



Article

# Career Adaptability as a Strategy to Improve Sustainable Employment: A Proactive Personality Perspective

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Abstract: Reaching full employment and reducing the unemployment rate is one of the 17 sustainable development goals (SDGs) issued by the United Nations to face COVID-19 and the complex global economic situation. Although governments, society, and organizations have made efforts towards SDGs, how employees exert their subjective initiative and enhance their career adaptability is fundamental to solve the employment issue. How to enhance employees' career adaptability to strengthen their psychological ability to face career changes is the guarantee of sustainable employment. In the light of the main force role and the unique characteristics of the new generation of employees in the workplace, this study aims to explore the relation between a proactive personality and career adaptability. According to the career construction theory, this study constructed a moderated mediation model to test the effect of a proactive personality on career adaptability through career identity and thriving at work, and the moderating role of task interdependence. Surveying 285 new-generation employees in China, this research found that a proactive personality had a significant positive impact on career adaptability, and that career identity and thriving at work mediate the relation. Task interdependence moderated this relation. Our findings extend the research of career construction theory on individual factors and contextual factors, and offer insights into enhancing the sustainability of human resource management and supporting sustainable economic development.

**Keywords:** career sustainability; career adaptability; proactive personality; career identity; thriving at work



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#### 1. Introduction

Over 80% of the working population is at risk of unemployment due to the harsh COVID-19 situation and the complicated global economic environment. The United Nations' "The Sustainable Development Goals Report 2022" shows that the rates of global unemployment are still high. Unsustainable employment has become one of the factors that threaten high-quality economic and social development. Existing studies have also confirmed that unemployment and instable employment seriously affect individual self-esteem, self-confidence, emotion, and health [1–3], and threaten the sustainable development of economy and society [4]. The Sustainable Development Goals set decent work as a goal (SDG8). The goal asks for the international community to work towards full employment by 2030, to provide fair income, workplace safety, and better career prospects. To accomplish this goal, governments, societies, enterprises, and other organizations have made continuous efforts. However, a well-known Chinese adage states that "It takes a good blacksmith to make good steel". Employees, who form the core of an organization's activities, should take the initiative to develop their own internal resources and to take charge of their own career development to address the crisis of career sustainability [5]. According to the literature, career adaptability is a useful strategy for overcoming job obstacles [6,7].

Career adaptability refers to a set of specialized abilities that individuals require to be able to adjust to changes in the workplace environment and to address the reality Sustainability **2022**, 14, 12889 2 of 20

of problems that they encounter during their career development [7]. It is embodied in the workplace by individual adaptability, which is the practical capacity of people in careers to be able to encounter and to address issues in the workplace [7]. SDG8-5, on the other hand, appeals to youths to attain full employment and greater opportunities for career development. Scholars have paid attention to the employment and career development of the new generation of employees, who are representatives of the youth in China [8]. In terms of growth with economic globalization and the rapid development of information technology, new-generation employees have unique traits and multiple values [9]. As a continuous emerging group, the new generation of employees know more about new technology, accept more new ideas, and have become a driving force in the continuous change of businesses [10]. Garcia et al. [11] state that the career adaptability of new-generation employees can fully release the potential of new-generation career capital. Moreover, Akkermans et al. [12] emphasize that, for youths, developing adaptive competencies in the school-to-work transition is more important than a successful transition. Therefore, it has become crucial to address how to improve the career adaptability of newgeneration employees.

Some scholars have explored possible factors for enhancing the career adaptability of new-generation employees using theoretical interpretations or empirical verifications in terms of work values [13], career success perspectives [14], and career capital investment [15]. Compared with the older generation of employees, the new generation of employees pursue more self-realization [16,17], have high achievement motivation [18], and possess a more distinctive proactive personality [19–21]. Therefore, from the unique personality perspective of new-generation employees, it is more necessary and contemporary to explore the proactive personality of the new generation of employees on career adaptability. This is because the influence of a proactive personality on career adaptation behavior is more significant [12,21–24]. This study aims to investigate the underlying influence mechanisms of the new generation of employees with proactive personalities on career adaptability. Furthermore, how do new-generation employees with proactive personalities actively build psychological resources to cope with career changes and challenges by paying more attention to future careers and the development of career adaptability?

While the relation between a proactive personality on career adaptability has received research attention, fewer studies have discussed the intervening mechanisms through which a proactive personality associates with career adaptability. Career construct theory states that career adaptability is stronger when individuals assimilate their self-concepts to their job role and exhibit proactive adaptive behaviors and beliefs [12,25,26]. Therefore, individuals with proactive personalities pursue their career ambitions and are more likely to develop a strong willingness to adapt their careers and to improve their adaptive resources. Based on career construction theory, this study examines career identity and thriving at work, through which the new generation of employees with proactive personalities influence career adaptability. In the workplace, career identity is a key role that affects employees' careers [27]. A proactive personality motivates individuals to seek goal attainment and career responsibility to enhance career identity. Individuals with a strong career identity accumulate internal resources for self-career adjustment [28]. Thus, we argue that the proactive personality of the new generation of employees has implications for career identity, which, in turn, associates with career adaptability. Meanwhile, thriving at work is a positive subjective career experience. Individuals with proactive personalities boost career continuity through continuous learning and the maintenance of vitality. It facilitates individuals to obtain key competencies for career adaptation. Therefore, we argue that a proactive personality of the new generation of employees has implications for thriving at work, which in turn, associates with career adaptability.

