

Predicting Task Performance of Administrative Staff in Small and Medium Enterprises in Shijiazhuang City Based on Conscientiousness, Extraversion, and Neuroticism

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Abstract. Small and medium enterprises (SMEs) are crucial drivers of regional economic development, where the task performance of administrative staff directly impacts operational efficiency. The relationship between the Big Five and job performance is well established in general contexts. A major gap persists in literature regarding the prediction of specific traits (Conscientiousness, Extraversion, Neuroticism) among administrative personnel of SMEs in a particular Chinese region context-for example, Shijiazhuang. This study investigates 180 administrative staff members from SMEs in Shijiazhuang using a questionnaire survey. The NEO-FFI scale measured personality traits, while a supervisor-rated scale assessed task performance. Data analysis using SPSS 26.0 revealed that Conscientiousness significantly positively predicts task performance ($\beta = .35, p < .001$), and Neuroticism significantly negatively predicts it ($\beta = -.28, p < .001$). In contrast, Extraversion did not demonstrate a significant predictive effect ($\beta = .07, p = .164$). These findings underscore the paramount importance of Conscientiousness and Emotional Stability for administrative effectiveness in SMEs, providing empirical evidence to inform localized human resource practices in recruitment and development.

Keywords: Big Five Personality, SME Administrative Staff, Task Performance, Conscientiousness, Neuroticism

1. Introduction

Small and medium enterprises (SMEs) form the backbone of the Chinese economy, contributing significantly to GDP and employment. Official statistics indicate that SMEs account for over 90% of all enterprises in China and contribute more than 60% of the country's GDP [1]. In Shijiazhuang, as a major city of Hebei province, SMEs play an important role in the economic recovery and also provide supporting industries to larger firms. Located within the Beijing-Tianjin-Hebei economic zone, Shijiazhuang fosters rapid development of SMEs in different fields-from traditional manufacturing up to modern service sectors [2].

Within these organizations, administrative personnel play a core function, serving as the operational nexus that ensures the smooth execution of internal processes, including document management, scheduling, and coordination. Their task performance is therefore a direct determinant

of organizational efficiency [3]. Unlike specialized roles, administrative staff in SMEs often shoulder diverse responsibilities that require multitasking abilities, attention to detail, and procedural knowledge. The efficiency of these support functions has a significant impact on the overall productivity of the organization.

The Big Five, or five-factor model of personality has emerged as a leading framework in understanding and predicting job performance across occupations [4]. Decades of meta-analytic research consistently find Conscientiousness to be the most robust cross-situational predictor accompanied typically by Neuroticism or low Emotional Stability as a negative predictor [5]. The utility of Extraversion, however, is highly contingent on job characteristics, being more relevant for social or leadership roles [6]. Despite this extensive body of literature, most studies have either focused on the full five-factor model or on specific occupations, such as sales and management. There is a conspicuous lack of research targeting the specific combination of core personality traits most relevant to administrative roles within the unique context of Chinese SMEs, particularly in a specific city like Shijiazhuang. This represents a significant research gap both in terms of occupational specificity and regional focus.

This study aims to fill this gap by examining the predictive validity of Conscientiousness, Extraversion, and Neuroticism on the task performance of administrative staff in Shijiazhuang's SMEs. Specifically, the research addresses the following questions:

- (1) Does Conscientiousness significantly predict task performance among administrative staff in Shijiazhuang's SMEs?
- (2) Does Neuroticism significantly negatively predict task performance in this specific population?
- (3) Is Extraversion a significant predictor of task performance in this particular occupational and regional context?

Theoretically, this research enhances personality-performance studies by examining administrative personnel in Shijiazhuang SMEs, highlighting the context-specific nature of trait-performance links, supporting situational strength theory, and offering Chinese empirical evidence. Practically, it advises HR in similar SMEs to prioritize Conscientiousness and Emotional Stability (low Neuroticism) in administrative hires, and to create customized training based on staff personality traits.

2. Literature review and hypotheses

2.1. Literature review

The consensus in personnel psychology is that personality traits are valid predictors of work behavior. The landmark meta-analysis by Barrick and Mount [5] established that Conscientiousness exhibits consistent, positive correlations with performance across nearly all job families, primarily due to its association with dependability, achievement striving, and orderliness. Subsequent research has reinforced this finding, showing that conscientious individuals are more organized, persistent, and thorough in their work [7]. The mechanism behind this relationship appears to be mediated through goal-setting and persistence in task completion.

Conversely, neuroticism, or low emotional stability, correlates with anxiety, stress vulnerability, and emotional volatility, thus impairing job performance. High-neuroticism individuals exhibit reduced coping abilities, elevating error rates and diminishing effectiveness [5,8]. The negative impact of Neuroticism appears to be particularly pronounced in high-stress environments or roles requiring consistent accuracy under time pressure.

