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ORIGINAL RESEARCH

The Impact of Developmental HR Practices on Career Self-Management and Organizational Citizenship Behavior: A Moderated Mediation Model

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Purpose: Drawing on the social exchange and signal theory, this study aims to investigate the impact of developmental HR practices on employees' career self-management and organizational citizenship behavior (OCB) through the mediating role of direct supervisor's transformational leadership and the moderating role of perceived organizational support.

Methods: Data were congregated from 571 employees belonging to a diverse range of organizations in southwest China. Statistical procedures, such as hierarchical regression and bootstrapping analysis based on Hayes' PROCESS on SPSS 23, were conducted to test the hypotheses. For model fitness, we used AMOS V 22.

Results: A positive effect of developmental HR practices on employees' career self-management and OCB was found, which was partially mediated by direct supervisor's transformational leadership. Moreover, perceived organizational support is anticipated to moderate the indirect relationship among developmental HR practices, career self-management and OCB through supervisor's transformational leadership.

Discussion: This study finds that employees' perceived organizational support should be given more attention by organizations, especially in the context of transformational direct supervisors implementing developmental HR practices. Meanwhile, this study extends the utility of the concept of developmental HR practices to the leadership and career management literature.

Keywords: developmental HR practices, career self-management, organizational citizenship behavior, transformational direct supervisors, perceived organizational support

Introduction

Human resource (HR) practices are recognized as key elements in enhancing employee's capabilities and contributing to sustainable competitive advantage of organizations.[1] For a considerable period of time, the research emphasis of domestic and foreign scholars is on how HR practices can improve employees' performance/innovation.[2] However, Guest[3] suggested that traditional HR practices such as high-performance HR practices(HPWS) and high-commitment HR practices(HIWS) may have uncertain effects and even have a dark side in some cases. For example, HPWS can improve organizational performance to a certain extent,[4] but this goal is achieved at the cost of sacrificing some employee welfare; HIWS increase employee engagement as well as workload. In this context, developmental HR practices proposed by Kuvaas[5] have received considerable attention in the management literature. Only when organizations and employees are mutually beneficial can HR practices achieve long-term sustainable development.

When employees perceive a higher level of support from HR practices, they are more likely to engage in positive career self-management behaviors. Career self-management (CSM) refers to the active process in which employees manage their careers in order to meet their own needs.[6] However, CSM includes a wide spectrum of behaviors (eg job behaviors or boundary management) which take place within organizational contexts.[7] Career management or decision-making cannot be achieved only by the strength of individuals.[8] A deeper understanding of the relationship between organizational factors and

career "agent" behaviors is needed. But on the other hand, some employees who constantly conduct career exploration and self-value realization in their work rarely care about and help colleagues around them, and even leave the organizations. So organizations usually wonder whether such investment in employees' development will also promote employees to reciprocate organizations through positive behaviors. Organizational citizenship behavior (OCB) is considered as a voluntary altruistic behavior conducive to the effective operation of an organization in the absence of formal rewards.[9] To explain this divergence between theory and practice, this study takes CSM and OCB as individual-level behavioral outcomes to investigate the mechanism of balanced development between employees and employers.

A systematic review of previous literature found that direct supervisors are key participants in achieving the effectiveness of HR practices for individual behavior,[10] they coexist with HR practices in HRM and jointly convey important social exchange information to employees. However, few studies have shown how HR practices and leadership jointly determine employees' attitudes and behaviors.[11] Leadership behavior is often examined as an independent factor and its mediating interactions is ignored,[12] which is an important gap in the literature. As a leadership behavior of "transform and inspire followers, build trust, and develop them", transformational leadership has been documented to significantly promote OCB among employees.[13] However, from a dynamic perspective, the interaction of transformational leadership as an intermediary in the formal HR practices is more valuable to explore.

