

The Relationship between Personal Factors, ERG Theory Motivation Factors and Employee Job Satisfaction of Xuzhou Zhongjin Shanty Town Reconstruction and Construction Co., Ltd.

Sun Puli¹, Pattaroj Kamonrojsiri²

*¹⁻²Educational Administration, Faculty of Liberal Arts, Southeast Bangkok University, Bangkok, Thailand,
sasiwimol@southeast.ac.th*

Abstract

This quantitative study examines the relationship between personal factors, ERG theory motivation factors, and employee job satisfaction at Xuzhou Zhongjin Shantytown Renovation and Construction Co., Ltd., a leading Chinese company in urban renewal. Using stratified random sampling, data were collected from 162 employees across all departments and management levels via a validated questionnaire. Statistical analyses included descriptive statistics (frequencies, percentages, means, standard deviations) to summarize sample characteristics and variable distributions, and inferential statistics to test hypothesized relationships. Specifically, t-tests and ANOVA with post-hoc tests were employed to compare mean job satisfaction levels across different groups based on personal factors, while Pearson correlation coefficients were used to assess the strength and direction of the linear relationship between ERG needs and job satisfaction. The results revealed that age, education level, position level, and work experience were significantly related to job satisfaction, with the highest satisfaction among middle-aged, higher-educated, mid-career, and managerial employees. Gender showed no significant effect. All three ERG needs (existence, relatedness, and growth) were positively correlated with job satisfaction, with growth needs exhibiting the strongest association. These findings highlight the importance of both demographic characteristics and psychological need fulfillment in understanding job satisfaction within the construction sector. The study provides evidence supporting the application of ERG theory in China's construction industry and offers practical recommendations for targeted human resource interventions to enhance employee satisfaction and organizational effectiveness.

Keywords: Employee job satisfaction, ERG Theory, Personal Factors

Background and Statement of the Problem

In today's dynamic and intensely competitive global landscape, organizations recognize human capital as their most critical asset (Cascio & Aguinis, 2019). Employee job satisfaction is no longer viewed as a peripheral concern but rather as a core determinant of organizational success, directly impacting productivity, employee retention, and overall performance (Judge & Locke, 1993). Satisfied employees are demonstrably more engaged, committed, and less likely to seek alternative employment, thus contributing to organizational stability and reduced costs associated with recruitment and training (Albrecht et al., 2015). Within this context, understanding the factors that underpin employee job satisfaction becomes paramount for effective organizational management and sustainable growth.

The construction industry, a sector vital to economic development and infrastructural advancement, faces unique challenges in maintaining a satisfied and motivated workforce, particularly in rapidly developing economies like China, where issues like high turnover and the need for skilled labor retention persist (Yuan & Li, 2021). Characterized by demanding physical labor, often unpredictable work schedules, and project-based employment, the construction sector necessitates a nuanced understanding of employee needs and motivational drivers (Wu, 2023). Companies operating within this industry must proactively address factors that can influence employee morale and job satisfaction to ensure project success and maintain a competitive edge. Failure to do so can lead to decreased productivity, increased project delays, and difficulties in attracting and retaining skilled labor (Doloi et al., 2012).

To effectively address employee motivation and job satisfaction, Alderfer's (1969) ERG Theory provides a valuable framework. This theory, a refinement of Maslow's hierarchy of needs, posits that human

needs can be categorized into three core levels: Existence, Relatedness, and Growth (Alderfer, 1969). Existence needs encompass basic survival and material requisites, such as fair compensation, safe working conditions, and job security. Relatedness emphasizes social connections, interpersonal relationships, and a sense of belonging within the workplace. Growth needs focus on personal development, self-esteem, and the opportunity for advancement and meaningful contribution (Wanous & Zwany, 1977). Understanding how these needs are met or unmet in the workplace is crucial for comprehending employee motivational levels and, consequently, their job satisfaction.