The interaction of individual and contextual factors may have an impact on employee career outcomes, according to situational interaction theory [29]. The improvement of new-generation employees' career adaptabilities may not be systematized if we only explore them from the perspective of the individual factor. Is the influence of a proactive personality

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on the career adaptability of new-generation employees consistent in different contexts? What contextual factors might affect the degree of the effect? It is valuable for researchers to provide further clarification on these issues. Task interdependence is the degree of interdependence for information communication and task association with coworkers during the task completion process [30]. It is a situational component [30]. For new-generation employees, task interdependence is an efficient approach for learning about their jobs and advancing their careers. Compared to low task interdependence, high task interdependence has a notably significant effect on employees' work behavior [31–34]. As a result, this study explores the moderating role of task interdependence in a proactive personality impacting upon career adaptability.

As discussed above, this study suggests a model of career adaptability enhancement mechanism for new-generation employees based on career construction theory. New-generation employees with highly proactive personalities accelerate their thriving at work and enhance their career identities to boost their career adaptabilities, and task interdependence creates boundary conditions for this process. In summary, this study not only offers theoretical support for the development of career construction theory, but also provides practical suggestions for organizations on how to strategically foster the career adaptabilities of new-generation employees, stabilize the labor market, and promote sustainable economic growth.

## 2. Theoretical Background and Hypotheses

#### 2.1. The New Generation of Employees

New-generation employees refers to those workers born between 1980 and 2000, also called "xinshengdai yuangong" [19], and contains the post-1980s ("80 hou"), post-1990s ("90 hou"), and post-2000s ("00 hou") cohorts, which are similar to the "millennial generation" in Western culture [10,16,35]. In terms of growth with the rapid development of information technology and economic reforms [36], the new generation of employees are influenced by change, innovation, and informatization, showing significantly different characteristics such as freedom, active thinking, contempt for authority, and advocating equality [17,18]. Thus, research shows that new-generation employees focus on achievement-oriented and self-oriented career values [17], and have multiple employment standards and frequent job changes in the career development stage [37,38]. Compared with previous employees, the new generation of employees have more diverse and complicated career pursuits and interpretations [16,39]. In the special period of social transformation, the new generation of employees faces a more severe workplace ecology [40]. If they lack career adaptability, it is difficult to tap into their potential, which is harmful to career development and social sustainability.

## 2.2. Career Construction Theory and Career Adaptability

Career construction theory was formally introduced by Savickas in 2002. According to the career construction theory, individuals construct their career development process through meaningful career behaviors and work experiences [41]. Career construction theory states that "adaptation" is the driving force of individual career development, and not the internal structure itself that matures with age. That is, individuals construct careers through the mutual collision and adaptation of their internal and external environments; they produce adaptive coping strategies; develop career personalities related to career development, such as interests, skills, and values; and mold their own careers through social and personal constructions. At the same time, people alter and combine their careers with their own meanings based on their past memories, present experiences, and future expectations to build meaningful life stories and realize their self-concept. Career construction theory deepens the exist career development theories, provides contemporary meaning to the classical career personality theory and lifelong career theory, and offers new perspectives for individual career development research [42].

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The fundamental idea of career construction theory is adaptation. Career adaptability is derived from the revision of career maturity theory by Super and Knasel [43]. Later, the concept of "career adaptability" was further improved and advanced, and finally defined as "self-regulatory, psychosocial competencies that shape adaptive strategies and actions aimed at achieving adaptation goals", which contain the four dimensions of concern, control, curiosity, and confidence [44]. First, concern is preparation for the individual's future career. Second, control is the sense of responsibility to exert influence on future careers. Third, curiosity is the individual's interest in exploring possible career opportunities in the future. Finally, confidence is the expectation of success for future career ambitions and coping with career obstacles. Career adaptability involves constant interactions and adjustments between the individual's internal environment and the external environment to reach a state of relative adaption [45].

Career adaptability has drawn considerable attention from scholars as it plays a crucial role in how people construct their careers. Researchers have effectively investigated both personal and environmental factors determining career adaptability. In terms of personal factors, career success [14] and conscientiousness [46] have been considered; in terms of environmental factors, social support [47] and parental career support [48] have been considered. Most of the existing literature is concentrated on students, technological R&D, and military R&D. Although the career adaptability of organizational employees has received attention, it is only from the perspective of all the employee groups in the corporation, and does not emphasize the diversity of employee traits, such as the times and heterogeneity of new-generation employees in China. To strengthen the development of new-generation talents in the new era, and to create a sustainable environment for talent development, it is vital to advance research on the career adaptability of new-generation employees in the new era of human capital for constructing competitive advantages.

### 2.3. Proactive Personality and Career Adaptability

Bateman and Crant [49] first introduced the proactive personality. According to scholars, a proactive personality refers to the individual's propensity to actively seek change, recognize opportunity, and take the initiative to make changes to their external environment. This is an important determinant of one's initiative and proactive behavior. Individuals with a high proactive personality are good at recognizing and seizing opportunities, demonstrate initiative, take positive action, and persist until their efforts produce positive outcomes [50].

Previous research has revealed a positive relationship between a proactive personality and career adaptability [12,21,23,24,51-56]. Although scholars have achieved fruitful research, almost all of these studies have been conducted on a sample of college students, nurses, or teachers. During the pandemic, new-generation employees played a unique role in the workplace. We believe that such evidence is worthy of further investigation among the new generation of employees. Several lines of research suggest a positive association between a proactive personality and the career adaptability of the new generation of employees. First, new-generation employees pursue an emphasis on self-growth [17,40], which means that they think more about the potential for future self-development. Newgeneration employees with proactive personalities have more comprehensive and longterm planning for the future [19,57], which is beneficial to improving their career concerns. Second, new-generation employees can proactively manage the relationship between their own and the external environment. New-generation employees with proactive personalities use resources rationally and increase their individual motivation to achieve career success [28,58,59], which helps to improve career confidence. Third, new-generation employees with open personalities are interested in future career development, and they have a strong willingness to adapt to their careers [60]. New-generation employees with proactive personalities try to explore different challenges in the process of their future career growth [18,61], and have strong career curiosity. Finally, new-generation employees also have resilient personalities [16,17,19]. When uncertainty arises, new-generation employees with proactive personalities can adjust themselves efficiently, face things calmly, handle

