

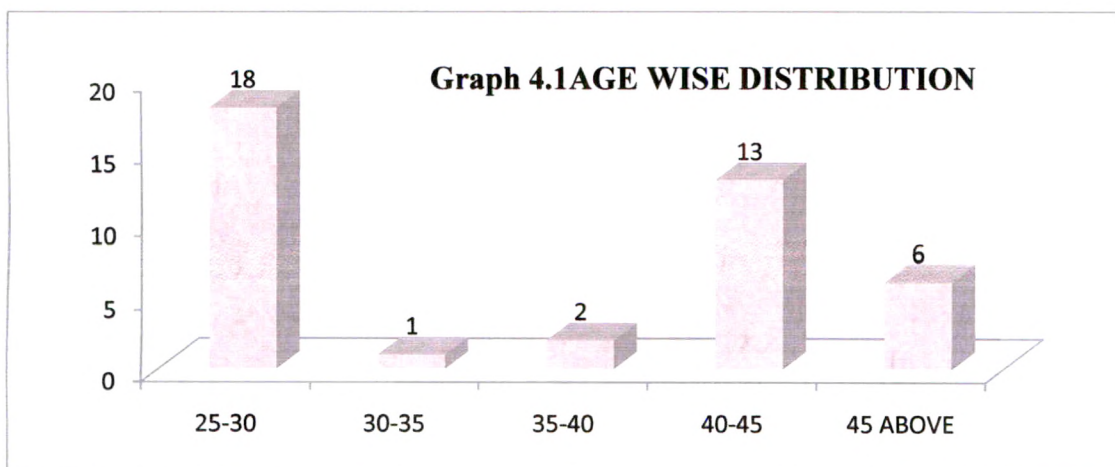
*CHAPTER IV*  
*DATA ANALYSIS AND INTERPRETATION:*  
*CAUSES OF STRESS AND COPING STRATEGIES;*  
*STRESS AND IMPACT ON PRODUCTIVITY*

The researcher after reviewing literature has done an analysis of type of stressors, its impact on productivity, health problems and coping mechanisms

**Table 4.A Age wise distribution**

AGE GROUP	CODES	NUMBER OF RESPONDENTS	PERCENTAGE
25-30	1	18	45%
30-35	2	1	2.5%
35-40	3	2	5%
40-45	4	13	32.5%
45 ABOVE	5	6	15%
		40	100%

(Source: primary data)



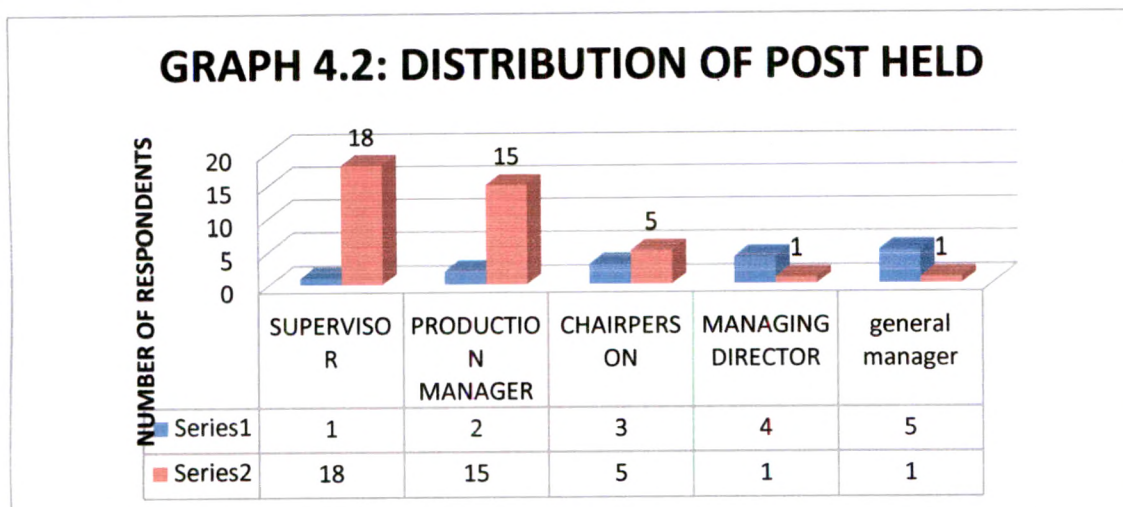
The Mean values ( $x=3.5$ ) and the graphical representation shows that the age group is concentrated between 24-30 followed with 40-45. The effect of age on stress has a negative correlation ( $r^2=-0.29$ ) for the respondents taken for study (PLEASE REFER APPENDIX TABLEA1).It can be interpreted that as the age increases level of stress increases. Also the HYPOTHESES calculated shows a positive correlation with productivity ( $r^2=0.092$ ) (PLEASE REFER APPENDIX TABLEA1), thus helping to determine the impact on productivity.

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 2014

**Table 4.B Distribution of post held**

POST HELD	CODES	NUMBER OF RESPONDENTS	PERCENTAGE
SUPERVISOR	1	18	45
PRODUCTION MANAGER	2	15	37.5
CHAIRPERSON	3	5	12.5
MANAGING DIRECTOR	4	1	2.5
GENERAL MANAGER	5	1	2.5
		40	100

(Source: primary data)

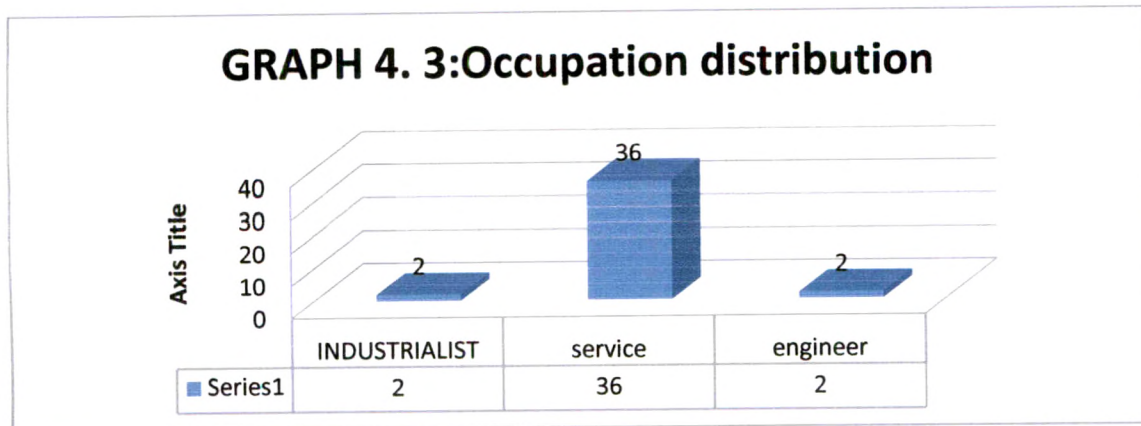


For the graph shown above, (graph 4.2), it is seen that for a foundry process the individuals who are directly linked with the casting process involves the supervisors (n=18) in large numbers followed with production managers (n=14) in both small and large scale foundry units. The value from Appendix table A1 shows that there lies a positive correlation with productivity( $r= 0.13$ ) and negative correlation with stress ( $-0.057$ ). However the stress levels are moderate ( $S.d=0.9=1$ ) (Please refer Appendix tableA1).Inspite of negative correlation with stress there is a positive relation with productivity, which means that higher the designations more are the responsibilities and due to experience the respondents are able to give more productivity.

**Table4.C: Occupation distribution**

OCCUPATION	CODES	NUMBER OF RESPONDENTS	PERCENTAGE
INDUSTRIALIST	1	2	5
SERVICE	2	36	90
ENGINEER	3	2	5
		40	100

(Source: primary data)



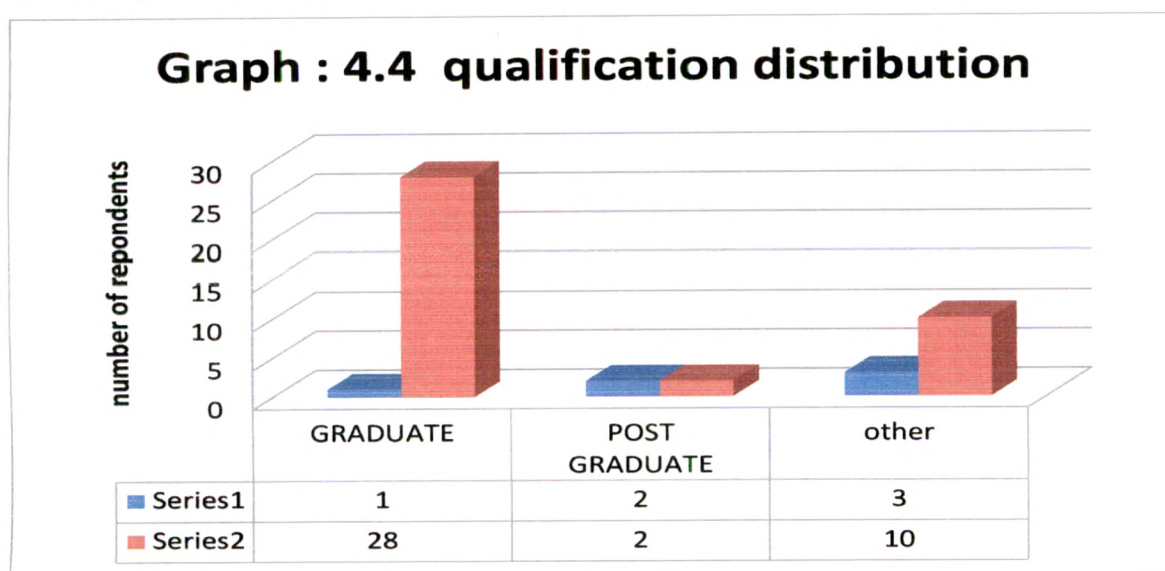
For the graph shown above, the type is service organization which is based upon customer specification satisfaction and is engaged in completing the number of jobs as per unit policy and demands by customer. The correlation with stress and productivity are ( $r=-0.206$  and  $-0.41$ ) respectively (Please refer Appendix tableA1). Because there is a negative correlation, even though occupation determines job description and specification for an individual, stress is inevitably experienced. The stress levels are moderate enough (Please refer Appendix tableA1). As such there is an impact on the role, tasks, duties and responsibilities. Integration of all such factors determines the individuals' capability to balance with the supply and demand from the type of job done.



**Table 4.D Qualification distribution**

QUALIFICATION	CODES	NUMBER OF RESPONDENTS	PERCENTAGE
GRADUATE	1	28	70
POST GRADUATE	2	2	5
other	3	10	25
		40	100

(Source: primary data)

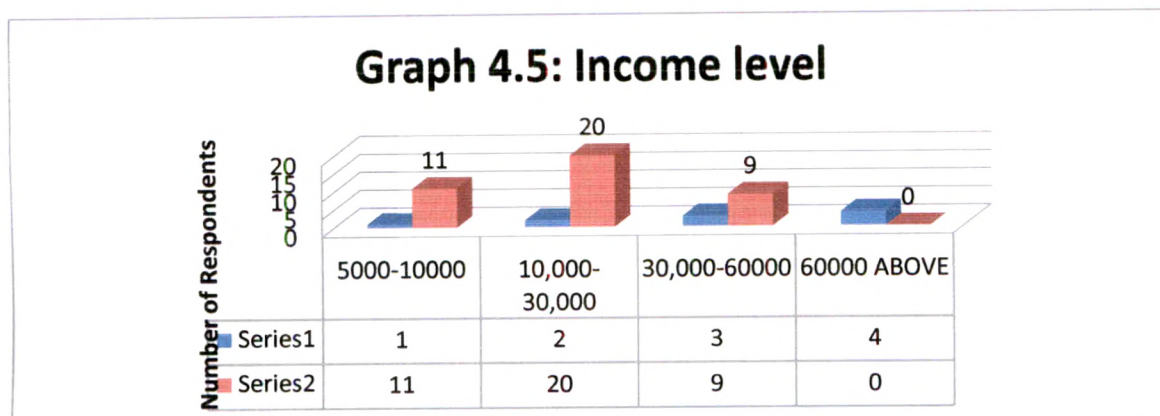


For the graph shown above it is seen that most of the respondents is graduate working class from different fields. The data processing values shows positive correlation with stress however a negative is seen w.r.t productivity. As such moderate level of stress is being observed among the respondents (s.d=0.70), (Please refer Appendix tableA1).It is interpreted that because of family responsibilities, stress is evident, however levels are moderate. (Please refer Appendix tableA1).