While the ERG Theory provides a generalizable framework, the specific manifestations and relative importance of these needs can vary significantly across industries, organizational cultures, and individual demographics (Schneider, Barbera, & Hall, 2018). Personal factors such as gender, age, education level, position level, and work experience may interact with and shape employees' perceptions of their needs fulfillment and their subsequent job satisfaction (Heerink, 2013). For example, generational cohorts within the Chinese workforce may exhibit differing work values and expectations regarding growth opportunities versus job security (Zeng, Deng, & Xia, 2021).

Xuzhou Zhongjin Shantytown Renovation and Construction Co., Ltd., a key player in shantytown renovation and housing development in Jiangsu Province, China, operates within this demanding construction sector. Established in 2016, the company plays a significant role in urban renewal and affordable housing initiatives. Crucially, operating within the specific context of shantytown renovation projects in China presents unique challenges and dynamics that may differentiate it from general construction or other industries. These projects often involve complex stakeholder management (government agencies, residents, construction partners), operate under specific policy constraints, and may possess a distinct organizational culture potentially influenced by state linkages or regional factors specific to Jiangsu province. Therefore, examining job satisfaction drivers within Xuzhou Zhongjin is essential, as the interplay between personal factors, ERG needs, and satisfaction might yield results distinct from those observed in broader studies, potentially revealing context-specific nuances crucial for effective management in this specialized field. Anecdotal evidence and preliminary discussions within the company suggest existing concerns regarding employee turnover and diminished enthusiasm, further highlighting the practical need for this investigation.

Previous research has extensively explored the relationship between employee needs, motivation, and job satisfaction in various organizational contexts (e.g., Locke, 1976). However, there remains a noticeable gap in empirical research specifically examining these dynamics within Chinese construction companies engaged in shantytown renovation. The unique socio-cultural context and specific industry demands necessitate targeted research. Moreover, while prior studies may have examined the individual relationships between personal factors or motivation theories and job satisfaction (Geng, 2021), there is a need for research that comprehensively investigates the combined relationship of both personal factors and ERG theory motivation factors on job satisfaction within a specific organizational setting like Xuzhou Zhongjin. Understanding these potentially unique relationships is crucial for developing tailored HR strategies and interventions that effectively address the specific needs and motivational profiles of the company's workforce, thereby filling an existing academic gap and offering practical value.

Objective

This research aimed to achieve the following objectives:

1. To examine the relationship between personal factors and employee job satisfaction at Xuzhou Zhongjin Shantytown Renovation and Construction Co., Ltd.
2. To analyze the relationship between ERG theory motivation factors and employee job satisfaction at Xuzhou Zhongjin Shantytown Renovation and Construction Co., Ltd.

Expected Benefits

This research is anticipated to yield the following benefits:

1. **Theoretical Contribution:** Provides contextual validation for Alderfer's (1969) ERG theory within the specific setting of the Chinese construction sector involved in urban renewal, while clarifying the association between key personal factors and job satisfaction, identifying the relative importance of different motivational needs in this unique context.

2. **Practical Application:** Offers actionable, evidence-based insights for Xuzhou Zhongjin and similar organizations to develop more targeted human resource strategies aimed at enhancing employee satisfaction, motivation, and retention by addressing both significant demographic differences and the most salient motivational drivers (particularly Growth and Relatedness needs) identified in the study.

Conceptual Framework

The conceptual framework for this study, visually represented in Figure 1, has been developed to illustrate the hypothesized theoretical relationships among the variables under investigation. Specifically tailored to the revised research objectives, this framework focuses on examining the direct relation of two primary sets of factors on employee job satisfaction at Xuzhou Zhongjin Shantytown Renovation and Construction Co., Ltd. This framework serves as a roadmap for the empirical investigation of these relationships.

1. Independent Variables:

These are categorized into two main groups:

Personal Factors: This group includes demographic and professional characteristics of the employees, namely: Gender, Age, Education Level, Position Level, and Work Experience.