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matters properly, and guide their career control [62]. Ployhart and Bliese [63] pointed out that personality traits are the fundamental elements that have a direct impact on an individual's adaptability. Consistent with these theoretical and empirical considerations, we expect that the new generation of employees with proactive personalities demonstrate higher career adaptabilities. Based on the above analysis, Hypothesis 1 is proposed:

**Hypothesis 1 (H1).** A proactive personality has a significant positive effect on career adaptability.

## 2.4. Proactive Personality and Career Identity

Career identity is derived from social identity theory. Career identity refers to an individual's relatively stable attitude toward an occupation, and it is the perception of career responsibilities and career roles, as well as the beliefs, attitudes, and standards embodied in the career [64]. Career identity reflects the degree to which individuals take their career as a core self-concept [65].

Based on career construction theory, individuals with proactive personalities can improve their current situation by changing their career environment, rather than passively accepting the environmental constraints [50]. A proactive personality is important for exercising proactive career behaviors in career development [66]. Hirschi et al. [67] asserted that proactive career behaviors and vocational identity clarity have a direct positive relationship. Based on previous studies, it is easy to discover that proactive personality is a predictor of career identity. Growing up in uncertainty may elicit the proactive personality development of new generation employees [19,20,68], which in turn may stimulate the process leading to a firmer identity [67]. The new-generation employees with proactive personalities show more self-initiative, actively interact with their surroundings, focus on their professional future, and seek and capture development opportunities [69]. In this process, they constantly engage in self-reflection and self-career planning [70], which shows further understand about the consistency of self-concept, self-image, and self-career needs. As a result, the new generation of employees with proactive personalities are constantly matching and integrating with their self-careers, and thus deepening their strong career identities. Based on the above analysis, Hypothesis 2 is proposed:

**Hypothesis 2 (H2).** A proactive personality has a significant positive effect on career identity.

#### 2.5. Mediating the Role of Career Identity

Career identity is an individual's self-identification and recognition of their own career development [71]. In the process of career development, once an individual forms specific beliefs and values about their career, they will devote themselves to career activities and form a positive career behavior strategy [72,73]. Researchers have suggested that a clear sense of career identity is the key to career success in complex career environments [74,75]. Since the new generation of employees are future-oriented, they can self-regulate in the pursuit of career goals [19,76]. Therefore, in this study, we propose that the effect of career identity of new-generation employees has an impact on career adaptability. First, newgeneration employees with high career identities regard their career as an important part of their self-image [77]. In order to integrate their self-worth and career value, they pay more attention to changes in the corporate environment [78,79], career trends and work tasks [80], and prove their career concern. Secondly, the new generation of employees with high career identities focus on the intrinsic value of a career [81]. They are enthusiastic about their career and have a positive emotional experience and sense of belonging [77]. Thus, they have a strong interest in future career possibilities and available opportunities [82]. This suggests a positive influence of career identity on career curiosity. Thirdly, new-generation employees with high career identities actively develop career skills [75] and enhance their knowledge reserves. These activities increase career stickiness and enhance career self-confidence. Finally, the new generation of employees with high career identity can clearly recognize the characteristics and functions of their career [83]. They independently

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plan and choose their future career development paths to reduce career uncertainty and ambiguity [72], so as to better adjust themselves and to have stronger career control. Based on the above analysis, Hypothesis 3 is proposed:

**Hypothesis 3 (H3).** *Career identity has a significant positive effect on career adaptability.* 

Based on the H2 and H3 suggested, we discuss the direct relationship between a proactive personality and career identity, and between career identity and career adaptability. Career identity may be a mediator within the impact of a proactive personality on career adaptability. Specially, previous studies have shown that a proactive personality positively affects career adaptability, but the underlying mechanisms have not been fully discussed [22]. Research has found that the influence of personality on proactive career behaviors function through career identity [84]. According to this view, career identity is considered to be the primary mechanism of career self-adjustment behavior [77–79]. It is logical that the new generation of employees with proactive personalities establish their own professional role beliefs to enhance career identity and improve career adaptability [75]. Therefore, career identity is often regarded as being an important prerequisite for the relationship between proactive personality and career behaviors [85]. That is to say, career identity is an important variable that is worth studying in this relationship. Accordingly, we argue that the important precursor to career identity, proactive personality, is associated with career identity, which in turn promotes career adaptability. Based on the above analysis, Hypothesis 4 is proposed:

**Hypothesis 4 (H4).** *Career identity mediates the relationship between proactive personality and career adaptability.* 

#### 2.6. Proactive Personality and Thriving at Work

Spreitzer et al. [86] proposed that thriving at work refers to the state where employees experience both "vitality" and "learning" at work. It is both a psychological state and a subjective work experience. Among these, vitality refers to an employee's level of energy while at work, and learning refers to an employee's capacity to acquire knowledge and to apply skills at work. Research on the antecedents of thriving at work is limited [87]. Existing research has solely explored how to foster employees' thriving at work in terms of organizational contextual factors, such as information sharing, trust, or a respectful work environment [88]. However, it is unknown whether there are any intrinsic resources that might affect thriving at work.

