Factors and Mechanisms Influencing the Career Success of Female Logistics Employees

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Abstract. With the increasing participation of women in the workforce, their career development in the logistics industry has received growing attention. Based on the Conservation of Resources (COR) Theory, this study constructs a theoretical model to examine the mechanisms by which positive factors (such as openness, logistics professional foundation, and work-family enrichment) and negative factors (such as the glass ceiling effect and after-hours connectivity) influence the career success of female logistics employees. The model further explores the mediating role of well-being and the moderating role of enterprise-level smart logistics development. Using questionnaire surveys and SPSS-based statistical analysis, the results reveal that the aforementioned factors significantly affect career success—positively or negatively. Well-being partially mediates the relationships between openness, logistics expertise, work-family enrichment, the glass ceiling effect, and career success, and fully mediates the relationship between after-hours connectivity and career success. Additionally, the level of smart logistics development amplifies the negative impact of certain factors on well-being. This study offers theoretical insights and practical recommendations for promoting the career development of female logistics professionals and improving enterprise-level management strategies.

Keywords: Career success; logistics employees; women; Conservation of Resources Theory.

1. Introduction

With China's growing focus on gender equality and workforce diversification, women's roles in the workplace have gained increasing attention. Policies such as the Outline for the Development of Chinese Women emphasize improving female employment and economic participation [1]. By 2021, women made up 43.1% of the national workforce, with rising involvement in knowledge-based and entrepreneurial sectors [2][3].

However, barriers remain, particularly in male-dominated industries like logistics. A 2022 report revealed that although women make up a significant portion of employees in many logistics companies, they are still underrepresented in senior positions [4].

This study focuses on non-frontline female logistics employees and explores, through the lens of Conservation of Resources Theory, the factors influencing their career success. The goal is to provide theoretical support for building inclusive talent strategies within the logistics sector.

2. Literature Review

2.1. Career Success

Career success has long been a central topic in career development research and has evolved through three key stages: the initial stage, the growth stage, and the maturity stage [5]. Early studies focused on personality traits [6], predictive factors [7], and political behavior [8]. In later phases, research expanded to employability [9–10], the distinction between subjective and objective career success [11–14], and mentoring mechanisms [15–17]. More recent studies have emphasized gender [18–19], mentor relationships [20–21], and integrated models of success factors [22–23].Career success, as defined by London and Stumpf (1982), refers to the accumulation of positive psychological outcomes or work-related achievements [24]. It comprises both objective (e.g., salary, promotion) and subjective (e.g., satisfaction, fulfillment) dimensions [25–27], measured through

external indicators [28–29] and self-report evaluations [30–32]. A holistic balance between personal, professional, business, and family domains is essential for sustainable success [33].

Scholars have explored numerous influencing factors, such as career competence [34], career resilience [35], resource-based factors like knowledge, optimism, and self-esteem [36], and the roles of career commitment and work-life balance [37–38]. Political skills have also been introduced into the analytical framework [39]. The distinction between subjective (e.g., job satisfaction) and objective (e.g., income, promotions) success has become increasingly prominent [40–42], and national-level typologies have been proposed [43]. In addition, recent research has considered career success from a life-span perspective. Studies have revealed that individuals' perceptions of success shift across different career stages and life trajectories [44–45].

2.2. Women's Career Success

Although gender has been acknowledged as a significant factor in work-related outcomes [46–48], research that focuses specifically on women's career success remains limited. Women are often constrained by traditional norms, family obligations, and organizational bias [49–54]. As gender research progresses, women's career success is seen as more complex and adaptive. Xiao and Luo (2013) highlighted women's focus on self-fulfillment, psychological well-being, and role balance [55]. Chang et al. (2020) emphasized the value of developmental networks [56], while Xiao et al. (2015) proposed five key dimensions: internal and external competitiveness, inner satisfaction, relational networks, and work–family–self balance [57].

Nonetheless, gender-based unfair treatment and occupational discrimination persist [58–62]. Compared to fields such as healthcare [63], tourism [64], and academia [65], the logistics sector lacks in-depth research on women's career development. Only a few studies have addressed issues like workplace friendship, managerial characteristics of female CEOs, and gender-based perceptions of career prospects among female logistics workers [66].

In summary, while career success has become a well-established research area, important gaps remain: (1) Women's career success lacks multidimensional exploration;(2) Influencing factors—especially negative ones—require further study in today's changing context;(3) Industry-specific research is limited, particularly in stereotype-prone fields like logistics;(4) The role of intelligent transformation under digitalization is still underexplored. This study defines career success as the internal and external achievements and subjective satisfaction an individual gains throughout career development, and adopts a five-dimensional framework from the female perspective as the basis for measurement.