Evidence explaining that different individuals will try to explain the intention of the same group of HR practices according to the information presented by the working contexts so as to form different attributive experiences, resulting in different attitudes and behavioral responses.[14,15] Perceived organizational support (POS) reflects the quality of employee-organization relationship by measuring the extent to which employees believe that organization values their contributions and cares about their well-being.[16] Employees who feel that they have a higher level of organizational support will think they are more "obliged" to repay the organization through positive attitudes and behaviors.[17] Therefore, this study further argues that the influence of developmental HR practices on employees behaviors has boundary conditions.

Recognizing these research gaps, this study draws on social exchange theory[18] and signal theory[19] to propose an integrated theoretical framework, namely a moderated-mediation model to understand the moderating role of perceived organizational support and the mediating role of transformational direct supervisors in the relationship between developmental HR practices and CSM/OCB. Taken together, this study begins with the conceptual background to propose the moderated mediation model (shown in Figure 1) and hypotheses. These hypotheses are examined with a multi-point survey of employees across China. Finally, the theoretical and practical implications of this paper are discussed, and the limitations as well as potential future research directions are described in the last part.

Theoretical Background and Hypotheses
Developmental HR Practices and Career Self-Management

Inspired by the division of Dyer's investment and inducement HR management systems, Kuvaas[5] proposed developmental HR practices based on the "best practice", which is defined as the degree to which employees perceive that their developmental needs are being supported by the organization's HR practices. Developmental HR practices are a "bundle" of distinct yet supportive HR practices which include career development, training opportunities, and performance
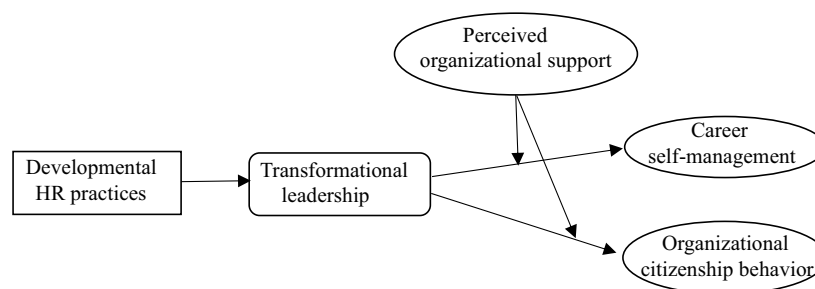
Figure 1 The moderated-mediating model in this study.

appraisal, organically link individual and organizational behaviors together.[20] Specifically, career development provides employees with internal career growth opportunities, the organization provides employees with corresponding career promotion support according to individual actual situation and job requirements, which is one of the basic driving forces to promote self-career management behaviors.[21] Training opportunities refer to the comprehensive training provided by the organization as perceived by employees, with the purpose of improving employees' working ability as well as promoting organizational efficiency and effectiveness.[5] Performance appraisal is regarded as an effective feedback that employees perceive from the organization, organizations usually convert organizational goals into specific performance evaluation indicators, and employees standardize their work behaviors according to the framework, so as to make preparations for the improvement of future performance.

Over the last two decades or so, employees' careers have become increasingly fluid and employees have a strong desire for controlling their careers to set goals and plans and achieve them. However, CSM includes a wide spectrum of behaviors such as post behaviors, interactive behaviors and boundary management which take place within organizational contexts and it is difficult to achieve career self-management or fully own their decision-making power only by the strength of individuals.[22] Although career self-management (CSM) is defined as a process by which individuals formulate, implement, and revised career goals and strategies,[23] it is actually a dynamic process of continuous interaction between individuals and organizations.