Three behavioral characteristics are present with proactive personalities: autonomous behavior, future orientation, and change orientation [89-91]. Among them, autonomous behavior is an action taken on their own initiative without direction. Future orientation is the ability to focus on potential long-term issues. Change orientation refers to actively adapting to the change environment [89–91]. Research has found that a proactive personality can guide individuals to actively explore growth opportunities, which is an important source of thriving at work [24,29,86,87,92]. For the new generation of employees, the three behaviors of proactive personality will promote them to achieve a state of thriving at work. Spreitzer and Porath [93] point out that, when individuals obtain endogenous incentives, they form subjective vitality and intrinsic growth tendencies. The new-generation employees with proactive personalities have a strong intrinsic motivation for self-shaping and self-planning. In the career stage, they can self-reflect on their tasks, which can promote their growth and development [20,37]. The new-generation employees with proactive personalities also dare to accept possible future career challenges [40]. They actively use resources to find and to grasp various learning and creative opportunities, and to gain vitality and learning experience. Meanwhile, new-generation employees are more receptive to change and innovation [35,94]. New-generation employees with proactive personalities are motivated to engage in constructive change behaviors. Facing career problems, they can discard

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outdated ways of thinking, and improve their ability to explore new knowledge or new ways, which also reflects upon learning and vitality [50,95,96]. Based on the above analysis, Hypothesis 5 is proposed:

**Hypothesis 5 (H5).** A proactive personality has a significant positive effect on thriving at work.

#### 2.7. Mediating the Role of Thriving at Work

Based on career construction theory, career construction is a subjective, private, and unique progressive process [41]. New-generation employees expect more trust and a more respectful atmosphere in career development, and they have more concern and control over their own careers [97–99]. Therefore, their subjective desires and efforts for career construction are expected to be higher. Thriving at work is a self-adaptive behavior. Building up individual inner resources is what it means to thrive at work. Thriving at work can help the new generation of employees to consciously conserve their psychological resources for their future job development, form steadfast beliefs to sustain them, and meet their inner demands for career development by paying attention to work vitality and learning changes; then, they can develop their fundamental skills to deal with and to manage career challenges, expand their employment options, broaden their career development path, and swiftly adjust to changes in their career environment [42]. Based on the above analysis, Hypothesis 6 is proposed:

**Hypothesis 6 (H6).** Thriving at work has a significant positive effect on career adaptability.

Integrating the H5 and H6 hypotheses suggests that the possibility of thriving at work acts as a mediating role in the relationship between a proactive personality and career adaptability. Thriving at work describes the emotional state in which employees remain energized to meet challenges in the context of career uncertainty [100]. Thriving at work becomes the inner energy of individual employees' self-career management [17,24]. Consistent with Spreitzer, Sutcliffe, Dutton, Sonenshein, and Grant [86], thriving at work is essentially a self-regulatory process, which helps individuals to obtain internal regulatory resources and to achieve sustainable career development. Jiang [24] demonstrated that a proactive personality first promoted individuals' thriving at work, which in turn led to an improvement in career adaptability. That is, new-generation employees with high proactive personalities have a strong sense of hope [40], so that they can maintain vigorous work vitality and an active learning attitude, and enter a state of thriving at work, which can gain more career growth opportunities and finally improve career management capability. Based on the above analysis, Hypothesis 7 is proposed:

**Hypothesis 7 (H7).** Thriving at work mediates the relationship between proactive personality and career adaptability.

#### 2.8. The Moderating Role of Task Interdependence

Task interdependence reflects the degree of resource sharing, information exchange, and the behavioral dependence of employees during task execution [101]. Task interdependence promotes interconnectedness and extensive communication and cooperation between employees and colleagues [101], as well as psychologically sustaining long-lasting working relationships [102], ensuring successful task achievement, and being of great value for career development [103]. Previous research has shown that communicative interactions among organizational members can largely activate individual career adaptation resources and promote individual career growth [59,104]. A high degree of task interdependence stimulates the discussion and integration of different perspectives among members [105]. In this process, employees are required to mobilize the responsibility sense of their proactive personality to provide others with useful information that is conducive to their work; at the same time, they use their sense of autonomy to take advantage of their ability to search

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and integrate information, to sensitively collect more information conducive to their career development (career concern), to accumulate mental ability and resources to face future career changes (career curiosity), and to guide career actions (career control). Thus, a high degree of task interdependence increases the positive influence of a proactive personality on career adaptability. Task interdependence creates a powerful interactive climate that may potentially trigger the facilitation of new-generation employees with proactive personalities and their career adaptability. Based on the above analysis, Hypothesis 8 is proposed:

**Hypothesis 8 (H8).** *Task interdependence moderates the effect of a proactive personality on career adaptability; the higher the task interdependence, the more positive the relationship.* 

On the basis of the above hypotheses, we developed a conceptual model of the mechanism of the influence of a proactive personality on career adaptability (as shown in Figure 1).

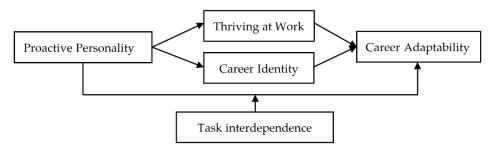


Figure 1. Conceptual model.