**Table 4.E: Income Level distribution**

INCOME LEVEL	CODES	NUMBER OF RESPONDENTS	PERCENTAGE
5000-10000	1	11	27.5
10,000-30,000	2	20	50
30,000-60000	3	9	22.5
60000 ABOVE	4	0	0
		40	100

(Source: primary data)

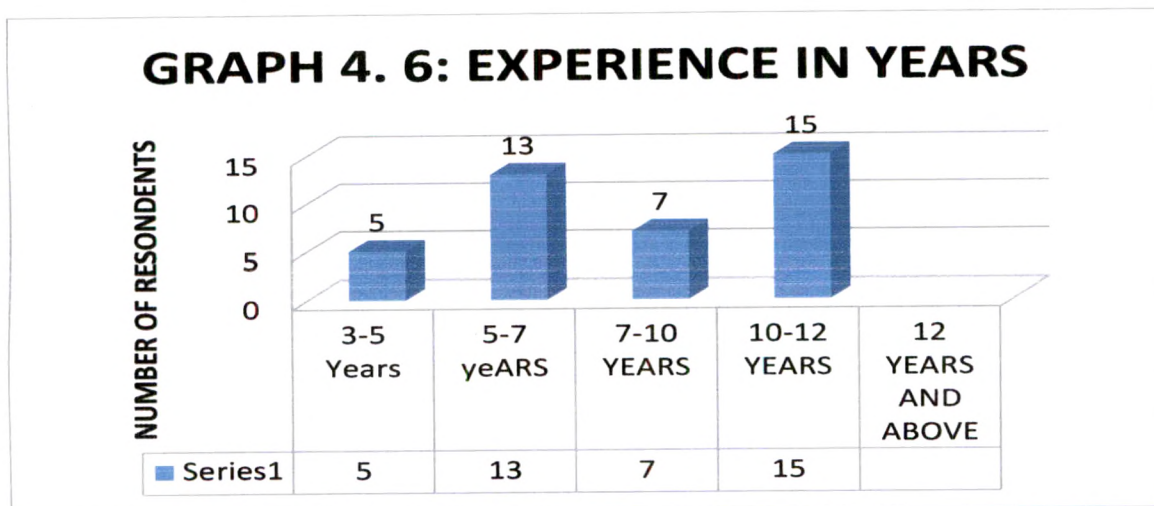


For the graphical presentation shown above, it can be analyzed that the income level lies between 10000-30,000 Rupees per month. As the sample unit is executives from foundry units, comprising of managers and supervisors, financial gain are substantial enough. This leads to moderate stress levels, (Please refer Appendix tableA1). There is a negative correlation with stress and the income level has positive correlation with productivity. (Please refer Appendix tableA1). So it is interpreted that because of substantial financial gains they are satisfied with job and the productivity is as per expectation of the organization.

**Table 4.F: Experience distribution**

EXPERIENCE	CODES	NUMBER OF RESPONDENTS	PERCENTAGE
3-5 YEARS	1	5	12.5
5-7 YEARS	2	13	32.5
7-10 YEARS	3	7	17.5
10-12 YEARS	4	15	37.5
12 YEARS AND ABOVE	5	0	0
		40	100

(Source: primary data)



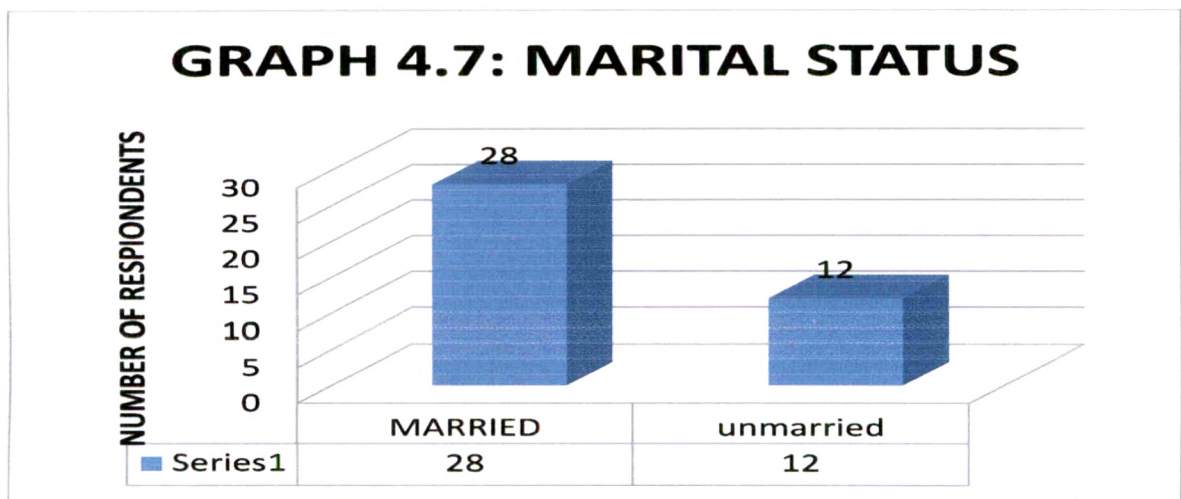
Graph 4.6 shows that the respondents experience is concentrated profoundly between 10-12 years. There is a negative correlation of experience and the actual stress experienced by individuals ( $r = -0.40$ ). (Please refer Appendix table A1). As such the researcher cannot interpret that higher the experience more is the stress. However a positive impact on the productivity is seen ( $r^2 = 0.17$ ) (Please refer Appendix table A1) and productivity level is also higher considering the age group.



**Table 4.G Marital status amongst respondents**

MARITAL STATUS	CODES	NUMBER OF RESPONDENTS	PERCENTAGE
married	1	28	70
unmarried	0	12	30
		40	100

(Source: primary data)



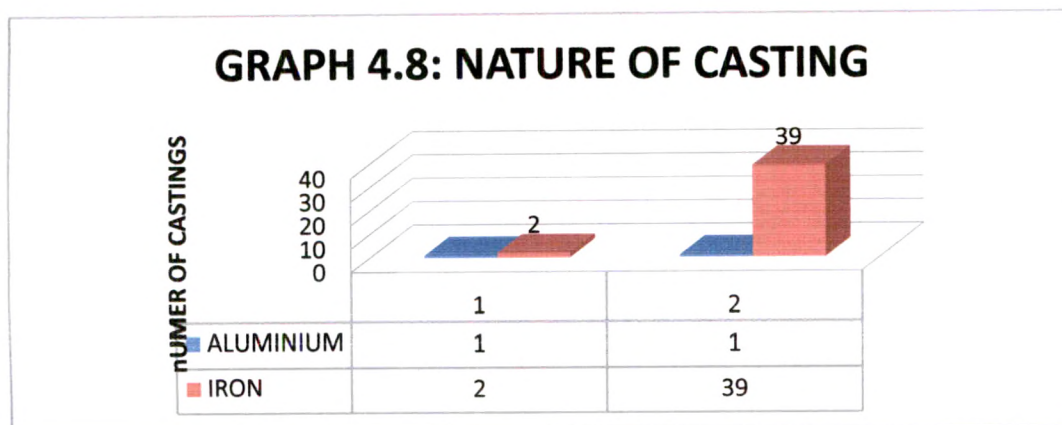
From the graphical representation shown above it is seen that 70% of respondents are married. From the discussion with these respondents it is realised that most of the respondents feel responsible towards their family and children, as such the productivity given by them is substantial and moderate ( $r^2=0.233$ ) and stress level too is moderate enough. (Please refer Appendix table A1). So it is interpreted that marital status determines the attitude in saving the income gained. The researcher has made an attempt to determine through discussion the impact of marital status on stress and counter effect on productivity. Because the respondents (30%) are unmarried they feel that the financial gains should be invested in luxury items and less of savings.



**Table 4.F: Nature of casting in foundry units**

NATURE	CODES	NUMBER OF FOUNDRY UNITS	PERCENTAGE
ALUMINIUM	1	1	2.5
IRON	2	39	97.5
		40	100

(Source: primary data)

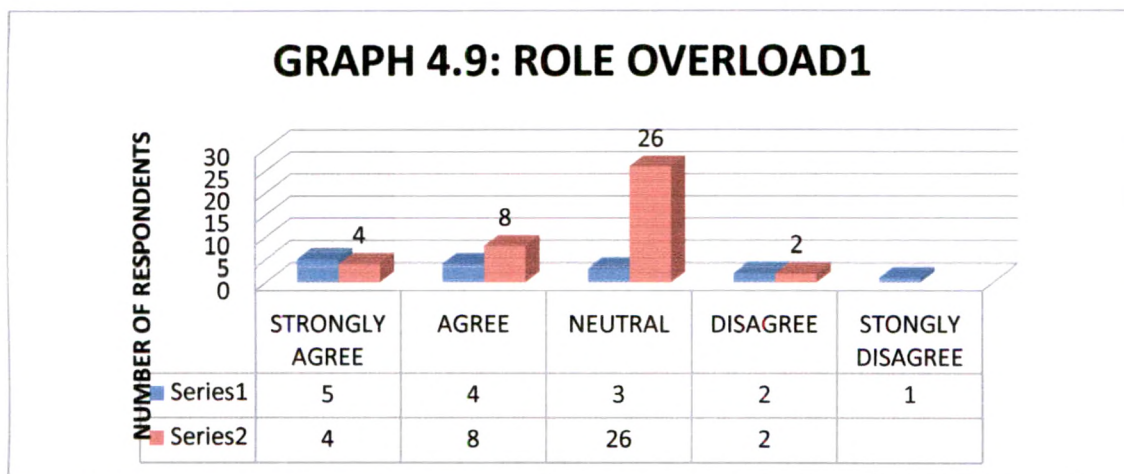


From the graphical presentation it is evident that the foundry units considered have Iron as the major type of casting. The correlational values of nature of casting and stress has a positive correlation ( $r^2=0.344$ , Please refer Appendix tableA2)). This means that the type of casting considered also affects stress levels (moderate stress levels-please refer Appendix table A2) among the respondents under study. The data processing values reflect that the nature of casting also has a positive correlation with the productivity ( $r^2=0.32$ , Please refer Appendix tableA2).

**Table 4.H Roleoverload1 stressor**

RESPONSES	CODES	NUMBER OF RESPONDENTS	PERCENTAGE
STRONGLY AGREE	5	4	10
AGREE	4	8	20
NEUTRAL	3	26	65
DISAGREE	2	2	5
STONGLY DISAGREE	1	0	0
		40	100

(Source: primary data)

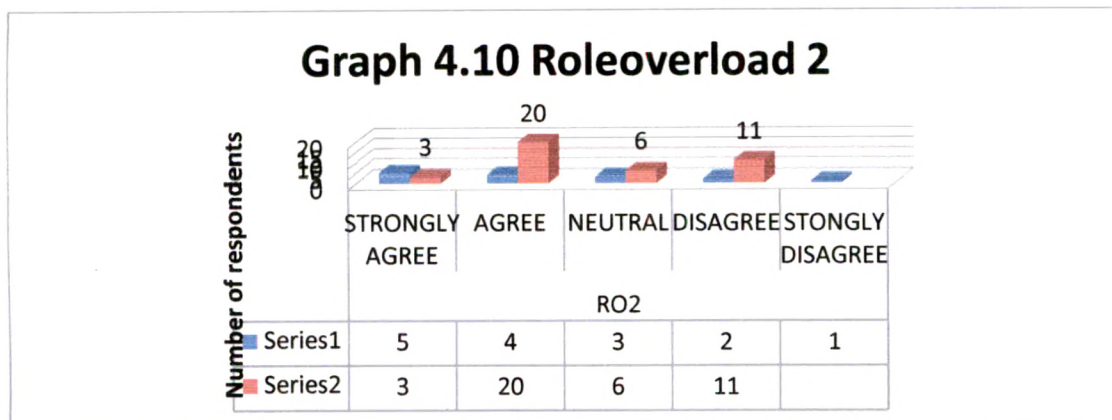


Graph shows that 65% of the respondents have a neutral response. The organizational stressor here reflects that the respondents do not feel that they have lot of work during their respective shifts. Acceptance of the ‘roles’ to be played in a job respective to the post held, also determines the level of actual stress experienced by the individual. The mean value ( $\bar{x}=3$ ) (Please refer Appendix tableA2) shows that there is a neutral response however there is a positive correlation with the productivity of individuals ( $r^2=0.4$ ). Because it is neutral the stress levels are moderate (standard deviation=0.7) (Please refer Appendix table A2) and negative correlation value ( $r^2= -0.091$ ). (Please refer Appendix table A2).