ERG Theory Motivation Factors: This group represents the perceived fulfillment of needs based on Alderfer's (1969) ERG Theory, encompassing: Existence Needs, Relatedness Needs, and Growth Needs.

2. Dependent Variable:

Employee Job Satisfaction: This is the core outcome variable, reflecting employees' overall affective evaluation of their job and work environment.

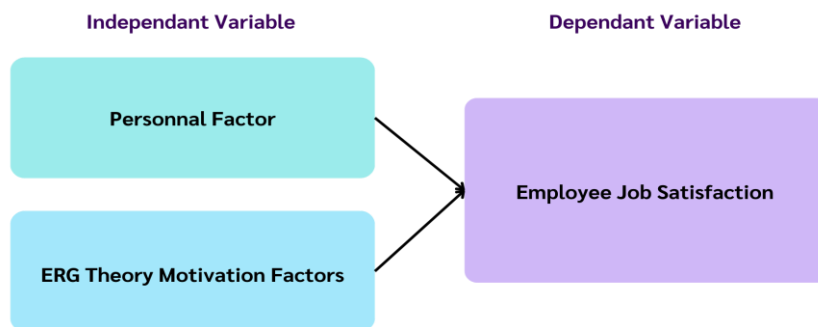


Figure 1 Conceptual Framework

Figure 1 provides a visual depiction of this conceptual model. Arrows originate from the "Personal Factors" construct and the "ERG Theory Motivation Factors" construct, pointing directly towards the "Employee Job Satisfaction" construct. This illustrates the hypothesized direct relations that this research aims to empirically test. Notably, this revised framework concentrates on assessing the separate, direct effects of these two sets of independent variables on the dependent variable, without hypothesizing complex interactions between personal factors and ERG factors in predicting job satisfaction (a component related to the previously removed third objective). This framework thus provides a focused and clear guide for the quantitative analysis required to address the two research objectives and to understand the primary factors contributing to employee job satisfaction within the studied organization.

Research Methodology

This section outlines the systematic approach employed to investigate the research objectives.

Population

The target population for this research comprised all employees currently working at Xuzhou Zhongjin Shantytown Renovation and Construction Co., Ltd., located in Jiangsu Province, China. Information obtained from the company indicated that at the time of data collection, the total workforce consisted of $N = 280$ individuals. This population encompassed employees across all existing departments and hierarchical levels within the organization.

Sample

A sample size of $n = 162$ employees was determined using the formula by Krejcie and Morgan (1970) from a total population of $N = 280$. To ensure representativeness, stratified random sampling with proportional

allocation based on department was employed (Creswell & Plano Clark, 2017). The sample distribution across departments was as follows: Engineering (n=61 from N=106), Relocation (n=23 from N=40), Administration (n=17 from N=30), Finance (n=16 from N=28), Marketing (n=16 from N=28), R&D (n=15 from N=26), and Legal & Compliance (n=13 from N=22). Within each departmental stratum, simple random sampling was used to select individual participants (Thomas, 2020), minimizing bias.

Research Instrument

The primary instrument was a self-administered questionnaire designed based on literature review and established theories, structured into three parts:

Part 1: Personal Factors: A checklist format gathered demographic data: Gender (Nominal), Age (Ordinal Groups), Educational Level (Ordinal), Position Level (Ordinal), and Work Experience (Ordinal Groups). (*Number of items: 5*)

Part 2: ERG Theory Motivation Factors Scale: Assessed perceived need fulfillment using 5-point Likert scales (1=Strongly Disagree to 5=Strongly Agree). (*Number of items: 30*)

Part 3: Employee Job Satisfaction Scale: Measured overall job satisfaction using a 5-point Likert scale (1=Least Satisfied to 5=Highest Satisfied). (*Number of items: 10*)

Instrument Testing and Validation

The instrument's quality was ensured through a two-stage process. First, content validity was established via expert review by the research advisor, focusing on item clarity, relevance, and appropriateness, with revisions made accordingly. Second, internal consistency reliability was assessed via a pilot test (N=30) using Cronbach's Alpha. High reliability was achieved for the Existence Needs ($\alpha = .854$), Relatedness Needs ($\alpha = .918$), Growth Needs ($\alpha = .883$), and Job Satisfaction ($\alpha = .928$) scales, all exceeding the $\alpha \geq 0.70$ criterion (Nunnally, 1978).