# 3. Methods

#### 3.1. Research Subjects

This study used the empirical research method of a questionnaire survey. We chose employee respondents from enterprises in Jiangsu, Shanghai, and Shandong in China. We commissioned the HR department of the enterprises to distribute and retrieve the questionnaires through online electronic questionnaires. Before the questionnaires were distributed, we made sure that the respondents participated in the survey voluntarily. We informed the participants that this survey would be anonymously answered. The data collected was kept confidential and used for academic research only. The research subjects were new-generation employees. Combined with the operational definition of the new generation of employees, the respondents were initially screened in the sample selection process. Questionnaires were distributed to employees who met the birth date requirement. Meanwhile, the birth dates of the respondents were also further verified throughout the stage of compiling the sample data, and those who did not meet the requirement were eliminated. In order to ensure the reliability of the data, this survey set the completion time to be 5 min, and set reverse items and attention check items. If the participation time was less than 5 min, the reverse test would obviously be contradictory, and if the attention test failed, the data would be eliminated. There were 340 questionnaires distributed in total. Overall, 285 complete and accurate surveys were received. In total, 49.12% of the respondents were men and 50.88% of them were women. A total of 17.19% of the respondents were post-2000s, 43.16% were post-1995s, 25.26% were post-1990s, and 14.39% were post-1980s. In terms of education, 80% had a bachelor's degree, 12.63% had a master's degree or above, and 7.37% had a college degree or below. In terms of position level, 60% were general employees, 30.53% were first-line managers, 3.86% were middle managers, and 5.61% were senior managers. In terms of working years, 46.32% had been working for less than three years, 17.54% had been working for between three and five years, 21.75% had been working for between six and eight years, and 14.39% had been working for over nine years. The descriptive information of the respondents and items is shown in Table 1. Sustainability **2022**, 14, 12889 9 of 20

Overall, the respondents and their enterprises in this study were representative and met the requirements of this study.

<b>Table 1.</b> Descriptive statistical analysis	is.
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Item	Category	Percentage
Gender	Male	49.12%
	Female	50.88%
Birth Date	Post-2000s	17.19%
	Post-1995s	43.16%
	Post-1990s	25.26%
	Post-1980s	14.39%
Education	College degree or below	7.37%
	Bachelor's degree	80.00%
	Master's degree or above	12.63%
Position Level	General employee	60.00%
	First-line manager	30.53%
	Middle manager	3.86%
	Senior manager	5.61%
Years of Experience	3 years or less	46.32%
	3–5 years	17.54%
	6–8 years	21.75%
	9 years or more	14.39%

#### 3.2. Measures

The measuring scales for the variables were taken from the academic literature. To finalize the questionnaire, a forward-backward translation method was used according to the cross-cultural translation approach [106]. All the variables were measured with five-point Likert scales (1 = 1 totally disagree', 1 = 1 totally disagree'.

Proactive personality (PP). We assessed proactive personality from a six-item scale developed by Parker [107]. A sample item is "If I believe in an idea, no obstacle will prevent me from making it happen". Parker [107] reported that the internal consistency of the scale was 0.85. The Cronbach's  $\alpha$  was 0.971 in this study.

Career adaptability (CA). A 24-item scale was used to measure career adaptability, developed by Savickas and Porfeli [42]. The scale asked participants to self-assess how strongly they developed the following abilities with career changes, which included four dimensions—career concern, career interest, career control, and career confidence. Sample items include "Realizing that today's choices shape my future", "Becoming aware of the educational and career choices that I must make", and "When confronted with career questions, I will try my best to understand them". The Cronbach's  $\alpha$  in the original study for the entire scale was 0.92 [42]. The Cronbach's  $\alpha$  was 0.993 in this study.

Thriving at work (TAW). Thriving at work was measured by using the 10-item scale developed by Porath, Spreitzer, Gibson, and Garnett [87]. Sample items include "I continue to learn more as time goes by", and "I do not feel very energetic (R)". The internal consistency of thriving at work in the original study was 0.92 [87]. The Cronbach's  $\alpha$  was 0.954 in this study.

Career identity (CI). Career identity was assessed by adopting the 10-item scale created by Tyler and McCallum [108]. The scale was employed to measure various career categories. Typical items included "I chose a career that will allow me to remain true to my values". Tyler and McCallum [108] reported that the internal consistency for the scale was 0.93. The Cronbach's  $\alpha$  was 0.981 in this study.

Task interdependence (TI). Task interdependence was assessed by adopting the five-item scale developed by Pearce and Gregersen [109]. Sample items include "I frequently must coordinate my efforts with others". In the original study, the task interdependence scale's internal consistency was 0.76. The Cronbach's  $\alpha$  was 0.964 in this study.

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Control variables. Due to their possible correlation with proactive personality and results, we evaluated gender, age, education, position level, and years of work experience as control variables. For instance, Zacher [110] addressed age and education as being associated with career adaptability. As compared with women, men have higher career adaptability [7], so this study controlled for gender. The previous literature has emphasized the positive relation between position level and work experience and career adaptability [111], so this study controlled position level and work experience.

#### 4. Data Analysis and Results

# 4.1. Strategy for Analyses

For the process of analysis, Cronbach's coefficient was used to measure the reliability of the scale. AVE (Average Variance Explained), CR (Composite Reliability indices), and confirmatory factor analysis were used to test the validity of the scales. Pearson's coefficient was applied for the correlation analysis. Hierarchical regression analysis was adopted for the proposed hypothesis H1–H7. To test the H2–H4 and H5–H7, we analyzed the mediating effect test according to Baron and Kenny [112]. We further used PROCESS to test for mediating effects, with 5000 bootstrapped samples (Model 4; Hayes [113]). To test the H8, we used the method recommended by Aiken and West [114] to examine the moderating effect of task interdependence. Following the approach recommended by Stone and Hollenbeck [115], we computed the slopes using one standard deviation below and above the mean of the moderating variable task interdependence.

# 4.2. Reliability Analysis

The Cronbach's  $\alpha$  values of all variables in this study were greater than 0.700 (see Table 2), demonstrating the high reliability of the scales.

