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# How Mentoring Cultivates the Craftsman Spirit of Protégés—A Moderated Mediation Model

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Abstract: The craftsman spirit of employees has a direct impact on the core competitiveness of enterprises. As a popular talent development program, can mentorship help cultivate the craftsman spirit of employees? The purpose of this paper is to reveal the positive effect of mentoring on protégé craftsman spirit, as well as its mechanism. Based on mentoring theory, we explored the intermediary role of protégé deliberate practice and investigated the relevant boundary condition. Using a three-stage questionnaire survey, we collected data from employees in Chinese enterprises. Finally, 370 questionnaires were effectively obtained. We utilized data analysis software such as Mplus and SPSS to test the hypotheses. The empirical results showed that mentoring has a significant positive effect on protégé craftsman spirit. Deliberate practice of protégés mediates the relationship between mentoring and protégé craftsman spirit. Mentor advice-seeking behavior can reinforce the positive effect of mentoring on protégé deliberate practice and strengthen the mediating effect of deliberate practice between mentoring and craftsman spirit. In conclusion, we provide a theoretical explanation for mentoring to cultivate the craftsman spirit of employees, as well as relevant management insights for talent management practices within enterprises.

Keywords: mentoring; deliberate practice; craftsman spirit; advice-seeking behavior



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#### 1. Introduction

In the era of rapid technological revolution and industrial transformation, enterprises are facing increasingly complex internal and external environments where the craftsman spirit is considered as a significant factor in enhancing core competitiveness and maintaining sustainable growth [1–3]. The term "craftsman spirit", which stems from the manufacturing industry to describe the "skilled craftsmen", is now applied to all fields of work, implying the professionalism and mindfulness of employees who are in ordinary positions but make extraordinary achievements. The craftsman spirit can be characterized by "cognition", "emotion", and "will". In terms of cognition, it refers to striving for excellence, constantly improving and innovating in work; in terms of emotion, it refers to professional identity, valuing work reputation, and professional image; in terms of will, it refers to long-termism, considering work as a long-term effort [4]. Enterprises require craftsman spirit to overcome technical difficulties and enhance their core competence. How to cultivate the craftsman spirit of employees has attracted the attention from both practitioners and management scholars [1,3,5].

As a popular talent development program, mentorship is increasingly utilized by enterprises for organizational management [6]. A mentoring relationship refers to an interpersonal exchange relationship between a senior and a junior individual in the field of professional development, in which the senior individual with more experience acts as a mentor while the junior individual with less experience becomes a protégé [7]. Previous research has shown the positive effects of mentoring on protégés' job performance, career satisfaction, and career development [6]. In addition to providing specific guidance and support to protégés in work and personal lives, mentors also pass on inner spirit, which is

known as "Passing the Torch" [5]. The cultivation of the craftsman spirit relies on emotional communication and behavioral infection between people [4]. Scholars have explored the impacts of leadership on employees' craftsman spirit, such as spiritual leadership and inclusive leadership [1,2,8]. However, the influence of mentoring on employees' craftsman spirit has been largely neglected. Mentorship, as a talent program, is crucial for the inheritance of craftsman spirit because mentors have a more proximate impact than leaders on employees [9]. How does mentoring help protégés cultivate craftsman spirit? What is the intrinsic influence mechanism?

Scholars have explored much about the motivational process [1], but the mediating variables examined do not differ from those of previous studies on the formation process of performance, satisfaction, and career development [1,2], which cannot reflect the uniqueness of craftsman spirit. For example, in the only study on the influence of mentoring on employees' craftsman spirit, the researchers discussed the mediating effect of work thriving [5]. The cultivation of craftsman spirit is essentially a process of knowledge transmission through effective interpersonal interaction between mentors and protégés [10,11]. This process involves the exchange of ideas between protégés and mentors regarding work-related problems, as well as self-reflection and communication between protégés and others. Deliberate practice refers to an individual's purposeful and planned practice to improve relevant skills [12], and related empirical studies have shown that this concept basically covers both communication and self-reflection behaviors [13]. Therefore, we argue that protégés' deliberate practice is the key intermediary between mentoring and craftsman spirit.

In addition, previous researchers examined the boundary conditions of mentoring on protégé career outcomes by overemphasizing the individual characteristics of protégés [6,9], thereby overlooking other non-mentoring behaviors of mentors. There is not only the unidirectional transmission of "teaching" and "learning" between mentors and protégés but also a mutually beneficial interaction between them, which facilitates knowledge transfer. Mentor advice-seeking behavior represents mentors seeking helpful advice from others to address problems [14]. Protégés own other network resources except for mentorship [15], so they may possess unique and useful information. Protégés are not merely passive learners as takers; they can also offer some novel suggestions to their mentors as givers [16]. Mentor advice-seeking behavior reflects mentors' approval and trust, thereby enhancing the process of knowledge transfer in a mentoring relationship [17]. Therefore, we attempt to investigate the moderating effect of mentor advice-seeking behavior and reveal the mechanisms by which effective interpersonal interactions between mentors and protégés cultivate the craftsman spirit of protégés. Overall, we argue that mentoring has a positive effect on protégé craftsman spirit by promoting deliberate practice of protégés and that mentor advice-seeking behavior enhances this positive effect.

