

GENDER ANALYSIS OF STRESS MANAGEMENT STRATEGIES AMONG ARABLE CROP FARMERS IN OKE-OGUN AREA OF OYO STATE

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ABSTRACT

Stress management is gender related and an attempt to understand it demands empirical analysis. It is in this view that this study was carried out to determine the stress management strategies employed among arable crop farmers based on gender, using Oke- Ogun area of Oyo State. Saki Zone was purposively selected from the Four ADP zones in Oyo State. A proportionate sampling method was used to select a sample size of 171 respondents. The findings of the study revealed that 57.9 percent of the respondents were men, while 42.1 percent were women. Majority (93.8%) of the men were involved in tedious farm operations while operations requiring less energy were carried out by women (85.4%). The age ($r=0.174$, $p=0.023$) and level of education ($\chi^2=8.274$, $p=0.041$) of the respondents were found to have significant relationship with the stress management strategies employed along gender line. Further findings of the study revealed a significant difference in the level of severity in each of financial stressors ($t=5.90$, $p=0.000$), weather stressors ($t=6.31$, $p=0.000$), Health related stressor ($t=6.03$, $p=0.000$) and other people related stressor categories experienced by crop farmers along gender line. Also, there was a significant difference in the stress management strategies employed for financial ($t=3.90$, $p=0.000$) and weather ($t=0.77$, $p=0.000$) related stressors along gender line. It is concluded that both men and women are involved in arable crop production and both experience stress but women farmers reported a higher level of stress than men. The study recommended that women arable farmers should be given more access to resources and energy saving technologies should be developed for both male and female arable crop farmers.

Key words: Gender, gender analysis, arable crop farmers, stress, stress management

Introduction

Stress is a universal phenomenon that essentially manifests itself in humans as a result of pressures emanating from several experiences or challenging situations. Stress is the general term describing the psychological and physical response to a stimulus that alters the body's equilibrium (Kosslyn and Rosenberg, 2001). Physical farm stressors can be broadly exemplified as weather stressors, health related stressors and work related stressors. Social stressors include problems in interacting with other people and financial problems. However, it

may be difficult to totally separate physical, social and psychological stressors from each other. Stress in farming arises as a result of activities (both mental and physical) involved in the production process such as land clearing and preparation, planting, weeding, harvesting, processing, transportation and marketing of agricultural produce. Rural activities range from farming, to self employment in trade, to small enterprises providing goods and services. Some of this work involve long hours and stress which invariably affects farmers' performance and production. Over the years, farmers have been experiencing a

high level of uncertainty, frustration and challenges. Some of the challenges faced by farmers include; high fluctuation in prices, use of crude implements, financial problems, unfavourable climatic conditions etc. In addition, farmers work in a social and economic environment that is more challenging and these pressures cause a high degree of stress among farmers. Constant stress experienced by farmers leads to physical, emotional and behavioral problems. Past researches have shown that the psychological consequences of excessive stress can lower efficiency and productivity among farmers (Kosslyn & Rosenberg, 2001; Bajowa, 2006; Ramesh & Madhavi, 2009). Farming activities involve series of activities that are time bound and labour intensive and as a result, farmers are highly exposed to stress. Also, chemicals used in the treatment of seeds and production of crops have a repressive effect on farmers' health which commutates into stress. In addition, besides performing household chores, women carry out a variety of agricultural activities and non farming activities (wood gathering, mushroom gathering, broom making e.t.c) and as a result, most women are overburdened and predisposed to stress. Farmers also suffer from high cost of mobility which makes them walk long distances from their residence to farm locations. This daily journey to the farm location results in stress.

According to Bell & Lee (2000), the conceptualization of stress is based almost entirely in the normative perspectives of men, and existing measures of stress have been criticized as male oriented, which may undermine their usefulness for assessing stress in women. How people deal with events in their lives makes a critical difference in the amount of stress they experience, so having management strategies is an essential factor in relieving stress. These management strategies vary among people and situations, and these differences may distinguish people who feel more or less stressed. The fact that women have different

roles than men makes them have different exposure to stress. It is thus misleading to make assumptions about the particular patterns in gender relationships to be found in any one household on the basis of data from elsewhere. Even within one country, sweeping generalizations are not advisable. Studies in Nigeria have revealed differences in gender relationships even in ethnically similar rural Nigerian communities just kilometers apart (Olawoye, 1985). It is in this light that this study investigated the gender differences of stress management strategies among crop farmers in the study area.