In exploring the interaction process between individual and organizational behaviors in the context of information asymmetry, our logic is in keeping with signal theory. According to signal theory, developmental HR practices are regarded as signals transmitted by the organizations.[24] After receiving organizational signals, employees will screen, observe and interpret, and then take action related to career self-management, such as career exploration and career planning. Some researchers have verified that providing training and development will signal that organizations are willing to invest in employees and treat them as valuable.[25] On the basis of developmental and supportive signals, employees are better able to acquire a wide range of competencies through training opportunities, improve job satisfaction, and show marked improvements in engaging in career self-management behaviors.[7] In the same way, Bal et al[26] proposed that career development enhances employees' engagement and focuses more on their own careers. Some researchers have also confirmed that performance appraisal contributes to complementing employees' weaknesses and developing their strengths, making employees have more sense of purpose and direction in the follow-up plans.[27]

On the other hand, developmental HR practices belong to a type of organization-based supportive resources.[28] That is, when organizations promote a climate for career self-management, employees who perceive the supportive resources are more willing to try out and explore at work and make the goals and paths of future career development clear.[29] When individuals benefit from a good deal of supportive resources provided by the organizations (ie training, etc.), they are glad to cherish and maximize the current resources and pay more attention to the exploration of career management in order to cope with the dynamic changes of the external environment.[30]

Career self-management is a behavioral variable that both organizations and individuals pay great attention to. The research on the mechanism of interaction between developmental HR practices characterized by high investment and career self-management is undoubtedly epochal and forward-looking. Based on signal theory, this study predicts that developmental HR practices have a positive impact on individual career management. Therefore, our first hypothesis is as follows:

H1: Developmental HR practices are positively related to career self-management.

Developmental HR Practices and Organizational Citizenship Behavior

HR practices provide important environmental and social support to foster the desired employees' attitudes and behaviors.[31] The employees who perceive that they are regarded as valuable assets are more willing to repay the organization with positive behaviors.[32] Social exchange theory (SET)should be a useful framework for understanding relationship between employees and organizations in the workplace. As a key exchange rule and norm, reciprocity is the starting mechanism of the bilateral relationship. Given this principle from social exchange theory, the mutually satisfying

exchange mode between the two parties helps to maintain a stable relationship and the developmental HR practices create a reciprocal environment exactly.

Organizational citizenship behavior (OCB) represents a form of reciprocity that employees present to the organization. Specifically, OCB is defined as an individual's behavior that is discretionary, without direct or explicit rewards and punishments by the formal system, but plays a positive role in promoting the effective functioning of the organization aggregately.[33] Based on the ideas underpinning social exchange theory, effective social exchange is conducive to forming a win-win situation of mutual support between organizations and employees. Podsakoff et al[34] believed that HR practice is one of the vital ways to effectively stimulate OCB. The relationship between developmental HR practices and OCB can be understood as a social exchange phenomenon that employees experience long-term investment (i.e.HR practices) and feel obliged to reciprocate with something of value, such as recognizing and helping the organization achieve its goals.[35] Indeed, scholars have provided empirical evidence that the more support employees feel from the organizations, the more they internalize identities as members of organizations and increase their sense of obligation, which in turn stimulates them to repay the organization with willingness and behaviors.[16]

In previous interdisciplinary research of OCB and HR practices, HR practices are considered as critical determinants in eliciting employees to behave in ways supportive of organizational goals, and shaping employees' perceptions, attitudes, and behaviors. Based on these findings, this study concludes that developmental HR practices will enhance OCB, leading to the second hypothesis:

H2: Developmental HR practices are positively related to organizational citizenship behavior.

The Mediating Role of Direct Supervisor's Transformational Leadership

HR practices affect organizational outcomes as a result of internal overall configuration and therefore HR practices should not be studied alone.[36] Developmental HR practices are more likely to be effective if such practices are consistent with and reinforced by other factors of the organizations, so this study takes direct supervisors in the research framework.

Transformational leadership is defined as a kind of leadership that affects its followers through idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration.[13] Based on Chinese cultural background, Li and Shi[37] emphasized the unique dimension of transformational leadership, namely "moral modeling", which distinguishes it from the west. Influenced by the Confucian culture, Chinese supervisors tend to set an example for employees and imperceptibly influence them through convincing qualities such as virtue. Unlike other leadership styles such as authentic leadership, ethical leadership et al, the evidence of transformational leadership in predicting effectiveness is impressive. Through the analysis of hundreds of studies, transformational leadership has been verified to have a strong positive impact on outcome variables such as performance, engagement, satisfaction, commitment and turnover rate.[38] Our research conducts a new test of transformational leadership from two aspects: first, this study focuses on the transformational leadership of direct supervisors; second, the study innovatively emphasizes the signaling mechanism of transformational leadership behaviors on developmental HR practices and puts them into the same framework.