**Table 4.I : Role overload stressor2**

RESPONSES	CODES	NUMBER OF RESPONDENTS	PERCENTAGE
STRONGLY AGREE	5	3	7.5
AGREE	4	20	50
NEUTRAL	3	6	85.7143
DISAGREE	2	11	27.5
STONGLY DISAGREE	1	0	0
		40	100

(Source: primary data)



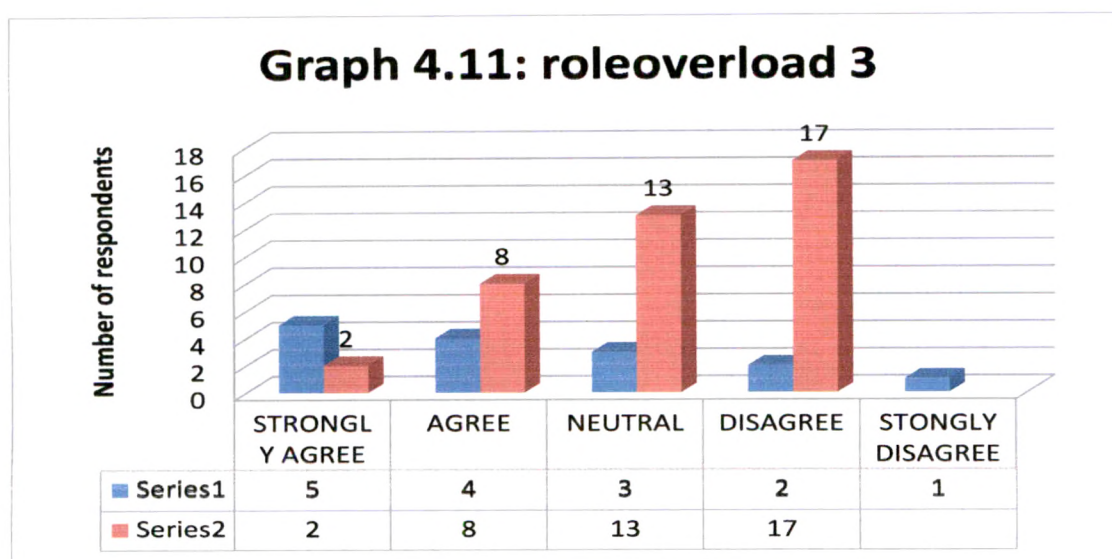
The graphical representation analysis shows that the respondents agree that the resources are not sufficient, along with limited people to complete the different tasks in the casting process. The activities are too many to complete with such constraints ( $x=2.7$ ) ( Please refer Appendix tableA2). There is a positive correlation of the roleoverload stressor with productivity ( $r^2 =0.3$ ) leading to and the stress level is moderate ( standard deviation=1) ( Please refer Appendix tableA2). As such the researcher can interpret that there is no optimum level of job demands discouraging the individuals to face the challenges of the tasks.



**Table 4.J: Roleoverload stressor 3**

RESPONSES	CODES	NUMBER OF RESPONDENTS	PERCENTAGE
STRONGLY AGREE	5	2	5
AGREE	4	8	20
NEUTRAL	3	13	32.5
DISAGREE	2	17	42.5
STONGLY DISAGREE	1	0	0
		40	100

(Source: primary data)



The graphical presentation above shows that the respondents disagree that there is limited time to complete tasks. Individuals holding higher post other than the supervisors and managers are engaged in strategic planning, policy designing, and implementation. Most of the respondents said that there is sufficient time to complete the tasks ( $x=2$ ) (Please refer Appendix table A2). There is a positive correlation with productivity and with stress (Please refer Appendix table A2).

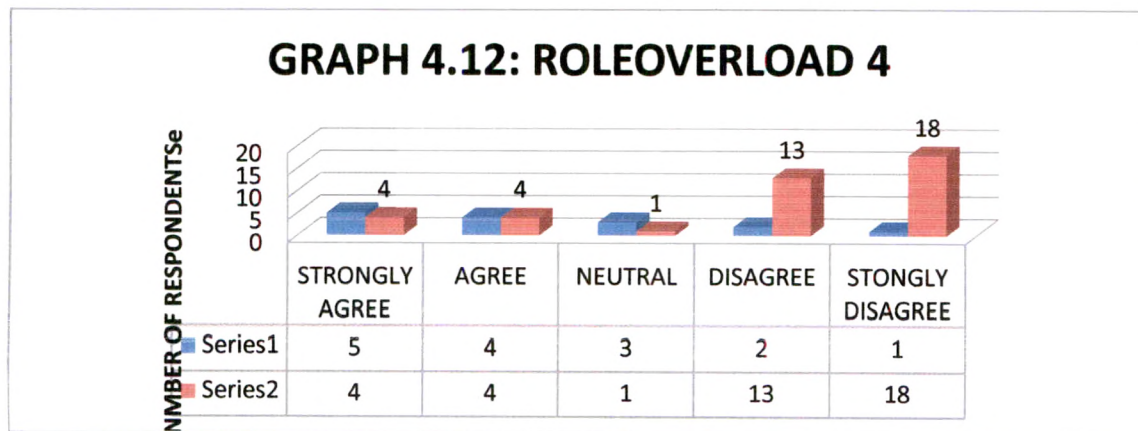
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**Table 4.K : Roleoverload stressor 4**

RESPONSES	CODES	NUMBER OF RESPONDENTS	PERCENTAGE
STRONGLY AGREE	5	4	10
AGREE	4	4	10
NEUTRAL	3	1	2.5
DISAGREE	2	13	32.5
STONGLY DISAGREE	1	18	45
		40	100

(Source: primary data)

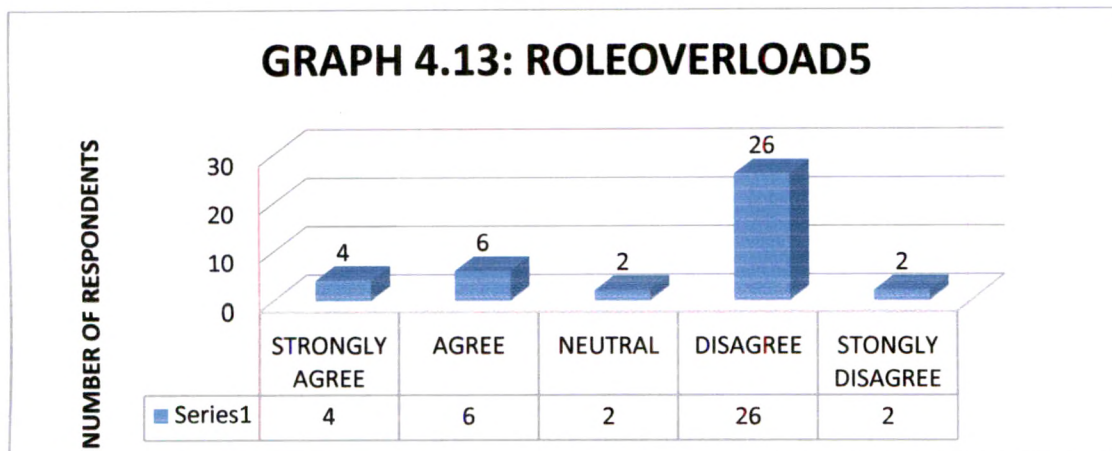


For the respondents types considered, from the graph its seen that there is a strong disagreement over the fact that they do not find time for family and other recreational values ( $X=2.07$ )(Please refer Appendix table A2). Positive correlation is seen with productivity and negative with stress is observed (Please refer Appendix table A2). Extra-organizational factors contribute equally in determining stress levels and productivity. The researcher found that all of them do find productive time for their own activities like relaxation, outings, and give time to family too. These together contribute in mitigating stress experienced and give good performance.

**Table 4.L: Role overload stressor 5**

RESPONSES	CODES	NUMBER OF RESPONDENTS	PERCENTAGE
STRONGLY AGREE	5	4	10
AGREE	4	6	15
NEUTRAL	3	2	5
DISAGREE	2	26	65
STONGLY DISAGREE	1	2	5
		40	100

(Source: primary data)

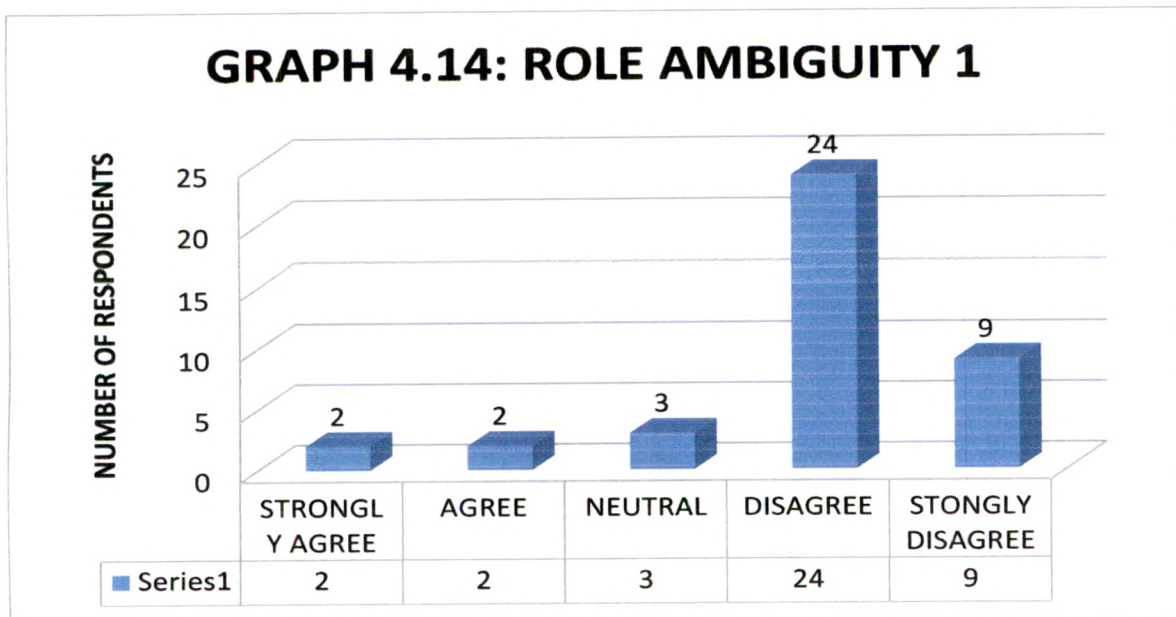


The graph shown above and mean value ( $x=1.7$ ) (Please refer Appendix table A2) it is seen that they all are satisfied with the completion of task and as such have higher productivity and low level of stress ( $r^2 = -0.2$ ). (Please refer Appendix table A2). For the respondents types considered stress can be actually experienced if they do not have the satisfaction of completions of different tasks given under different roles played by them.

