

The effects of stressors, positive affectivity and coping strategies on well-being among academic staff in a Nigerian agricultural university

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This study examined the effects of stressors and coping strategies on the well-being of academic staff in an agricultural university in Nigeria. Surveys were administered to 133 faculty members. The stressors identified were heavy workloads, inadequate physical facilities, insufficient resources, poor working conditions, and career advancement expectations; the coping mechanisms employed included active planning, support-seeking and disengagement. Hierarchical moderated regression analysis showed that positive affectivity (PA) was significantly and positively related to job satisfaction and psychological strain. Stressors such as poor working conditions and heavy workloads were significantly and negatively related to job satisfaction and psychological strain, respectively. It is suggested that lessened workloads and improved working conditions might significantly enhance the well-being of faculty members.

Les effets des contraintes, de l'affectivité positive et des stratégies de gestion sur le bien-être de la Faculté d'Agriculture

Dans cette étude, le chercheur a examiné les effets de contraintes et de gestion sur le bien-être des membres d'une faculté dans une université d'agriculture au Nigéria. Des questionnaires ont été distribués à 133 participants, membres de la faculté. Les contraintes suivantes ont été identifiées: surcharge de travail, moyens physiques inadéquats, ressources insuffisantes, conditions de travail et attente de promotion de carrière, tandis que les mécanismes de gestion adoptés par les membres de la faculté comprennent la planification active, les demandes de soutien et le désengagement du travail. L'analyse de la régression modérée hiérarchique a montré que l'affectivité positive (AP) était liée respectivement de manière significative et négative au contentement du travail et à la tension psychologique des membres de la faculté. L'intervention administrative pourrait prendre en compte une réduction de la charge de travail et l'amélioration des conditions de travail des membres de la faculté.

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Publicly owned institutions dominate the Nigerian university system, some of whose private universities were established in the 1990s. During the past two decades, the state's budgetary allocations to the publicly owned universities have declined, due to the poor performance of the monolithic oil economy. As a result, the universities have been unable to execute capital budgets, acquire new facilities for teaching and research or provide staff grants for scholarly activities.¹ Nevertheless, there has been an increase in student enrolment over the same period, with demands for the expansion of existing facilities or the construction of new ones, and the recruitment of academic staff. A report puts it succinctly:

The sharp decline in real terms in the level of funding of university education generally [...] has caused considerable distress within the education system. This has occurred at a period of rapid rise in number of students (Republic of Nigeria 1999: 35).

It is believed that this growth in student enrolment will continue until the year 2060. An adequate university structure needs to be established to accommodate the expected growth (National Population Commission 1998: 362-3).

The poor working conditions in the universities have resulted in persistent strikes by staff (*The Guardian* 2003), and consequently to a lowering of the quality of university education (Republic of Nigeria 1999: 35, Dabalen *et al* 2000: 21-3), as well as causing some staff members to leave the institutions. Those who remained have had to contend with heavy workloads (Commission on Review of Higher Education in Nigeria 1991: 158-61). There seems to be no recent empirical information on the health implications of the working environment of the Nigerian universities on academics. Given the context within which a faculty member performs his/her duties, this study represents an endeavour to provide an insight into the sources of stress and how these affect the well-being of academic staff members at an agricultural university.

1 Cf Nwagwu 1997, Obadare 1997, Republic of Nigeria 1999, Dabalen *et al* 2000.

1. Conceptual framework: stress and well-being

The incidence of stress among employees has been recognised as having no geographical exclusivity, being reported in all countries of the world, among workers of every cadre, and in every occupational type. In an ideal work setting, a certain level of stress may be beneficial to the worker in terms of motivation to achieve normal performance. However, overweening or persistent stress can have negative effects on the well-being of the individual. Chiu & Kosinski (1997) suggest that the effects of stress on individuals from different cultures may be similar, but that the stress-inducing factors may not be the same because of the cultural differences in societal attitudes, values, and perceptions. In the academic sphere, studies have demonstrated that stress is an important aspect of staff's experience of their job, with negative implications for the quality of classroom teaching and research (Place & Jacob 2001, Smith *et al* 1995). Although various conceptualisations of stress exist in the literature due to the differing world-views of scholars in general, stress refers to any feature of the workplace that causes an employee to experience discomfort (Saal & Knight 1995: 390).