Data Collection Procedures

During February 2025, data were collected using the validated digital questionnaire accessed via QR code. Department heads disseminated the QR code links and instructions to the 162 sampled employees. Participants completed the survey on their mobile devices at their convenience. Responses were automatically compiled into a secure digital database, ensuring confidentiality and data integrity for subsequent analysis.

Statistical Methods

Quantitative data were analyzed using SPSS software. The analytical approach included:

1. Descriptive Statistics: Frequencies, percentages, means (M), and standard deviations (SD) were calculated to summarize sample characteristics and variable distributions.

2. Inferential Statistics:

Independent Samples t-test: Used to compare mean job satisfaction scores between the two gender groups.

One-Way Analysis of Variance (ANOVA): Employed to compare mean job satisfaction scores across groups based on categorical personal factors with three or more levels (Age Group, Education Level, Position Level, Work Experience). Post-hoc tests (Tukey HSD) were planned to identify specific group differences following significant ANOVA results.

Pearson Correlation Coefficient (r): Utilized to examine the strength and direction of the linear relationship between the perceived fulfillment scores for each ERG need category and the Employee Job Satisfaction score.

The criterion for statistical significance for all inferential tests was set at an alpha level of $p < 0.05$.

Research Results

The statistical analysis of data from 162 employees at Xuzhou Zhongjin Shantytown Renovation and Construction Co., Ltd. addressed the two primary objectives regarding factors associated with job satisfaction. Key descriptive statistics are presented first, followed by the results of inferential tests examining the relationship of personal and ERG theory factors with job satisfaction.

Sample Characteristics and Descriptive Statistics

The sample (n=162) represented 57.9% of the total workforce (N=280), proportionally stratified by department to ensure representativeness. Key demographic characteristics revealed that the majority of participants were male (62.3%), aligning with trends often observed in the construction sector. The age distribution showed a concentration in the core working years, with the largest groups being 36-45 years (37.7%) and 26-35 years (35.2%), suggesting a predominantly mid-career workforce. In terms of hierarchical structure, most respondents were frontline staff (74.1%), forming the operational base of the company. Regarding education level, the sample

predominantly comprised individuals holding [e.g., Bachelor's degrees (55%), followed by vocational/high school diplomas (30%), and Master's degrees or higher (15%). Analysis of work experience indicated that the largest segment possessed [e.g., 5-10 years of experience (approx. 40%)], with other significant groups including those with over 10 years (25%) and 2-5 years (20%).

Table 1 shows descriptive statistics for key study variables (N=162)

Variable	Mean (M)	SD	Minimum	Maximum
Job Satisfaction	3.62	0.71	2.00	4.85
Existence Needs	3.39	0.67	1.85	4.65
Relatedness Needs	3.75	0.64	2.35	4.95
Growth Needs	3.48	0.73	1.55	4.75

Employees reported moderate job satisfaction on average (M=3.62). Relatedness needs were perceived as most fulfilled (M=3.75), while Existence needs were perceived as least fulfilled (M=3.39).

Relationship between Personal Factors and Job Satisfaction (Objective 1)

Independent Samples t-test and One-Way ANOVAs (with Tukey HSD post-hoc tests where applicable) were conducted to assess differences in job satisfaction means across groups defined by key personal factors. The criterion for statistical significance was $p < 0.05$. A summary of these inferential test results is presented in Table 2.