3. Theoretical Foundation

Conservation of Resources (COR) Theory, proposed by Hobfoll (1989), posits that individuals strive to obtain, retain, and protect valued resources in response to environmental stress or perceived threat of loss [67–68]. Resources are categorized as material, condition-based, personal, and energy-related. The theory emphasizes key principles such as loss priority, investment, gain/loss spirals, and despair under depletion [69–72]. Hobfoll and collaborators extended the framework to the organizational level in subsequent revisions [73–74].

COR theory has become a core framework in organizational behavior, applied to understand stress, burnout, engagement, and innovation [74]. It is particularly useful in gender studies, where scholars have applied it to explore how female professionals cope with work-family conflicts and resource imbalances [75].

This study adopts COR theory to construct the research model, positing that resource acquisition enhances positive affect and performance, thereby facilitating career success, while resource loss leads to exhaustion and diminished outcomes.

4. Research Hypotheses and Theoretical Model

4.1. Openness

In psychology, personality is understood as a combination of stable internal traits and behavioral patterns. The Big Five Personality Traits—conscientiousness, extraversion, openness, agreeableness, and neuroticism—are widely accepted for their cross-cultural validity and empirical support [76] [77]. Openness reflects an individual's creativity, curiosity, and cognitive flexibility; individuals high in openness are typically imaginative, open to new experiences, and receptive to diverse perspectives, with particularly significant positive effects on women's career development. [78] [79].

This study adopts openness as a key independent variable, defined as broad intellectual interests, strong curiosity, and flexible thinking. According to the 2022 Report on the Status of Women in the Chinese Workplace, 72.2% of respondents described female employees as “patient and cooperative” [80]—a perception that may affect promotion opportunities. Openness facilitates social network development and access to social capital, contributing to individual recognition and job satisfaction [81-83]. It is also linked to higher income and career success [84]. Given the distinct role of personality traits across genders, openness appears particularly important for supporting women’s professional growth [78].

In the logistics sector, such as roles related to supply chain management, professional expertise must be complemented by advanced interpersonal and communication skills. Women are often considered to naturally excel in these soft skills, thereby enhancing the impact of openness on career outcomes. Drawing on the Conservation of Resources (COR) theory, openness can be viewed as a psychological resource that female logistics employees can preserve, cultivate, and leverage to improve their workplace performance. Therefore, this study proposes the following hypotheses:

H1a: Openness positively influences the career success of female logistics employees.

4.2. Logistics Professional Foundation

Professional skills encompass employees’ knowledge and capabilities in key service areas such as sales, operations, and communication [85]. Based on the Logistics Management Vocational Competency Standards, logistics competencies in applied universities can be grouped into general abilities (e.g., ethics, safety awareness, and industry knowledge), theoretical knowledge (e.g., supply chain, inventory, cost control, regulations), and practical skills (e.g., contract drafting, negotiation, project planning) [86]. Drawing on Liao Meifen et al. (2021), this study defines logistics professional foundation as comprehensive knowledge of logistics, including familiarity with roles, industry trends, legal frameworks, and market environments.

Academic qualifications and technical expertise are recognized as key drivers of career success [87]. Cross-disciplinary research emphasizes the importance of computer literacy, communication, and managerial competence [88-89]. Murphy and Poist (1991) identified management skills as most critical for logistics executives, followed by logistics-specific abilities [90]. Due to the field’s technical nature, professional growth in logistics depends on continuous learning and accumulation of relevant expertise at every stage of the career path [91].

Accordingly, logistics expertise is a key criterion in both recruitment and employee development within the industry. A solid logistics professional foundation can enhance individual performance and career outcomes. As a form of energy resource under the Conservation of Resources (COR) theory, professional foundation enables female logistics employees to strengthen their workplace capabilities, increase compensation, and attain greater career satisfaction. Therefore, this study proposes the following hypotheses:

H1b: Logistics professional foundation positively influences the career success of female logistics employees.

4.3. Work–Family Enrichment

This study adopts the concept of work–family enrichment as initially proposed by Greenhaus and Powell (2006), defining it as the extent to which experiences in one role (either work or family) improve the quality of life in the other role. They identified two mechanisms through which enrichment occurs: the instrumental path, where resources gained in one domain directly enhance performance in the other; and the affective path, where the positive emotions generated in one role foster emotional and performance gains in the other, leading to cross-domain enrichment [92].

Accordingly, work–family enrichment is conceptualized as a bidimensional construct, consisting of work-to-family enrichment (WFE) and family-to-work enrichment (FWE), referring respectively to the positive effects of work experiences on the family domain, and vice versa.

Empirical studies have demonstrated the positive impact of work–family enrichment on employee satisfaction and career outcomes. Wei Shuhua et al. (2021) found that WFE significantly enhances job satisfaction among schoolteachers. Zhang Weijing (2014) reported that enrichment contributes to improvements in both life quality and career developmen. Gao Xiaomeng (2016) further emphasized that such positive effects are conducive to career success. Mao Yin (2018) confirmed the mediating and moderating roles of enrichment in the relationship between supportive supervision and career outcomes.

