Lad AS
Assistant Professor, Department of Agricultural Extension education, VNMKV, Parbhani, Maharashtra, India

Pathrikar DT
Assistant Professor, Department of Agricultural Economics, VNMKV, Parbhani, Maharashtra, India

Corresponding Author:
Anusuya K
M.Sc. Agricultural Extension Education, VNMKV, Parbhani, Maharashtra, India

Exploring occupational role stress and demographic correlates among agricultural university faculty

Anusuya K, Kadam RP, Jakkawad SR, Lad AS and Pathrikar DT

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Abstract
Aims: To explore the relationship of occupational stress among faculty members in an agricultural university with demographic variables.
Study design: Ex post facto research design.
Place and duration of study: Directed at Vasantrao Naik Marathwada Krishi Vidyapeeth (VNMKV), Parbhani, across 12 constituent colleges, from the academic year 2024-25.
Methodology: A proportionate stratified random sampling method was done to select 120 faculty members, ensuring representation across colleges. Data on demographic variables (age, gender, marital status, educational qualification, designation, years of experience, pay scale, family background, family type, communication level, additional responsibilities) were collected. Occupational stress was assessed using the Occupational Role Stress (ORS) Scale by Udai Pareek, covering 10 stress dimensions. Data collection involved face-to-face interviews using a pre-tested schedule. Statistical analysis using SPSS v27 included descriptive statistics and Pearson's correlation to explore relationships between variables.
Results: The majority of participants were middle-aged (40-55 years, 68.3%), male (81.66%), married (96.66%) and doctoral degree holders (99.1). Age, marital status, experience, pay scale and designation show small but consistent negative correlations whereas gender and family type exhibit weak positive associations, indicating a subtle improvement in outcomes for certain groups. Other factors such as family background, educational qualification, communication and additional responsibilities show negligible or non-significant correlations.
Conclusion: Findings indicate that more senior, experienced and higher-paid faculty tend to perceive less stress than that of others. As the findings revealed the importance of faculty members to have a less or no stress for the betterment of the institution. The productivity of the organization majorly depends on the stress level of the faculty members.

Keywords: ORS Scale, Agriculture University, occupational stress, teaching faculties, higher education institutions, stress dimensions, demographic variables

Introduction

In the fast-moving world, the stress becomes a common term that is used and experienced by different kinds of people in the society. Each individual will have different perspectives with stress and assume it as true. Oladinrin *et al.* (2014) [6] reference the Latin root "stringere", which conveys the idea of "drawing tight," emphasizing notions like binding firmly or compressing. Lazarus & Folkman (1984) [4] define stress as a dynamic interplay between an individual and their environment, highlighting how the environment's demands strike a balance or imbalance with a person's resources and capacity to manage them.

Hans Selye often referred to as the "father of stress", as cited by Landy & Conte (2016) [3], was the first to distinguish between good stress (eustress) and bad stress (distress). Charmandari *et al.* (2005) [1] describe stress as occurring when the body's internal balance, or homeostasis, is either genuinely threatened or perceived to be under threat homeostasis referring to the stable physical and chemical conditions that sustain life. In a more socially oriented perspective, McEwen (2007) [5] characterizes stress as situations that impose emotional and physiological challenges on an individual. Together, these definitions illustrate that the meaning of 'stress' broadens and shifts depending on the author's standpoint.

As industries have evolved and diversified, researchers have introduced terms like job stress**,** workplace stress and occupational stress to describe the pressures specific to today's work environments (Vladut & Kallay, 2010) [8]. These work-related stressors are not only becoming more widespread but are also intensifying in their impact on employees. Over time, scholars have found that heightened stress levels among professionals can adversely affect the quality of their output. Consequently, organizations are increasingly focused on ensuring that their employees can perform their duties with competence, effectiveness and efficiency (Salam, 2016) [7].

Teaching profession is one of the important jobs among various ones. Teachers are the person who ignite a lifelong passion for learning, guiding students toward discovery, critical thinking and innovation. But the true power of teachers extends far beyond the classroom. They serve as guardians, mentors, confidants, role models and so on. Teachers often step-in when students need emotional support, guidance or encouragement and also the most nurturing not only intellect but self-belief, compassion and resilience. On a broader scale, teachers shape society by the way of pulling and pushing a student become adults, leaders and contributors to their communities.

As the teaching faculties are very much important for the development of the society, the study and analysis to find their level of stress that they experience during their work is also very much important. The greater the teacher's mental and physical health, there is an increase in progressive path of the nation. This study would help to recognize the stress experienced by the faculties and also examine the level of stress among the teaching professionals in agricultural university.