Many sources of stress exist in the workplace and each type exerts a specific demand on the individual. Malone *et al* (1997: 25-35) identify the following occupational stressors: physical attributes of the job, including noise, temperature and lighting in the workplace; relationships at work; one's role in the organisation, including role conflict, ambiguity and insufficiency; organisational structure and climate; home-work interface; career development, and factors intrinsic to the individual, including personality type, age, gender, and disability. Research has also shown that stress is associated with dispositional traits (such as negative affectivity) and job dissatisfaction (Chiu & Kosinski 1997); generational status and acculturation levels among immigrants and self-esteem (Padilla *et al* 1985); workload, and perceived freedom to make decisions concerning job performance (Kushnir & Melamed 1991). Poon's (2003) study of Malaysian business executives shows that levels of stress relate to job ambiguity, scarcity of resources, distrust of the organisation and high perception of politics in the workplace.

In higher education context, several stress-inducing factors have been reported as affecting staff. Gillespie *et al* (2001) report that work overload, insufficient funding and resources, job insecurity, poor ma-

nagement practices and insufficient recognition or reward are considered stressors among Australian university lecturers. Smith *et al* (1995) found that workload (task-based stressors), role-based factors and person-system-based factors including high self-expectations, perceptions of career progress as slow and the pressure to compete with colleagues are sources of stress for land-grant academics in the USA. In addition, a type A academic who engages in monochronic work behaviour (a high degree of scheduling and promptness in meeting obligations and appointments) is more likely to experience distress on the job (Frei *et al* 1999). Place & Jacob's (2001) study of extension staff shows that those who reported being stressed were characterised by over-commitment to work, worked late, constantly multi-tasked and continuously raced against the clock (time pressure). Sexual harassment has also been regarded as a stressor in academe. Some socio-sexual forms of behaviour, particularly towards women, are regarded as being stress-inducing for female academics (Dey *et al* 1996, Schneider *et al* 1997).

It is believed that stress can have a deleterious impact on the well-being of individuals, organisations and the economy as a whole. Occupational stress may result in reduced efficiency of operation and effectiveness of production, loss of time due to illness, diminished interpersonal co-ordination, work accidents, unnecessary absenteeism and high turnover (Malone *et al* 1997: 25-35). At the employee level, empirical studies have shown that stressed employees are likely to report physical symptoms of tension (such as headaches, insomnia or eating disorders), and psychological strain (such as exhaustion or burnout) (Kirkcaldy *et al* 2002, Westman & Etzion 2001); exhibit aggressive behaviours toward other workers (Vigoda 2002); experience a high rate of work injuries (Savery & Wooden 1994); dissatisfied with their job, and harbour thoughts of quitting (Poon 2003). The studies of Oi-Ling Siu and associates on blue-collar workers and managerial executives in Hong Kong, China and Taiwan show that stress is inversely related to mental and physical well-being and job satisfaction (Siu 2002a, Siu *et al* 2002b). Another dimension has recently emerged in relation to the consequences of stress in the workplace: the crossover phenomenon, which refers to the reaction of an individual to the job stress experienced by another person (a supervisor) in the same social environment (Westman 2001). For instance, Westman & Etzion (1999) report that there is a direct, mutual crossover effect of

job-induced tension between school principals and teachers. Similarly, in academe, the perception of a high level of stress has a detrimental impact on the professional work and personal well-being of staff (cf Schneider *et al* 1997: 412-3, Gillespie *et al* 2001) and on their career satisfaction (cf Hagedorn 1994, Dey *et al* 1996).

2. Coping mechanisms and personality traits

It is believed that stress in the workplace will not diminish, but that individuals and organisations will have to seek solutions to reduce its causes and symptoms (Vigoda 2002: 589). There is no consensus on the most effective means of coping with stress. Coping refers to a mechanism that can ease the effects of stress on the well-being of an individual. The coping methods employed reflect the individual situational appraisal and the meaning of challenges, as the perception of stress varies from person to person. The coping literature suggests two commonly employed means of coping with stressors in the workplace: avoidance, or an emotion-focused method, and an active or problem-focused strategy (Jex *et al* 2001).