From the bidirectional perspective, WFE improves satisfaction and performance by transferring skills and buffering emotional strain. Conversely, FWE enhances work engagement and career progression by providing emotional support and compensatory resources. Within this framework, work–family enrichment is viewed as a conditional resource that fosters positive affect and enables resource spirals for female logistics employees, ultimately promoting their career success. Therefore, this study proposes the following hypotheses:

H1c: Work–family enrichment positively influences the career success of female logistics employees.

4.4. The Glass Ceiling Effect

The "glass ceiling" effect typically refers to the invisible barriers that hinder women from advancing to senior executive positions. Wright and Baxter (2000) emphasized that these obstacles stem not only from the accumulation of discrimination across hierarchical levels, but also from intensified inequality at the top levels of management. Research on women aged 30 and above indicates that factors such as childbirth pressure, patriarchal cultural norms, implicit bias, gender stereotypes, and occupational segregation exacerbate the glass ceiling effect in their careers. In this study, the glass ceiling is understood as the widely acknowledged invisible barrier faced by female managers in their advancement toward senior leadership roles.

According to Gopinathan (2009), although women are responsible for over 80% of consumer decisions, and promoting them to executive roles makes sound business sense, their advancement remains sluggish, particularly in STEM fields. In China, gender-based discrimination continues to limit women’s career progression, making the glass ceiling effect particularly pronounced in the logistics sector. Given the industry’s emphasis on technical and physical capabilities, women are often funneled into service roles, while leadership and technical positions are dominated by men. A survey by China Logistics and Purchasing revealed that in nearly half of the surveyed firms, women held less than 5% of vice-president or higher positions. Promotion rates among women were generally lower than those of men, with even fewer women advancing beyond mid-level roles. In 57.51% of firms, women’s highest positions were limited to mid-level management such as director or section chief [4]. These data indicate that despite women's growing contributions to the logistics industry, inequality in promotion opportunities and recognition persists.

Career choice is heavily influenced by societal gender-role expectations, and access to social resources is critical for career success. Due to gender discrimination, women often have limited access to these resources, further entrenching workplace inequality. Research has shown that female leaders facing promotion barriers may experience psychological distress and adopt defensive coping

strategies—such as reduced motivation or shifting their focus to family life for emotional compensation. According to Conservation of Resources (COR) theory, resource loss triggers stress, anxiety, and emotional fatigue, leading to further depletion and creating a downward spiral. This dynamic intensifies career stagnation and undermines professional success. Therefore, this study proposes the following hypotheses:

H2a: The glass ceiling effect negatively influences the career success of female logistics employees.

4.5. Work Connectivity Behavior After-Hour

With the rapid development of information technologies in recent years, work connectivity behavior after-hours has emerged as a new form of work interaction. It refers to employees using portable communication devices such as smartphones and computers to engage in work or maintain contact with colleagues outside of standard working hours. This behavior has increasingly intruded into employees' personal lives, negatively affecting their emotional well-being and resulting in reduced job satisfaction and emotional exhaustion. Following existing scholarly definitions, this study defines work connectivity behavior after-hours as employees using wireless portable devices to engage in work-related communication during off-hours—including before work, after work, weekends, or holidays.

According to the Conservation of Resources (COR) theory, work connectivity behavior after-hours acts as a novel source of stress. It imposes additional workload and extended working hours on employees, consuming physical, mental, temporal, and emotional resources, leading to ongoing resource depletion and decreased job performance. This behavior blurs the boundary between work and life, requiring employees to remain responsive during rest periods. Consequently, it encroaches on personal and family time, disrupts emotional recovery, and impedes timely resource replenishment, ultimately triggering work-family conflict. The resulting "invisible overtime" and stress significantly reduce employees' well-being and job satisfaction. Although some research highlights potential benefits such as increased perceived autonomy, the negative effects—such as reduced psychological detachment, vitality, and learning perception—may hinder workplace thriving. Overall, based on the resource spiral theory, the detrimental effects of work connectivity behavior after-hours outweigh its resource gains, thereby impairing career success. This behavior is particularly prevalent in the logistics industry and may impose more pronounced negative impacts on women, who often bear greater family responsibilities. Therefore, this study proposes the following hypotheses:

H2b: Work connectivity behavior after-hours negatively influences career success.

