Five Factor Model of Personality & Role Stress

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The present study investigates the relationship between five factor model of personality and role stress (role overload, role ambiguity and role conflict). Sample of the present study consists of 204 male middle level managers working in public and private manufacturing organizations. Results suggest that neuroticism is positively correlated with all dimensions of role stress i.e. role overload, role ambiguity and role conflict. Agreeableness is negatively correlated with role ambiguity and overall stress. Conscientiousness factor of personality is negatively correlated with role ambiguity, role conflict and overall stress. Results of hierarchical regression analysis indicate that neuroticism is the significant predictor of role stress along with its dimensions.

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Introduction

Stress in the workplace is increasingly a critical problem for employees, employers and for the organization as a whole, but it is inevitable and a necessary part of life (Doublet, 2000). Empirical researches in this area have demonstrated the direct and indirect costs of stress on individual employee's performance and performance of organization as a whole (Ortqvist & Wincent, 2006). Studies also indicate that the amount of experienced role stress is partly depended on the personality predispositions of the employee concerned (Keenan & McBain, 1979). Present study attempts to investigate the relationship between five factor model of personality and role stress.

Interest in occupational role stress has grown considerably since Kahn, Wolfe, Quinn & Rosenthal (1964) classic study of role stress. Within an organizational context, the term 'role' can be defined as a set of expectations applied to the incumbent of a particular position by the incumbent and by role senders within and beyond an organizational boundary (Banton, 1965). Role stress originate when an individual in a particular work role is torn by conflicting job

demands or doing things he/she does not think are part of the job specification (Cooper & Marshall, 1976).

Role conflict, role ambiguity, role overload are widely examined individual stressors and there is a large body of literature(House & Rizzo, 1972; Mc Grath, 1976; Schuler, Aldag & Brief, 1979; Fisher & Gitelson, 1983; Jackson & Schuler, 1985; Newton & Keenan, 1987; Luszczynska & Cieslak, 2005). Since the 1960s, more than 300 articles have been published on role stress or one of its three dimensions; role conflict, as the discrepant role expectations sent by members/outstanding persons of an individual's role set, role ambiguity, as the degree of vagueness, ambiguity in desired expectations that creates difficulties for a person to fulfil requirements, and role overload, as the extent to which time and resources prove inadequate to meet expectations of commitments and obligations to fulfil a role. The diversity of journals where the articles are published suggests that similar concepts are tested over and over again in different contextual settings and on different actors performing different roles.

Studies in India have also attempted to establish the degree of association or causal relationships of stress with other variables such as organizational, job, leadership, communicational and personal factors (Pestonjee, 1992). Pareek (1993) has pioneered work on role stress by identifying as many as ten different types of organisational role stresses namely: Inter Role Distance (IRD), Role Stagnation (RS), Role Expectation Conflict (REC), Role Erosion (RE), Role Overload (RO), Role Isolation (RI), Personal Inadequacy (PI), Self-role Distance (SRD), Role Ambiguity (RA), and Resource Inadequacy (RIN).

Role Stress & Personality

Role stress can arise from different patterns of mismatch in expectations, resources, capability and values about the role. In this matching process personality factors act as the conditioning variables. A person's personality affects how that person experiences and copes with stress. It is generally believed that the competitive, aggressive and anxious people are more prone towards experiencing stress (Ivancevich et al., 1982; Cooper, Dewe & O'Driscoll, 2001).

Role stress can arise from different patterns of mismatch in expectations, resources, capability and values about the role.

Spector (1982) has made the point that personality variables play an important role in the understanding of a range of behaviours at the workplace. Researchers offer a range of frameworks relating personality and the stress that a person experiences. Hart (1999) developed a model for linking personality to work, non-work, and life satisfaction. Bolger and Zuckerman's (1995) framework illustrates how personality affects both the exposure and reactivity to stress, health and physiological outcomes. O'Brien and Delongis (1996) suggest that personal-

ity and situational factors play an important part in three forms of coping responses; problem, emotion, and relationship focused. Personality and stress has been studied in other ways. For example, the concept of hardiness; commitment, control, and challenge has generated considerable interest as a moderator of the stress-exhaustion process (Luszczynska & Cieslak, 2005).