Studies have shown that the use of coping mechanisms can improve the physical and mental well-being of employees (Kirkcaldy *et al* 2002, Siu *et al* 2002b), reduce psychological strain (Jex *et al* 2001), diminish absenteeism (Westman & Etzion 2001) and improve job satisfaction (Kirkcaldy *et al* 2002, Siu *et al* 2002b). Gillespie *et al* (2001) in their study on ways on which academics cope with stress report that certain aspects of the work environment (flexible working conditions, high morale, support from co-workers or management, recognition and achievement) and certain personal resources (stress management techniques, lowering standards, tight role boundaries, and a good work/non-work balance) act as mechanisms for alleviating the effects of stress. In their study of extension staff in the USA, Place & Jacob (2001: 102-3) found that an academic who reported spending a considerable amount of time with family members was less stressed than one who did not. There is also evidence that an individual's personality or disposition may affect stress outcomes. For instance, an employee with a more positive personality is less likely to be adversely affected by stressful situations. The study of Chiu & Kosinski (1997) on nurses and teachers in Hong Kong demonstrates that individuals who are high on positive affectivity (PA) are less

stressed than those low in PA, and that PA contributes significantly to job satisfaction. High PA employees are believed to be energetic and self-efficacious, as well as tending to experience positive emotional states over time and in diverse situations (Luthans 1998: 334-8).

The objectives of the present study are:

- to determine agricultural faculty members' perception of stressors in their institution and how these perceptions vary according to sex and rank;
- to examine the relationship between the stressors and the well-being of the agricultural staff;
- to determine the moderating effects of PA on the stressors/well-being relationship of these academics, and
- to examine the coping mechanisms of these staff members and how these affect their well-being.

4. Methods

4.1 Participants

The participants in this study were 133 faculty members at a University of Agriculture in south-western Nigeria. Data collection occurred over three weeks in March 2003. Participants were approached during their union meetings and asked to complete questionnaires anonymously. Most of the respondents were male (73.7%) with a mean age of 42.06 years (SD = 7.07 years), and 94.0% were married. The sample consisted of 40.61% senior faculty members and 59.39% junior academics.

4.2 Measures

4.2.1 Predictors

- Stressors

Twenty-six items were self-constructed on the basis of a review of literature on stress among academics. The construct validity of items was evaluated by a cohort of ten agricultural faculty members randomly selected from three departments at the same university. Generally, there was agreement on the conceptual meaning of most items, some items

were reworded on the suggestion of the cohort members. Because of item deletion in the computation of the internal consistency reliabilities of the subscales, 19 items were eventually accepted for further analysis. The stressors included work-load (5 items, Cronbach α = 0.70), inadequate physical facilities (6 items, Cronbach α = 0.66), insufficient resources (3 items, Cronbach α = 0.61), working conditions (2 items, Cronbach α = 0.63) and career advancement expectation (3 items, Cronbach α = 0.78). Ratings on the items followed the four-point format: not stressful (1), slightly stressful (2), moderately stressful (3), very stressful (4). High scores indicated a respondent's agreement that an item was a stressor.

- Coping mechanisms

Sixteen items adapted from the revised 27-item COPE Inventory (Livneh *et al* 1996) were employed to measure coping mechanisms. Three dimensions characterised the adapted scale: active planning (5 items, Cronbach α = 0.65), seeking support (5 items, Cronbach α = 0.68) and disengagement (6 items, Cronbach α = 0.55).

- Positive affectivity (PA)

Three items adapted from the work of Watson *et al* (1988) were employed to assess PA. Ratings on the scale were based on an ascending five-point format. Higher scores indicated increasing levels of PA, and lower scores reflected low level of the trait in the individual (Cronbach α = 0.79).

4.2.2 Criteria

Job satisfaction and psychological strain were employed to assess the well-being of faculty members. Job satisfaction, which refers to an individual's positive emotional state resulting from the appraisal of his/her job (or job experiences) was measured using a seven-item scale adapted from the works of Niemann & Dovidio (1998) (4 items) and Olsen *et al* (1995) (3 items). The scale was subjected to maximum factor analysis to determine its construct validity and was found to be uni-dimensional. The single factor solution explained 43.60% of the variance in scores (Eigen value = 3.05) and was a good fit to the data ($\chi^2(14) = 72.11, p < 0.0001$). Sample items included "I find fulfilment in my work as a lecturer" and "The direction and focus of my research work is

satisfactory to me". Respondents indicated the extent of their agreement with each item on a five-point Likert-type scale from "strongly disagree" (1) to "strongly agree" (5). High scale scores indicated high levels of job satisfaction (Cronbach $\alpha = 0.83$).