4.6. Well-Being

Ryan and Deci (2001) categorized the philosophical foundations of well-being into two types: hedonism, which views well-being as a subjective emotional experience, and eudaimonism, which regards it as the result of achieving personal goals and self-realization. Based on this, scholars have identified two major types of well-being: subjective well-being and psychological well-being. Subjective well-being refers to an individual's overall assessment of life in relation to their internal standards, encompassing both emotional experiences (positive and negative) and life satisfaction. Psychological well-being, on the other hand, emphasizes a sense of fulfillment derived from realizing one's potential and personal growth. In this study, we adopt the framework proposed by Zheng et al. (2015), which defines employee well-being within organizations through three dimensions: life well-being, work well-being, and psychological well-being. This model captures not only employees' satisfaction with life and work but also their internal psychological experience and perceived fulfillment in both professional and personal domains.

Previous studies have shown that well-being is closely related to various indicators of career success, such as salary, recognition, and social support. While many scholars suggest that career success enhances well-being, other research has found that positive emotions themselves can promote career success. Lyubomirsky et al. (2005) found that happier individuals tend to be more successful

in both career and life. Boehm and Lyubomirsky (2008) further summarized that positive emotional states can enhance job performance and other career-related outcomes.

Positive emotions, as expressions of well-being, help mobilize resources and foster achievement. For female employees in logistics, favorable individual resources—such as openness personality traits, logistics professional foundation, and work–family enrichment—can activate positive affect and encourage proactive engagement at work, contributing to a resource gain spiral and enhanced well-being. For instance, Zhang Congcong (2013) found a significant positive correlation between work–family enrichment and subjective well-being among professional women.

Conversely, resource-depleting factors such as the glass ceiling effect and work connectivity behavior after-hours can drain emotional resources, generating stress, anxiety, and negative emotions. This leads employees to exert additional emotional effort to meet work demands, further reducing well-being. Zheng Xiong (2021) confirmed that after-hours work connectivity significantly and negatively impacts well-being, which may subsequently hinder career success.

Based on the above, this study proposes the following hypotheses:

H3a: Well-being mediates the relationship between openness personality traits and career success.

H3b: Well-being mediates the relationship between logistics professional foundation and career success.

H3c: Well-being mediates the relationship between work–family enrichment and career success.

H3d: Well-being mediates the relationship between the glass ceiling effect and career success.

H3e: Well-being mediates the relationship between work connectivity behavior after-hours and career success.

4.7. The Level of Intelligent Upgrading of Enterprise Logistics

The intelligent upgrading of enterprise logistics refers to the transformation driven by the integration of new-generation technologies—such as the Internet, big data, AI, and cloud computing—into logistics operations, leading to smarter infrastructure, organization, and management. Smart logistics leverages digital tools to enable system-wide digitalization of transport, warehousing, distribution, and information management. In this study, it is defined as the degree to which enterprises improve logistics through smart infrastructure, talent development, and management innovation.

To support China's 14th Five-Year Plan for industrial digital transformation, the logistics industry is rapidly advancing toward digital–intelligent integration and supply chain innovation. He Liming (2017) noted the sector's entry into a fast-paced digital transition phase. The average annual growth of China's smart logistics market has exceeded 20% over the past decade.

Researchers disagree on how technological advancement affects gender equality. Some argue it narrows gender gaps by reducing physical demands, enabling women to enter technical roles, and making them more likely to receive employer-sponsored training due to lower wage expectations. For example, Luo Wenli (2022) highlighted women's rising influence in the digital economy. Others contend that intelligentization exacerbates disparities due to persistent stereotypes, occupational segregation, and career interruptions from childbirth, which limit women's advancement and reinforce the glass ceiling. Studies also show men benefit more from tech-driven career growth, with gaps widening over time.

Cui Dong (2022) reported that while gender-based pay gaps are minimal in logistics, men dominate technical roles and gender is a factor in promotions [4]. Thus, higher levels of intelligent upgrading may increase the risk of skill depreciation for women due to career breaks, limit training access, reinforce workplace bias, and elevate stress—ultimately lowering well-being. This study posits that the higher the level of intelligent upgrading, the stronger the negative impact of the glass ceiling on well-being.

In addition, smart logistics emphasizes digitalization, automation, and remote responsiveness. AI-enabled flexibility makes after-hours task assignments easier, increasing time demands and emotional

strain. As such, higher levels of intelligent upgrading may intensify the negative effects of work connectivity behavior after-hours on well-being.

Based on the above analysis, the following hypotheses are proposed:

H4a: The level of intelligent upgrading of enterprise logistics positively moderates the relationship between the glass ceiling effect and well-being.

H4b: The level of intelligent upgrading of enterprise logistics positively moderates the relationship between work connectivity behavior after-hours and well-being.

This study, grounded in Conservation of Resources (COR) theory, incorporates the work characteristics of non-frontline female employees in the logistics sector and gender-specific factors. It proposes both positive factors (openness personality traits, logistics-related professional foundation, and work‐family enrichment) and negative factors (the glass ceiling effect and work connectivity behavior after-hours) that influence the career success of female logistics employees. Additionally, the study introduces well-being as a mediating variable and the level of intelligent upgrading of enterprise logistics as a moderating variable.