Table 2 shows a summary of tests for differences in job satisfaction by personal factors (N=162)

Personal Factor	Statistical Test	Test Statistic Result	p-value	Effect Size (η^2 or d)	Key Finding
Gender	Independent t-test	$t(160) = -0.89$	0.376	$d = 0.14$	No significant difference between males (M=3.58) and females (M=3.68)
Age Group	One-Way ANOVA	$F(3, 158) = 5.42$	0.001	$\eta^2 = 0.09$	Significant difference; 31-40 yrs (M=4.02) > ≤ 30 yrs & ≥ 51 yrs.
Education Level	One-Way ANOVA	$F(df_b, df_w) = 4.32$	0.006	$\eta^2 = 0.09$	Significant difference: Higher education levels reported higher satisfaction.
Position Level	One-Way ANOVA	$F(2, 159) = 24.73$	<.001	$\eta^2 = 0.24$	Significant difference: Satisfaction increases with hierarchy (Mgt>Mid>Front).
Work Experience	One-Way ANOVA	$F(3, df_w) = 5.18$	0.002	$\eta^2 = 0.11$	Significant difference; Peak satisfaction at 5-10 yrs experience (M=3.81).

Note: η^2 = Eta-squared; d = Cohen's d . N/A = Not Applicable. Specific df for Education and Work Experience ANOVA depends on the number of groups used.

The results indicate that while gender showed no significant relationship, Age, Education Level, Position Level, and Work Experience were all statistically significantly related to employee job satisfaction. Position level demonstrated the largest effect size ($\eta^2=0.24$), explaining 24% of the variance in satisfaction. Post-hoc tests confirmed that job satisfaction tended to be highest among middle-aged employees (31-40 years), those with higher education levels (Bachelor's and Master's degrees compared to High School), those in higher position levels (showing a clear hierarchical increase), and those with 5-10 years of work experience.

Relationship between ERG Factors and Job Satisfaction (Objective 2)

Pearson correlation coefficients were calculated to examine the linear relationships between the perceived fulfillment of ERG needs and employee job satisfaction. The results are shown in Table 3.

Table 3 shows Pearson correlations between ERG needs and job satisfaction (N=162)

Variable	Job Satisfaction	Existence Needs	Relatedness Needs	Growth Needs
Job Satisfaction	-			
Existence Needs	.33**	-		
Relatedness Needs	.47**	.26*	-	
Growth Needs	.51**	.20	.40**	-

** $p < .05$, * $p < .01$ (2-tailed).*

All three ERG motivation factors showed significant positive correlations with job satisfaction. The strongest association was observed for Growth Needs ($r = .51, p < .01$), followed by Relatedness Needs ($r = .47, p < .01$), and Existence Needs ($r = .33, p < .01$). These findings strongly support the hypothesis that meeting employees' needs for growth, relatedness, and existence is positively associated with their job satisfaction, aligning with the core tenets of ERG theory.

Summary of the Study

This quantitative study examined the relationships between personal factors, ERG theory motivation factors, and employee job satisfaction among 162 employees of Xuzhou Zhongjin Shantytown Renovation and Construction Co., Ltd., focusing on the unique context of China's urban renewal construction sector. Data collected via a validated survey instrument were analyzed using descriptive statistics, t-tests, ANOVAs with post-hoc tests, and Pearson correlations.

Key findings indicated significant relationships between job satisfaction and several personal factors: age (peaking significantly in the 31-40 years group), education level (higher levels generally related with higher satisfaction), position level (satisfaction significantly increasing with hierarchy, showing the largest effect size), and work experience (peaking significantly at 5-10 years). No significant relationship was found for gender. Furthermore, consistent with ERG theory, all three needs—Existence, Relatedness, and Growth—were significantly and positively correlated with job satisfaction. Growth Needs ($r = .51$) exhibited the strongest related, followed by Relatedness Needs ($r = .47$), and Existence Needs ($r = .33$). These results highlight the combined importance of specific demographic characteristics and the fulfillment of psychological needs, particularly higher-order needs (Growth and Relatedness), in understanding employee satisfaction within this industry context.

Discussions

This study confirmed significant associations between both personal factors and perceived ERG need fulfillment with employee job satisfaction at Xuzhou Zhongjin. The findings offer insights specific to the Chinese urban renewal construction context.