Craftsman spirit is shown in the employees' refinement of the work, and individuals need to be continuously polished and refined to truly become "craftsmen". Based on mentoring theory, this paper argues that mentoring enhances employees' deliberate practice and thus cultivates their craftsman spirit, while mentor advice-seeking behavior strengthens this process. We intend to make several theoretical contributions as follows. First, we explore the mechanism between mentoring and protégé craftsman spirit within the context of a mentoring relationship, complementing the research on the antecedents of employees' craftsman spirit. Second, from the process of knowledge transfer between mentors and protégés, we propose that mentoring will strengthen protégé deliberate practice and then cultivate protégé craftsman spirit, which provides a new theoretical explanation for the relevant research and extends the application of mentoring theory. Third, we highlight the double interaction between mentors and protégés by investigating the moderating effect of mentor advice-seeking behavior to examine the critical boundary conditions. The conclusion of this paper affirms the positive effect of mentoring on employees' craftsman spirit and provides theoretical support for enterprises to cultivate craftsman spirit through a mentorship program.

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## 2. Literature Review and Hypotheses Development

## 2.1. Mentoring and Protégé Craftsman Spirit

Based on qualitative research, Kram proposed two main mentoring functions: a career-related function and a psychosocial function [7]. Then, Scandura and Ragins separated role modeling from the psychosocial function, proposing a three-dimensional function of mentoring that included career support, psychosocial support, and role modeling [18]. The three-dimensional structure of mentoring has been recognized and supported by many scholars [6,19]. According to mentoring theory [7,9], career support is the provision of career guidance to protégés at work by mentors with the aim of improving protégés' job skills [7]. In addition, mentors provide emotional and psychological support to protégés as a "safe haven" [18]. Role modeling is not the act of mentors directly providing guidance, but rather the effect of protégés regarding their mentors as role models to learn from after recognizing mentors' skills or behaviors in work and life [19,20]. Based on mentoring theory, mentors, as essential sources of workplace information for protégés [21,22], play a crucial role in the formation of the protégés' craftsman spirit through their specific guidance and emotional support.

First, mentors will provide career-related guidance to protégés by using their own work experience and resources [11], thereby helping protégés master the necessary work skills as soon as possible [9]. The solid professional foundation of mentors can help protégés better understand their work, more easily generate new ideas about the work, and thus accumulate valuable information and resources for creativity [23]. Then, protégés are more likely to show the qualities of excellence and innovation in their work, fostering their own craftsman spirit of creativity [24]. Second, the support provided by mentors to protégés at the psychological level will make it easier for protégés to experience a connection with the organization, and the responsible attitude at the workplace conveyed by mentors during the psychological interaction with protégés can better motivate protégés' career motivation [25]. By assisting protégés in finding meaning in their work, mentors can increase protégés' sense of responsibility and professionalism, as well as their willingness to work for a long time [26]. Furthermore, mentors serve as role models. The protégé, as an observer, constantly imitates the mentor and aspires to become like the mentor [27], thus making it easier to connect the work to the self and form an identity with the work. In conclusion, mentors act as role models for protégés and provide psychosocial support while teaching protégés work skills, which are significant influencing factors for employee craftsman spirit. Based on this, we propose:

**Hypothesis 1 (H1).** *Mentoring has a significant positive effect on protégé craftsman spirit.* 

## 2.2. The Mediating Role of Deliberate Practice

Deliberate practice, also referred to as deliberate training, is when individuals plan and purposefully engage in long-term structured training to improve specific aspects of their skills [13]. Deliberate practice is not merely repetitive training, but more importantly, it includes goal-oriented learning as well as feedback. Individuals can engage in deliberate practice in a variety of forms, including the explicit process of communicating with others and the implicit process of internalizing alongside reflecting on their own. After receiving mentoring, protégés reinforce deliberate practice at the workplace [28]. Deliberate practice has a spillover effect [29], which is reflected in the exchange of work skills and work experience between protégés and mentors. In addition, during the interactions with mentors, protégés actively exchange new ideas with mentors for knowledge transfer [30]. At the same time, protégés also observe mentors' actions, reinforce the process of self-reflection, and become more proficient in their work skills. In the process of getting along with mentors, protégés continuously strengthen deliberate practice and eventually improve their work-related professional skills.

First, it is not advisable to work behind closed doors. Sharing and communicating work skills with others is an essential channel for improving work expertise [13]. Mentors

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will coach protégés in career skills, and protégés will simultaneously seek advice from mentors or other experienced professionals to improve work skills. In addition, mentors will provide psychosocial support, which will make protégés discuss work-related content with coworkers more receptively. Because mentors view protégés as their own insiders [31], employees are more willing to regard their mentors as a "safe haven" at work and to communicate with others about their work. A mentoring relationship is different from the vertical supervisor–subordinate relationship and is more similar to the horizontal friendship or family relationship [32]. Therefore, employees are more likely to treat their mentors as peers to share their work skills to generate new ideas and creativity at work. In addition, mentors serve as role models, and protégés will be especially attentive to observe and imitate the good practices of mentors, establishing the foundation for improving professional skills and making innovations at work.