The conceptual research model is shown in the following figure1:

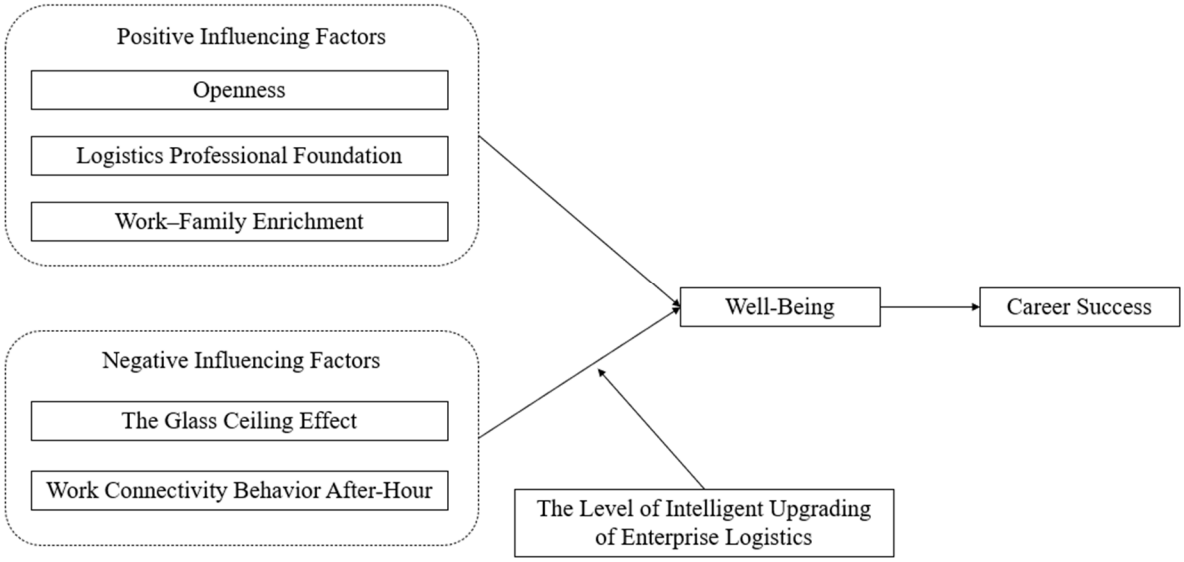

Figure 1. Theoretical Model: Female Logistics Employees' Career Success

5. Research Methods

5.1. Data Collection

his study focuses on non-frontline female logistics employees working across various sectors of the national economy, including those in logistics-related corporate entities, individual logistics practitioners, and logistics positions in industries such as manufacturing, wholesale, and retail. The sample includes both functional and managerial roles (e.g., junior, middle, and senior management).

During the pilot phase, 112 questionnaires were distributed. After removing invalid responses (e.g., completion time under two minutes or identical responses to all items), 103 valid questionnaires were retained. Based on the pilot results, a revised formal questionnaire was developed and distributed, resulting in 457 responses, of which 405 were valid.

Demographic characteristics of the respondents: More than 64.2% of respondents were aged 35 or below, with slightly more under 25 than those aged 25–35. Most held a bachelor's degree (68.4%), followed by a master's degree (28.1%). Unmarried participants were about half as many as married ones, and most married respondents had children.In terms of experience, 43.9% had 3–5 years, 27.7% had 1–3 years, and 13.1% had 5–10 years. Regarding job level, 69.6% were in functional roles. Junior

managers outnumbered mid- and senior-level managers, with only 4 respondents in senior management.

5.2. Measurement Instruments

All measurement instruments used in this study were adapted from previously validated scales, with adjustments based on the research context. Each scale demonstrated strong internal consistency and construct validity.

Openness: Measured using the simplified Chinese version of the Big Five Personality Inventory developed by Wang Mengcheng et al. (2011) [132]. The Openness dimension included 8 items (A1–A8), rated on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree). Cronbach's α = 0.921.

Logistics Professional Foundation: Based on the vocational competence scale for logistics students by Liao Meifen et al. (2021) [86], referencing Super's WVI scale and China's national logistics standards. Five items (B1–B5) under "basic logistics and industry knowledge" were used, rated on a 5-point Likert scale (1 = not at all, 5 = completely). Cronbach's α = 0.854.

Work–Family Enrichment: Adopted from Carlson et al. (2006) [133], which is widely used and validated. It contains 18 items (C1–C18), covering "work-to-family enrichment" (C1–C9) and "family-to-work enrichment" (C10–C18). Rated on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree). Cronbach's α = 0.934.

The Glass Ceiling Effect: Measured using the scale by Elacqua et al. (2009) [134], including 3 items (D1–D3). Rated on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree). Cronbach's α = 0.793.