Personality has been also linked to the likelihood of experiencing stressful situations (Bolger & Schilling, 1991), the appraisal of an event as stressful (Gunthert, Cohen & Armeli, 1999). Kahn et al. (1964) studied personality variables as determinants of role ambiguity and role conflict in organizations. Most of the other researchers have focused on other dimensions of personality, i.e. Type A Behavior pattern, psychoticism-reality (P), extroversion-introversion (E), Neuroticism-stability (N) and organizational role stress (Pestonjee & Singh, 1988; Pandey, 1998). Recently, Five Factor Model (FFM) traits have also been studied in the stress process (Conard & Matthews, 2008; Grant & Langan-Fox, 2007; Miller, Griffin, & Hart, 1999). There are some recent studies which advocates the relationship between big five personality and stress (Berg & Hilde, 2011; Fogarty et. al., 1999). Building on this literature, the present study examined how FFM traits influence the stress process.

Five Factor Model (FFM)

The Five Factor Model (FFM) of personality is widely used as a basis for assessment of stress vulnerability (Costa, Somerfield & McCrae, 1996).The five key dimensions of personality are known as Neuroticism, Extraversion, Openness to experience, Agreeableness and Conscientiousness which represent the basic dimensions underlying personality (Costa & McCrae 1991; Digman 1990). Research using both natural language adjectives and theoretically based personality questionnaires supports the comprehensiveness of the model and its applicability across observers and cultures (McCrae, 1992).

In many studies it has also been shown that the Five Factor Model (FFM) of personality are meaningful drivers of individual behaviour and performance (James & Mazerolle, 2002; Zhao & Seibert, 2006). O'Brien and Delongis (1996) used this five-factor model of personality and dimensions of the social context to understand how people cope with stress. Although these five factors have become widely accepted as being core dimensions of personality, relatively few studies have investigated their relationship with role stress (Berg & Hilde, 2011; Fogarty et. al., 1999). Also few studies have examined the independent effects of each of the five factors individually on work stress (Ozutku & Selma Altindis, 2011). This study examines the relationship between the Five Factor Model of Personality with the three dimensions of role stress namely role conflict, role ambiguity and role overload.

Hypothesis Development

Neuroticism (N): Individuals high on N are prone to experience negative emotions such as depression, anxiety or anger

and tend to be impulsive and self conscious (McCrae & Costa 1987). On the other hand individuals low on N are emotionally stable, even tempered, relaxed and exhibit characteristics of calmness. Neuroticism has been negatively associated with life satisfaction and positively associated with self reported stress (Hills & Norvell, 1991). Individuals who are high on N may be less likely to deal with pressures between the work and home domains and therefore will be more likely to report high levels of role stress than individuals who are low on neuroticism. Neuroticism is also related with instability, stress proneness, insecurity and depression. Individuals scoring high on N are more likely to experience negative moods and more affected by negative life events (Burke et al., 2006). Those high on N have been found to report more discomfort when faced with overload either at work or home, or when faced with interpersonal stress, than those low on neuroticism (O'Brein & DeLongis, 1996).We thus hypothesized the following relationship:

Hypothesis 1(a): There will be a positive relationship between neuroticism and role overload.

Hypothesis 1(b): There will be a positive relationship between neuroticism and role ambiguity.

Hypothesis 1(c): There will be a positive relationship between neuroticism and role conflict.

*Extraversion (E)***:** Extraverts have a propensity to experience positive emotions and tend to be sociable, warm, cheerful, energetic and assertive (McCrae, 1992; McCrae & Costa 1987). In contrast individuals who score low on extraversion are referred to as introverts and can characteristically be described as reserved, independent and quiet. In addition, extraversion is linked with optimistic thinking and tendency to reassess the problems positively (Bakker et al., 2006). Therefore, extraverts tend to engage in more support seeking and positive thinking. Individual high on extraversion use less self-blame, wishful thinking, and avoidance than those low on E (O'Brien & DeLongis, 1996). Extroverts share their feelings with others and are supposed to handle role stress in a better way when compared to introverts. We thus hypothesized the following relationship:

Extroverts share their feelings with others and are supposed to handle role stress in a better way when compared to introverts.

Hypothesis 2(a): There will be a negative relationship between extraversion and role overload.

Hypothesis 2(b): There will be a negative relationship between extraversion and role ambiguity.

Hypothesis 2(c): There will be a negative relationship between extraversion and role conflict.