Psychological strain refers to a number of individual adverse reactions such as emotional exhaustion, lack of energy, irritability and anxiety. The scale was based on five items adapted from the Emotional Exhaustion (3 items) and Depersonalisation (2 items) sub-scales of the Maslach Burnout Inventory (Maslach & Jackson 1986: 10). Ratings on the items followed a five-point format from "strongly agree" (1) to "strongly disagree" (5). High scale scores reflected low psychological strain while low scores showed that a staff member was under psychological strain (Cronbach $\alpha = 0.77$).

4.3 Data analysis

Two separate hierarchical moderated regression analyses were performed to determine the proposed relationships between the criteria (job satisfaction and psychological strain) and controls, predictors, and moderators. Analyses were performed, using *SPSS 10* software. First, the criteria were regressed on the biographical variables (sex and rank). PA was entered into the equations in step II. In step III, the stressors were entered into the equations. The coping mechanisms were added in step IV. In the last step, the interaction terms of PA and the stressors were entered into the model. To form the interactions of PA and stressors, their means were centred on zero. This procedure was performed to eliminate the multi-colinearity problems associated with interaction terms being correlated with the individual predictors from which they were formed (Aguinis 1995: 1149-50). Hierarchical regression analyses help determine the unique variance contributions of the predictors and interaction terms to the dependent variable (Tabachnick & Fidell 1989: 143-4, 184-91). A student *t*-test was employed to test for differences across gender and rank.

5. Results

5.1 Intercorrelations of variables

Table 1 shows the descriptive statistics, co-efficient *alpha*, and inter-correlations of variables. The pattern of zero-order correlations indicated independence between the individual stressors and coping mechanisms with the correlation co-efficients ranging between -0.01 and -0.12. Positive affectivity also showed independence from the coping mechanisms, insufficient resources, inadequate physical facilities, career advancement expectation and working conditions, while it was related to workload ($r = -0.26, p < 0.01$). Faculty members' satisfaction had significant but negative relationships with the stressors workload ($r = -0.26, p < 0.01$), inadequate physical facilities ($r = -0.22, p < 0.01$), insufficient resources ($r = -0.21, p < 0.05$), working conditions ($r = -0.35, p < 0.01$) and career advancement expectation ($r = -0.27, p < 0.01$), while it was unrelated to the coping mechanisms. This means that faculty satisfaction was diminished by the stressors in the environment and was unaffected by the coping mechanisms. Psychological strain was negatively associated with workload ($r = -0.29, p < 0.01$), inadequate physical facilities ($r = -0.17, p < 0.05$) and working conditions ($r = -0.25, p < 0.01$), but unrelated to insufficient resources, career advancement expectations, and coping mechanisms.

Table 1: Descriptive statistics, co-efficient *alpha*, and intercorrelations of variables (*n* = 133)

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13
Sex	-												
Rank	.18	-											
Workload	.08	-.03	(.70)										
Inadequate physical facilities	.04	-.14	.33	(.66)									
Insufficient resources	-.02	-.10	.31	.57	(.61)								
Working conditions	.01	-.22	.46	.58	.54	(.63)							
Career advancement expectations	.13	-.27	.41	.21	.42	.39	(.78)						
Active planning	.04	-.11	-.02	-.07	.02	-.04	.09	(.65)					
Support-seeking	.01	-.05	-.02	-.12	-.06	-.01	-.03	.19	(.68)				
Disengagement	.07	-.11	.11	-.06	-.04	.02	.09	-.09	.14	(.55)			
Positive affectivity	.03	-.06	-.26	-.13	-.10	-.15	-.01	.03	-.08	.07	(.79)		
Job satisfaction	.07	.17	-.26	-.22	-.21	-.35	-.27	.03	-.03	-.01	.43	(.83)	
Psychological strain	.12	.11	-.29	-.17	-.04	-.25	-.02	.05	-.01	-.07	.18	.24	(.77)
Mean	-	4.21	12.49	19.19	10.21	5.67	8.35	13.23	10.35	8.71	12.69	29.16	19.42
SD	-	1.52	3.57	3.41	1.82	1.60	2.62	1.52	1.83	1.88	2.05	4.22	3.33

Correlation co-efficients above .17 are significant at $p < 0.05$.