**Table 4.M: Role ambiguity1**

RESPONSES	CODES	NUMBER OF RESPONDENTS	PERCENTAGE
STRONGLY AGREE	5	2	5
AGREE	4	2	5
NEUTRAL	3	3	7.5
DISAGREE	2	24	60
STONGLY DISAGREE	1	9	22.5
		40	100

(Source: primary data)



(SOURCE: PRIMARY DATA)

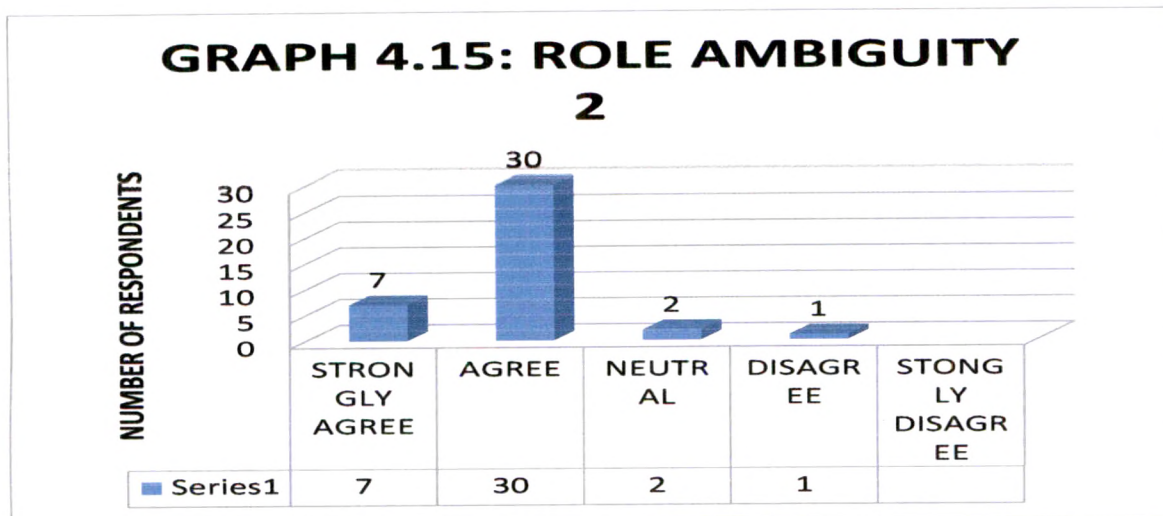
The graph 4.13 shows that the respondents disagree that they have an understanding of roles to be played. This proves that organisations i.e foundry units have proper communication system that is followed by all. Because there is a positive correlation with productivity the stress levels are modearte enough amongst the respondents (Please refer Appendix table A2).



**Table 4.N Role Ambiguity 2**

RESPONSES	CODES	NUMBER OF RESPONDENTS	PERCENTAGE
STRONGLY AGREE	5	7	17.5
AGREE	4	30	75
NEUTRAL	3	2	5
DISAGREE	2	1	2.5
STONGLY DISAGREE	1	0	0
		40	100

(Source: primary data)



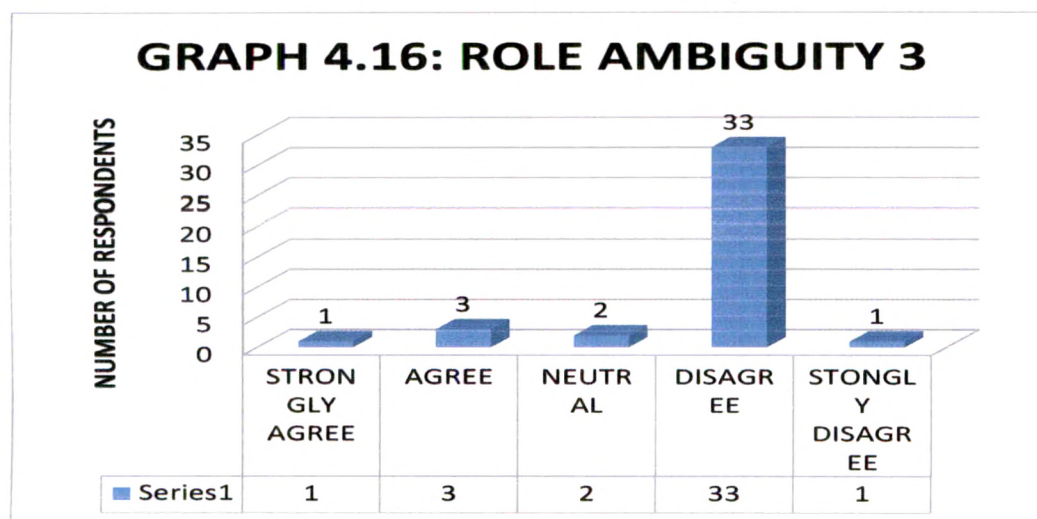
The negative correlational value( $r^2 = -0.55$ ) (Please refer Appendix table A2) shows that there is no ambiguity for the roles played and no effect of stress as such .Objective are ends that an individual tries meeting during his service period.As such if these job objectives are clear the ends i.e targets to be met irrespective of the level at which they are working helps give maximum productivity.



**Table 4.O: Role Ambiguity 3**

RESPONSES	CODES	NUMBER OF RESPONDENTS	PERCENTAGE
STRONGLY AGREE	5	1	2.5
AGREE	4	3	7.5
NEUTRAL	3	2	5
DISAGREE	2	33	82.5
STONGLY DISAGREE	1	1	2.5
		40	100

(Source: primary data)

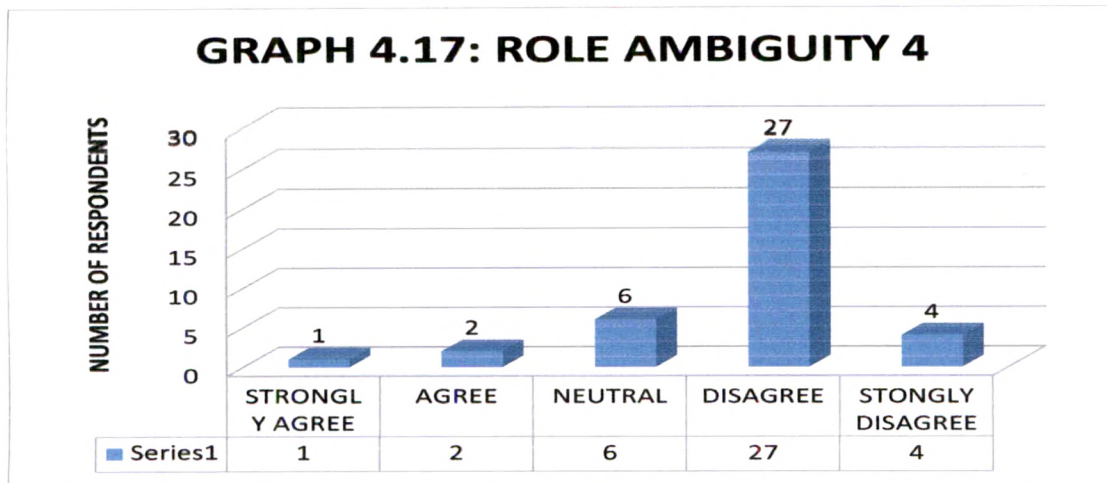


Graphical representation for the above graph shows a disagreement to the fact that the respondents are not ambiguous about usage of rights during their jobs. Even job areas under which the respondents work are fit to their profiles. The data processing values reflect that there is no impact of it on stress ( $r^2 = -0.6$ ) (Please refer Appendix table A2). An individual's full capacity of skills, knowledge, experience, post shall be utilized if he/she wants to have maximum productivity.

**Table 4.P: Role Ambiguity 4**

RESPONSES	CODES	NUMBER OF RESPONDENTS	PERCENTAGE
STRONGLY AGREE	5	1	2.5
AGREE	4	2	5
NEUTRAL	3	6	15
DISAGREE	2	27	67.5
STONGLY DISAGREE	1	4	10
		40	100

(Source: primary data)

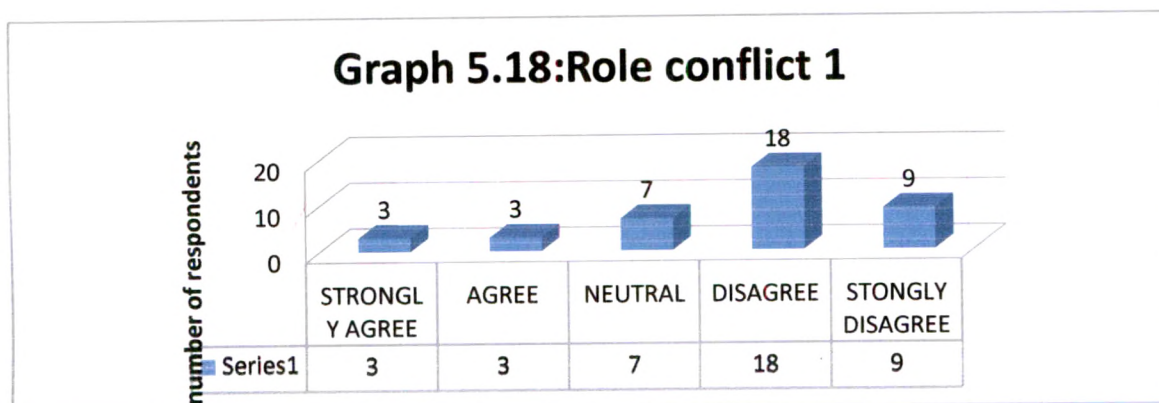


The graphical representation shows that the respondents disagree to the fact that the superiors and coworkers expectations are not clear to them ( $x=2.1$ ) (Please refer Appendix tableA2).As such there lies a negative correlation with stress( $r= -0.2$ ) and productivity ( $r= -0.03$ ) (Please refer Appendix tableA2).This ensures that the a proper communication system is followed in the foundry units leading to role clarity.

**Table 4.Q : Role Conflict 1**

RESPONSES	CODES	NUMBER OF RESPONDENTS	PERCENTAGE
STRONGLY AGREE	5	3	7.5
AGREE	4	3	7.5
NEUTRAL	3	7	17.5
DISAGREE	2	18	45
STONGLY DISAGREE	1	9	22.5
		40	100

(Source: primary data)



The graphical representation shows that the respondents are not in a situation of ‘intrapersonal conflict’ as maximum number of respondents (n=18) disagreeing to it. There is no stress that is experienced by the respondents ( $r^2 = -0.1$ ) Please refer Appendix table A2) and this shows that the expectations from the different roles played by the individual are clear. And clear role expectations have positive impact on productivity (Please refer Appendix table A2).