Openness to experience (O): Individuals high on openness to experience tend to be creative, imaginative, curious, psychologically minded and flexible in their thinking. (Costa & McCrae, 1992). In contrast, individuals who score low on

this dimension exhibit conventional and conservative behaviour prefer familiar to novel and usually have narrow common interests. In addition, open individuals are more likely to use humour in dealing with stress; closed individuals are more likely to use faith (McCrae & Costa, 1986). Openness may be linked with stress reduction because situations are evaluated as less threatening by the individuals who score high on openness (Bakker et al., 2006). We thus hypothesized the following relationship:

Hypothesis 3(a): There will be a negative relationship between openness to experience and role overload.

Hypothesis 3(b): There will be a negative relationship between openness to experience and role ambiguity.

Hypothesis 3(c): There will be a negative relationship between openness to experience and role conflict.

Agreeableness (A): Individuals high on agreeableness are characterised as being helpful, sympathetic to others, soft hearted, cooperative and good natured (Costa & McCrae, 1992). In contrast are individuals who score low on agreeableness is characterised as being egocentric, competitive, irritable and sceptical of others intentions. Consequently individuals high on agreeableness will report less role stress when compared to individuals who are low in agreeableness. We thus hypothesized the following relationship:

Hypothesis 4(a): There will be a negative relationship between agreeableness and role overload.

Hypothesis 4(b): There will be a negative relationship between agreeableness and role ambiguity.

Hypothesis 4(c): There will be a negative relationship between agreeableness and role conflict.

An individual who is low on conscientiousness tends to be careless, aimless and unrealistic.

Conscientiousness (C); Individuals high on C tend to be organised, reliable, hardworking, determined and self disciplined (Costa & McCrae, 1992). In contrast an individual who is low on conscientiousness tend to be careless, aimless and unrealistic. Conscientious individuals avoid trouble and achieve high levels of success through purposeful planning and persistence. Conscientiousness has been consistently related to performance across a wide variety of jobs (Barrick & Mount, 1991). Research has also shown that conscientiousness moderates the impact of role clarity and ambiguity on individual well being (Miller, Griffin, & Hart, 1999). It seems likely that individuals who are conscientious will be handling role stress more effectively when compared to individuals with low conscientious. We thus hypothesized the following relationship:

Hypothesis 5(a): There will be a negative relationship between conscientiousness and role overload.

Hypothesis 5(b): There will be a negative relationship between conscientiousness and role ambiguity.

Hypothesis 5(c): There will be a negative relationship between conscientiousness and role conflict.

Methodology

The present investigation was carried out on 204 male middle level managers working in one public and one private sector organization in India. Total 126 male middle level managers working in a public sector organization were randomly selected for test administration. Total 78 male middle level managers working in a private sector organization were randomly selected for the present study. Both are profit earning organizations. Detailed description of the sample for the sent study is listed in Table 1

Table 1 Demographic Details of the Sample

	Public Sector(N = 126)			Private Sector(N = 78)		
	Range	Mean	S. D.	Range	Mean	S. D.
Age	26 - 60	46.28	8.36	22 - 59	42.24	10.02
Work Experience	2 - 40	22	9.44	2 – 40	18.84	9.9

The data was collected by administering questionnaires mainly during office hours, with the consent of respondents. The participants were chosen randomly and they belonged to different departments of their respective organization. Respondents were approached individually and they were assured of anonymity. Scoring for both questionnaires have been done as instructed in their respective manuals.

Occupational Stress Index (OSI)

This scale was developed by Srivastava and Singh in 1981. The scale originally consists of 46 items, each to be rated on the five-point scale. There are twelve sub scales namely role overload, role ambiguity, role conflict, group and political pressures, responsibility for persons, under participation, powerlessness, poor peer relations, intrinsic impoverishment, low status, strenuous working conditions, and unprofitability.

In the present study for assessment of occupational role stress only 15 items were selected from the full scale (OSI) which was related to role overload, role ambiguity and role conflict dimensions of occupational stress. Role overload sub scale consists of six items, role ambiguity sub scale consists of four items and role conflict subscale consists of five items. It has five alternative responses namely, strongly agree, agree, uncertain, disagree and strongly disagree and it is widely used for stress measurement. The reliability of these sub scales was 0.68 for role overload, 0.55 for role ambiguity, and 0.69 for role conflict. High score on this scale shows high level of occupational role stress.