The evidence for Extraversion is more nuanced. It is a valid predictor of performance in occupations that require social interaction, such as management and sales [6,9]. However, its predictive power diminishes or becomes non-significant in more routine jobs, requires focused attention on tasks, or involves minimal external interaction [10], suggesting a strong situational strength. This context-dependency makes Extraversion a fascinating trait to examine in administrative contexts.

Administrative roles in SMEs are typically characterized by a high volume of varied tasks, a need for meticulous attention to detail, and a focus on internal coordination and process management [3,11]. Unlike large corporations, where administrative functions may be highly specialized, SME administrative staff often function as generalists, managing a broad range of tasks that span from basic filing to complex scheduling and reporting. This job context suggests that traits facilitating organization, reliability, and steady performance under pressure would be highly salient, while traits geared toward external social engagement may be less critical.

The Chinese cultural context is thus added as another dimension of complexity to the relationships between personality and performance. While basic relationships are applicable across cultures, results from studies conducted in different parts of the world suggest that strength scores standing at collectivism for a particular country may vary [12]. The collectivist orientation predominant in Chinese culture might place different emphases on certain personality manifestations. Furthermore, regional economic conditions, such as those in Shijiazhuang's developing SME sector, might create unique workplace dynamics that influence how personality traits translate into performance.

2.2. Hypothesis development

Based on the comprehensive literature review and consideration of the specific job and regional context, the following hypotheses are proposed:

H1: Conscientiousness will have a significant positive predictive effect on the task performance of administrative staff in Shijiazhuang's SMEs.

H2: Neuroticism will have a significant negative predictive effect on the task performance of administrative staff in Shijiazhuang's SMEs.

H3: Extraversion will not have a significant predictive effect on the task performance of administrative staff in Shijiazhuang's SMEs.

3. Methodology

3.1. Research design

A cross-sectional survey design was employed, utilizing quantitative methods to examine the relationships between personality traits and task performance. This design was selected for its efficiency in collecting data from a sufficiently large sample, enabling robust statistical analysis, while accommodating the practical constraints of accessing multiple SMEs.

3.2. Participants and sampling

Using convenience sampling, 180 administrative staff and their immediate supervisors from SMEs in Shijiazhuang participated in the study. The sample covered three major sectors: trade (42%), manufacturing (35%), and technology services (23%). This distribution reasonably reflects the composition of Shijiazhuang's SME landscape. Participants had an average organizational tenure of

3.8 years ($SD = 2.1$), and 65.6% were female, which corresponds to the gender distribution typical in administrative roles in the region.

The incumbents should be holding full-time administrative positions and must have worked in their present position for a minimum period of six months, thereby ensuring adequate experience to make the performance evaluation meaningful. The supervisors must have directly supervised the participant for not less than three months to ensure familiarity with his/her performance.

3.3. Data collection procedure

Data were collected with the assistance of the Shijiazhuang Association of Small and Medium Enterprises over a period of three months. The association facilitated access to member organizations and helped distribute survey materials to them. The data collection employed paired questionnaires: one for employee self-report of personality traits and a separate form for supervisor rating of performance.

Each respondent was given a unique identification code to match the employee and supervisor responses with confidentiality and anonymity of their honest and candid answers. Respondents were adequately informed about the purpose of this research, hence giving informed consent before participation. The response rate stood at 85% on questionnaires administered to employees while 78% from supervisors' assessment resulting in 180 fully completed matched pairs used for analysis.

3.4. Measurement instruments

Personality Traits: The 12-item subscales for Conscientiousness, Extraversion, and Neuroticism from the Chinese version of the NEO-FFI were used [13]. This instrument has demonstrated strong psychometric properties in Chinese populations, with established reliability and validity. Sample items include "I am a productive person who always gets the job done" (Conscientiousness), "I really enjoy talking to people" (Extraversion), and "I often feel tense and jittery" (Neuroticism). Responses were collected on a 5-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).

Task Performance: A self-developed, supervisor-rated 6-item scale measured performance on dimensions specifically relevant to administrative work in SMEs, including task timeliness, accuracy, thoroughness, procedural compliance, problem-solving, and organizational skills. Supervisors rated their subordinates on a 5-point Likert scale from 1 (Poor) to 5 (Excellent). During development, the scale was reviewed by three HR experts and pretested with a sample of 30 administrative staff and supervisors not included in the final study. The scale demonstrated high reliability ($\alpha = .87$) in the present study.