Regarding personal factors, the non-linear relationships observed for age and work experience, with satisfaction peaking mid-career (31-40 years and 5-10 years experience, respectively), align with career stage concepts suggesting evolving priorities and adaptation influence satisfaction (consistent with patterns noted by Spector, 1997, though specific patterns vary by context). The higher satisfaction associated with higher position levels strongly supports established organizational theories linking hierarchy to greater autonomy and rewards (Locke, 1976). Similarly, the positive link between higher education levels and satisfaction suggests potential advantages in role fit or perceived opportunities within this organization (Spector, 1997). The lack of a significant gender difference is noteworthy and may indicate relative equity in this specific work environment or that other factors, like the demanding nature of construction work itself, overshadow potential gender effects here.

The results strongly support the applicability of ERG theory (Alderfer, 1969) in this setting, as all three needs were positively correlated with job satisfaction. Crucially, the observed hierarchy of association strength (Growth Needs > Relatedness Needs > Existence Needs) highlights the particular importance of higher-order needs for these employees. The prominence of Growth Needs suggests a strong desire for personal development and achievement, potentially driven by the dynamic nature of the industry and career aspirations (Locke, 1976). The high importance of Relatedness Needs likely reflects the collaborative, team-based nature of construction projects and possibly cultural emphases on interpersonal harmony (Schneider, Barbera, & Hall, 2018). While fundamental Existence needs remain significantly correlated, their relatively weaker association might suggest that basic compensation and security are perceived as adequately met for most, making the fulfillment of Growth

and Relatedness needs more differentiating factors for overall job satisfaction in this specific context. These findings underscore the need for HR strategies that look beyond basic provisions to actively foster growth opportunities and positive interpersonal environments.

Recommendations

1. Prioritize Growth and Relatedness Needs: Given their strong association with job satisfaction, management should actively enhance opportunities for employee Growth (e.g., implement diverse skill development programs, provide clear and accessible career progression paths, offer challenging project assignments) and foster Relatedness (e.g., promote effective teamwork through collaborative platforms, encourage supportive communication between colleagues and supervisors, implement regular feedback mechanisms).

2. Implement Differentiated HR Strategies: Develop targeted human resource interventions considering the distinct satisfaction patterns observed across employee segments:

- **Age & Experience:** Address the potentially lower satisfaction of early-career (<2 years, ≤30 years) and late-career (>10 years, ≥51 years) employees. For newcomers, focus on robust onboarding and mentorship. For experienced/older staff, focus on recognition, knowledge sharing roles, and potentially flexible arrangements. Sustain engagement for mid-career employees (5-10 years, 31-40 years) where satisfaction peaks.

- **Position Level:** While higher satisfaction at upper levels is expected, seek opportunities to enrich roles, increase autonomy, or provide specific recognition for frontline staff to mitigate the large satisfaction gap.

- **Education Level:** Consider targeted upskilling opportunities or professional certifications for employees with lower formal education levels to enhance their skills and potential career trajectories within the company.

3. Maintain Foundational Existence Needs: Ensure that basic compensation remains competitive and perceived as fair, and that safe working conditions, particularly crucial in construction, are consistently maintained and visibly prioritized.

Recommendations for Further Research

1. Expand Context: Replicate the study in diverse construction settings (different companies, regions) to test the generalizability of the findings.

2. Explore Causality: Employ longitudinal or mixed-methods designs to gain deeper insights into the causal relationships and underlying experiences influencing satisfaction.