Second, internalization and reflection on work are also essential [33]. Only when individuals learn to internalize reflection can they innovate previously learned skills through their own comprehension. When mentors provide career-related guidance to protégés and serve as role models to teach relevant job skills, protégés are more likely to mentally rehearse the job prior to acting [13]. They will speculate on what chain reactions will result and think more thoroughly about their work. After work-related communication and exchange with their mentors, protégés will also be more likely to innovate their knowledge based on their existing work and creatively solve problems in their work due to receiving psychosocial support from mentors [34]. Moreover, the process of interaction between protégés and mentors involves a continual transmission and updating of knowledge, whereby protégés receive more professional training and relevant knowledge with the assistance of their mentors. In addition, mentoring increases the possibility of self-refreshment by protégés [35]. Mentors provide career and psychological support so that protégés can be maximally facilitated in their pursuit of professional advancement. Based on this, we propose:

**Hypothesis 2 (H2).** *Mentoring has a significant positive effect on protégé deliberate practice.* 

Employees are more likely to develop their own craftsman spirit through continuous deliberate practice. First, employees' deliberate practice represents their purposeful efforts to improve their work skills and their desire to do their work well [12,13]. Employees can promote the internalization and reflection of knowledge through deliberate practice in the process of focus and feedback. Then, they are more likely to generate new ideas to creatively solve problems at work and achieve excellence. Second, deliberate practice is a vital route to improve employee performance [35], and this workplace achievement increases the likelihood that employees will develop a sense of worth. Moreover, the sense of direction, timely feedback, and continuous improvement of work skills brought about by deliberate practice make it easier for employees to have a mind-flow experience at work [36], showing their passion for their work. In this context, employees are more likely to associate their work with themselves and develop a professional identity. Third, deliberate practice represents work engagement and a desire to complete tasks more effectively. As skills develop and a sense of intrinsic growth builds, it fosters a lifelong passion for work [37]. At the same time, employees are more likely to view work as a way to refine their longterm career determination. Therefore, through deliberate practice, employees are able to continuously internalize and reflect on their knowledge, exchange and collide ideas with others, as well as enhance their own achievements in their work, thus making it easier to cultivate craftsman spirit. Based on this, we propose:

**Hypothesis 3 (H3).** Protégé deliberate practice mediates the positive relationship between mentoring and protégé craftsman spirit.

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## 2.3. The Moderating Role of Mentor Advice-Seeking Behavior

Advice-seeking behavior is a type of information seeking that mainly refers to the behavior of individuals seeking useful information from others to solve problems when they encounter difficulties [14]. For protégés, the fact that mentors seek advice from them is a sign of "empowerment" [38], which means that protégés will have greater access to social information and resources [39], indicating that they have the trust of mentors. Similarly, mentor advice-seeking behavior is also a sign that mentors believe in protégés' abilities, thereby assisting protégés in developing self-confidence and identity [22]. This will result in a stronger desire to perform and better job performance [40], which in turn increases the likelihood that protégés will engage in deliberate practice. Mentor advice-seeking behavior is also essentially a process of knowledge transfer and renewal between mentors and protégés, as mentors try to obtain more novel perspectives from protégés, which also helps to stimulate protégés to think more deeply about the work [16,41], thus reinforcing deliberate practice of protégés.

Mentor advice-seeking behavior will further enhance protégé deliberate practice based on mentoring. Mentors seeking advice from protégés not only serves as contextual information to reinforce protégé deliberate practice but also represents a respectful and equal interaction between mentors and protégés. The function of mentors is not superior and all-knowing. Mentor advice-seeking behavior will increase protégés' initiative in the work and reinforce the positive influence of mentoring on protégé deliberate practice. The more frequently a mentor's advice-seeking behavior occurs, the more evidence from the mentor's perspective that the protégé has gained the trust and approval of the mentor [42], which is more likely to make the protégé accept mentoring and thus reinforce deliberate practice. To achieve the image of a good protégé in the mentor's mind, the protégé will intensify his or her own deliberate practice and enhance relevant work skills. When mentor advice-seeking behavior occurs more frequently, there are more opportunities for knowledge sharing and idea collision between protégés and mentors, as well as more chances for the protégé to reflect and internalize. Thus, when mentor advice-seeking behavior aligns with high-level mentoring, protégé deliberate practice is reinforced, thus making it more conducive to improving work expertise and updating professional knowledge [27]. The mentor both provides guidance to the protégé and obtains new perspectives on the work from the protégé, all of which reinforce protégé deliberate practice, whether intentionally or unintentionally. Therefore, the positive relationship between mentoring and protégé deliberate practice will be stronger when the frequency of mentor advice-seeking behavior is higher. Based on this, we propose:

**Hypothesis 4 (H4).** *Mentor advice-seeking behavior strengthens the positive relationship between mentoring and protégé deliberate practice.* 

## 2.4. The Moderated Mediating Effect

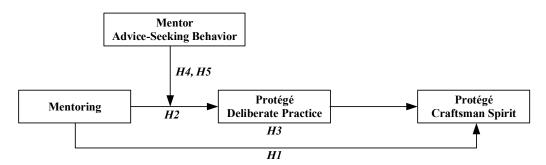
Combining H3 and H4, we further infer that mentor advice-seeking behavior will moderate the mediating effect of protégé deliberate practice between mentoring and protégé craftsman spirit. Specifically, when mentor advice-seeking behavior occurs more frequently, the protégé, as the one whose advice is sought, naturally believes that he or she has the mentor's authentic trust [43]. To help mentors in problem solving, protégés need to improve their expertise by deliberately practicing [44]. This also matches, to some extent, mentoring provided by the mentor, thus enhancing the process of learning, reflection, internalization, and reinvention by the protégé [23]. When both mentoring and mentor advice-seeking behavior are at a higher level, protégés have more opportunities to communicate with the mentor or other working partners, in which protégés' own mental activity of reflection and internalization will be enhanced, making it easier for protégés to form their own craftsman spirit. Conversely, when mentors seek little advice from protégés, regardless of the level of mentoring, this greatly reduces the process of communication between protégés and mentors as well as the efficiency of protégés' self-reflection at work, which will weaken the