The synergistic perspective shows that leadership and HR practices strengthen each other, when the two share the same value, the signals they send to followers together are reinforced and clearer than they do separately.[39] However, the complex connotations of different levels of HR practices and leadership behaviors make the cross-level interaction between them lack a clear picture.[40] For example, leadership behaviors could be divided into CEO, middle-level managers and direct supervisors' leadership behaviors et al, and HR practices include both implemented by organizations and perceived by employees.[41] Although studies on the interaction between HR practices and leadership behaviors have shown a causal effect between them,[42] most of which discuss how the leadership behaviors of top managers affect the specific HR practices, there is still only limited understanding of how HR practices affect the leadership behaviors of direct supervisors.

As members of the organization, direct supervisors will not only receive organizational signals directly as leaders, but also transform signal perception into specific transformational behaviors.[40] Specifically, through the practice and guidance of training and development, career development and other promoting investment, the bundle of HR practices embedded within the developmental climate may foster direct supervisors to have in-depth contact with employees and

understand different individual development needs, thus prompting them to make more transformational leadership behaviors such as individualized consideration, visionary motivation and goal-oriented guidance.[43] Unfortunately, there is a lack of empirical verification that developmental HR practices will positively influence/predict transformational leadership behavior. Therefore, this study draws upon the insights from signal theory to propose developmental HR practices as a predictor of transformational leadership.

The support of direct supervisors has been confirmed to have a positive impact on employees' career self-management. Direct supervisors will pay attention to the diverse needs of different individuals, provide them with meaningful and challenging work, and focus them on their abilities to facilitate personal growth, motivate them to have clear expectations for their own career development.[44] Similarly, Saira et al[45] reported a significant relationship between transformational leadership and organizational citizenship behavior, employees working in an empowered and supportive environment are more inclined to exhibit extra-role behaviors. Indeed, OCB is considered a typical extra-role behavior from employees in response to a social exchange relationship.[46]

Practice has proved that employees are most susceptible to the influence of "local gatekeeper", such as a direct supervisor or other managers.[47] Researchers suggest such "gatekeeper" take an active role in enacting the practices suggested by HRM, which means leadership is seen as a mediator between the HR practices and employees' motivation and performance.[12,48] Drawing on past findings, this study expects that transformational leadership mediates the relationship between developmental HR practices and employees' behaviors. On the one hand, transformational leadership behavior by direct supervisors can signal developmental HR practices, encourage employees to accept promotion opportunities or to act on feedback from performance appraisals, and doing so, direct supervisors strengthen social exchange relationship which organizations intend to build with employees through HR practices.[49] On the other hand, transformational leadership behavior of direct supervisors will be better able to influence employees' emotions, motivations and values through value guidance and spiritual inspiration in a developmental and supportive climate.[50] According to social exchange theory, transferring the signs that an employer is willing to invest in a reciprocal social exchange relationship makes employees realize that they are obliged to promote organizational development, especially taking organizational citizenship behavior that goes beyond their own benefits.

In the light of the above-stated influences, employees' career self-management and organizational citizenship behavior are likely to be enhanced by developmental HR practices partly through transformational direct supervisors perceiving and transmitting signals that are consistent with organizational goals. The reasoning above leads to the following hypotheses:

H3a: Transformational leadership mediates the relationship between developmental HR practices and career self-management.

H3b: Transformational leadership mediates the relationship between developmental HR practices and organizational citizenship behavior.

The Moderating Effect of Perceived Organizational Support

As individuals have different views in perceiving and interpreting HR-related information, there is always the possibility that the perception of HR practices by the employees is not equal to the real investment of the organization.[51,52] From a contingency perspective, the role of moderators should be considered to fully understand the effect of HR practices on CSM and OCB. This study focuses on POS which is defined as the individual perception of how the organization values their contributions and cares about their well-being.