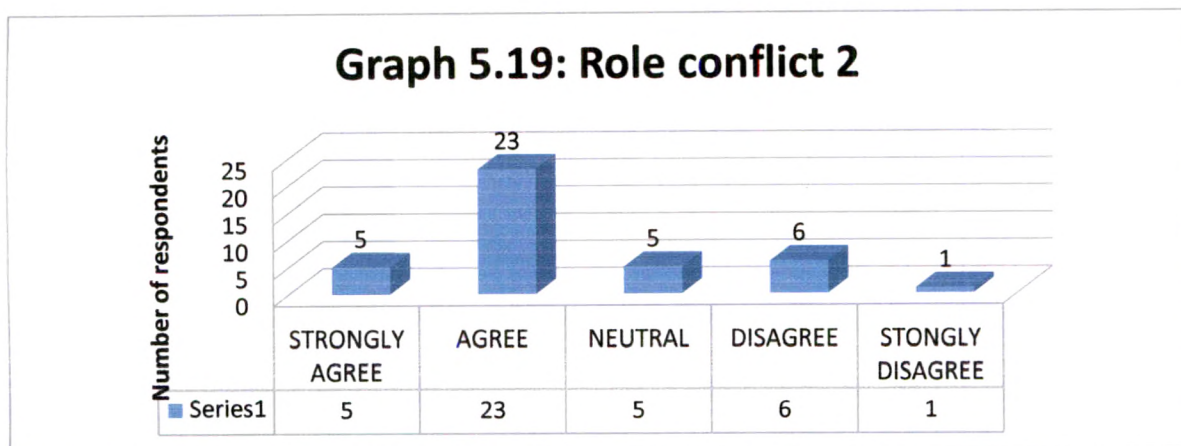
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**Table 4.R : Role conflict 2**

RESPONSES	CODE S	NUMBER OF RESPONDENT S	PERCENTAGE
STRONGLY AGREE	5	5	12.5
AGREE	4	23	57.5
NEUTRAL	3	5	12.5
DISAGREE	2	6	15
STONGLY DISAGREE	1	1	2.5
		40	100

(Source: primary data)



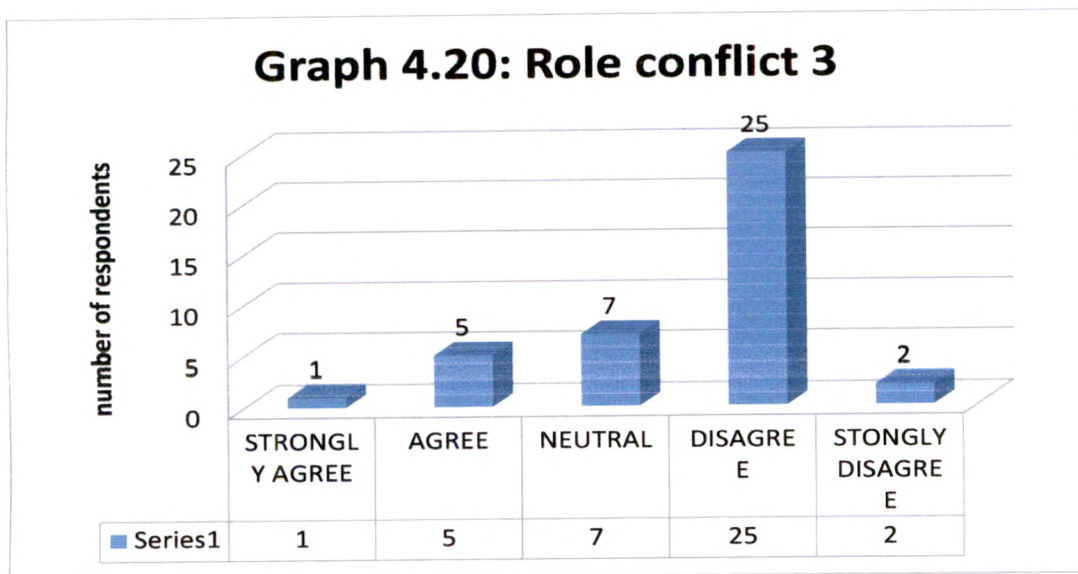
Graphical processing for 4.18 shows that the respondents agree to the fact of no interference of superiors in work procedure. As such data processing value gives a positive correlation with stress (moderate stress levels, Please refer Appendix table A2) due to Intra personal conflict absence ensuring full satisfaction of the individuals. Responsibilities underlie within the hands of the doer completely with no interference amongst the sample considered. On the other side to ensure demand control principle for achieving necessary productivity some interference is necessary. However data processing values indicate that there is a negative correlation with productivity (Please refer Appendix Table A2). Because even though there is role clarity, nature of job being traditional and/or routine can affect the productivity.



**Table 4.S : Role conflict 3**

RESPONSES	CODES	NUMBER OF RESPONDENTS	PERCENTAGE
STRONGLY AGREE	5	1	2.5
AGREE	4	5	12.5
NEUTRAL	3	7	17.5
DISAGREE	2	25	62.5
STONGLY DISAGREE	1	2	5
		40	100

(Source: primary data)

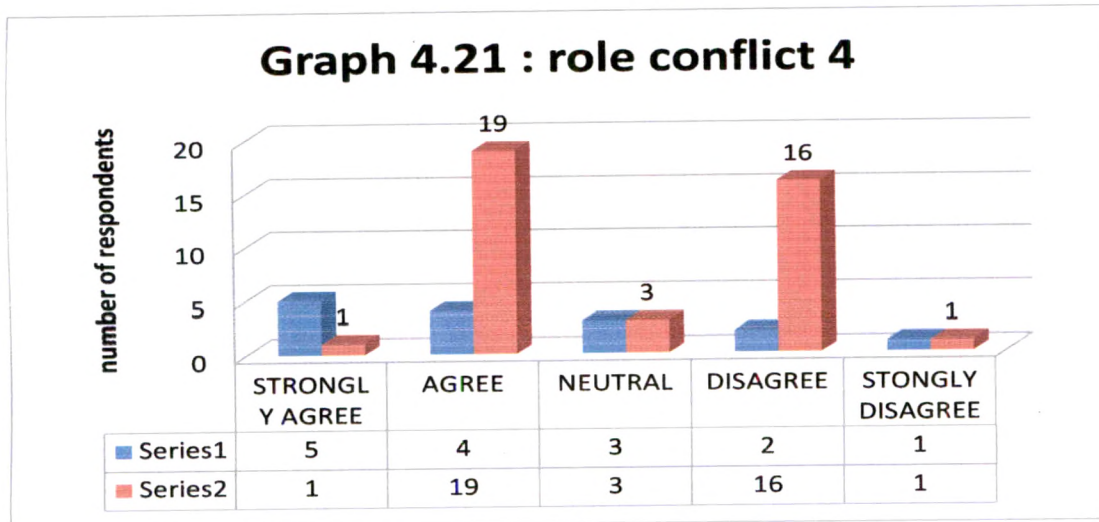


From the graph it is seen that there is a disagreement shown by the respondents that changes in job techniques are not difficult for implementation. As such there is negative correlational value with stress ( $r^2 = -0.1$ ) (Please refer Appendix table A2). Roles played by respondents vary from operational to strategic. As such if there are any changes in business process and cycles, there are changes in job task and activities. The information through the communication system ensures dissemination of information to the individuals'. Since it is provided, conflict either the work related or interpersonal or intrapersonal does not arise.

**Table 4.T: Role conflict 4**

RESPONSES	CODES	NUMBER OF RESPONDENTS	PERCENTAGE
STRONGLY AGREE		5	12.5
AGREE		19	47.5
NEUTRAL		3	7.5
DISAGREE		16	40
STONGLY DISAGREE		1	2.5
		40	100

(Source: primary data)

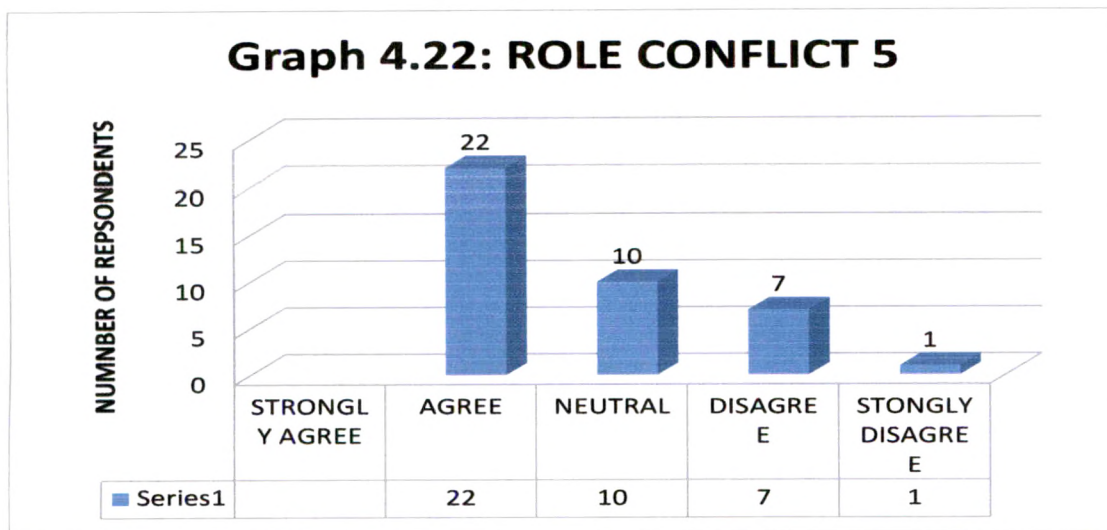


The graph shown above an organization’s standard operating procedures provide guidelines about the expectations from the working individuals. This procedure clarifies the role demands and help in following the instructions received. The data processing value tells that there is a neutral agreement over these procedures( $x=3.0$ ) (Please refer Appendix table A2) and instructions received which leads to moderate level of stress (Please refer Appendix table A2).

**Table 4.U : Role Conflict 5**

RESPONSES	CODES	NUMBER OF RESPONDENTS	PERCENTAGE
STRONGLY AGREE	5	0	0
AGREE	4	22	55
NEUTRAL	3	10	25
DISAGREE	2	7	17.5
STONGLY DISAGREE	1	1	2.5
		40	100

(Source: primary data)



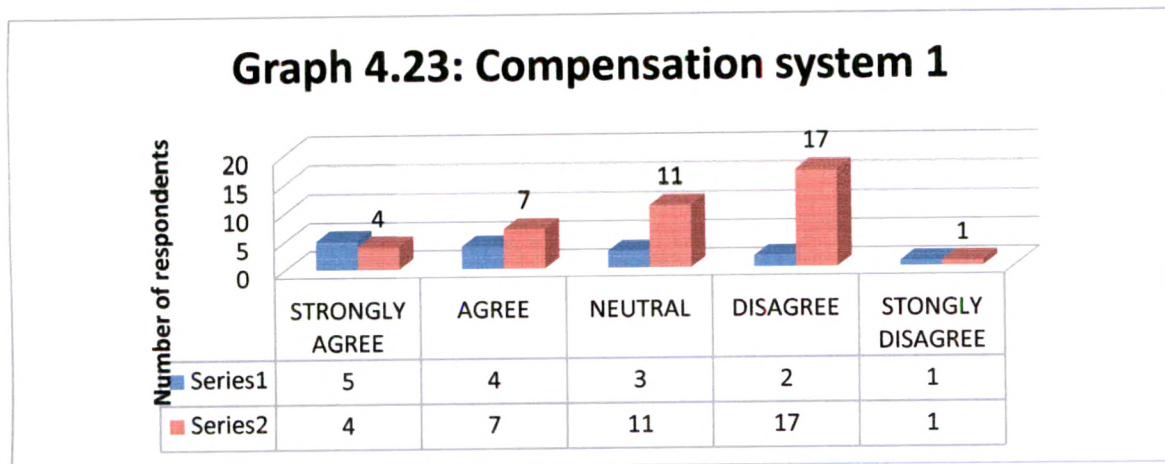
Environmental changes make it imperative to bring in new techniques to perform the tasks in a job. These changes are variable and unpredictable in nature. As such there is a resistance to change (individual resistance) to implement these new techniques. The mean values in data processing thus shows ( $x=4$ ) (Please refer Appendix table A2) leading to low productivity (14%) (Please refer Appendix table B2). However the respondents feel that such changes of techniques do not lead to considerable stress ( $r^2 = -0.03$ ) (Please refer Appendix table A2), because of proper instructions given through formal or informal training is been provided.