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mediating effect of protégé deliberate practice between mentoring and protégé craftsman spirit. Based on this, we propose:

**Hypothesis 5 (H5).** *Mentor advice-seeking behavior strengthens the mediating effect of protégé deliberate practice between mentoring and protégé craftsman spirit.* 

The theoretical model is shown in Figure 1:



**Figure 1.** The theoretical model from mentoring to protégé craftsman spirit.

## 3. Method

#### 3.1. Sample and Data Collection

We used a questionnaire to collect data from employees of enterprises. To make the questionnaire sample a true mentor-protégé relationship, we used the following methods to help participants anchor their mentors in the questionnaire collection. On the one hand, in the first stage, the definition of "mentor" was provided in the guidance section, and the participants were asked to select the most impressive mentor to complete the questionnaire. On the other hand, prior to the formal measurement of the variables, all participants were required to report fundamental information about their mentors such as demographic characteristics to further anchor their mentors. We made full use of the precise distribution capabilities of the Credamo platform to deliver the questionnaire to the general employees, managers, and professionals in the enterprises. Participants with credit scores greater than 70 on the Credamo platform were selected as respondents to guarantee the survey quality of the questionnaire. In addition, screening questions were set at each stage of the survey to determine whether the responses were serious. The platform automatically rejected participants who did not pass the screening question verification and manually rejected questionnaires with substandard response quality, such as those with too short a response time or where all options were the same, to ensure the validity of the participants' responses. All participants were paid to participate in this survey. The variables measured included mentoring, mentor advice-seeking behavior, deliberate practice, and craftsman spirit. In addition, we also measured demographic variables such as gender, age, education, position, sector, enterprise type, industry type, and relationship length.

We collected data in three stages with an interval of two weeks. In the first stage, we measured mentoring, mentor advice-seeking behavior, demographic variables, and relationship length. In the second stage, we measured protégé deliberate practice. In the third stage, protégé craftsman spirit was measured. In the first stage, we distributed 506 questionnaires and received 436 responses, with a valid response rate of 86.17%. In the second stage, the questionnaires were delivered to the 436 participants precisely, and 403 valid questionnaires were recovered, representing a 92.43% response rate. In the third stage, 370 valid questionnaires were finally recovered, with a valid response rate of 91.81%. The overall survey response rate was 73.12%. Among the participants, 59.19% were female and 40.81% were male; 41.35% were 30~34 years old; 90.81% had a bachelor's degree or above; 92.70% were mainly general staff as well as junior and middle management; 45.68% were from the R&D sector; 62.97% were from private enterprises; 25.95% and 24.86% were

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from the manufacturing industry and the IT industry, respectively. In addition, the average length of the mentoring relationship was 5.05 years.

## 3.2. Measures

Mentoring. We mainly used the three-dimensional scale developed by Scandura and Ragins to measure mentoring [18]. In conjunction with the common expressions in the Chinese context, we also drew on semantically related items from the scales developed by Noe [45] and by Ragins and Macfarlin [46]. We used nine items to measure mentoring by adopting three items for each dimension to simplify measurement.

Mentor advice-seeking behavior. Adapted from the Advice-Seeking Scale developed by Alexiev et al. [47], we used a measure of the protégés' evaluation of their mentors and consisted of three items.

Protégé deliberate practice. We drew on the scale developed by Unger et al. for measuring deliberate practice for business entrepreneurs [13], which included ten activities, such as mental simulation and asking for feedback. In connection with this study, two activities that did not fit the context of a mentoring relationship were removed: firm meetings and workshops/training, and eight activities were retained to measure protégé deliberate practice in terms of both self-reflection and internalization as well as communication with others. Self-reflection and internalization include mental simulation, exploring new strategies, professional reading, and controlling/checking. Communication with others includes consulting colleagues or experts, asking for feedback, private conversation, and observing others.

Protégé craftsman spirit. We concluded that craftsman spirit includes three dimensions expressed in the cognitive dimension of excellence, the emotional dimension of professional identity, and the will dimension of long-termism, which is relatively similar to the dimensions in the scale developed by Zhao et al. [4] to measure employee craftsman spirit; therefore, nine items were selected to measure craftsman spirit.

According to the existing research, in addition to using demographic variables such as gender, age, education, and position as control variables, we also controlled for the influence of relationship length. All measures, except demographic information, were rated on a 7-point Likert scale. Mentoring, mentor advice-seeking behavior, and protégé craftsman spirit were scored ranging from 1 (completely disagree) to 7 (completely agree). Protégé deliberate practice was scored as the frequency of occurrence of the relevant activity, ranging from 1 (never) to 7 (always). All items of each variable are shown in Table 1.