Direct superiors are the leaders who contact employees frequently and employees regard them as direct representatives of the organizational interests. In light of previous research, the support from an organization in terms of training and mentoring has a greater impact on boosting career goals.[6] Based on a review of research on perceived organizational support, this study predicts that the positive relationship between transformational leadership and CSM/OCB becomes stronger when perceived organizational support is high.

Specifically, employees who have high perceptions of organizational support will more psychologically recognize the supportive signals conveyed by their direct supervisors, and translate the perceived support into commitment.[53] At the same time, in this situation, followers believe that they are obliged to repay by helping their direct supervisors achieve organizational goals.[16] This reciprocation toward their supervisors in turn enhances in-role performance and leads to behaviors beyond their formal job descriptions, such as OCB.[54] On the contrary, when employees perceive a low level of organizational support, there is an imbalance between what employees contribute to the firm and what they receive.[55] It will reduce trust in their direct supervisors, and consequently their awareness of organizational responsibility. Hence, the following hypotheses are proposed:

H4a: POS moderates the relationship between transformational leadership and career self-management in such a way that it is more positive for higher than for lower levels of POS.

H4b: POS moderates the relationship between transformational leadership and organizational citizenship behavior in such a way that it is more positive for higher than for lower levels of POS.

Integrated Model

Based on social exchange theory and signal theory, this study found that developmental HR practices will promote employees' career self-management and stimulate their organizational citizenship behavior, and more importantly, transformational leadership behaviors of direct supervisors play an intermediary role. At the same time, perceived organizational support moderates the indirect effects of developmental HR practices on career self-management and organizational citizenship behavior through transformational leadership. For more perception of organizational support, the effect of transformational leadership on CSM and OCB is stronger, and accordingly, the mediating effect of transformational leadership between developmental HR practices and CSM/OCB is strengthened. On the contrary, for low POS, the relation of transformational leadership to CSM and OCB will be weaker, and accordingly, the indirect effect of developmental HR practices on CSM and OCB transmitted through transformational leadership will be smaller. This leads to our final hypothesis:

H5a: Perceived organizational support moderates the mediating effect of transformational leadership on the relationship between developmental HR practices and career self-management such that this effect is stronger for high POS employees than it is for lower POS employees.

H5b: Perceived organizational support moderates the mediating effect of transformational leadership on the relationship between developmental HR practices and organizational citizenship behavior such that this effect is stronger for high POS employees than it is for lower POS employees.

Methods
Data Collection and Sample

The data for this study were collected through a questionnaire survey of large organizations located in Sichuan Province, Southwest China across different functional areas and different industries, including retail, manufacturing, finance and other industries. To ensure the qualification of the potential respondents, firms had to meet two criteria: first, they needed to have been established for at least five years, to allow sufficient time to have matured management mechanism; second, they needed to employ at least 100 employees, as previous studies have shown that these organizations were more likely to have a comprehensive HR practices.[56] Five trained research assistants were responsible for contacting the companies and explaining the purpose of the study. In consideration of convenience, five trained research assistants firstly asked MBA and EMBA postgraduates for help and explained the purpose of the research to them. Through their recommendation, researchers indirectly contacted their companies' HR managers and talked about how to implement the survey and what procedure to follow. After obtaining their approval, researchers then personally delivered the questionnaires to these firms. The respondents were assured of the confidentiality of their responses.