Variables	Items	FL	AVE	CR	Cronbach' $\alpha$	Variables	Items	FL	AVE	CR	Cronbach'α
	PP1	0.936					CA1	0.897			
	PP2	0.908					CA2	0.929			
Proactive	PP3	0.931	0.85	0.972	0.971		CA3	0.931			
Personality	PP4	0.914	0.63	0.972	0.971		CA4	0.911			
	PP5	0.922					CA5	0.909			
	PP6	0.922					CA6	0.933			
	CI1	0.934					CA7	0.926			
	CI2	0.915					CA8	0.898			
	CI3	0.918					CA9	0.906			
	CI4	0.898					CA10	0.918			
Career Identity	CI5	0.912	0.837	0.981	0.981		CA11	0.937			
cureer racturey	CI6	0.897	0.037	0.501	0.901	Career	CA12	0.920	0.854	0.993	0.993
	CI7	0.904				Adaptability	CA13	0.923	0.054	0.773	0.555
	CI8	0.908					CA14	0.924			
	CI9	0.921					CA15	0.924			
	CI10	0.939					CA16	0.934			
	TW1	0.913					CA17	0.927			
	TW2	0.869					CA18	0.911			
	TW3	0.768					CA19	0.931			
	TW4	0.788					CA20	0.934			
Thriving at Work	TW5	0.803	0.679	0.955	0.954		CA21	0.947			
8	TW6	0.836	0.07	0.,00	0.701		CA22	0.927			
	TW7	0.839					CA23	0.936			
	TW8	0.784					CA24	0.938			
	TW9	0.821									
	TW10	0.810									
	TI1	0.926									
Task	TI2	0.912	0.042	0.064	0.064						
Interdependence	TI3 TI4	0.929	0.842	0.964	0.964						
*		0.919									
	TI5	0.903									

**Table 2.** Results of the reliability analysis.

### 4.3. Confirmatory Factor Analysis

As shown in Table 3, the composite reliability (CR) value of all the variables was greater than 0.7, the average variance extracted (AVE) value of all the variables exceeded

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0.5, and the factor loading (FL) value of all the items under their respective variables was greater than 0.8, thus implying the good convergent validity of all the constructs [116].

<b>Table 3.</b> Results of confirmatory	factor analy	ysis (N = 285).
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Model	$\chi^2/df$	RMSEA	CFI	NFI	TLI
Five-factor model <sup>1</sup>	1.097	0.018	0.997	0.981	0.990
Four-factor model <sup>2</sup>	6.284	0.136	0.903	0.887	0.886
Three-factor model <sup>3</sup>	8.729	0.165	0.855	0.840	0.833
Two-factor model <sup>4</sup>	23.914	0.284	0.564	0.554	0.506
One-factor model <sup>5</sup>	32.484	0.333	0.397	0.391	0.321

Note: <sup>1</sup> Five-factor model: PP, CA, TAW, CI, and TI. <sup>2</sup> Four-factor model: PP, CA + CI, TAW, TI. <sup>3</sup> Three-factor model: PP, CA + CI, TAW + TI. <sup>4</sup> Two-factor model: PP + CA + CI, TAW + TI. <sup>5</sup> One-factor model: PP + CA + CI + TAW + TI.

Five indicators of  $\chi^2/df$ , the Root Mean Square Error of Approximation (RMSEA), the Comparative Fit Index (CFI), the Normed Fit Index (NFI), and the Tucker–Lewis Index (TLI) were used as the evaluation indicators of model fitness level. The indicators of model fitting are displayed in Table 3 below. Combined with model fit criteria of Hu and Bentler [117] and of Kline [118], the five-factor model has an excellent fit, with  $\chi^2/df = 1.713 < 3$ , RMSEA = 0.018 < 0.03, CFI = 0.997 > 0.9, NFI = 0.981 > 0.9, and TLI = 0.990 > 0.9, as shown in Table 3. In comparison to the other competing factor models, the five-factor models fit the best. This shows that the five-factor model's goodness of fit and discriminant validity are both good.

#### 4.4. Common Method Bias

There may be common method bias because all the items measuring the core variables were self-reported. In order to identify common method bias, the Harman single-factor test was carried out, as suggested by Podsakoff et al. [119]. A factor analysis that included all of the questionnaire's items revealed that the first precipitated factor explained only 37.228% of the total variation, which is less than the critical value of 40%. As a result, the data collected for this study did not exhibit a significant common method bias.

# 4.5. Correlation Analysis

Pearson's coefficient was applied for the correlation analysis, as shown in Table 4. The results revealed that the core variables were significantly related to each other.

**Table 4.** Results of the correlation analysis.

Variables	Mean	Std.	1	2	3	4	5	6	7	8	9	10
1. Gender	1.510	0.501	1									
2. Age	2.370	0.931	-0.509**	1								
3. Education	2.050	0.445	-0.089	0.318 **	1							
<ol><li>Position Level</li></ol>	1.550	0.815	-0.430**	0.729 **	0.503 **	1						
5. Years of Work Experience	2.040	1.122	-0.565 **	0.871 **	0.306 **	0.772 **	1					
6. PP	3.744	1.2765	0.009	0.088	-0.026	0.006	0.09	1				
7. CI	3.667	1.2881	-0.05	-0.045	-0.116	-0.077	-0.085	0.215 **	1			
8. TAW	3.387	0.9634	0.053	-0.089	-0.079	-0.095	-0.067	0.368 **	0.362 **	1		
9. TI	3.448	1.3689	-0.119*	0.075	-0.106	-0.009	0.094	0.505 **	0.431 **	0.307 **	1	
10. CA	3.744	1.1454	0.166 **	0.040	0.049	0.041	0.001	0.531 **	0.344 **	0.375 **	0.307 **	1

Note: \*\* represents significant correlation at 0.01 level; \* represents significant correlation at 0.05 level.

# 4.6. Main Effect Test

Hierarchical regression analysis was adopted for main effects testing. Gender, age, education, position level, and years of experience were considered as the control variable. We employed SPSS 26.0 for analysis, and the results are shown in Table 5. We used the VIF (Variance Inflation Factor) to check for multi-collinearity; the results are also shown in Table 5. VIF values of less than 10 are acceptable [120]. With career adaptability as the dependent variable, we constructed M1 by taking gender, age, education, position level,

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and years of experience as the control variables. Based on Model 1, M2 was conducted by adding proactive personality as the independent variable.