Objectives of the study:

The general objective of this study was to assess the gender differences of stress management strategies among arable crop farmers in Oke-Ogun area of Oyo state

Specific Objectives:

- (i) to describe the personal characteristics of arable crop farmers in the study area.
- (ii) to identify the farming operations practiced by arable crop farmers along gender lines in the study area.
- (iii) to ascertain the level of stress among arable crop farmers along gender lines in the study area.
- (iv) to determine the stress management strategies employed on the basis of gender in the study area.

Hypotheses of the study

The following hypotheses stated in the null form were tested.

- H₀1: There is no significant relationship between selected personal characteristics of arable crop farmers and the stress management strategies employed.
- H₀2: There is no significant difference in the level of stress experienced by male and female arable crop farmers.

H₀₃: There is no significant difference in the stress management strategies employed by male and female arable crop farmers.

Methodology

The study was conducted in Oke-Ogun area of Oyo State. The area is located within the Guinea Savannah zone (northern part of the state) and shares boarder with Kwara, Niger and Ogun States as well as Benin Republic. The area is recognized as the “food basket of the state. From the four ADP zones in Oyo state, Saki zone was purposively selected for this study. Proportionate sampling method was used to select the sample size for this study. Thirty percent of the ten blocks in Saki zone were randomly selected to give a total of three blocks (Saki East, Saki West and Iseyin), thirty percent of the eight cells in each block was then randomly selected to give a total of six cells (Sepeteri, Agoamodu, Ogboro, Asbari, Igberi odo and Ikare). Thirty percent of male and female farmers were randomly selected from the cells to give a sample size of 171 ADP registered farmers.

The data collected were subjected to descriptive statistics, namely, percentages and frequency counts while Pearson Product Moment Correlation, Chi-Square analysis and Independent t-test statistics were employed for inferential statistics.

Results and Discussions

Personal characteristics of respondents

Table 1 presented below shows that majority of the male (53.5%) and female (51.3%) were below forty years of age. It could be inferred from the data, that there is predominance of middle age among the respondents. The age distribution among the respondents in the study area tends to agrees with Ekong (2003)

who confirmed that Nigerian farmers are within the middle- age bracket. Age distribution is very important not only for the study but for all agricultural production. A similar study employed a psychological approach and found that females in emerging adulthood experienced more stress than their male counterparts because of the strong psychological implications that appear in their lives (Miller *et.al*, 2009).

Table 1 further indicates that 57.9% of the respondents are males while 42.1% are females. This implies that majority of the crop farmers in the study area are males. Gender is an important issue in this study and in agricultural production because of the role division between men and women. Majority of the male (69.7%) respondents had one form of formal education while most of the female (55.6%) respondents had no- formal education. This is an indication that the female farmers' level of education in the study area is very low it then implies that the males are more literate than the females in the study area. This finding agrees with that of Ikeoji (2000) who discovered that literacy rate is significantly higher for men than women in Nigeria. This could affect their receptivity to improved agricultural technologies hence their high dependence on crude implements and local varieties. This in turn, leads to reduction in their yield and consequently predisposes them to stress.

The distribution on the basis of farm size shows that a large percentage of the female respondents had small farm size of range 1-5 acres while most (66.7%) of the male respondents had a farm size above 5 acres. This implies that the male farmers have access to land than the female since they cultivated on large acres of land. This finding agrees with Tanko (1994) that women are limited in their access to farmland.