Materials and Methods

The present study was conducted using ex-post facto research design, which is a valuable approach when direct experimental manipulation is either impractical or unethical. This design allows the investigation of relationships and patterns after the events have already taken place.

The research was accompanied at Vasantrao Naik Marathwada Krishi Vidyapeeth (VNMKV), Parbhani, covering all twelve constituent colleges of the university to reflect diversity in disciplines and geographic locations within the institution.

The study population comprised all teaching faculties working in the constituent colleges of the agricultural university during the 2024-25 academic year. A proportionate stratified random sampling method was applied, wherein the colleges served as strata. Faculty quotas were assigned proportionally based on the size of each stratum and respondents were then selected randomly within those strata. This method ensured balanced representation across colleges under the university. In total, 120 faculty members were participated, serving as a representative sample from all 12 colleges. The independent variables in this study included the faculty profile characteristics such as age, gender, marital status, educational qualification, designation, and years of experience, pay scale, family background, family type, communication level and additional responsibilities. The dependent variable was considered as occupational stress of the faculties. The independent variables are collected under different categorization as quoted in Table 1.

Table 1: Independent variables and its categorization

S. No.	Variables	Categorization
	Independent variable	
1.	Age	Categorized based on mean and standard deviation
2.	Gender	Male, Female
3.	Marital status	Married, Unmarried, Divorced, Widow/Widower
4.	Educational qualification	Masters, Doctoral, Post-Doctoral
5.	Designation	Junior (Assistant professor), Senior (Associate professor, Professor), Administrative (Head, ADP)
6.	Year of experience	Categorized based on mean and standard deviation
7.	Pay scale	Categorized based on mean and standard deviation
8.	Family Background	Rural, Urban, Peri-urban
9.	Types of family	Nuclear, Joint, Other
10.	Communication level	Schedule was developed and scores were calculated
11	Additional responsibilites	Categorized based on mean and standard deviation
	Dependent variable	
1.	Occupational stress	ORS Scale by Udai Pareek

The Occupational Role Stress (ORS) Scale, introduced by Dr. Udai Pareek in the early 1980s was selected to study the dependent variable which was created to gauge various forms of stress that professionals experience in organizational environments, especially within Indian cultural and workplace contexts.

This scale comprises 50 statements organized into 10 key dimensions, each capturing a unique type of role-related stress. Each dimension was represented by five carefully crafted items. The 10 dimensions are inter-role distance (clash between work and other roles), role stagnation (non-existence of upward growth), role expectation conflict (contradictory expectations), role erosion (feeling deprived of important responsibilities), role overload (excessive workload), role isolation (limited workplace interaction), personal inadequacy (lack of readiness for the role), self-role distance (misalignment between personal values and job demands), role ambiguity (indefinite expectations) and resource inadequacy (deficiency of necessary resources).

Respondents should rate each item on a five-point Likert scale ranging from "never or rarely" (scored as 0) to "very frequently" (scored as 4). Scores for each dimension are calculated by summing the responses to its five items and the overall ORS score is determined by adding the ten-dimension scores together.

A preliminary trial of the schedule was conducted with 10 faculty members from a college not included in the main study sample. This pilot run served to assess clarity, validity and required administration time. Based on the feedback received, adjustments were made to item wording and the sequence of questions to improve the overall usability of the research questionnaire.

Following these refinements, the finalized schedule was administered during the 2024-25 academic year. The data were gathered through face-to-face interviews conducted in the faculty member's colleges. All interviews were held in English

at times convenient for respondents to minimize fatigue. Participant's responses were recorded using the finalized schedule. Once collected, responses were coded, cleaned and entered into Microsoft Excel, then exported to SPSS (version 27) for statistical analysis. The analyses conducted included:

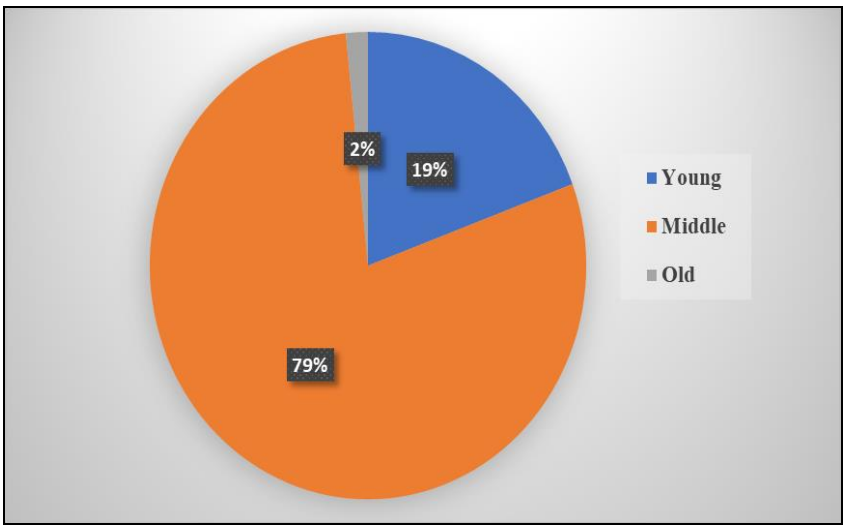
- **Descriptive statistics:** Calculation of frequencies, percentages, means and standard deviations.
- **Correlation analysis:** Using Pearson's correlation coefficient to assess relationships between variables.

Demographic variables such as age, gender, marital status, educational qualification, designation, years of experience, pay scale, family background, family type, communication level and additional responsibilities are essential for capturing the composition of a study sample. These characteristics are analyzed using descriptive statistics, providing key context that enhances the interpretation of findings and helps assess their generalizability. Detailed breakdowns of each variable, including percentage distributions, are presented in Table 2.

Results and Discussion

Table 2: Demographic variables analysed using frequency & percentage

Variables	Category		Percentage (%)
Age	1	Young (Upto 40)	16.7
	2	Middle (40-55)	68.3
	3	Old (55 & Above)	15
Gender	1	Male	81.66
	2	Female	18.33
Marital status	1	Unmarried	3.33
	2	Married	96.66
Educational qualification	1	Masters	0
	2	Doctoral	99.1
	3	Post-Doctoral	0.83
Designation	1	Junior (Asst. Prof.)	55.83
	2	Senior (Assoc. Prof. and Prof.)	30.83
	3	Administration (Head &ADP)	13.33
Year of experience	1	Low (<10 years)	20.8
	2	Medium (10-26 years)	65
	3	High (>26 years)	14.2
Pay scale	1	Low (<1077256)	15.8
	2	Medium (bet.1077256 & 2736077)	65.8
	3	High (>2736077)	18.3
Family background	1	Rural	47.5
	2	Urban	41.66
	3	Peri-urban	10.83
Family type	1	Nuclear	40
	2	Joint	58.33
	3	Other	1.66
Communication level	1	Low (<21)	15
	2	Medium (21-27)	70
	3	High (>27)	15
Additional responsibilities	1	No extra responsibility	9.2
	2	In-between 1-3 responsibilities	72.5
	3	More than 4 responsibilities	18.3