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Table I.	Items	tor	measurement	

Variable	Item Content					
	My mentor advises me about promotional opportunities.					
	My mentor suggests specific strategies for achieving career aspirations.					
	My mentor has devoted special time and consideration to my career.					
	I share personal problems with my mentor.					
Mentoring	I socialize with my mentor after work.					
	I consider my mentor to be a friend.					
	I admire my mentor's ability to motivate others.					
	I respect my mentor's ability to teach others.					
	I will try to be like my mentor when I reach a similar position in my career.					
	In the past two weeks, my mentor has asked me for advice several times.					
Mentor advice-seeking behavior	My mentor has acquired useful advice from me about the current work.					
	My mentor has acquired useful advice from me about the future work.					

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Table 1. Cont.

Variable	Item Content					
	Mental simulation (e.g., Having a wondering mind, thinking about how to do things in a more effective way to be well prepared for the future).					
	Exploring new strategies (e.g., Trying out new products or services, trying out new designs and observing people's reaction).					
	Professional reading (e.g., Reading work-related journals and magazines, books, brochures, scanning the internet, watching domain-related videos).					
Protégé deliberate practice	Controlling/checking (e.g., Conducting self-evaluation of work processes, summarizing experiences and actively seeking improvements).					
	Consulting colleagues or experts (e.g., Asking advice from other colleagues or leaders, talkin to colleagues about new ideas).					
	Asking for feedback (e.g., Approaching other colleagues or leaders to get feedback).					
	Private conversation (e.g., Talking to friends or other family members about work to pick up new ideas).					
	Observing others (e.g., Observing good practice in the work of colleagues or peers).					
	Striving for perfection in work details.					
	Thinking constantly about what can be done better.					
	Setting higher work standards for myself than required.					
	My personal reputation is at stake in how well my work is done.					
Protégé craftsman spirit	Failing to do work well makes me feel humiliated.					
	Letting others know that work is done by me.					
	Seeing my work as a career, not just a tool to make money.					
	Sticking to my own standards and not being swayed by the external environment.					
	Not eager to see the results of efforts in the short term.					

#### 3.3. Data Analysis

We mainly used SPSS 25.0 and Mplus 7.40 to process the data. First, we used SPSS 25.0 to test the reliability of all variables in our theoretical model and conduct descriptive statistical analysis as well as a common method variance test. Second, Mplus 7.40 software was used to test the validity of the constructs. Then, we used Mplus 7.40 software to perform confirmatory factor analysis. Third, we used SPSS 25.0 to conduct regression analysis to test the hypotheses in the study. In addition, we further tested our hypotheses about the mediation and moderation effect by using the PROCESS program.

# 4. Results

## 4.1. Reliability and Validity Test

At first, we tested the reliability and validity of each variable. As shown in Table 2, the Cronbach's  $\alpha$  coefficients of all variables were greater than the recommended value of 0.7, indicating good reliability of the scales. Further, the average variance extracted (AVE) values of all variables were greater than 0.5, and the combined reliability (CR) values were also greater than 0.7, indicating that the scales showed strong convergent validity. In addition, the goodness-of-fit indicators of all variables are shown in Table 3, which meet the statistical requirements, indicating that all variables had good discriminant validity.

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Variables	Cronbach's α	AVE	CR
Mentoring	0.768	0.533	0.910
Mentor advice-seeking behavior	0.872	0.798	0.922
Protégé deliberate practice	0.725	0.508	0.876
Protégé craftsman spirit	0.738	0.583	0.926

**Table 3.** Validation factor analysis.

Variables	$\chi^2$	df	$\chi^2/df$	CFI	TLI	RMSEA	SRMR
Mentoring	38.086	24	1.587	0.977	0.966	0.040	0.035
Mentor advice-seeking behavior	0	0	/	1	1	0	0
Protégé deliberate practice	35.020	17	2.060	0.952	0.921	0.054	0.040
Protégé craftsman spirit	46.053	24	1.919	0.968	0.951	0.050	0.039

## 4.2. Common Method Bias Test

Although we collected data in three stages to reduce the impact of common method bias, all the variables in this study were obtained from self-reports of protégés, so common method bias might still exist. Harman's single-factor test was used to test the seriousness of any common method bias. The variance interpretation rate percentage of the unrotated first common factor explained only 25.934%, less than 40%, which suggested that most of the variation could not be explained by a single factor and that common method bias was not a serious problem.

## 4.3. Confirmatory Factor Analysis

Before testing the hypotheses, we conducted confirmatory factor analyses to verify the factor structure and validity of the constructs. The CFA of the baseline model and other nested models was performed using Mplus 7.40 software. As Table 4 shows, the baseline model fits the data ( $\chi^2/df = 1.908$ , CFI = 0.916, TLI = 0.902, RMSEA = 0.050, SRMR = 0.053) better than the other nested models. These results further support the discriminant validity of the constructs.

Table 4. Results of confirmatory factor analysis.

Models	$\chi^2$	df	$\chi^2/df$	CFI	TLI	RMSEA	SRMR
Baseline Model <sup>a</sup>	412.222	216	1.908	0.916	0.902	0.050	0.053
Three-Factor Model <sup>b</sup>	511.370	221	2.314	0.876	0.858	0.060	0.061
Two-Factor Model <sup>c</sup>	893.136	226	3.952	0.715	0.681	0.089	0.080
One-Factor Model <sup>d</sup>	962.356	227	4.239	0.685	0.649	0.094	0.078

Notes: <sup>a</sup> the theoretical model; <sup>b</sup> protégé deliberate practice + protégé craftsman spirit; <sup>c</sup> protégé deliberate practice + protégé craftsman spirit, mentoring + mentor advice-seeking behavior; <sup>d</sup> all variables combined into one factor. "+" represents merging into one factor.