Table 1: Distribution of respondents by personal characteristics

Variables	Male (N=99)		Female (N=72)	
	Freq.	%	Freq.	%
Age				
< 31	21	21.20	14	19.40
31-40	32	32.30	23	31.90
41-50	18	18.20	16	22.30
51-60	21	21.20	17	23.60
> 60	7	7.10	2	2.8
		57.90		42.10
Gender				
Education				
No formal education	30	30.30	40	55.60
Secondary	35	35.40	16	22.20
Primary	31	31.30	16	22.20
Tertiary	3	3.00	-	-
Farm size (acres)				
1-5	33	33.30	67	93.10
6-10	55	55.60	5	6.90
>10	11	11.10	-	-

Source: Field Survey, 2011

Table 2 shows that most men and women were involved in the cultivation of cassava and maize. This could be as a result of their economic importance. However cowpea was the crop grown least by both men and women. The adduced reason for this was simply the drudgery involved in cultivation

of cowpea. Other crops cultivated in the study area are vegetables, plantain, banana, okra, cucumber, melon, watermelon, millet. Table 2 further revealed that most (90.3%) of the female farmers grow between 1-5 crops while a larger percentage of the male farmers (44.4%) cultivate more than five crops. This could be as a result of the female farmers' limited access to farm land.

Table 2: Distribution of crops cultivated by farmers

Crops Grown	Male (N = 99)		Female (N = 72)	
	Freq.	%	Freq.	%
Cassava	94	94.9	69	95.8
Cowpea	37	37.3	16	22.2
Maize	90	90.9	67	93.1
Yam	75	75.8	23	31.9
Other crops cultivated				
Cocoyam	11	11.1	6	8.3
Vegetable	27	27.2	19	26.4
Plantain	23	23.2	5	6.9
Banana	20	20.2	2	2.8
Okra	10	10.1	-	-

Crops Grown	Male (N = 99)		Female (N = 72)	
	Freq.	%	Freq.	%
Cucumber	21	21.2	10	13.9
Melon	13	13.1	8	11.1
Water melon	28	28.3	7	9.7
Millet	15	15.2	12	16.7
Sweet potatoes	33	33.3	4	5.6
Tomatoes	9	9.1	3	4.2
Pineapple	8	8.1	3	4.2
Groundnut	12	12.1	2	2.8
Pepper	28	28.3	8	11.1

Source: Field Survey, 2011

Farming operations practiced by male and female arable crop farmers

Table 3 shows that male respondents were more active in farm operations such as land preparation and ridging. This could be due to the tedious nature of these activities. However, other activities such as processing and storage were carried out by female. Most

other farm operations such as application of fertilizer, planting and harvesting were performed by both male and female farmers. This finding agrees with Ikeoji (2000) findings, that 70% of female farmers in Nigeria engage in processing, storage and marketing activities. The findings also agree with Yahaya (2002) findings that 76% of women from Oyo and Bauchi States supply most of the labour in processing food crop

Table 3: Distribution showing farming operations among male and female arable crop farmers

Farming Operations	Male crop farmers N = 99		Female crop farmers N= 72	
	Freq	%	Freq	%
Land clearing	90	90.9	6	8.3
Ridging	93	93.9	18	25.0
Seed treatment	30	30.3	18	25.0
Planting	98	99.0	70	97.2
Thinning	58	58.6	27	37.5
Weed control	98	99.0	65	90.3
Fertilizer application	93	93.9	55	76.4
Pesticide application	90	90.9	23	31.9
Harvesting	95	96.0	70	97.2
Processing	12	12.1	70	97.2
Storage	55	55.6	60	83.3

Source: Field Survey, 2011

Level of stress among arable crop farmers along gender lines

In obtaining the severity of stressors along gender lines, the sum of the level of severity

in each sources of stress was obtained and categorized using the mean criterion into two groups of Low level of severity and High level of severity.

Table 4 shows that more men (55.6%) experience low financial stress while most

of the female respondents (81.9%) in the study area experienced a high level of financial stress. This could be as a result of their low participation in decision making process and illiteracy. According to Rhaman and Alamu (2003), men seem to take more of farm decisions and control the production resources. With respect to weather-related stressors, more (63.3%) males experience low weather stress while most(63.9%) females experienced a high level of weather stress. Table 4 also shows that more (45.8%) female experienced high level of health-related stress while most (83.8%) of the male respondents experienced low level of health-related stress. With respect to other people-related stressors, more (77.8%) women

experienced a high level while most of the male respondents (82.8%) experienced low level of other people related stress. However it was observed that most (40.4%) men experienced a high level of work stress while more women (77.8%) experienced low level of work stress. This could be as a result of the tedious nature of their farming operations. From above findings, it can be deduced that female farmers experienced higher level of stress while the males experienced a low level of stress except for work-related stressors where male farmers experienced a higher level of stress when compared to their female counterparts. This findings agrees with Gyllensten and Stephen (2005) who carried out similar studies.