To avoid single-source bias, this study conducted a multi-point survey via either paper-and-pencil survey or Tencent Questionnaire website from March to April 2021. The time interval for each survey was one month. In the first survey (Time 1), employees were asked about their developmental HR practices and transformational leadership perceptions of their direct supervisors. A total of 800 questionnaires were sent out in this round, and 663 were recovered, with a recovery rate of 82.9%. One month later, questionnaires for measuring POS, CSM and OCB were administered to the employees who completed the first survey. The final sample pool contained 571 (86.1%) valid paired responses. Through the paired sample *t*-test of the two surveys, the employees who did not participate in the second survey were found to have no significant difference in the analysis of demographic variables, which indicated that the sample loss in this study was random. Of the 571 respondents, most were female (53.9%), relatively young (89.2% between 26 and 35 years old), and well educated (93.2% hold 4-year college or above).66.7% of the participants had more than 3 years of organizational tenure and 41.5% worked in state-owned enterprises, 38.4% worked in private-owned enterprises and 20.1% worked in foreign-owned enterprises or others.

Measures

This study based all items on measures that have been used in previous studies to ensure their validity. Multiple-item scales were employed, with 5-point Likert-type anchors ranging from 1 (strongly disagree) to 5 (strongly agree) for all substantive variables. The questionnaires were administered in Chinese but were originally constructed in English except TL and CSM. To ensure equivalence of the measures in Chinese and English versions of the survey instrument, the standard translation and back-to-back translation procedure were used.[57] An experienced translator was employed to translate the survey instrument items from English to Chinese, and another translator was then asked to translate the Chinese items back to English to ascertain their semantic similarities. Chinese versions of scales were used to measure transformational leadership and career self-management which have been proven to be reasonably matured and suitable for the Chinese context.

Developmental HR Practices

The developmental HR practices scale (α=0.94) developed by Kuvaas[5] was used. It includes three subscales: career development, training opportunities and performance appraisal. An 8-item scale measures the perception of respondents on the adequacy and satisfaction with the training and development opportunities. A sample item is "I am satisfied with the training and development I have received". Further, a 6-item scale seeks to measure the available growth opportunities that employees believed to have with their current employer. A sample item is "I think the organization will provide me with opportunities for career development". Furthermore, a 7-item scale measures the perception of respondents on the robustness, adequacy, and the quality of feedback of the operationalized performance evaluation practices. A sample item is "my performance evaluation is based on objective and quantifiable results".

Transformational Leadership

To measure transformational leadership, the 26-item scale (α=0.95) from an adapted version by Li and Shi[39] was used. It contains four subscales: ethical model, visionary motivation, charismatic influence, individualized consideration. Three 6-item scales are used to measure visionary motivation, individualized consideration and charismatic influence. Sample items are "My leader gives employees goals and direction" "My leader is willing to help employees with life and family problems" "My leader is constantly learning to enrich and improve himself/herself". Finally, a 8-item scale measures ethical model and a sample item is "My leader puts the interests of the group and others above his/her own".

Perceived Organizational Support

An 8-item measure (α=0.89) of perceived organizational support from Eisenberger et al[16] was used. A sample item is "The organization does take care of my welfare".

Career Self-Management

Based on the 20-item career self-management scale (α=0.95) developed by Ma,[22] this study chose 13 higher factor-loading items from the original scale to measure. Seven items were removed as they presented low factor loadings.

A sample item is "I have a clear plan for my future career development". This scale is reliable and widely used in the Chinese context.

Organizational Citizenship Behavior

The 10-item OCB scale (α=0.94) developed by Bachrach et al[58] was used. It has two dimensions: OCB directed at individuals with seven items and OCB directed at the organization with three items. Sample items are"I am willing to give my time and energy to help others who have work-related problems" and "I actively participate in team meetings".

Control Variables

This study included individual demographic information such as gender, age, organizational tenure and educational level as control variables. The education level was measured by four categories: junior college or below, undergraduate degree, master's degree and doctoral degree.

Results

Confirmatory Factor Analysis

Before testing the hypotheses, a series of confirmatory factor analysis (CFA) was conducted to evaluate the discriminant validity among the study variables. This study first examined the five-factor model that included developmental HR practices, transformational leadership, perceived organizational support, organizational citizenship behavior and career self-management. This study compared the goodness of baseline five-factor model fit to four alternative models using the data collected from two-wave surveys. Results in Table 1 indicated that model 5 fit the data well (χ^2/df=2.54, RMSEA=0.05, CFI=0.88, TLI=0.88, NFI=0.82) and provided substantial improvement in fit indices over models 1–4.