## 4.4. Descriptive Statistical Analysis

We used SPSS 25.0 to perform the means, standard deviations, and correlations of all variables. As seen in Table 5, mentoring is significantly and positively correlated with protégé deliberate practice (r = 0.501, p < 0.01) and protégé craftsman spirit (r = 0.662, p < 0.01). In addition, protégé deliberate practice is significantly and positively correlated with protégé craftsman spirit (r = 0.553, p < 0.01). Further, mentor advice-seeking behavior is also significantly positively correlated with protégé deliberate practice (r = 0.308, p < 0.01). Thus, the correlations provide preliminary support for our hypotheses.

Variable	1	2	3	4	5	6	7	8	9
1. Gender	_								
2. Age	-0.112*	_							
3. Education	0.049	0.053	_						
4. Position	-0.065	0.305 **	0.240 **						
5. Relationship length	-0.099	0.557 **	0.080	0.307 **	_				
6. Mentoring	0.005	0.041	0.051	0.079	0.022	_			
7. Mentor advice-seeking behavior	-0.023	0.070	-0.036	0.052	0.046	0.495 **	_		
8. Protégé deliberate practice	-0.004	0.129 *	0.052	0.184 **	0.120 *	0.501 **	0.308 **	_	
9. Protégé craftsman spirit	0.079	0.059	0.028	0.144 **	0.062	0.662 **	0.498 **	0.553 **	
M.	1.592	2.905	3.024	2.141	5.050	5.933	5.233	5.742	5.550
S.D.	0.492	0.951	0.528	0.915	2.976	0.568	1.154	0.548	0.640

**Table 5.** Means, standard deviations, and correlations of all variables (N = 370).

Notes: \*\* p < 0.01, \* p < 0.05.

## 4.5. Hypotheses Analysis

# 4.5.1. Test of the Direct and Mediating Effects

As shown in Table 6, we used hierarchical regression model analysis to test the hypotheses. After controlling for the participants' gender, age, education, position, and relationship length, mentoring was positively related to protégé craftsman spirit (Model 2,  $\beta$  = 0.738, p < 0.001), supporting Hypothesis 1. Further, protégé deliberate practice was taken as the dependent variable, and the results of Model 5 were obtained. It can be seen that mentoring was positively related to protégé deliberate practice (Model 5,  $\beta$  = 0.471, p < 0.001), supporting Hypothesis 2. Next, the mediating effect of protégé deliberate practice was tested. From Model 3, protégé deliberate practice was positively related to protégé craftsman spirit (Model 3,  $\beta$  = 0.332, p < 0.001), and the direct effect of mentoring on protégé craftsman spirit was equally significant (Model 3,  $\beta$  = 0.582, p < 0.001), supporting Hypothesis 3. That is, protégé deliberate practice partially mediated the relationship between mentoring and protégé craftsman spirit.

We used the PROCESS program to further confirm the mediating effect of protégé deliberate practice. As shown in Table 7, the indirect effect of mentoring on protégé craftsman spirit through protégé deliberate practice was significant, with an effect value of 0.157, 95% CI = [0.106, 0.217]. The direct effect of mentoring on protégé craftsman spirit was also significant, with an effect value of 0.582, 95% CI = [0.488, 0.675]. Hypothesis 3 was further supported, indicating that the partial mediating effect of protégé deliberate practice was confirmed.

Variables		Proté	gé Craftsman	Spirit	Protégé Deliberate Practice		
		Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
	Gender	0.121	0.113 *	0.109 *	0.018	0.013	0.023
	Age	0.010	-0.003	-0.012	0.036	0.027	0.014
Control variables	Education	-0.016	-0.043	-0.040	0.009	-0.008	0.003
Variables	Position	0.099 *	0.069 *	0.045	0.091 **	0.071 *	0.066 *
	Relationship length	0.004	0.007	0.004	0.007	0.009	0.010
Independent variable	Mentoring		0.738 ***	0.582 ***		0.471 ***	0.479 ***
Mediating variable	Protégé deliberate practice			0.332 ***			

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13	h	Δ	<b>6</b>	Cont.
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Variables		Proté	gé Craftsman	Spirit	Protégé Deliberate Practice		
		Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Moderating variable	Mentor advice-seeking behavior						0.045
Interaction effect	Mentoring × Mentor advice-seeking behavior						0.061 *
	R2	0.030	0.456	0.514	0.041	0.278	0.290
	ΔR2	_	0.426	0.058	_	0.237	0.012
	F	2.220	50.668 ***	54.731 ***	3.112 **	23.299 ***	18.418 ***

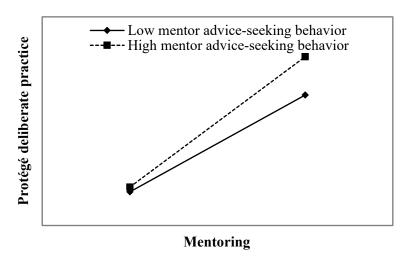
Notes: \*\*\* p < 0.001, \*\* p < 0.01, \* p < 0.05.