Table 4: Distribution showing the level of severity of stressors along gender line

Sources of stress	Level of severity	Male N = 99		Female N =72	
		Freq	%	Freq	%
Financial Stressors	Low (<10)	55	55.6	13	18.1
	High (>10)	44	44.4	59	81.9
Weather Related Stressors	Low (<7)	62	63.3	36	36.1
	High (>7)	27	36.7	46	63.9
Health Related stressors	Low (<7)	83	83.8	39	54.2
	High (>7)	16	16.2	33	45.8
Work Related Stressors	Low (<9)	59	59.6	56	77.8
	High (>9)	40	40.4	16	22.2
Other People Related Stressors	Low (<8)	82	82.8	16	22.2
	High (>8)	17	17.2	56	77.8

Source: Field Survey, 2011

Stress management strategies employed on the basis of gender

Table 5 and 6 shows that for stress management strategies employed for financial stressor, both male and female respondents sold their produce on farm stands. With respect to stress management strategies employed for weather related stressor, both male and female respondents often conserved water during raining season. For work related stressors, most of the male respondent (49.5%) adopted proper time management while most of the female respondents (66.7%) adopted flexible work

schedule. With respect to stress management strategies employed for health related stressors, both male (73.7%) and female (77.8%) respondents relaxed after daily farm routine. For the stress management strategies employed for other people related stressor, most of the male respondents (66.7%) often utilized self control while most of the female respondents (44.4%) were always adapting to philosophical life style.

In summary, the index was categorized, using the mean criterion, to two groups of low utilization and high utilization. It was observed that the female respondents utilized the stress management strategies more than the male respondents since they

had higher mean in each of the stress management categories. This implies that female farmers tend to manage stress more than their male counterparts.

Table 5: Distribution of stress management strategies among arable crop farmers

Stress Management Strategies	Rate of use	Male			Female		
		Freq	%	Mean	Freq	%	Mean
Strategies for Financial stressor							
1. Get input on credit	Always	12	12.1	2.89	12	16.7	2.76
	Often	65	65.7		44	61.0	
	Rarely	6	6.0		12	16.7	
	Never	16	16.2		4	5.6	
2. Borrow money to meet farm demands	Always	-	-	1.96	3	4.2	2.18
	Often	44	44.4		30	41.7	
	Rarely	11	11.2		16	22.2	
	Never	44	44.4		23	31.9	
3. Seek assistance from government agencies	Always	-	-	1.00	-	-	1.03
	Often	-	-		-	-	
	Rarely	-	-		1	1.4	
	Never	99	100		71	98.6	
4. Sell crop before maturity	always	2	2.0	2.16	4	2.3	2.56
	Often	47	47.5		44	25.7	
	Rarely	20	20.2		12	7.0	
	Never	30	30.3		12	7.0	
5. Practice share cropping	Always	1	1.0	1.61	6	8.3	2.47
	Often	22	22.2		37	51.4	
	Rarely	15	15.2		14	19.4	
	Never	61	61.6		15	20.3	
6. Seek social support	Always	12	12.1	2.74	10	13.9	2.56
	Often	63	63.6		29	40.3	
	Rarely	10	10.1		27	37.5	
	Never	14	14.1		6	8.3	
7. Sell produce on stands	Always	15	15.2	2.88	34	47.2	3.39
	Often	68	68.7		34	47.2	
	Rarely	9	10.0		2	2.8	
	Never	7	7.1		2	2.8	
Strategies for Weather Stressors							
8. Conserving water during raining season	Always	16	16.2	2.56	25	34.7	3.13
	Often	51	51.5		37	51.4	
	Rarely	4	4.0		4	5.6	
	Never	28	28.3		6	8.3	
9. Seek support from extension agents	Always	-	-		-	-	
	Often	-	-		-	-	
	Rarely	1	1.0		1	1.4	
	Never	98	99.0		71	98.6	