Table 5. The results of the main effect test.

Variables —	Career	Adaptability
variables —	M1	M2
Control Variables		
Gender	0.249 **	0.198 **
Age	0.165	0.119
Education	-0.002	0.012
Position Level	0.082	0.162
Years of Experience	-0.068	-0.170
Dependent Variable		
Proactive Personality		0.532 ***
$R^2$	0.052	0.327
Adjust-R <sup>2</sup>	0.035	0.313
Adjust-R $^2$ $\Delta F^2$	3.048 *	113.910 ***
VIF	1.0	27–5.457

Notes: \*\*\* p < 0.001; \*\* p < 0.01; \* p < 0.05.

The hypothesis H1 was supported, and as shown in Table 5, M2 demonstrates a significant positive effect of proactive personality on career adaptability ( $\beta = 0.532$ , p < 0.001).

# 4.7. Mediating Effect Test

According to the test for the mediating effect of Baron and Kenny [112], Table 6 shows the career identity's mediating role between career adaptability and a proactive personality. VIF values of less than 10 are acceptable [120]. In Model 1, a proactive personality has a significant positive effect on career identity ( $\beta = 0.231$ , p < 0.001), and hypothesis H2 is supported. In Model 3, career identity has a significant positive effect on career adaptability ( $\beta = 0.376$ , p < 0.001), and hypothesis H3 is supported. Model 4 includes both proactive personality and career identity in the regression model. Career identity still has a significant positive effect on career adaptability ( $\beta = 0.267$ , p < 0.001); the coefficient of the effect of a proactive personality on career adaptability increased ( $\beta = 0.470$ , p < 0.001), suggesting that career identity partially mediates the relationship between a proactive personality and career adaptability; hypothesis H4 is supported.

Table 6 displays the results of testing for the mediating role of thriving at work between a proactive personality and career adaptability. In Model 2, a proactive personality has a significant positive effect on thriving at work ( $\beta = 0.377$ , p < 0.001), supporting hypothesis H5. Thriving at work has a significant positive effect on career adaptability in Model 5 ( $\beta = 0.384$ , p < 0.001), and hypothesis H6 is supported. When proactive personality and thriving at work are included in Model 6's regression model simultaneously, thriving at work still has a significant positive effect on career adaptability ( $\beta = 0.267$ , p < 0.001), and the coefficient of the effect of proactive personality on career adaptability increased ( $\beta = 0.470$ , p < 0.001). This result supports hypothesis H7, which states that thriving at work partially mediates the relationship between a proactive personality and career adaptability.

We further used PROCESS to test for mediating effects, with 5000 bootstrapped samples (Model 4; [113]). Table 7 shows the direct, indirect, and total effects of a proactive personality on career adaptability through the mediation (indirect effect) of career identity and thriving at work. The indirect effect is 0.0952, and the 95% confidence interval is [0.0420, 0.1566], which does not contain 0. Therefore, the mediating effect is significant.

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Table 6.	The med	liating effec	ct of thriving	at work and	l career identity.

Variables	Career Identity	Thriving at Work		Career Ad	laptability	
variables	M1	M2	M3	M4	M5	M6
Control Variables						
Gender	-0.150	-0.011	0.297	0.238	0.240	0.201
Age	0.110	-0.132	0.116	0.089	0.203	0.147
Education	-0.095	-0.031	0.036	0.038	0.013	0.019
Position Level	0.057	-0.010	0.074	0.147	0.108	0.164
Years of Experience	-0.302	0.025	0.028	-0.090	-0.106	-0.176
Dependent Variables						
Proactive Personality	0.231 ***	0.377 ***		0.470 ***		0.450 ***
Career Identity			0.376 ***	0.267 ***		
Thriving at Work					0.384 ***	0.217 ***
$R^2$	0.290	0.389	0.435	0.393	0.444	0.367
Adjust-R <sup>2</sup>	0.065	0.133	0.171	0.377	0.180	0.351
$\Delta F^2$	15.786 ***	45.290 ***	46.966 ***	29.762 ***	50.458 ***	17.456 ***
VIF			1.207-5.5	74		

Notes: \*\*\* p < 0.001.

**Table 7.** The effects of proactive personality on career adaptability.

	Effect	BootSE	BootLLCI	BootULCI
Total	0.4784	0.0447	0.3904	0.5664
Direct	0.3833	0.0456	0.2934	0.4731
Indirect total	0.0952	0.0295	0.0420	0.1566

#### 4.8. Moderating Effect Test

Prior to the regression analysis, we centered a proactive personality and task interdependence to avoid the effects of covariance problems and response bias. Table 8 displays the results of the regression analysis.

**Table 8.** Results of the moderating effect test.

Variables	Career Adaptability					
variables —	M1	M2	M3			
Control Variables						
Gender	0.275	0.209	0.188			
Age	0.160	0.122	0.081			
Education	0.035	0.024	0.038			
Position Level	0.122	0.162	0.122			
Years of Experience	-0.121	-0.173	-0.113			
Dependent Variables						
Proactive Personality		0.484 **	0.535 **			
Task Interdependence	0.344 ***	0.098	0.099			
Interaction Variables			0.123 *			
$\mathbb{R}^2$	0.164	0.335	0.346			
Adjust-R <sup>2</sup>	0.146	0.318	0.327			
$\Delta F^2$	9.103 ***	19.907 ***	18.222 ***			

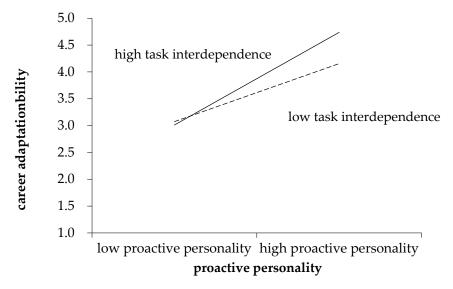
Notes: \*\*\* p < 0.001; \*\* p < 0.01; \* p < 0.05.