Correlation co-efficients above .22 are significant at $p < 0.01$ (Cronbach *alpha* in parentheses in diagonal).

5.2 Faculty members' perceptions of stressors and coping mechanisms

Agricultural faculty members' perceptions of stressors and the coping mechanisms employed were reported in this section. The mean for each stress sub-scale was determined and scores above the mean indicated that the academics considered it a source of stress, while scores below the mean indicated that they did not. In Table 2, 61.65% of the academics reported feeling stressed by their workload. Neither gender nor rank affected this perception. Two-thirds considered inadequate physical facilities in the institution as a stressor, again with no gender or rank differences in their perception. Insufficient resources were considered a stressor by 73.68%, with no gender or rank differences reported. The working conditions were adjudged as being stressful by 77.44% of the faculty members. No gender differences were reported, but there was a rank difference: junior academics (mean = 5.94, SD = 1.50) considered the working conditions more stressful than senior academics did (mean = 5.27, SD = 1.66), ($t(131) = 2.42, p < 0.05$). Career advancement expectation was reported as a stressor by 63.90% of the faculty. No gender differences were observed, but there was a rank difference: senior academics (mean = 7.72, SD = 2.72) considered career advancement expectations less stressful than junior academics (mean = 8.78, SD = 2.47), ($t(131) = 2.33, p < 0.05$).

Table 2 shows that most of the agricultural faculty members employed active planning (75.94%) and support-seeking (75.94%) mechanisms to deal with stressful situations. Active planning is characterised by having a positive frame of mind, devising a strategy and making a plan of action, as well as by putting in extra effort to resolve the problem. Support-seeking refers to consulting people who have experienced similar situations, seeking advice and emotional support from friends and releasing feelings. Some faculty members (67.67%) also reported using disengagement tactics often, as a means of dealing with stress. Disengagement is characterised by the suspension of action on the problem until the right situation presents itself, giving up the attempt to perform the task, or accepting the fact that the situation cannot be changed, and taking time out.

There were no rank or gender differences in the use of the three coping mechanisms by the academics. Previous studies have shown that teachers

at all levels (high school and college) employ all three coping mechanisms to deal with stressful situations. Furthermore, ratings on the Positive Affectivity scale showed that 81.20% of the faculty members were high in PA. No gender differences were observed.

Table 2: Agricultural staff's perceptions of stressors and coping mechanisms ($n=133$)

Stressors	Scale range	Mean (SD)	Stressful %	Not stressful %
Workload	5-20	12.49 (3.57)	61.65	38.34
Inadequate physical facilities	6-24	19.19 (3.41)	63.90	36.09
Insufficient resources	3-12	10.21 (1.82)	73.68	26.32
Working conditions	2-8	5.67 (1.60)	77.44	22.56
Career advancement expectations	3-12	8.35 (2.62)	63.90	36.10
Coping mechanisms	Range	Mean (SD)	Always used %	Never used %
Active planning	5-15	13.23 (1.52)	75.94	24.06
Support-seeking	5-15	10.35 (1.83)	75.94	24.06
Disengagement	6-18	8.71 (1.88)	67.67	32.23

5.3 Faculty members' perceptions of well-being

The descriptive information on the measures of well-being showed that academics were satisfied with their jobs (mean = 4.16, SD = 0.60), with 66.16% being satisfied, 30.07% slightly satisfied and 3.75% dissatisfied. The mean rating on the psychological strain scale was 3.88 (SD = 0.66), which indicated that faculty members did not consider psychological strain a problem. More than half the academics (54.88%) reported that they had not experienced psychological strain on the job, but 46.12% had. Faculty members' perceptions of psychological strain were not affected by gender or rank differences.