Source: Field Survey, 2011

Table 6: Distribution of stress management strategies among arable crop farmers

Stress Management Strategies	Rate of use	Male			Female		
		Freq	%	Mean	Freq	%	Mean
Strategies for Health Related stressors							
10. Relaxing from daily routine	Always	73	73.7	3.66	56	77.8	3.76
	Often	21	21.2		15	20.8	
	Rarely	4	4.1		1	1.4	
	Never	1	1.0		-	-	
11. Going for clinical counseling	Always	5	5.1	1.91	6	8.3	1.94
	Often	22	22.2		6	8.3	
	Rarely	31	31.3		38	52.8	
	Never	41	41.4		22	30.6	
12. Taking vital medication	Always	44	44.4	3.28	48	66.1	3.54
	Often	46	46.5		15	20.8	
	Rarely	7	7.1		9	12.5	
	Never	2	2.0		-	-	
Strategies for Work Related Stressors							
13. Proper management of time	Always	40	49.5	3.40	43	59.7	3.58
	Often	41	41.4		28	38.9	
	Rarely	9	9.1		1	1.4	
	Never	-	-		-	-	
14. Getting help from a friend	Always	3	3.0	1.76	5	6.9	1.75
	Often	22	22.2		9	12.5	
	Rarely	26	26.3		21	29.2	
	Never	48	48.5		37	51.4	
15. Flexible work schedule	Always	44	44.4	3.26	48	66.7	3.58
	Often	41	41.4		18	25.0	
	Rarely	10	10.1		6	8.3	
	Never	4	4.0		-	-	
16. Deliberately avoiding stressful situation	Always	50	50.5	3.12	51	70.8	3.58
	Often	27	27.3		13	18.1	
	Rarely	11	11.1		7	9.7	
	Never	1	1.1		1	1.4	
17. Transport farm produce with commercial vehicle/ motorcycle	Always	18	18.2	2.66	6	8.3	2.43
	Often	44	44.4		26	36.2	
	Rarely	21	21.2		33	45.8	
	Never	16	16.2		7	9.7	
18. Use of cover crops to support soil fertility	Always	72	72.6	3.51	41	56.9	3.25
	Often	21	21.2		19	26.4	
	Rarely	1	1.1		1	1.4	
	Never	5	5		1	15.3	
Strategies for other people related stressors							
19. Self control	Always	25	25.3	3.15	17	23.6	3.15
	Often	66	66.7		29	40.3	
	Rarely	8	8.1		26	36.1	
	Never	-	-		-	-	
20. Adapting to philosophical lifestyle	Always	29	29.3	2.79	32	44.4	3.08
	Often	37	37.4		22	30.6	
	Rarely	13	13.1		10	13.9	
	Never	20	20.2		8	11.1	

Table 7: Level of utilization of each the stress management strategies categories employed along gender line.

Stress Management Strategies	Utilization of stress management strategies	Male N = 99		Female N = 72	
		Freq	%	Freq	%
For Financial Stressors	Low (<16)	64	64.6	21	29.2
	High (>16)	35	35.4	51	70.8
For weather-related stressors	Low (<4)	32	32.3	10	13.9
	High (>4)	67	67.7	62	66.1
For health-related stressors	Low (<9)	64	64.6	39	54.2
	High (>9)	35	35.4	33	45.8
For work-related stressors	Low (<18)	52	52.5	36	50.0
	High (>18)	47	47.5	36	50.0
For other People - related stressors	Low (<6)	66	66.7	39	54.2
	High (>6)	33	33.3	33	45.8

Source: Field Survey, 2011

Results of hypotheses testing

Hypothesis 1: This seeks to test for the relationship between respondents' selected personal characteristics and stress management strategies utilized.

Table 8 shows the relationship between age of crop farmers and the stress management

strategies employed. The result of the Pearson Product Moment Correlation shows that there is a significant relationship between farmers' age and the stress management strategies employed. This implies that age and stress management are interdependent. This finding is contrary to the findings of Bajowa (2006).

Table 8: Pearson Product Moment Correlation showing the relationship between age and stress management strategies

Variable	R	P	Decision	Remark
Age	0.174	0.023	S	Reject Ho

Source: Data analysis, 2011.

The result of the chi- square analysis shows that there is no relationship between each of marital status, household size, and farm size and stress management strategies. Hypothesis 1 is therefore accepted which implies that stress management strategies employed by farmers is not dependent on

their household size, farm size and religion. The table further revealed a significant relationship in farmers' level of education and stress management strategies employed. This implies that stress management strategies and farmers' level of education are interdependent. This findings agrees with the findings of Bajowa(2006).