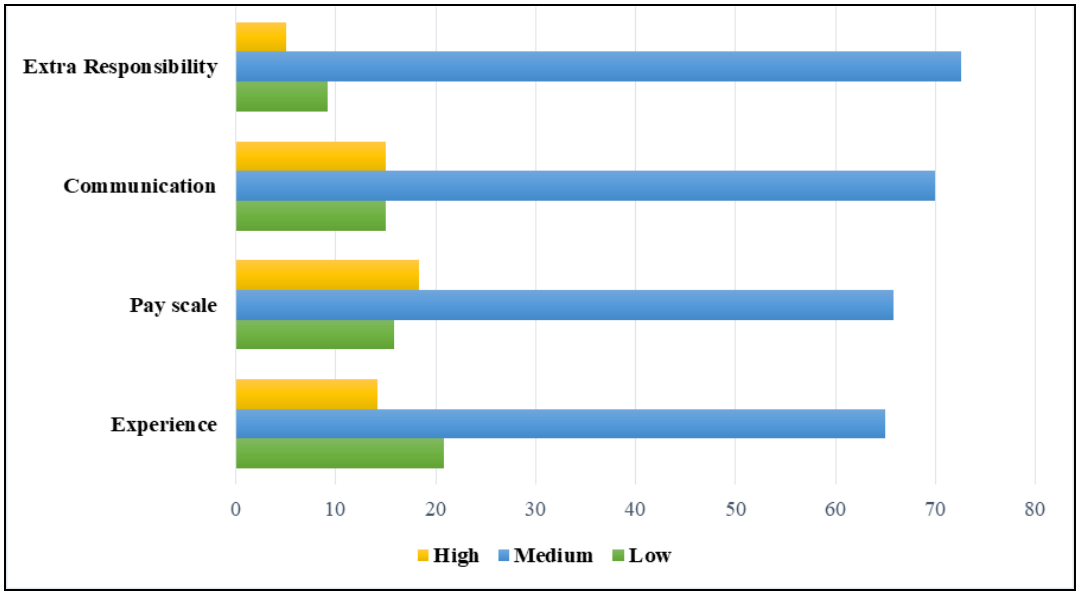
Graph 1: Representation of Age

The majority of faculty members (68.3%) are in the middle age group (40-55 years), suggesting a predominantly mid-career academic cohort. Younger faculty (up to age 40) make up 16.7%, while those aged 55 and above account for 15%, indicating a smaller representation at both ends of the career spectrum. A striking 81.7% of the teachers are male, compared to just 18.3% female, signalling a significant gender imbalance within the faculty. This suggests that male representation overwhelmingly dominates the teaching staff.

The faculty is overwhelmingly married, with 96.7% reporting marriage and only 3.3% unmarried. This high majority could reflect underlying cultural or career-stage norms prevalent among academic professionals in this setting.

Virtually, the entire faculty population holds doctorates (99.1%), with a small fraction (0.83%) holding post-doctoral qualifications and no one at just the master's level. This profile underscores the advanced academic credentials upheld among the staff.

Junior faculty (Assistant Professors) comprise the largest segment at 55.8%, while senior faculty positions (Associate Professors and Professors) stand at 30.8%. Those in administrative roles (e.g., Department Heads) constitute 13.3%, reflecting a balanced distribution across academic ranks and responsibilities.



Graph 2: Representation of variables

Most faculty members fall within the medium experience circle (10-26 years) at 65%, indicating a seasoned yet active academic body. Those with less than 10 years of experience make up 20.8% and highly experienced faculty (over 26 years) comprise 14.2%, pointing to a healthy mix of emerging and veteran professionals.

About two-thirds of faculty (65.8%) are in the medium pay range, suggesting a bulk of salaries cluster in mid-tier brackets. Lower pay scale positions account for 15.8%, while upper-scale positions make up 18.3%, hinting at compensation diversity possibly tied to rank, experience or additional duties.

A near-even split exists between rural (47.5%) and urban (41.7%) faculty origins, with 10.8% coming from peri-urban areas. This mix reflects diversity in socio-geographical backgrounds within the faculty group.

More than half of the respondents (58.3%) come from joint family systems, compared to 40% from nuclear families and a small 1.7% from other family types indicating that extended or multi-generational households remain prominent among faculty.

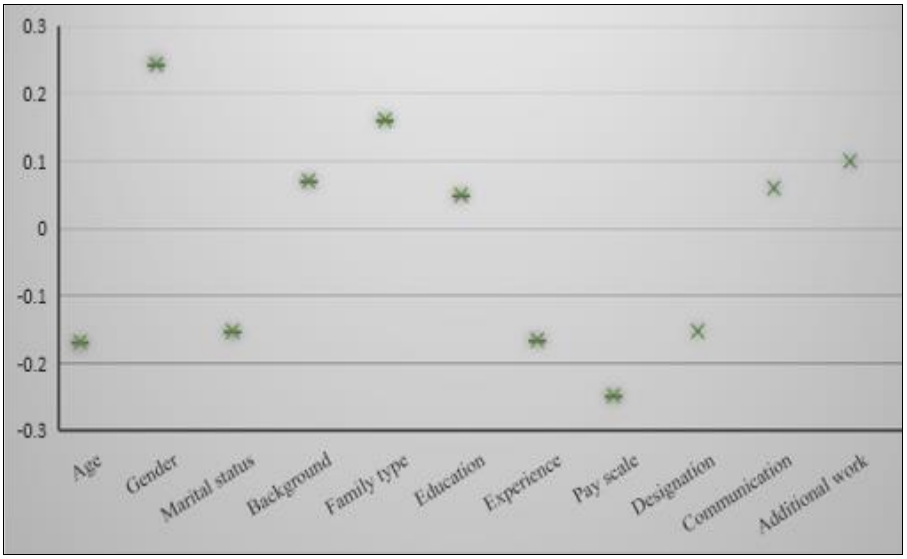
Communication proficiency among respondents is predominantly moderate (70%), while both low and high communication levels are evenly represented at 15% each. This suggests that most faculty are reasonably adept communicators, with fewer at either extreme.