Table 7. Effect of mentoring on protégé craftsman spirit.

	Ess :	S.E.	95%	6 CI
	Effect		LLCI	ULCI
Total effect	0.738	0.044	0.652	0.824
Direct effect	0.582	0.048	0.488	0.675
Indirect effect	0.157	0.028	0.106	0.217

# 4.5.2. Test of the Moderating Effect

To test the moderating effect of mentor advice-seeking behavior, the control variables, independent variable, and moderating variable were mean-centered. As shown in Table 6, the interactive variable (mentoring × mentor advice-seeking behavior) was positively related to protégé deliberate practice (Model 6,  $\beta$  = 0.061, p < 0.05), indicating that mentor advice-seeking behavior had a significant effect on the relationship between mentoring and protégé deliberate practice. We further plotted the simple slope of mentoring on protégé deliberate practice according to mentor advice-seeking behavior to examine the nature of the interaction effect. As shown in Figure 2, the moderating effect of mentor advice-seeking behavior was consistent with our expectations. Mentoring was more positively related to protégé deliberate practice when mentor advice-seeking behavior was high ( $\beta$  = 0.550, p < 0.001) compared with when it was low ( $\beta$  = 0.409, p < 0.001). That is, mentor advice-seeking behavior reinforced the effect of mentoring on protégé deliberate practice. Therefore, Hypothesis 4 was supported.



**Figure 2.** The moderating effect of mentor advice-seeking behavior on the relationship between mentoring and protégé deliberate practice.

## 4.5.3. Test of the Moderated Mediating Effect

Finally, we used the bias-corrected bootstrap method in the PROCESS program to examine the moderated mediating effect. As shown in Table 8, the indirect effect of mentoring on protégé craftsman spirit by improving protégé deliberate practice was significant when the level of mentor advice-seeking behavior was higher than one standard deviation, with an effect value of 0.183 and 95%  $\rm CI = [0.112, 0.251]$ , while the mediating effect of protégé deliberate practice was also significant when the level of mentor advice-seeking behavior was lower than one standard deviation, with an effect value of 0.136 and 95%  $\rm CI = [0.085, 0.190]$ . The difference between the mediating effect of protégé deliberate practice at the high and low levels of the mentor advice-seeking behavior was equally significant, with 95% confidence intervals not containing 0. In other words, when the frequency of mentor advice-seeking behavior was higher, the mediating effect of protégé deliberate practice between mentoring and protégé craftsman spirit was stronger. In addition, we further tested the moderated mediating effect based on the INDEX obtained from the PROCESS program. The INDEX was 0.020 and 95%  $\rm CI = [0.002, 0.041]$ , which did not contain 0. Thus, Hypothesis 5 was supported.

Table 8. Moderated mediating effect.

Tree .	Moderating Variable	Effect	6 F	95% CI	
Effect			S.E.	LLCI	ULCI
Mediating effect of protégé deliberate practice	High (+1 S.D.) Low (-1 S.D.) Difference	0.183 0.136 0.047	0.034 0.027 0.023	0.112 0.085 0.004	0.251 0.190 0.094

#### 5. Discussion

The purpose of the study was to explore how mentoring cultivates the craftsman spirit of protégés. Based on mentoring theory, we explored the mechanism by which mentoring influences protégé craftsman spirit and examined the relevant boundary condition in the context of a mentoring relationship. After analyzing the data from 370 participants, we demonstrated that mentoring had a significant positive effect on protégé craftsman spirit, in which protégé deliberate practice played a mediating role, while mentor advice-seeking behavior played a moderating role. All the theoretical hypotheses of this study are supported, which complements the existing literature on the effect of mentoring on protégé craftsman spirit and has important practical implications for the cultivation of craftsman spirit in enterprises.

Although mentoring is very beneficial for cultivating the inner career spirit of employees, previous researchers have almost neglected the significance of mentoring because they overemphasize different leadership as an antecedent [1,2,48]. To fill this gap, we explored the mechanism of mentoring on protégé craftsman spirit. The results indicated that mentoring significantly and positively influenced protégé craftsman spirit, implying that employees who receive mentoring tend to increase their access to professional skills and are more likely to maintain a love for their work as well as view it as a long-term endeavor, thus forming their own craftsman spirit. This result is consistent with a previous study's conclusion that mentors can inherit career spirit to their protégés [5].

In addition, based on empirical analysis, we also confirmed that protégé deliberate practice partially mediated the relationship between mentoring and protégé craftsman spirit. Scholars have emphasized the significance of individual motivation to develop craftsman spirit [48]. We argue that craftsmanship requires constant accumulation, in which the formation process is the critical intermediary. Deliberate practice reflects the process of self-reflection and internalization as well as communication with others [13]. Some scholars have confirmed that organizational learning positively affects the craftsman spirit of employees [48], which also reflects the formative process as deliberate practice.

Moreover, we consider deliberate practice to be a better reflection of individual initiative and a more comprehensive overview of the formative process.

Finally, we considered the influence of the non-mentoring behaviors of mentors on the mechanism to examine the boundary condition [9]. The results indicated that mentor advice-seeking behavior could enhance the positive effect of mentoring on protégé deliberate practice. When the frequency of mentor advice-seeking behavior was higher, the mediating effect of protégé deliberate practice between mentoring and protégé craftsman spirit was also strengthened. Mentor advice-seeking behavior could increase the possibility of protégés' exchange of work skills with their mentors and could also help protégés carry out a series of self-reflective internalization processes on the relevant contents [17,44], so that mentor advice-seeking behavior could enhance the mediating role of the protégé deliberate practice between mentoring and protégé craftsman spirit.