**Table 4.V : Compensation system 1**

RESPONSES	CODES	NUMBER OF RESPONDENTS	PERCENTAGE
STRONGLY AGREE	5	4	10
AGREE	4	7	17.5
NEUTRAL	3	11	27.5
DISAGREE	2	17	42.5
STONGLY DISAGREE	1	1	2.5
		40	100

(Source: primary data)

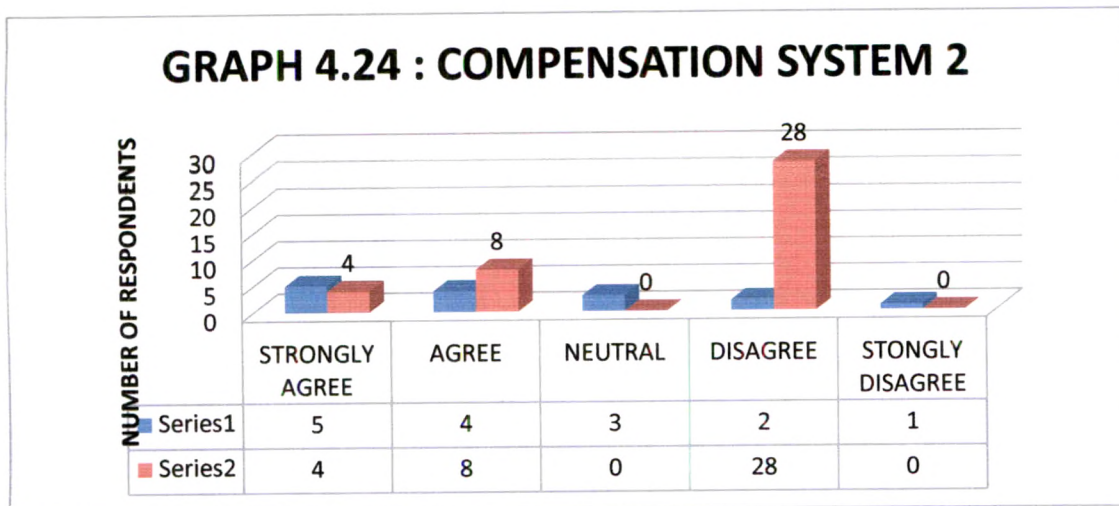


Graphical analysis shows that the respondents disagree that they are not paid in equity terms. The value from Appendix table A2 show that there is a negative correlation to the stress experienced since it is not the actual stress but a potential stress that is experienced (level of stress being low) (Please refer Appendix table A2). So we can interpret that for the respondents it is seen that they all feel that the pay they get is in proportion to the efforts put in by them. There lies a positive correlation with productivity but mean values say that it results into moderate productivity (27%). Please refer Appendix table B2.

**Table 4.W : Compensation system 2**

RESPONSES	CODES	NUMBER OF RESPONDENTS	PERCENTAGE
STRONGLY AGREE	5	4	10
AGREE	4	8	20
NEUTRAL	3	0	0
DISAGREE	2	28	70
STONGLY DISAGREE	1	0	0
		40	100

(Source: primary data)

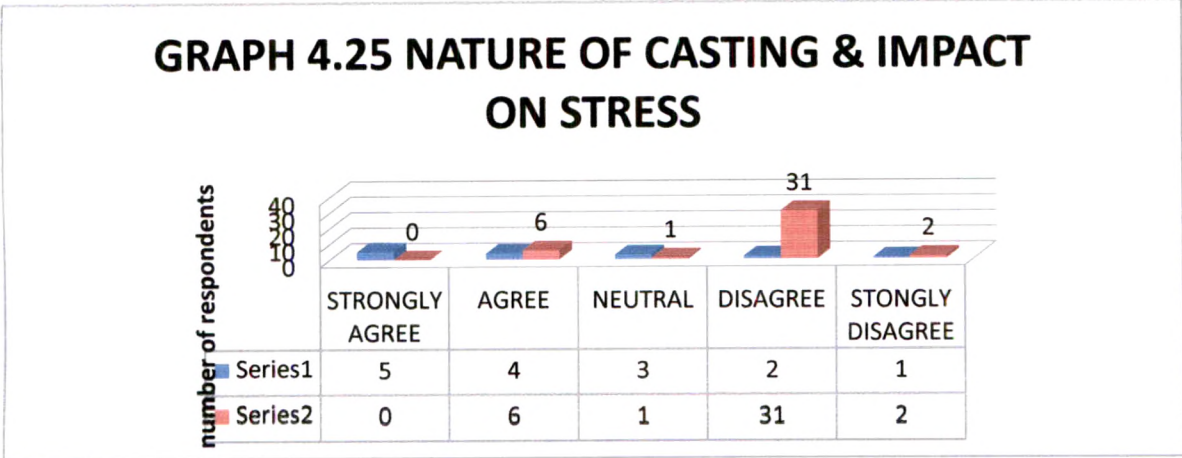


Recognition is an important factor for an individual for increased motivation. As such higher the level of motivation more are the efforts put in by an individual. Rewards are one form of recognition given. For the units under study it can be interpreted that the respondents feel that the efforts that are being done are recognized by the employer organization leading to higher productivity levels. Thus ensuring equity theory principle.

**Table 4.X: Nature of casting and impact on stress**

RESPONSES	CODES	NUMBER OF RESPONDENTS	PERCENTAGE
STRONGLY AGREE	5	0	0
AGREE	4	6	15
NEUTRAL	3	1	2.5
DISAGREE	2	31	77.5
STONGLY DISAGREE	1	2	5
		40	100

(Source: primary data)



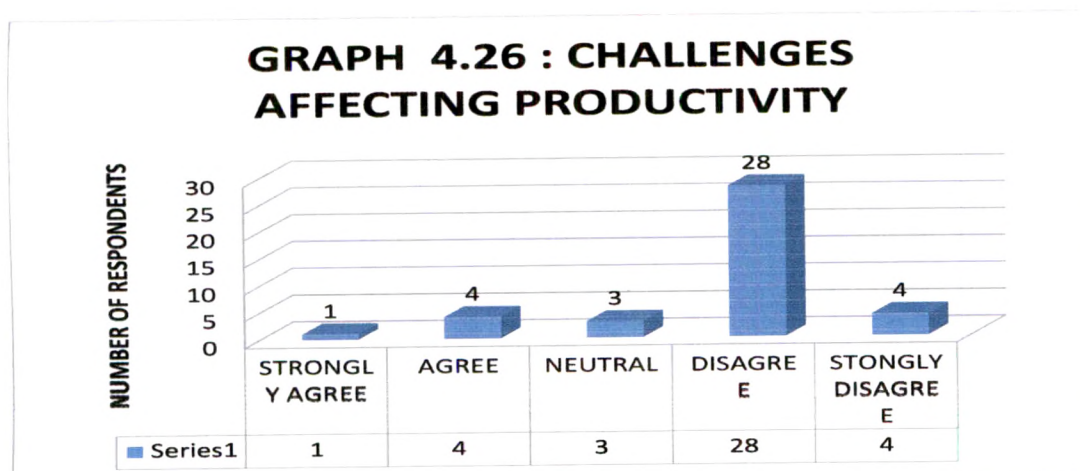
Graphical analysis tells that the respondents disagreed to the fact that the nature of casting has a positive impact on stress. Casting process remains the same irrespective of the raw material used. Within the Kolhapur cluster the foundry units majorly use iron as one of the raw materials. Usage of such materials does not affect the manufacturing process directly. For the respondents considered they strongly believe that the nature of casting does not affect the stress level and productivity evident from the negative correlational values (Please refer Appendix table A2).



**Table 4.Y: Challenges affecting productivity due to stress**

RESPONSES	CODES	NUMBER OF RESPONDENTS	PERCENTAGE
STRONGLY AGREE	5	1	2.5
AGREE	4	4	10
NEUTRAL	3	3	7.5
DISAGREE	2	28	70
STONGLY DISAGREE	1	4	10
		40	100

(Source: primary data)



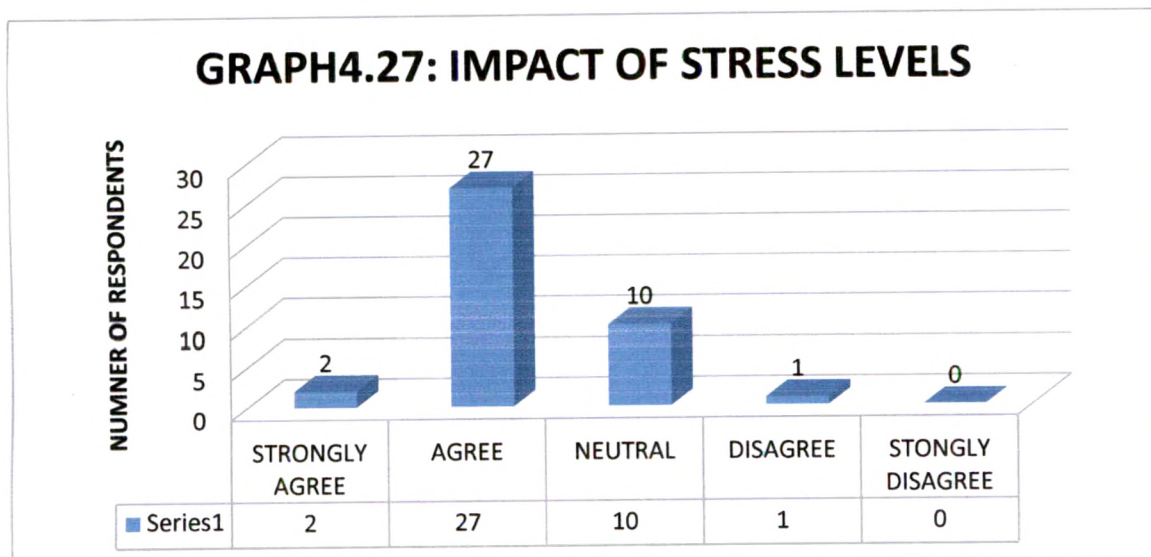
(Source: primary data)

For the respondents data 72% of them think that the challenges in the job are not affected due to stress experienced which is evident from the mean vale  $x=1.8$ ) (Please refer Appendix tableA2). Stress is classified as distress and eustress. For determining the effect of stress on productivity, it is seen that up to a certain point ( $s.d>1$ ) there is eustress and beyond it there is a negative (distress) ( $s.d<1$ ) (Please refer Appendix tableB2) impact on productivity. So it can be interpreted that a minimum level of stress is required to affect productivity. However for the respondents under study there is a positive correlation with stress and productivity, which means that challenges task in job causes stress levels but are moderate enough(Please refer Appendix tableA2)

**Table 4.Z: Impact of Stress levels**

RESPONSES	CODES	NUMBER OF RESPONDENTS	PERCENTAGE
STRONGLY AGREE	5	2	5
AGREE	4	27	67.5
NEUTRAL	3	10	25
DISAGREE	2	1	2.5
STONGLY DISAGREE	1	0	0
		40	100

(Source: primary data)



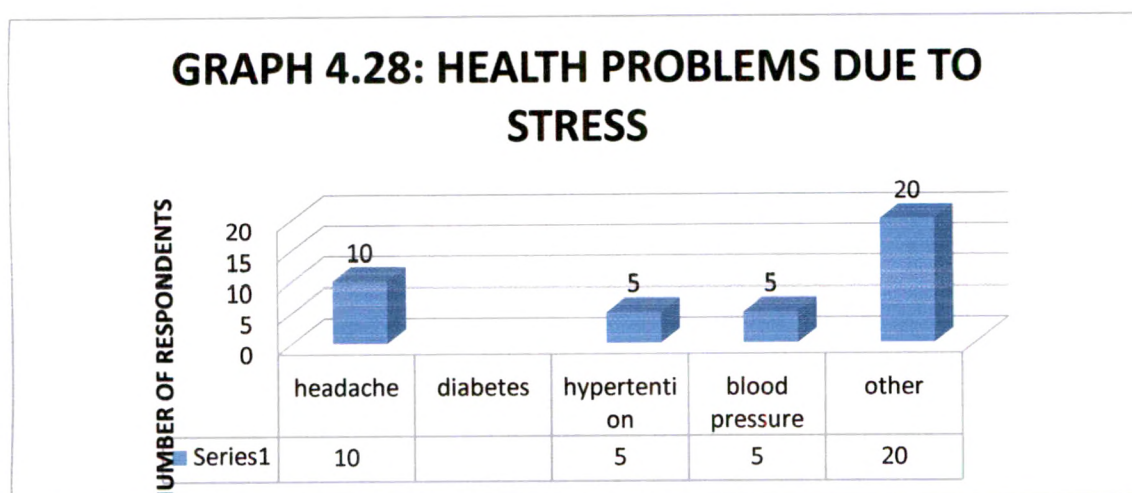
(Source: primary data)

67.5% of respondents agree to the statement that there is a positive impact of stress on productivity. This shows that there is existence of moderate level of stress among the individuals leading to effective performance. As per the inverted U-relationship between stress and productivity, it is ensured that till a particular level eustress ( $s.d > 1$ ) shall appear and after that distress shall be appearing ( $s.d < 1$ ) (Please refer Appendix table A2).