3.5. Data analysis strategy

Data were analyzed with SPSS 26.0 following a structured analytical procedure. First, reliability analysis was conducted for all measurement scales using Cronbach's alpha to ensure internal consistency. Descriptive statistics in the form of means, standard deviations, and frequency distributions were calculated for all variables. Pearson correlation analysis was used to determine the bivariate relationships between the three personality traits and task performance. Multiple linear regression analysis was applied with task performance as a dependent variable and three personality traits as independent variables to test the hypotheses. Assumptions of regression, including linearity, homoscedasticity, and the absence of multicollinearity, were verified and found to be satisfied.

4. Results

4.1. Preliminary analyses

Reliability analysis indicated strong internal consistency for all measurement scales. The Cronbach's alpha coefficients were: Conscientiousness ($\alpha = .84$), Extraversion ($\alpha = .79$), Neuroticism ($\alpha = .81$), and Task Performance ($\alpha = .87$). All coefficients exceeded the recommended threshold of .70, indicating acceptable reliability for research purposes [14].

4.2. Descriptive statistics and correlations

The correlation analysis (Table 1) showed that task performance was significantly positively correlated with Conscientiousness ($r = .41$, $p < .01$) and significantly negatively correlated with Neuroticism ($r = -.36$, $p < .01$). The correlation with Extraversion was weak and non-significant ($r = .11$, $p > .05$). These preliminary results provided initial support for H1 and H2, but not for H3.

Table 1. Means, standard deviations, and correlations among variables (N=180)

Variable	Mean	SD	1	2	3	4
1. Conscientiousness	4.02	0.58	1			
2. Extraversion	3.65	0.62	.25**	1		
3. Neuroticism	2.80	0.71	-.32**	-.18*	1	
4. Task Performance	4.15	0.54	.41**	.11	-.36**	1

*Note: * $p < .05$, ** $p < .01$

4.3. Hypothesis testing: regression analysis

Table 2. Multiple regression analysis predicting task performance

Predictor	β	SE	t	p-value
Conscientiousness	.35	.06	5.83	< .001
Extraversion	.07	.05	1.40	.164
Neuroticism	-.28	.05	-5.60	< .001

Note: Dependent Variable: Task Performance.

Analysis of individual predictors revealed that (Table 2):

- Conscientiousness was a significant positive predictor of task performance ($\beta = .35$, $p < .001$). Thus, H1 was supported.

- Neuroticism was a significant negative predictor of task performance ($\beta = -.28$, $p < .001$). Thus, H2 was supported.

- Extraversion did not have a significant predictive effect on task performance ($\beta = .07$, $p = .164$). Thus, H3 was supported. Post-hoc analyses examined potential interaction effects between personality traits and demographic variables, including age, gender, and tenure. None of these interaction terms reached statistical significance, suggesting that the personality-performance relationships were consistent across these demographic categories.

5. Discussion

The results strongly support the hypothesized relationships. The significant positive role of Conscientiousness reaffirms its status as a universal predictor, crucial for the organized, reliable, and high-quality task execution required in administrative work [5,7]. In the context of SME administrative roles, where employees often manage multiple responsibilities with minimal supervision, the tendency to be thorough, careful, and responsible appears particularly valuable. This finding aligns with the conceptualization of Conscientiousness as reflecting dependability and achievement orientation, both of which are critical for administrative effectiveness.

The large negative prediction of Neuroticism emphasizes the damaging effect that emotional instability has on performance in a job considered to be one requiring consistency and accuracy under stressful conditions [8]. Most administrative personnel work in an environment of competing demands and tight deadlines with occasional unexpected challenges. Individuals higher in Neuroticism may find these aspects of the job more overwhelming, potentially reacting with anxiety, frustration, or decreased focus that compromises performance quality. This finding underscores the importance of emotional stability for sustaining performance in administrative positions.

Critically, the non-significant finding for Extraversion provides valuable nuance to the personality-performance literature. It proves by evidence that the trait's sociability, assertiveness, and high energy which is normally associated with this trait do not provide any advantage over performance in an internal process-oriented context of SME administrative work. This finding therefore challenges any blanket assumption on the universal benefits of extraversion and clearly articulates boundary conditions for its applicability in personnel selection decisions. In administrative roles that focus primarily on internal coordination rather than external representation, being highly outgoing may be less relevant to core task performance.

6. Conclusion

This study provides compelling evidence that Conscientiousness and Neuroticism are significant positive and negative predictors, respectively, of task performance for administrative staff in Shijiazhuang's SMEs, while Extraversion is not. These findings bridge a critical research gap by examining these relationships within a specific regional, organizational, and occupational context, thereby adding important nuance to our understanding of how personality traits translate into workplace performance. By targeting key traits, SMEs can optimize resource allocation and boost efficiency. Future research should build on these findings by employing longitudinal designs, expanding to multiple regions, incorporating multiple performance metrics, and exploring the psychological mechanisms that explain why these personality traits influence performance in administrative roles.

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