A significantly enhanced moderating effect of task interdependence on the relationship between a proactive personality and career adaptability was found (M3,  $\beta$  = 0.123, p < 0.05), which was able to significantly explain 32.7% of the difference after controlling for control variables and adding the interaction term of proactive personality and task interdependence. We computed a simple slope test and found that the proactive personality of new-generation employees is more positively related to career adaptability when the task interdependence

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is high (r = 0.46, p < 0.001) than low (r = 0.22, p < 0.001). Therefore, hypothesis H8 is supported.

The method recommended by Aiken and West [114] is utilized to examine the influence of task interdependence on the career adaptability of new-generation employees under high task interdependence (M+1SD) and low task interdependence (M-1SD) conditions. The moderating figure (Figure 2) demonstrates that a higher task interdependence increases the positive effect of proactive personality on career adaptability. That is, high task interdependence has a greater impact on career adaptability than low task interdependence.



**Figure 2.** Moderating effects of task interdependence on the relationship between proactive personality and career adaptability.

# 5. Conclusions and Discussion

This study examined the role of a proactive personality on career adaptability from the perspective of the career construction of new-generation employees, addressed the mediating role of thriving at work and career identity, and analyzed the moderating effect of task interdependence. We found that a proactive personality has a significant positive predictive effect on career adaptability (H1), a proactive personality has a significant positive effect on career identity (H2) and thriving at work (H5), career identity (H3) and thriving at work (H6) have significant positive effects on career adaptability, career identity (H4) and thriving at work (H7) play a mediating role between the relationship of proactive personality and career adaptability, and task interdependence plays a moderating role between the relationship of proactive personality and career adaptability (H8).

#### 5.1. Theoretical Contributions

The theoretical contributions of this study are as follows. First, generational categories have become commonplace in human resource management research. Scholars have become increasingly interested in the behaviors of different generations of employees [19,35]. Combining with the characteristics of the times, this study started from the distinct personality of the new generation of employees to explore how the proactive personality of new-generation employees affects the improvement of their career adaptability. This study refined and added to the previous research about the impact of a proactive personality on career adaptability.

Second, this study introduced career identity and thriving at work as mediating variables from the cognitive and psychological perspectives of employees, confirming their dual mediating roles in the relationship between a proactive personality and career adaptability, and offering a new viewpoint for the further analysis of career adaptability enhancement paths.

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Third, prior studies have concentrated on the impact of social environment conditions on the individual's adaptation process, but the effect of work situation aspects have not been adequately considered. The study verified the moderating influence of job situational factors in the relationship between a proactive personality and career adaptability by including task interdependence as a moderating variable. This study, which expanded on the contingent mechanism of the function of a proactive personality, examined the interplay of individual–organizational factors on career adaptability, in contrast with other studies that exclusively examined moderating factors at the individual level [110].

# 5.2. Practical Implications

The career adaptability of new-generation employees is a serious issue that enterprises should pay attention to, as well as a career capital that employees need to acquire for themselves. The career adaptability of new-generation employees is a guarantee to break the employment dilemma and to promote sustainable economic and social progress.

Employees with high proactive personalities have initiative and are willing to adapt to the challenges of the career environment by self-constructing their own psychological resources. When faced with resistance from the environment, they can adjust swiftly and attempt to alter the environment to address their career issues. Even if a proactive personality is a relatively stable trait of an individual, enterprises can pay attention to the proactive personality of the new generation of employees in the daily management of employees. Organizations can use a variety of methods to stimulate potential proactivity by creating an atmosphere for proactive cultivation, so that they can obtain more adequate employment opportunities.

Managers should focus on fostering employees' career attitudes and on building up their career beliefs, according to the mediator role of thriving at work and career identity. When new-generation employees truly identify with their careers, they will treat those careers seriously. They will invest time and effort into achieving their career goals and will be better at utilizing their professional talents. Meanwhile, new-generation employees have open personalities and excel at quickly picking up new information and skills. This allows them to consistently keep their job enthusiasm and to increase their career adaptability. By offering career development path advice, enterprises can assist employees in identifying potential issues with the career-building process and in fostering a positive career mindset.

Career adaptability is the assurance of long-term human resource management. The long-term viability of HRM suggests that enterprises should focus on future career challenges for their human capital, as well as the current employees' career drive and accomplishments. We advise that enterprises engage in human capital, provide current and potential employees room for career advancement, and enhance their career adaptability in the work environment to support the sustainable development of their enterprises.

#### 5.3. Limitations and Future Research

First, the measurement scales chosen for this study are all established scales in international journals with high reliability and validity, without considering the Chinese cultural background and individual variations of new-generation employees. Future research can further design scales that are appropriate for local studies. Second, while the cross-sectional data obtained in this study can support the hypotheses of the theoretical model, it cannot capture the dynamic evolution of new-generation employees' career adaptabilities and cannot fully elucidate the causal relationship. Future studies can adopt multi-temporal and multi-stage longitudinal research designs to track the development of the career adaptabilities of new-generation employees, and to explore the deeper relationships between these. Third, by treating the career adaptabilities of new-generation employees as a whole variable, this study examined the positive relationship between a proactive personality and career adaptability. However, career concern, career curiosity, career control, and career confidence are the four dimensions that define career adaptability. Is the effect of each

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dimension equivalent, and which are the ones that have the strongest effects? Further studies can confirm this.

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