Neo Five-Factor Inventory

The big five personality variables were assessed using the NEO-FFI (Costa & McCrae, 1991). The NEO-FFI is a 60 items version of Form S of the NEO PI-R that provides a brief, comprehensive measure of the five domain of personality. It consists of five 12-item scale that measures each domain. The five factors are: Neuroticism, Extraversion, Openness, Agreeableness and Conscientiousness. The sixty items in this scale were rated into Likert format with five response alternatives namely, strongly agree (5), agree (4), neutral (3), disagree (2), and strongly disagree (1). Costa and McCrae reported internal consistency coefficient alphas of each dimensions as; neuroticism $\alpha = 0.86$, extraversion $\alpha = 0.74$, openness to experience $\alpha = 0.76$, agreeableness $\alpha = 0.69$, conscientiousness $\alpha = 0.81$.

Control Variables

Similar to previous researches age, work experience and sector are tested as control variables. Sector was coded '1' for private sector and '2' for public sector. Age and total work experience in terms of number of years are also collected from the participants.

Descriptive Statistics & Correlations

Table 1 shows descriptive statistics and correlations among variables. Neuroticism is found to be significantly positively correlated with role overload ($r = .22$, $p<.01$), role ambiguity ($r = .27$, $p<.01$) and role conflict ($r = .29$, $p<.01$). Extraversion is found to be significantly negatively correlated with role ambiguity ($r = -.17$, $p<.05$). Openness to experience is found to significantly negatively correlated with role ambiguity ($r = -.16$, $p<.05$). Agreeableness is found to be significantly negatively correlated with role ambiguity ($r = -.23$, $p<.01$). Conscientiousness is found to be significantly negatively correlated with role ambiguity ($r = -.23$, $p<.01$) and role conflict ($r = -.19$, $p<.01$).

To test our hypotheses further hierarchical regression analysis is also used.

Table 2 Descriptive Statistics & Correlations

Variables	Mean	SD	1	2	3	4	5	6	7
1. Neuroticism	2.71	.49	-						
2. Extraversion	3.46	.37	-.16*	-					
3. Openness to Experience	2.97	.34	.09	.09	-				
4. Agreeableness	3.24	.35	-.39**	.21**	.07	-			
5. Conscientiousness	3.92	.43	-.35**	.47**	.00	.29**	-		
6. Role overload	2.67	.59	.22**	-.03	-.05	-.10	-.02	-	
7. Role ambiguity	2.29	.75	.27**	-.17*	-.16*	-.23**	-.23**	.40**	-
8. Role conflict	2.62	.65	.29**	-.08	-.08	-.06	-.19**	.37**	.59**

**Correlation is significant at the 0.01 level (2-tailed)

* Correlation is significant at the 0.05 level (2-tailed)

Table 3 Hierarchical Regression Analysis

Hierarchical Effects	Role overload	Role Ambiguity	Role Conflict
Step 1: Control Variables			
Sector	.02	-.13	-.04
Age	.07	-.22	-.31
Work Experience	.02	.13	.29
Step 2: Independent Variables			
Neuroticism	.24**	.16*	.28***
Extraversion	-.04	-.05	-.00
Openness to Experience	-.05	-.12	-.06
Agreeableness	-.01	-.12	.09
Conscientiousness	.07	-.09	-.12
R^2	.06	.15	.12
Changes in R^2	.06	.11	.10
Adjusted R^2	.02	.12	.08
F	1.70	4.51***	3.30***

Note: Standardized regression coefficients are reported
*p<.05, **p<.01, ***p<.001

Control variables i.e. sector, age and work experience is entered in the first step of the equation, followed by five factors of personality in the second step. This process was repeated for all three dependent variables (role overload, role ambiguity and role conflict). The beta weights from the full model were interpreted as tests of the hypotheses. Results clearly indicate that neuroticism dimension of personality was significantly positively related with role overlaod, role ambiguity and role conflict. The results in Table 3 show that neuroticism is significantly positively related to role overload ($b = .24$, $p < .001$), role ambiguity ($b = .16$, $p < .05$) and role conflict ($b = .28$, $p < .001$).