**Table 4.AA1: Health problems due to stress**

RESPONSES	CODES	NUMBER OF RESPONDENTS	PERCENTAGE
HEADACHE	5	10	25
DIABETES	4	0	0
HYPERTENTION	3	5	12.5
BLOOD PRESSURE	2	5	12.5
OTHER	1	20	50
		40	100

(Source: primary data)



Health problems due to stress has evidence in all sectors of industries. Major effects of stress is observed on the Physical aspect. Headaches, hypertension, and blood pressure, are the major affects. Since the executives considered are from the middle and top level, concerns about health is seen because they are key decision makers of the organizations. From the table A2 it is evident that there is a positive correlation with stress, with stress levels being high (Please refer Appendix tableA2) which means stress causes health problems amongst the executives considered. Also with s.d=1.67 Please refer Appendix tableA2 it is evident that the stress levels are high amongst the respondents. Since the physical aspects seen can be chronic in future courses, it surely affects productivity of the individuals.

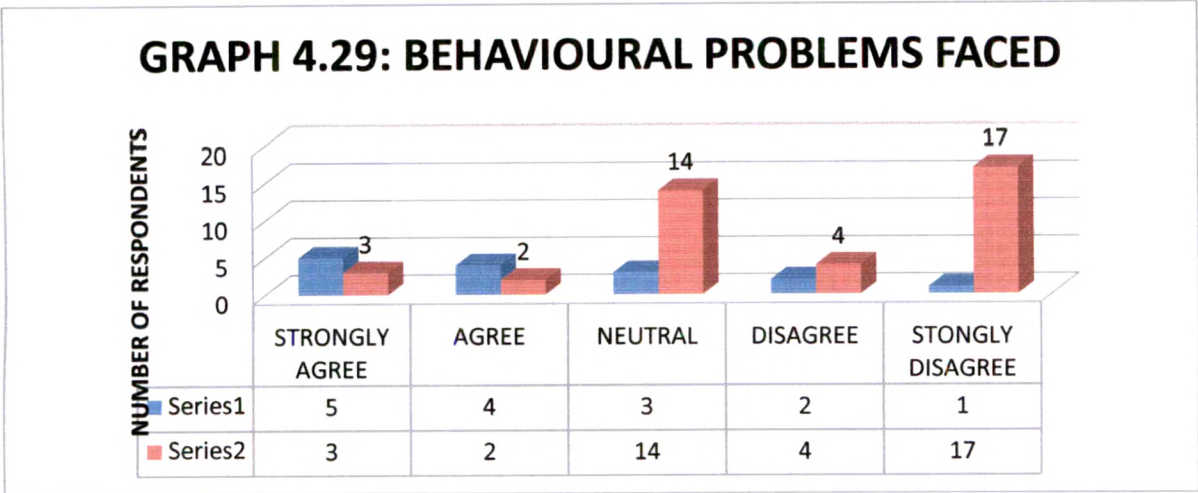
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**Table 4.AA2 : Behavioural problem due to stress**

RESPONSES	CODES	NUMBER OF RESPONDENTS	PERCENTAGE
STRONGLY AGREE	5	3	7.5
AGREE	4	2	5
NEUTRAL	3	14	35
DISAGREE	2	4	10
STONGLY DISAGREE	1	17	42.5
		40	100

(Source: primary data)

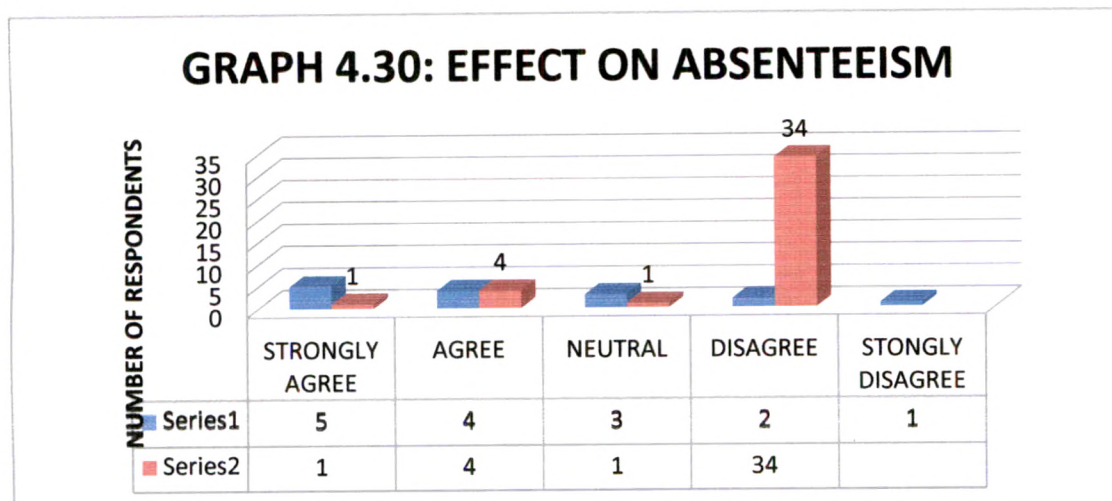


Effect of job stress is seen within an individual and is reflected in behaviour. An individual interacts with his environment which includes the family members in non - working and working hours too. 42.5% of respondents opine strongly that the impact of stress is not high enough affecting behavioral aspects when at home. There is a positive correlation with stress and productivity (Please refer Appendix tableA2).The stress levels are moderate enough, this ensures that the individuals do possess some coping strategies at their level not affecting family relationships until the stress levels experienced is high.

**Table 4.AA3: Effect of stress on absenteeism**

RESPONSES	CODES	NUMBER OF RESPONDENTS	PERCENTAGE
STRONGLY AGREE	5	1	2.5
AGREE	4	4	10
NEUTRAL	3	1	2.5
DISAGREE	2	34	85
STONGLY DISAGREE	1	0	0
		40	100

(Source: primary data)

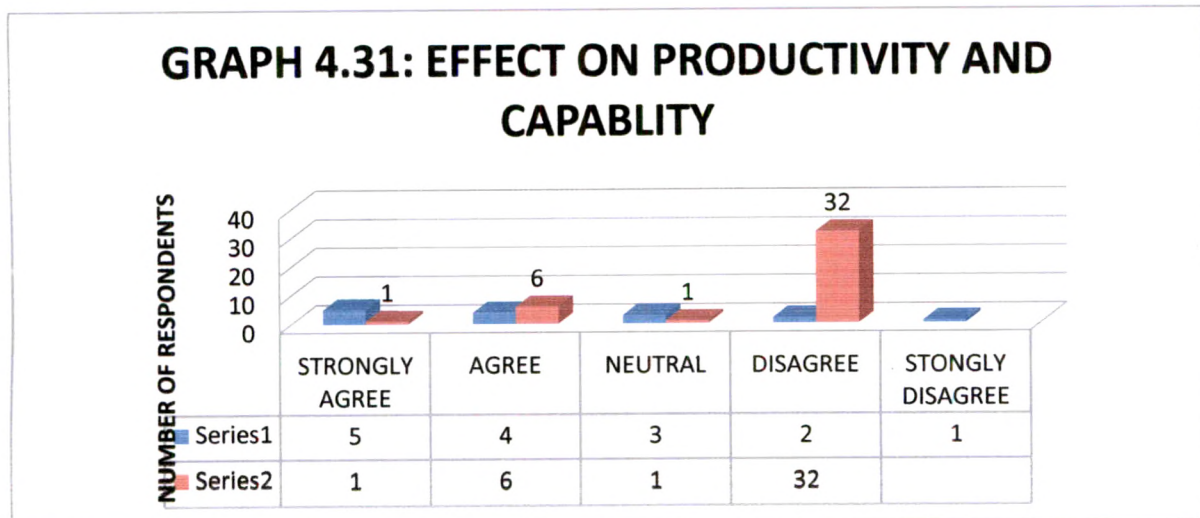


For the units under study 34% say that stress has not been a contributing factor for their absenteeism at workplace, which is a compliment to the organizations climate. As such there are behavioral and health problems due to stress ( see graph 28 &29) but the impact is not lost man-days .This is seen through the mean values  $X=1.9$  (Please refer Appendix tableA2)

**Table 4.AA4: Stress effect on productivity and capability**

RESPONSES	CODES	NUMBER OF RESPONDENTS	PERCENTAGE
STRONGLY AGREE	5	1	2.5
AGREE	4	6	15
NEUTRAL	3	1	2.5
DISAGREE	2	32	80
STONGLY DISAGREE	1	0	0
		40	100

(Source: primary data)



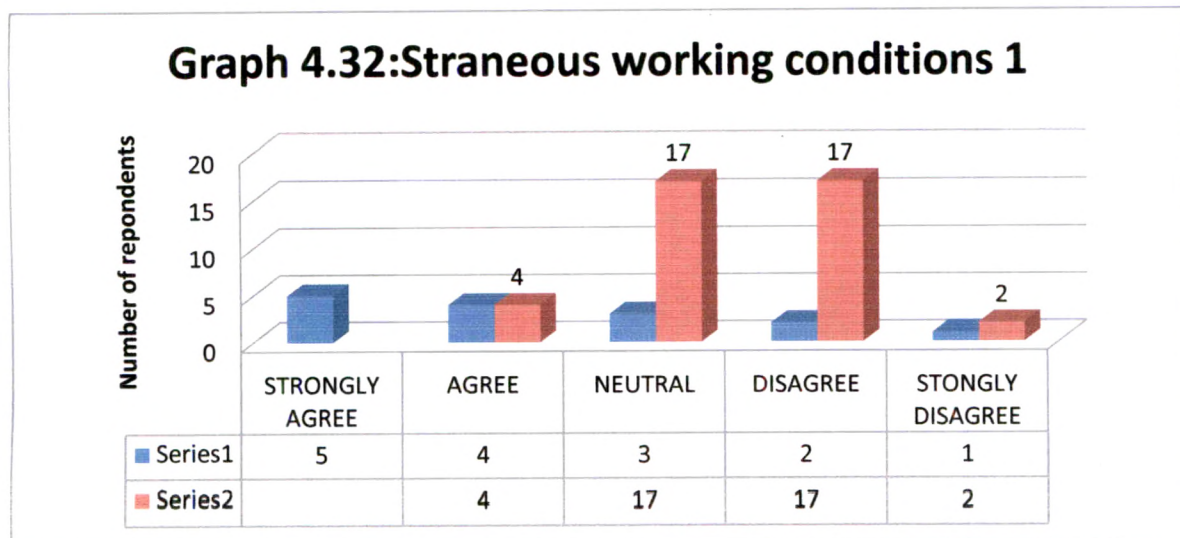
80% respondents do not agree that the capabilities are hampered because of occupational stress and its effect on productivity. This is evident from the correlational value ( $r=0.00131$ ) which is almost equaling to no value (Please refer Appendix tableA2). As such we can interpret that due to individual coping mechanisms used the respondents are able to sustain the abilities thus perform various tasks as per the positions held. Intellectual ability and physical abilities are thus maintained allowing them to be productive in the organizations.