Next, based on these results, we attempt to provide theoretical contributions and practical implications as well as several directions for the future.

## 5.1. Theoretical Contributions

First, we explore the intrinsic mechanism of mentoring on protégé craftsman spirit in the context of a mentoring relationship, complementing previous research on the antecedents of employee craftsman spirit. In existing studies, the antecedents of employee craftsman spirit focus on different leadership styles [2,8,48]. For instance, inclusive leadership has a significant positive impact on the craftsman spirit of skilled personnel in the railroad industry [2], and spiritual leadership affects employee craftsman spirit by enhancing the autonomous motivation of employees [1]. A mentoring relationship is distinct from the supervisor–subordinate relationship [49]. By considering the impact of mentoring on the formation of employee craftsman spirit, we enrich the research on the antecedents of employee craftsman spirit and affirm the significance of the mentoring relationship in cultivating protégé craftsman spirit.

Second, we attempt to propose an explanatory mechanism of protégé deliberate practice between mentoring and protégé craftsman spirit, highlighting the importance of protégé deliberate practice and expanding the application of mentoring theory. Deliberate practice has mostly been used in studies of athletes and entrepreneurial performance [13,35,50] but is less frequently used in organizational management contexts. We introduce deliberate practice into individual organizational behavior to explain the mediating role of protégé deliberate practice between mentoring and protégé craftsman spirit. We argue that employees' deliberate practice is an important way to cultivate their own craftsman spirit, providing a new theoretical explanation for the formation of employee craftsman spirit, thus advancing the literature of mentoring theory.

Finally, we examine the boundary condition under which mentoring influences protégé craftsman spirit, revealing that positive interaction between mentors and protégés is the key for mentors to influence protégés and achieve "Passing the Torch" [44]. A mentoring program is effective in cultivating employee craftsman spirit. Previous studies have focused solely on the moderating effect of individual characteristics, such as protégés' learning goal orientation [5], while ignoring other non-professional mentoring behaviors of mentors [6]. In this study, mentor advice-seeking behavior in the context of a mentoring relationship is included. Unlike mentoring, mentor advice-seeking behavior not only represents the trust and recognition of mentors [51] but also provides a good opportunity for protégés to update knowledge and improve professional skills [39], which will help form a positive interaction between mentors and protégés, thus strengthening protégé deliberate practice in his or her work and further forming protégé craftsman spirit.

## 5.2. Practical Implications

First, enterprises should establish a mentorship talent program and strive to maximize its effectiveness. Under the mentorship program, mentors can not only directly help protégés cultivate their craftsman spirit but also help employees develop their own

craftsman spirit by reinforcing protégés deliberate practice at work. Craftsman spirit represents the realization of employees' self-worth and is also vital for the development of the organization. Employees with craftsman spirit can help enterprises achieve sustainable competitiveness. Cultivating employee craftsman spirit as one of the goals of talent management can foster more skilled craftsmen and maximize the value of employees to enterprises.

Second, mentors should encourage protégés to deliberately practice skills such as communication with others and self-reflective internalization during mentor-protégé interactions. Moreover, mentors should also seek more advice from protégés. In addition to providing career development guidance and psychosocial support for protégés, mentors should also seek more "grounded" advice from protégés to examine and spur the protégé, which will improve protégés' motivation, strengthen protégés' deliberate practice, and cultivate employees' craftsman spirit. Mentors should pay attention to communication with protégés to promote the transfer and update of professional knowledge in an invisible way, and then realize the inheritance of craftsman spirit.

## 5.3. Limitations and Future Research Directions

We explored the intrinsic mechanism of mentoring on protégé craftsman spirit, but there are still some limitations that need to be addressed. First, although multiple stages were used to collect data from participants, all data were obtained from participants' self-reports, and common method bias still existed. In the future, mentor–protégé pairing could be used to collect data, thereby reducing measurement errors. Second, although the influence of both mentor's and protégé's behaviors on the formation mechanism of protégé craftsman spirit was considered, it only focused on the individual level and ignored the influence of organizational level factors at the workplace, which could be studied across levels in the future. Finally, the sample data collected through the questionnaire were primarily cross-sectional data, which were insufficient to explain the causal relationship; this relationship could be verified in the future using experimental methods.

Furthermore, we attempted to provide several directions for future research. On the one hand, although the three functions of mentoring have been supported by numerous scholars [6,9], it is necessary to consider the role of mentors in various cultures. Other forms of mentoring functions may exist in specific cultural contexts, for example, whether the nature of mentoring relationships will change in the context of a collectivist culture and what changes will occur to the mentoring function. Thus, we suggest that future research consider the impacts of cultural factors on mentors and protégés. On the other hand, the microenvironment in which employees exist influences the formation process of craftsman spirit. Deliberate practice of employees is associated with activities at work, which may vary in behavior or pattern in different sectors. For example, employees in the R&D sector may engage in more specific behaviors to implement deliberate practice. Therefore, we suggest that future research focus on the various behavioral patterns of deliberate practice in different microenvironments (e.g., sector or company).

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