References

- Albrecht, S. L., Bakker, A. B., Gruman, J. A., Macey, W. H., & Saks, A. M. (2015). Employee engagement, human resource management practices and competitive advantage: An integrated approach. *Journal of Organizational Effectiveness: People and Performance*, 2(1), 7-35. <https://doi.org/10.1108/JOEPP-08-2014-0042>
- Alderfer, C. P. (1969). An empirical test of a new theory of human needs. *Organizational Behavior and Human Performance*, 4(2), 142-175. [https://doi.org/10.1016/0030-5073\(69\)90004-X](https://doi.org/10.1016/0030-5073(69)90004-X)
- Cascio, W. F., & Aguinis, H. (2019). *Applied psychology in human resource management* (8th ed.). Pearson Education.
- Creswell, J. W., & Plano Clark, V. L. (2017). *Designing and conducting mixed methods research* (3rd ed.). SAGE Publications.
- Doloi, H., Sawhney, A., Iyer, K. C., & Rentala, S. (2012). Analysing factors affecting delays in Indian construction projects. *International Journal of Project Management*, 30(4), 479-489. <https://doi.org/10.1016/j.ijproman.2011.10.004>
- Geng, Y. (2021). Employee satisfaction of state-owned and private enterprises in China. In Y. Geng (Ed.), *Proceedings of the 2021 International Conference on Economic Management and Cultural Industry (ICEMCI 2021)* (pp. 180-184). Atlantis Press. <https://doi.org/10.2991/aebmr.k.210909.033>
- Harter, J. K., Schmidt, F. L., & Hayes, T. L. (2002). Business-unit-level relationship between employee satisfaction, employee engagement, and business outcomes: A meta-analysis. *Journal of Applied Psychology*, 87(2), 268-279. <https://doi.org/10.1037/0021-9010.87.2.268>
- Heerink, N. (2013). *Working conditions and job satisfaction of China's new generation of migrant workers: Evidence from an inland city* (IZA Discussion Paper No. 7405). Institute of Labor Economics (IZA). <https://ftp.iza.org/dp7405.pdf>

- Judge, T. A., & Locke, E. A. (1993). Effect of dysfunctional thought processes on subjective well-being and job satisfaction. *Journal of Applied Psychology*, 78(3), 475–490. <https://doi.org/10.1037/0021-9010.78.3.475>
- Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 30(3), 607–610. <https://doi.org/10.1177/001316447003000308>
- Locke, E. A. (1976). The nature and causes of job satisfaction. In M. D. Dunnette (Ed.), *Handbook of industrial and organizational psychology* (pp. 1297–1349). Rand McNally.
- Nunnally, J. C. (1978). *Psychometric theory*. McGraw-Hill.
- Schneider, B., Barbera, K. M., & Hall, D. T. (2018). *Organizational psychology: A scientist-practitioner g5approach*. Routledge.
- Spector, P. E. (1997). *Job satisfaction: Application, assessment, causes, and consequences*. SAGE Publications.
- Thomas, L. (2020, August 28). *Systematic sampling | A step-by-step guide with examples*. Scribbr. <https://www.scribbr.com/methodology/systematic-sampling/>
- Wang, Y., & Wang, N. (2020). The relationship between demographic characteristics and job satisfaction: a study on Chinese local government employees. *Psychology research and behavior management*, 13, 1103-1113.
- Wanous, J. P., & Zwany, A. (1977). A cross-sectional test of need hierarchy theory. *Organizational Behavior and Human Performance*, 18(1), 78–97. [https://doi.org/10.1016/0030-5073\(77\)90019-8](https://doi.org/10.1016/0030-5073(77)90019-8)
- Wu, L. (2023). *The affecting factors of job satisfaction of construction workers: A case study of Yunnan Construction and Investment Holding Group Co., Ltd.* [Master thesis, Siam University].
- Yuan, J., & Li, X. (2021). Exploring the influencing factors of turnover intention among Chinese construction project managers: The role of psychological capital. *Engineering, Construction and Architectural Management*, 28(10), 3098-3117. <https://doi.org/10.1108/ECAM-11-2023-1179>
- Zeng, H., Deng, Y., & Xia, B. (2021). Work values of the new generation of construction professionals in China: A factor analysis. *Journal of Civil Engineering and Management*, 27(1), 33-47. <https://doi.org/10.3846/jcem.2021.14114>