Work Connectivity Behavior After-Hour: Adapted by Wu Jieqian et al. (2018) [109] from Richardson and Thompson's original scale, tailored to the Chinese workplace context. It contains 13 items, including two subdimensions: "duration" (E1–E4) and "frequency" (E5–E13). Duration was rated on a 5-point scale from "1–15 minutes" (1) to "more than 2 hours" (5); frequency was rated from "never" (1) to "always" (5). Cronbach's α = 0.922.

Well-Being: Measured using the Employee Well-Being Scale by Zheng et al. (2015) [116], which has cross-cultural validity in China and the US. It includes 18 items (F1–F18), covering three dimensions: life well-being (F1–F6), work well-being (F7–F12), and psychological well-being (F13–F18). Rated on a 5-point Likert scale. Cronbach's α = 0.927.

The Level of Intelligent Upgrading of Enterprise Logistics: Measured using the scale by Sun Lei and Zhang Shushan (2020) [135], based on concepts of smart logistics and innovation. It contains 6 items (G1–G6), rated on a 5-point Likert scale. Cronbach's α = 0.869.

Career Success: Measured using the Women's Career Success Scale by Xiao Wei and Luo Jinlian (2015) [57], developed specifically for Chinese female managers and leaders. It includes 19 items (H1–H19) across five dimensions: internal competitiveness (H1–H4), external competitiveness (H5–H8), internal satisfaction (H9–H12), network relationships (H13–H15), and work-family-self balance (H16–H19). Rated on a 5-point Likert scale. Cronbach's α = 0.878.

6. Data Analysis and Results

6.1. Reliability and Validity Analysis

Data were analyzed using SPSS 27.0. As shown in Table 1, all Cronbach's α coefficients exceeded 0.8, indicating strong internal consistency.

Table 1. Cronbach's Reliability Analysis Results of the Formal Survey

Variable	Items	Cronbach'α
Openness	8	0.921
Logistics Professional Foundation	5	0.854
Work–Family Enrichment	9	0.911
Family–Work Enrichment	9	0.925
The Glass Ceiling Effect	3	0.793
Duration	4	0.86
Frequency	9	0.897
Life Well-Being	6	0.893
Work Well-Being	6	0.869
Psychological Well-Being	6	0.893
The Level of Intelligent Upgrading of Enterprise Logistics	6	0.869
Intra-Organizational Career Competence	4	0.898
Extra-Organizational Career Competence	4	0.894
Internal Satisfaction	4	0.877
Social Network	3	0.853
Work–Family–Self Balance	4	0.885
Work Family Enrichment	18	0.934
Work Connectivity Behavior After-Hour	13	0.922
Well-Being	18	0.927
Career Success	19	0.878

As shown in Table 2, Exploratory factor analysis showed KMO values above 0.7 and significant Bartlett's tests ($p < 0.05$), confirming suitability for factor analysis. Scree plots and varimax rotation helped identify factor structures. All factors explained over 60% of the variance, with item communalities above 0.4.

Overall, the scales used in this study showed good reliability and validity.

Table 2. KMO and Bartlett's Test Results of the Formal Survey

Variable	KMO	Bartlett's Test of Sphericity		
		Chi-Square (χ^2) Value	df	p-value
Openness	0.947	1891.823	28	0.000
Logistics Professional Foundation	0.863	802.280	10	0.000
Work–Family Enrichment	0.960	4132.357	153	0.000
The Glass Ceiling Effect	0.702	367.212	3	0.000
Work Connectivity Behavior After-Hour	0.955	2591.233	78	0.000
Well-Being	0.947	3940.589	153	0.000
The Level of Intelligent Upgrading of Enterprise Logistics	0.893	1000.747	15	0.000
Career Success	0.886	4570.566	171	0.000

6.2. Correlation Analysis

Correlation analysis was conducted using SPSS 27.0, and results are shown in Table 3. Openness, Logistics Professional Foundation, Work‐Family Enrichment, The Glass Ceiling Effect, Work Connectivity Behavior After-Hour, The Level of Intelligent Upgrading of Enterprise Logistics, and

Well-Being were all significantly correlated with Career Success (r = 0.354, 0.397, 0.307, − 0.378, − 0.299, 0.513, 0.501; all p < 0.01). These results indicate significant associations between the above factors and Career Success.

Table 3. Correlation Analysis Results

	1	2	3	4	5	6	7	8
1Openness	1							
2Logistics Professional Foundation	.346**	1						
3Work–Family Enrichment	.274**	.319**	1					
4The Glass Ceiling Effect	-.349**	-.352**	-.206**	1				
5Work Connectivity Behavior After-Hour	-.277**	-.315**	-.258**	.212**	1			
6The Level of Intelligent Upgrading of Enterprise Logistics	.241**	.253**	.238**	-.211**	-.304**	1		
7Well-Being	.458**	.456**	.358**	-.434**	-.503**	.347**	1	
8Career Success	.354**	.397**	.307**	-.378**	-.299**	.513**	.501**	1
Mean	3.874	4.055	3.550	1.980	2.270	3.497	3.850	3.510
SD	0.826	0.798	0.784	0.833	0.804	0.972	0.739	0.676

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

6.3. Correlation Analysis

This study conducted a linear regression analysis with Openness, Logistics Professional Foundation, Work–Family Enrichment, The Glass Ceiling Effect, and Work Connectivity Behavior After-Hour as independent variables, and Career Success as the dependent variable. The results are shown in Table 4.