**Table 4.AA5: Strenuous condition 1**

RESPONSES	CODES	NUMBER OF RESPONDENTS	PERCENTAGE
STRONGLY AGREE	5	0	0
AGREE	4	4	10
NEUTRAL	3	17	42.5
DISAGREE	2	17	42.5
STONGLY DISAGREE	1	2	5
		40	100

(Source: primary data)



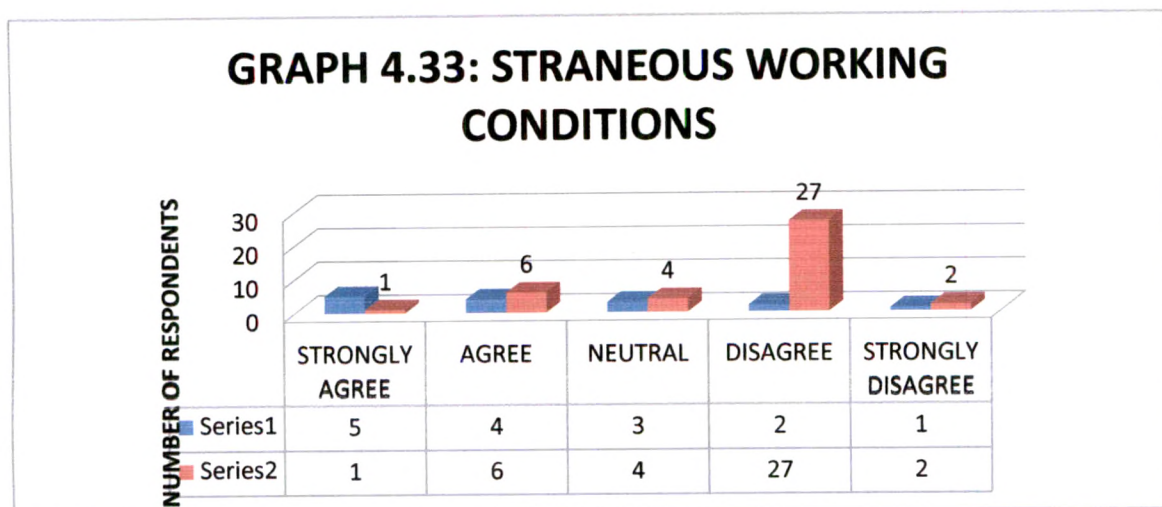
The graphical representation shows that 36% respondents say that they disagree that they cannot work together. A culture that is supportive in nature is provided by the employer organization thus leading to moderate productivity and low stress ( $s.d=0.67$ ) amongst the respondents (Please refer Appendix table A2).

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**Table 4.AA6: Straneous condition 2**

RESPONSES	CODES	NUMBER OF RESPONDENTS	PERCENTAGE
STRONGLY AGREE	5	1	2.5
AGREE	4	6	15
NEUTRAL	3	4	10
DISAGREE	2	27	67.5
STRONGLY DISAGREE	1	2	5
		40	100

(Source: primary data)

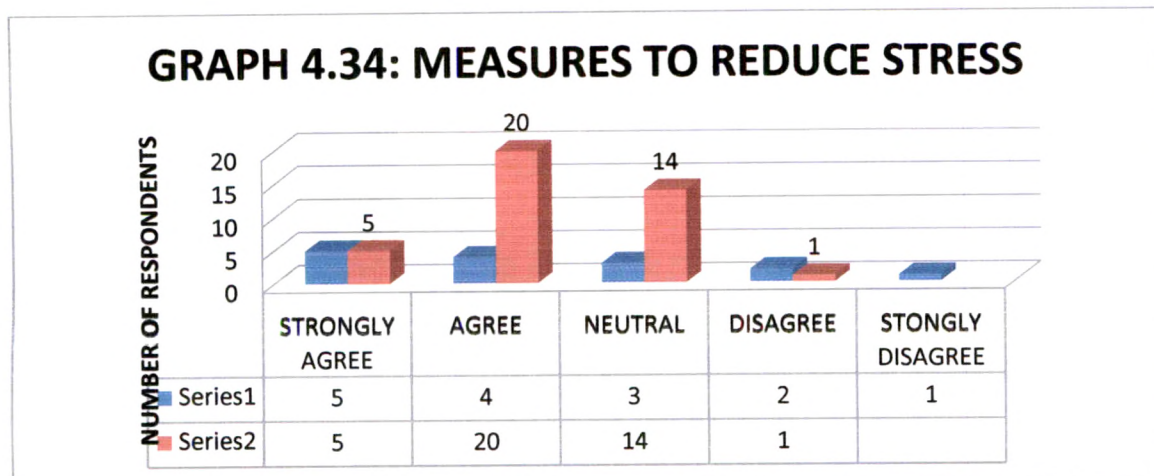


The data processing values shows that there lies a negative correlation with stress ( $r=-0.277$ ) and a positive correlation to productivity ( $r=0.15$ ) (Please refer Appendix tableA2). These values indicate that higher productivity is gained with moderate levels of stress. For the responses gained it is seen that there is working environment where individuals are allowed to share feelings, problems, and happiness thus leading to no taxing of job tasks..

**Table 4.AA7: Opinion on measures to reduce stress**

RESPONSES	CODES	NUMBER OF RESPONDENTS	PERCENTAGE
STRONGLY AGREE	5	5	12.5
AGREE	4	20	50
DISAGREE	2	1	2.5
STONGLY DISAGREE	1	0	0
		40	100

(Source: primary data)



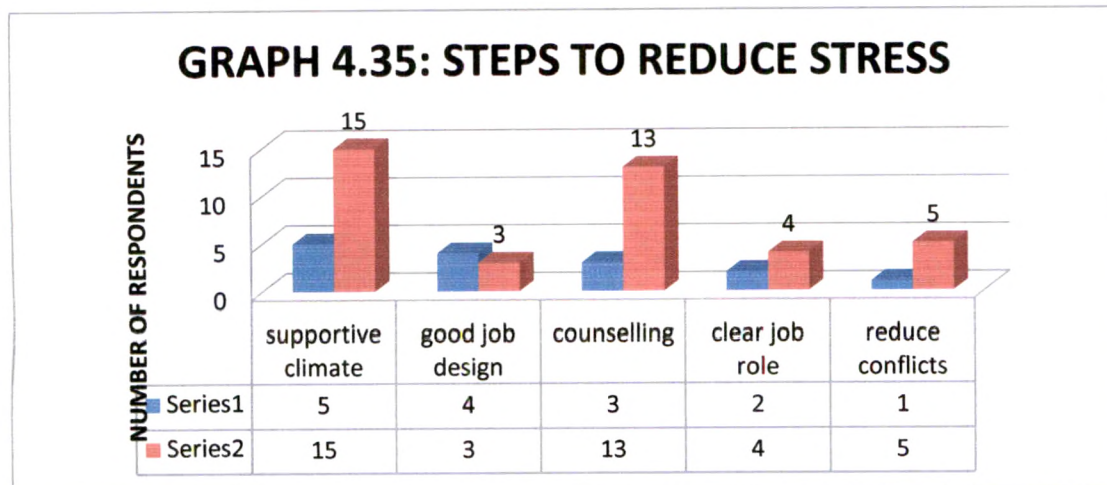
It is seen from the above graph that 97.5 % of the respondents agree that if necessary steps are taken it shall help to reduce stress. Most of the respondents agree that stress prevails and has an effect on productivity (positive and negative) and if organization and employees come together they shall handle it in a systematic manner. The positive correlational value seen in Appendix table A2 proves that if steps are taken desired productivity is obtained. Communicating this towards the levels of organization has an impact leading to mitigating stress levels.



**Table 4.AA8: Steps for reducing stress**

RESPONSES	CODES	NUMBER OF RESPONDENTS	PERCENTAGE
SUPPORTIVE CLIMATE	5	15	37.5
GOOD JOB DESIGN	4	3	7.5
COUNSELLING	3	13	32.5
CLEAR JOB ROLE	2	4	10
REDUCE CONFLICTS	1	5	12.5
		40	100

(Source: primary data)



For the following graph it is evident that the major factor for reducing stress would be supportive climate. Most of the units employer felt that individual counselling is given by the supervisors and employer himself to reduce stress. There is a negative correlation with stress (-0.255) and productivity (-0.58) (Please refer Appendix table A2). Which shows that even though 70% (37.5 & 32.5 - (see above table 4.AA8)) of respondents have suggested supportive climate and counselling, the effect of these measures adopted does not give desired productivity as respondents' stress levels are also high (Please refer Appendix table A2). The entire research study reflects that the kind of stressor is organizational stressor. If steps are to be taken there is a need to identify the stressor and then implement the steps.

# *HYPOTHESES TESTING*

## **HYPOTHESIS I**

**Table 4.1: chi-square Test of independency between stress levels and nature of casting**

			NATURE OF CASTING		
	O <sub>i</sub>	E <sub>i</sub>	O <sub>i</sub> -E <sub>i</sub>	(O <sub>i</sub> -E <sub>i</sub> ) <sup>2</sup>	(O <sub>i</sub> -E <sub>i</sub> ) <sup>2</sup> /E <sub>i</sub>
	2	8	-6	36	4.4
STRESS	27	8	19	361	45.124
	10	8	2	4	0.5
	1	8	-7	49	6.125
	0	8	-8	64	8
Total					64.24

**(Source: primary data)**

### **Analysis and Interpretation**

#### **Null hypothesis:**

stress levels amongst the executives is independent of nature of selected foundry units

#### **Alternative hypothesis**

Stress levels amongst the executives is dependent of nature of selected foundry units

#### **Statistical test:**

Use of one-sample Chi square test to compare the observed distribution to a hypothesized distribution. The chi-square test is used to check the independency among the two variables considered.

**Significance level assumed:** let  $\alpha=5\%$

**Calculated value:** 64.2

**Degree of freedom = (n-1) = (40-1) =39**

**Critical test value:** Table value of chi-square at 5% level of significance=44.74



**Interpretation:** Since the calculated value is greater than the table value for the given degree of freedom and significance level. **It is thus concluded that the two variables defined (stress levels and nature of casting) are dependent so the null hypothesis is rejected.**

**Alternatively, stress levels are dependent upon the nature of selected foundry units.**

## **HYPOTHESIS II**

**Table 4.2: chi-square Test of independency between stress levels and productivity**

	O <sub>i</sub>	E <sub>i</sub>	O <sub>i</sub> -E <sub>i</sub>	(O <sub>i</sub> -E <sub>i</sub> ) <sup>2</sup>	(O <sub>i</sub> -E <sub>i</sub> ) <sup>2</sup> /E <sub>i</sub>
	1	8	-7	49	6.124
	4	8	-4	16	2
STRESS LEVELS	3	8	-4	24	3.124
	28	8	20	400	40
	4	8	-4	16	2
Total					63.24

**(Source: primary data)**

### **Analysis and Interpretation**

#### **Null hypothesis:**

**There is no correlation between stress levels and executive productivity of selected foundry units**

#### **Alternative hypothesis**

**There is correlation between stress levels and executive productivity of selected foundry units**

#### **Statistical test:**

Use of one-sample Chi square test to compare the observed distribution to a hypothesized distribution. The chi-square test is used to check the independency of the stress variable considered.

**Significance level assumed: let alpha=5%**

**Calculated value: 63.24**

**Degree of freedom = (n-1) = (40-1) =39**

**Critical test value: table value of chi-square at 5 % level of significance=44.74**

**Interpretation:** Since the calculated value is greater than the table value for the given degree of freedom and significance level. It is thus **concluded that the two**

**variables defined (stress levels and executive productivity) are dependent .So the null hypothesis is rejected.**

Alternatively there is a correlation between stress levels and selected executives productivity of the selected foundry units.



### HYPOTHESIS III

**Table 4.3: chi-square Test of independency between stress levels and productivity**

			Productivity		
	O <sub>i</sub>	E <sub>i</sub>	O <sub>i</sub> -E <sub>i</sub>	(O <sub>i</sub> -E <sub>i</sub> ) <sup>2</sup>	(O <sub>i</sub> -E <sub>i</sub> ) <sup>2</sup> /E <sub>i</sub>
	1	8	-7	49	6.124
	6	8	-2	4	0.4
	1	8	-7	49	6.124
	32	8	24	476	72
	0	8	-8	64	8
Total					92.74

**(Source: primary data)**

#### **Null hypothesis**

Positive stress does not lead to high productivity amongst the executives of the selected foundary units.

#### **Alternative hypothesis**

Positive stress leads to high productivity amongst the executives of the selected foundary units.

#### **Statistical test:**

Use of one-sample Chi square test to compare the observed distribution to a hypothesized distribution. The chi-square test is used to check the independency among the two variables considered.

**Significance level** assumed: let alpha=5%

**Calculated value: 93.24**

**Degree of freedom = (n-1) = (40-1) = 39**

**Critical test value:** table value of chi-square at 5 % level of significance=**44.74**

**Interpretation:** Since the calculated is greater than the table value for the given degree of freedom and significance level. It is thus **concluded that the two variable defined (positive stress and executives productivity) are dependent .So we reject the null hypothesis**

Alternatively, positive stress leads to high productivity amongst the selected executives of the selected foundry units.