Most faculty (72.5%) are handling between one to three extra responsibilities in addition to their primary roles. A minority (9.2%) have no additional duties, while 18.3% manage more than four, highlighting a generally considerable level of task involvement beyond teaching and research.

Table 3: Relationship between profile of the faculties and Occupational stress

Sr. No.	Independent Variables	Coefficient of Correlation
1	Age	-0.167*
2	Gender	0.2438**
3	Marital Status	-0.1518*
4	Family Background	0.0738^{NS}
5	Family Type	0.1608*
6	Educational qualification	0.053^{NS}
7	Year of Experience	-0.165*
8	Pay scale	-0.249**
9	Designation	-0.152*
10	Communication level	0.063^{NS}
11	Additional responsibilities	0.1003^{NS}

*-Significant at 0.05 level (2-tailed), **-Significant at 0.01 level (2-tailed), ^{NS}-Not significant



Graph 3: Representation of correlation coefficient values between variables

The analysis examines how various demographic and workplace factors are associated with the occupational stress, using Pearson correlation coefficients to measure both the direction and strength of these relationships. Each variable starting from age to additional responsibilities is assessed individually, with attention to whether its relationship is positive or negative and whether it reaches statistical significance (* for $p \leq 0.05$, ** for $p \leq 0.01$). The following will walk through each independent variable, offering a brief yet meaningful interpretation of its specific correlation pattern from Table 3.

As people get older, there is a small tendency for the outcome to decline. The negative correlation of -0.167 indicates a weak inverse relationship. Despite its modest size, its statistical significance ($p \leq 0.05$) suggests this trend is unlikely to be due to chance.

There appears to be a modest positive association between gender and the outcome, with the positive coefficient of +0.2438 indicating a weak but meaningful relationship. The high level of significance ($p \leq 0.01$) reinforces that this association is robust and unlikely to arise randomly.

Marital status shows a slight tendency to correspond with lower outcome levels. This negative correlation is weak, reflecting only a marginal effect, though it is statistically significant ($p \leq 0.05$), suggesting the relationship is consistent and not merely by chance.

Family background exhibits a very weak positive correlation that is statistically non-significant, suggesting no real, dependable relationship with the outcome.

Certain family structures seem to be modestly associated with improved outcomes. While the correlation is weak, the significance ($p \leq 0.05$) suggests this positive relationship, though subtle, is likely genuine.

Higher educational qualifications show only a negligible tendency to align with better outcomes. The effect is both very weak and statistically non-significant, suggesting there is no reliable trend here.

More experience correlates slightly with a lower outcome. With a negative coefficient of -0.165, this inverse relationship is weak but significant ($p \leq 0.05$), indicating a consistent albeit minor pattern.

Interestingly, higher pay scales are moderately connected with lower outcomes. The correlation of -0.249 points to a weak to moderate inverse relationship and the high significance ($p \leq 0.01$) confirms that this trend is statistically reliable.

Certain job designations are modestly associated with a decline in the outcome. The negative coefficient is weak, yet significant ($p \leq 0.05$), suggesting this pattern, while slight, is credible.

Better communication skills seem to have a very slight positive impact on the outcome, but the correlation is minimal and statistically inconclusive. This likely indicates no meaningful effect.

Taking on more responsibilities shows a gentle positive trend with the outcome. However, the relationship is weak and lacks statistical significance, suggesting the effect isn't dependable.

Conclusion

The findings reveal that several faculty characteristics exhibit weak but statistically significant correlations with occupational stress. Variables such as age, marital status, years of experience, designation and pay scale show inverse relationships, indicating that older, more experienced, higher ranked or better compensated faculty members tend to report slightly lower level of stress and *vice versa*.

Among these, pay scale stands out with the strongest negative correlation. Gender emerges as the only variable with a positive and significant association, suggesting women faculty experience somewhat higher stress when compared with male faculty. Other factors including family background, educational qualification, communication level and additional responsibilities demonstrate negligible and non-significant links. Overall, while demographic and role-based traits do correlate with stress levels to some extent, the effects are modest, implying that broader institutional, environmental or individual factors likely play a more substantial role in faculty stress.

It also indicates that as the level of stress increases, the performance, mental health, physical well-being of an individual decreases. Distributing the responsibilities equally among the faculties would promote a better environment which indirectly pays a way to reduce occupational stress and high productivity over the faculty's performance. Together, many strategies like individual micro breaks, clear role alignment and a wellness-driven culture *etc.* offer practical and research-backed ways to reduce occupational stress and boost the well-being of faculty.

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