5.3 Results of regression analyses: job satisfaction

Table 3 shows that the biographics were unrelated to job satisfaction — sex ($\beta = -0.04$ not significant (ns)) and rank ($\beta = .16$ ns). The block of biographics explained no significant variance in the criterion (ΔR^2

= 0.03 ns). The addition of PA to the equation contributed a 20% unique variance (ΔR^2 , $p < 0.0001$) to job satisfaction, with PA being positively related to the criterion ($\beta = .44$, $p < 0.0001$). The stressors' addition to the model contributed an 8% variance (ΔR^2 , $p < 0.05$), with only working conditions being significantly and negatively related to job satisfaction ($\beta = -.21$, $p < 0.05$). Job satisfaction was unrelated to workload ($\beta = 0.01$ ns), inadequate physical facilities ($\beta = -0.01$ ns) and insufficient resources ($\beta = 0.02$ ns). It was marginally related to career advancement expectations ($\beta = -0.17$, $p < 0.10$). The coping mechanisms were unrelated to job satisfaction: seeking support ($\beta = -0.01$ ns), disengagement ($\beta = 0.01$ ns) and planning/hopefulness ($\beta = 0.04$ ns). The block of coping mechanisms did not account for a change in ΔR^2 beyond the earlier contributions of PA and the stressors. Finally, the inclusion of the multiplicative terms of PA and the stressors in the model did not increase the variance explained in job satisfaction beyond that already accounted for by PA and the stressors. Therefore, these results were omitted from Table 3. The statistics for each model are presented in Table 3. The total variance explained by the model was 31% ($p < 0.0001$).

Table 3: Results of stepwise regression analysis of agricultural faculty members' job satisfaction on biographics, PA, stressors, and coping mechanisms ($n=133$)

Variables	Model 1	Model 2	Model 3	Model 4
Biographics:	β	β	β	β
Sex	-.04	-.01	-.04	-.01
Rank	.16	.20	.10	.11
Personality trait:				
Positive affectivity		.44**	.40**	.40**
Stressors:				
Workload			.01	.01
Physical facilities			-.01	-.01
Insufficient resources			.02	.02
Working conditions			-.21*	-.21*
Career advancement			-.17***	-.17***
Coping mechanisms:				
Planning/hopefulness				.04
Support-seeking				-.01
Disengagement				.01
R^2	.03	.23	.31	.31
<i>Adjusted R²</i>	.02	.21	.27	.25
ΔR^2	.03	.20**	.08*	.01
<i>Overall R</i>	.18	.48	.56	.56
F	2.15	12.69**	7.01**	5.02**
SE	4.18	3.75	3.61	3.65
df	2/130	3/129	8/124	11/121

* $p < 0.05$; ** $p < 0.0001$; *** $p < 0.10$.

5.4 Psychological strain

Table 4 reflects the results of the hierarchical moderated regression procedure and psychological strain as the criterion variable. The biographics of sex ($\beta = -0.10$ ns) and rank ($\beta = 0.09$ ns) were unrelated to the variable. The block of biographics explained no significant variance in psychological strain ($\Delta R^2 = 0.02$ ns) either. In the second step, PA ($\beta = 0.19$, $p < 0.05$) was significantly related to psychological strain. PA explained 4% of the variance (ΔR^2 , $p < 0.05$) in the criterion. The addition of the block of stressors in the third step explained 11% of the

variance in psychological strain. Only workload was significantly and negatively related to the criterion ($\beta = -0.24, p < 0.05$), which was unrelated to inadequate physical facilities ($\beta = -0.04$ ns), insufficient resources ($\beta = 0.12$ ns), career advancement expectations ($\beta = 0.15$ ns), and only marginally related to working conditions ($\beta = -0.20, p < 0.10$). In step 4 the coping mechanisms were unrelated to psychological strain: planning/hopefulness ($\beta = 0.01$ ns), seeking support ($\beta = 0.01$ ns) and disengagement ($\beta = -0.05$ ns). The entry of the block of coping mechanisms did not explain a significant variance in psychological strain ($\Delta R^2 = 0.01$ ns). Finally, the entry of interaction terms of PA and stressors to the model did not increase the variance explained in psychological strain beyond that already accounted for by PA and stressors, so these results were omitted from Table 4. The total variance explained by the overall model was 17% ($p < 0.05$).