Results of the present study suggest that each of the five personality dimensions examined in the present study were independently and significantly related to role stress and its dimensions. The first hypothesis of the present study that there will be a positive relationship between neuroticism and role overload, role ambiguity & role conflict is accepted on the basis of obtained results. Results of correlation and hierarchical regression analysis clearly indicate that persons higher on neuroticism perceive more role stress. The findings of the present study is consistent with previous research, indicating that those higher on Neuroticism (N) were more likely to report engaging in escape avoidance, interpersonal withdrawal and self-blame which leads them to experience more role stress (Endler & Parker, 1990; O'Brien & De-Longis, 1996). This is consistent with the characterization that those higher on neuroticism have a propensity for experiencing negative emotions and therefore more

likely to experience role stress in organizations.

Those higher on neuroticism have a propensity for experiencing negative emotions and therefore more likely to experience role stress in organizations.

The second hypothesis 2 (b) of the present study that there will be a negative relationship between extraversion and role ambiguity is accepted on the basis of obtained results. Results of correlation suggest that extraversion is inversely related with role ambiguity; therefore it can be said that introverts experience more role ambiguity than extraverts. Extraversion is in general associated with a tendency to be optimistic (Costa & McCrae, 1992) and a tendency to reappraise problems positively. It is therefore not surprising that some studies have shown a negative relationship between extraversion and burnout. More specifically, Francis, Louden & Rutledge (2004) and Michielsen, et al. (2004) have found that extraversion is negatively associated with emotional exhaustion. Therefore, it is logical to conclude the people scored low on extraversion will experience more stress due to lack of clarity about the job objectives, the scope of responsibilities of one's job, about work colleagues and expectation of the work role.

People scored low on extraversion will experience more stress.

The third hypothesis 3 (b) of the present study that there will be a negative relationship between openness to experience and role ambiguity is accepted on the basis of obtained results. Results of correlation suggest that openness to experience is significantly negatively correlated with role ambiguity. It indicates that a person high on openness to experience perceives low role ambiguity. Openness to experience reflects a more flexible, imaginative, and intellectually curious approach in dealing with stressful situations (Watson & Hubbard, 1996). In addition, openness to experience has been related to the use of humor as a way of dealing with stress (McCrae & Costa, 1986). Smith and Williams (1992) argued that openness to experience may be associated with stress reduction because situations are appraised as less threatening by individuals who score high on this factor.

Person scoring low on agreeableness perceives high role ambiguity.

The fourth hypothesis that there will be a negative relationship between agreeableness and role ambiguity also accepted. Results of correlation indicate that a person scoring low on agreeableness perceives high role ambiguity. The results of the few other studies that concerned the relationship between agreeableness and burnout showed that agreeableness correlates negatively with emotional exhaustion and positively with personal accomplishment (Piedmont, 1993). Deary et al., (1996) reported that agreeableness is

negatively related to depersonalization, which is one of the variables of stress and burnout.

The fifth hypothesis that there will be a negative relationship between conscientiousness and role ambiguity and role conflict is also accepted on the basis of obtained results.Correlations indicate that conscientiousness is significantly negatively correlated with role ambiguity and role conflict. LePine, LePine & Jackson (2004) found a negative association between conscientiousness and emotional exhaustion. Witt, Andrews & Carlson (2004) observed that the performance of call-centre operators in terms of volumes of calls that they answered was worse only among conscientious workers who reported feeling emotionally exhausted. Therefore, it can be suggested that persons scoring low in conscientiousness are more prone to role stress.

Persons scoring low in conscientiousness are more prone to role stress.

Limitations & Future Directions

Some methodological limitations of this study are required to be noted. Firstly, use of self report measure for study variables; five factor of personality and role stress, that is unavoidable. Secondly, social desirability bias is also an unavoidable problem in survey research. It becomes more problematic with sensitive topics like personality and role stress. This limitation is addressed by ensuring the respondents anonymity. Thirdly, since our data were collected from male middle level managers working in single public and private sector organization, the generalization of the finding is restricted. Finally, because the study reported here used a correlational method based on self-report measures the results have to be interpreted with some caution. The theoretical arguments developed in the paper have been based on the assumption that personality predicts role stress rather than the reverse.

With respect to future research directions, a longitudinal research with a large sample; consisting of both males and females is required to study the relationship of five factor model of personality and role stress. It is also recommended to identify and empirically examine other significant personal and organizational determining factors of role stress. Also similar research in different countries and cultures is required to examine the generalizability of the findings. The potential effects of role stress are considerable for individual employee and the organizations as a whole, therefore more empirical research in the area is need of the hour.

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