The regression coefficient for Openness was 0.119 (t = 3.037, p = 0.003 < 0.01), indicating a significant positive effect on Career Success, supporting Hypothesis H1a.

For Logistics Professional Foundation, the coefficient was 0.164 (t = 3.970, p = 0.000 < 0.01), supporting H1b.

Work–Family Enrichment had a coefficient of 0.114 (t = 2.867, p = 0.004 < 0.01), supporting H1c.

The coefficient for The Glass Ceiling Effect was –0.167 (t = –4.384, p = 0.000 < 0.01), indicating a significant negative relationship, supporting H2a.

Work Connectivity Behavior After-Hour had a coefficient of –0.100 (t = –2.596, p = 0.010 < 0.01), supporting H2b.

Table 4. Results of Linear Regression Analysis

	Unstandardized Coefficient		Standardized Coefficient	t	p	VIF
	B	SE	Beta			
(Constant)	2.539	0.292		8.683	0.000**	
Openness	0.119	0.039	0.145	3.037	0.003**	1.277
Logistics Professional Foundation	0.164	0.041	0.194	3.970	0.000**	1.332
Work – Family Enrichment	0.114	0.040	0.132	2.867	0.004**	1.180
The Glass Ceiling Effect	-0.167	0.038	-0.206	-4.384	0.000**	1.233
Work Connectivity Behavior After-Hour	-0.100	0.039	-0.120	-2.596	0.010*	1.181
R^2				0.283		
Adjusted R^2				0.274		
F				F=31.496 p=0.000		

* p < 0.05, ** p < 0.01; Dependent Variable: Career Success

Results of mediation tests are shown in Table 5:For Openness, Logistics Professional Foundation, Work–Family Enrichment, and The Glass Ceiling Effect, both path a and b were significant, and c' was also significant. Since a*b and c' had the same sign, this indicates partial mediation by Well-Being, with mediation ratios of 55.474%, 46.510%, 52.377%, and 47.608%, respectively. Thus, Hypotheses H3a, H3b, H3c, and H3d are supported.

In the case of Work Connectivity Behavior After-Hour, a and b were significant, while c' was not. This suggests full mediation by Well-Being, with a mediation ratio of 100%, supporting Hypothesis H3e.

Table 5. Summary of Mediation Analysis Results

Term	Total Effect (c)	a	b	Mediated Effect (a * b)	Direct Effect (c′)	Test Conclusion	Proportion Mediated
Openness->Well-Being->Career Success	0.290**	0.410**	0.392**	0.161	0.129**	Partial Mediation	55.474%
Logistics Professional Foundation->Well-Being->Career Success	0.337**	0.423**	0.370**	0.157	0.180**	Partial Mediation	46.510%
Work–Family Enrichment->Well-Being->Career Success	0.265**	0.338**	0.410**	0.139	0.126**	Partial Mediation	52.377%
The Glass Ceiling Effect->Well-Being->Career Success	-0.307**	-0.385**	0.380**	-0.146	-0.161**	Partial Mediation	47.608%
Work Connectivity Behavior After-Hour->Well-Being->Career Success	-0.251**	-0.462**	0.429**	-0.198	-0.053	Full Mediation	100%

* p<0.05 ** p<0.01

This study adopted the moderation test method proposed by Wen Zhonglin et al., using hierarchical multiple regression for analysis. The results showed that the interaction term between The Glass Ceiling Effect and The Level of Intelligent Upgrading of Enterprise Logistics was significant ($t = 2.488$, $p = 0.013 < 0.05$). As shown in Figure 2, under a high level of intelligent upgrading, the negative impact of the Glass Ceiling Effect on Well-Being was amplified. Therefore, Hypothesis H4a is supported.