Table 9: Chi- square Analysis of Personal Characteristics and Stress Management Strategies

Personal Characteristics	X ²	Df	P	Decision	Remark
Marital Status	7.163	3	0.067	NS	Accept Ho
Educational qualification	8.274	3	0.041	S	Reject Ho
Farm size	0.742	2	0.690	NS	Accept Ho
Household size	3.444	2	0.179	NS	Accept Ho
Religion	2.202	2	0.332	NS	Accept Ho

Source: Data analysis, 2011

Hypothesis 2: This seeks to test for the difference in the level of severity of each source of stress along gender line.

The t- test below shows that there is a significant difference with respect to financial stressors, weather stressors, health related stressors and other people related stressors along gender line. Table 10 also

shows that females are more stressed from the mean values obtained. This finding agrees with Hogan Carlson, & Dua, (2002); Tamres *et.al*, (2002) who in their studies reported that women experienced higher levels of stress than men. Therefore hypothesis 3 is rejected while the alternative is accepted. However there is no significant difference in work related stressors along gender line. Hypothesis 3 therefore holds true for this and is accepted.

Table 10: Independent t Test Analysis showing the difference in each stressor categories along gender line

Sources of stress	Cases	Mean	Standard deviation	Standard error mean	T	Df	Sig.	Decision
Financial	Male	8.7273	2.30712	0.23187	5.90	169	0.000	S
	Female	10.5972	1.62429	0.19142				
Weather	Male	6.4082	2.30122	0.23246	6.31	168	0.000	S
	Female	8.7222	2.44501	0.28815				
Health Related	Male	6.0606	1.56374	0.15716	6.03	169	0.000	S
	Female	7.4306	1.31969	0.15553				
Work related	Male	8.8889	2.12799	0.21387	1.08	169	0.283	NS
	Female	9.2083	1.57388	0.18548				
Other people related	Male	6.3737	3.12523	0.31410	9.64	169	0.000	S
	Female	10.9444	2.96880	0.34988				

Source: Data analysis, 2011

Hypothesis 3: This seeks to test for the difference in the stress management employed along gender lines

The t- test analysis in Table 11 shows that there is a significant difference in the stress

management strategies employed with respect to financial and weather stressors along gender line. Hypothesis 4 is therefore rejected and the alternative accepted with respect to financial and weather stressors. However there is no significant difference in the stress management strategies employed along gender line in each of work, health and

other people related stressors. Hypothesis 4 holds true for these and is therefore accepted. The table further revealed that the mean of the

female is higher than that of the males which implies that the female tend to manage stress more their male counterparts.

Table 11: t- Test Analysis showing the difference in each of the stress management strategies employed along gender line

Stress mgt. strategies	Cases	Mean	Standard deviation	Standard error mean	T	Df	Sig.	Decision
For financial stressor	Male	15.2323	2.92361	0.29383	3.90	169	0.000	S
	Female	17.1111	3.35486	0.39537				
For Work stressors	Male	17.8990	2.49692	0.25095	0.73	169	0.466	NS
	Female	18.1806	2.47993	0.29226				
For Health Related stressors	Male	8.9192	1.32231	0.13290	1.64	169	0.103	NS
	Female	9.2500	1.27545	0.15031				
For Weather related stressors	Male	3.5657	1.06101	0.10664	0.77	169	0.000	S
	Female	4.1389	0.86081	0.10145				
For Other people related stressors	Male	5.9293	1.10889	0.11145	1.80	169	0.077	NS
	Female	6.2361	1.11952	0.13194				

Source: Field Survey, 2011

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Conclusion and Recommendation:

Majority of the female respondents had no formal education while most of the male respondents had formal education. Crop production involved the participation of both men and women. Activities that required high energy were performed by men while those requiring details and affinity were carried out by women. The stressor affecting both gender are similar, these usually are financial, work related and other people related stressor. However, female farmers experienced a high level of stress when compared to male farmers. The study recommends that more emphasis should be laid on female education in the study area. In addition, women arable farmers should be given more access to resources and energy-saving technologies should be developed for both male and female arable crop farmers.

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