Table 4: Results of stepwise regression analysis of agricultural faculty members' psychological strain on biographics, PA, stressors, and coping mechanisms ($n=133$)

Variables	Model 1	Model 2	Model 3	Model 4
Biographics:	β	β	β	β
Sex	-.10	-.09	-.09	-.09
Rank	.09	.11	.10	.09
Personality trait:				
Positive affectivity		.19*	.10	.11
Stressors:				
Workload			-.24*	-.23*
Physical facilities			-.04	-.04
Insufficient resources			.12	.12
Working conditions			-.20***	-.20***
Career advancement			-.15	-.15
Coping:				
Planning/hopefulness				.01
Support-seeking				.01
Disengagement				.05

Variables	Model 1	Model 2	Model 3	Model 4
R^2	.02	.06	.17	.17
<i>Adjusted R²</i>	.01	.04	.11	.09
ΔR^2	.02	.04*	.11*	.01
<i>Overall R</i>	.155	.25	.41	.41
<i>F</i>	1.59	2.76*	3.06**	2.22*
<i>SE</i>	3.32	3.27	3.14	3.17
<i>df</i>	2/130	3/129	8/124	11/113

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.10$.

6. Discussion

The results suggested that there are stressors in the work environment of the respondents. The most important of these were working conditions and workload, which were negatively related to job satisfaction and psychological strain, respectively. However, career advancement expectations were marginally associated with diminished job satisfaction. This result corroborates the findings of the literature: that agricultural faculty members experience job stress.² Earlier, Nwagwu (1997) and Dabalen *et al* (2000) suggested that poor working conditions (such as dilapidated infrastructure and inadequate materials) and heavy workloads characterise the Nigerian university system.

The survey items revealed that agricultural faculty members considered the number of courses being taught in a semester, coupled with large classes, as the main determinant of strain. To corroborate this finding there is anecdotal evidence that excess workload allowances were being paid to compensate them for carrying an unusual workload. The importance of workload as a stressor was underscored by the 11% of variance which was due to workload, out of the total 17% of variance explained in their psychological strain. However, because 83% of this variance remained unexplained, future investigation might be directed at unraveling the other factors associated with psychological strain in this group.

2 Cf Hagedorn 1994, Smith *et al* 1995, Frei *et al* 1999, Place & Jacob 2001, Gillespie *et al* 2001.

Furthermore, an examination of the items constituting career advancement expectations showed that the agricultural faculty members were concerned about promotion criteria being stringent, unstable and ambiguous, and had the perception that their career progress was below expectation. Smith *et al* (1995: 265) reported that faculty members in the US had similar concerns in relation to their career advancement expectations.

As indicated in the literature, agricultural faculty members high in PA had more job satisfaction. This may imply that they were better able to handle the negative elements in the workplace than those low in PA. PA is crucial to an academic's finding his/her job satisfying because it accounts for more than half of the explained variance in satisfaction, with working conditions accounting for the rest. The remaining unexplained variance in agricultural faculty members' job satisfaction (69%) may be due to factors which were not explored in this study. Further research is needed in this regard.

7. Conclusion

Although job satisfaction and psychological strain did not appear to be major problems for most of the agricultural faculty members, administrative intervention is needed in the areas of workload, working conditions, and the career advancement expectations. Since these are sources of strain, the university management should consider employing additional teaching staff to ease the heavy workload, while simultaneously improving the working conditions in the institution.

The university management might also want to consider screening prospective academics to find those high in PA and/or mounting a training programme to socialise new members into the system. Training in the analysis of challenging situations might help to reduce psychological strain and enhance job satisfaction. The fact that agricultural faculty members regarded the unstable and inconsistent advancement criteria as stressful indicates a need for a stable and comprehensive policy on career advancement for staff, so that they may be given a clear understanding of expectations and work toward these.

Finally, this study was cross-sectional in design, so no causal inferences about the results can be made. The independence found between

the stressors and the coping mechanisms may suggest that the agricultural faculty members employed other means not covered by the study in order to cope with stress or that the outcomes of the study could have been different if a longitudinal design had been employed. As the study was based on a small sample at a single agricultural institution, it is imperative to exercise caution in interpreting and generalising its results in respect of other institutions in the country. However, this study represents an endeavour to contribute to the existing literature on stress by demonstrating that some faculty members in a Nigerian agricultural university are experiencing stress which has certain negative implications for their well-being.

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