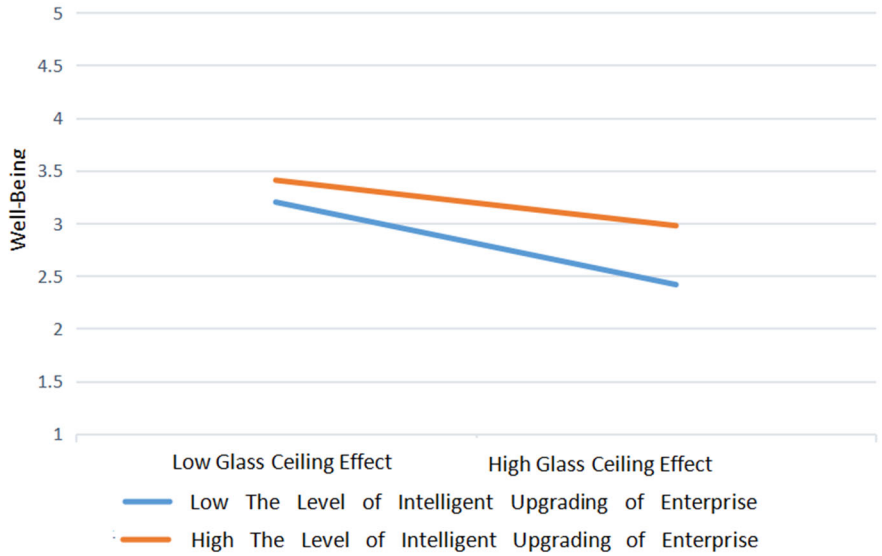

Figure 2. Simple Slope Plot: Intelligent Upgrading × Glass Ceiling Effect

The interaction between Work Connectivity Behavior After-Hour and The Level of Intelligent Upgrading of Enterprise Logistics was significant ($t = 3.882$, $p = 0.000 < 0.01$). As shown in Figure 3, under a high level of intelligent upgrading, the negative impact of Work Connectivity Behavior on Well-Being was stronger. Therefore, Hypothesis H4b is supported.

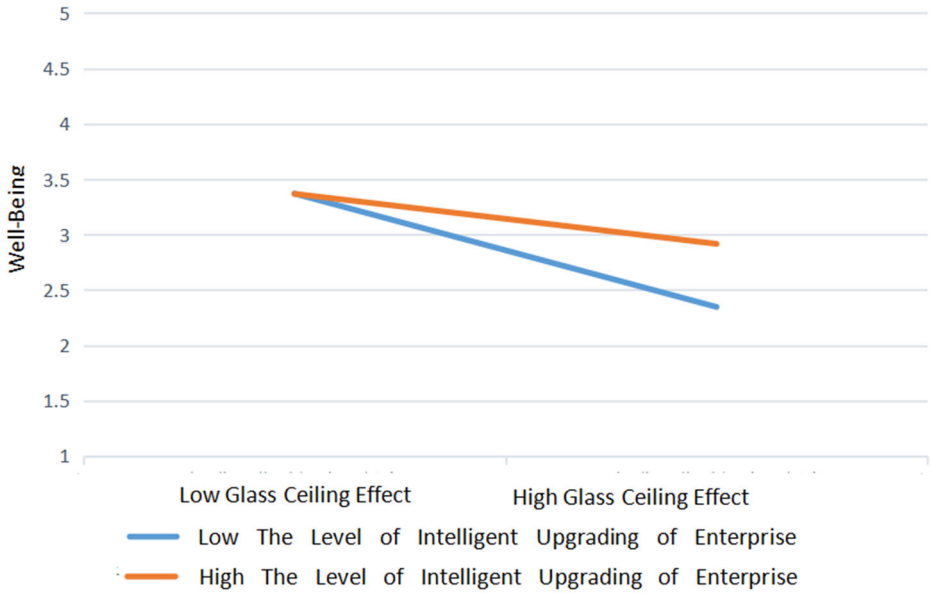

Figure 3. Simple Slope Plot: Intelligent Upgrading × Work Connectivity Behavior

7. Conclusion and Discussion

Grounded in Conservation of Resources (COR) theory, this study examined how Openness, Logistics Professional Foundation, Work–Family Enrichment, The Glass Ceiling Effect, and Work Connectivity Behavior After-Hour affect Career Success among female logistics employees. The mediating role of Well-Being and the moderating role of The Level of Intelligent Upgrading of Enterprise Logistics were also tested. Key findings include: (1) Openness, Logistics Professional Foundation, and Work–Family Enrichment positively predict Career Success;(2) The Glass Ceiling Effect and Work Connectivity Behavior After-Hour have significant negative effects;(3) Well-Being partially mediates the relationships of the first four variables with Career Success and fully mediates the fifth;(4) The Level of Intelligent Upgrading moderates the negative impacts of the Glass Ceiling Effect and Work Connectivity Behavior on Well-Being.

The results suggest that individuals with stronger personal and professional resources can accumulate well-being, creating a resource gain spiral that enhances success. In contrast, gendered workplace constraints and after-hour connectivity behaviors deplete emotional and temporal resources, lowering well-being and hindering career progress. While intelligent upgrading may offer flexibility, in practice—under persistent gender bias—it can intensify resource inequality and reinforce the resource loss spiral, especially as technology enables more after-hours demands on employees, further reducing recovery time and well-being.

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