Hypothesis Testing

The descriptive statistics, including the means, standard deviations (SDs), and correlations for this study are shown in Table 2. The results show that developmental HR practices were positively related to CSM (r=0.46, p<0.01) and OCB (r=0.42, p<0.01) when the demographic characteristics were controlled for. Thus, H1 and H2 were supported. The hierarchical regression and PROCESS macros developed by Hayes[59] for SPSS were used to test hypotheses regarding mediating, moderating, and moderated mediation effects (H3a to H5b). Table 3 shows the results of hierarchical regressions.

Analysis of the Mediating Effect

To test the mediation effect of transformational leadership this study followed Baron and Kenny's[60] procedure. As predicted, Model 14 shows that developmental HR practices were significantly related to transformational leadership (β=0.58, p<. 001).

Models 1 to 4 show the results for career self-management. When controlling developmental HR practices and the control variables, transformational leadership was positively related to CSM (β=0.33, p<0.001). More importantly, the

Table 1 Confirmatory Factor Analysis Results

Models	Factors	χ^2/df	RMSEA	CFI	TLI	NFI
1	DHRP+POS+OCB+TL+CSM	7.41	0.11	0.50	0.49	0.47
2	DHRP+POS+OCB+TL;CSM	6.39	0.09	0.58	0.57	0.54
3	DHRP+POS+OCB;TL;CSM	5.22	0.09	0.67	0.67	0.63
4	DHRP+POS;OCB;TL;CSM	4.43	0.08	0.74	0.73	0.68
5	DHRP;POS;OCB;TL;CSM	2.54	0.05	0.88	0.88	0.82

Note: N=571.
Abbreviations: DHRP, developmental HR practices; POS, perceived organizational support; OCB, organizational citizenship behavior; TL, transformational leadership; CSM, career self-management.

Table 2 Means, SDs, and Correlations Among Variables

	I	2	3	4	5	6	7	8	9	10
I.Gender										
2.Age	−0.04									
3.Tenure	−0.04	0.52**								
4.Education	0.02	0.13**	0.03							
5.Nature	0.08	−0.09*	−0.20*	−0.02						
6.DHRP	−0.04	0.04	0.09*	−0.03	0.12					
7.POS	0.02	0.08	0.09*	−0.01	0.02	0.64**				
8.TL	−0.02	0.01	0.09*	−0.01	−0.03	0.56**	0.58**			
9.OCB	0.00	0.11**	0.13**	0.01	−0.02	0.52**	0.57**	0.54**		
10.CSM	−0.07	0.08	0.11*	0.05	−0.06	0.46**	0.49**	0.50**	0.70**	
Mean	1.54	2.42	2.98	2.23	1.93	3.20	3.35	3.72	3.80	3.78
SD	0.50	0.81	1.07	0.58	1.02	0.72	0.84	0.75	0.75	0.73

Notes: N=571 (two-tailed test); **p<0.01, *p<0.05.
Abbreviations: DHRP, developmental HR practices; POS, perceived organizational support; TL, transformational leadership; OCB, organizational citizenship behavior; CSM, career self-management.

coefficient on the independent variable was significantly reduced from 0.46 to 0.27 after the mediator was added. The partial mediating effect of transformational leadership is confirmed. H3a was therefore supported.

Models 7 to 10 show the results for career organizational citizenship behavior. When controlling developmental HR practices and the control variables, transformational leadership was positively related to OCB (β=0.36, p<0.001). The coefficient between developmental HR practices and OCB was significantly reduced from 0.54 to 0.33 when the mediator was added. The partial mediating effect of transformational leadership is confirmed. H3b was therefore supported.

Moderating Effect Analysis

H4a, H4b predicted the moderating role of perceived organizational support in the relationship between transformational leadership and CSM/OCB. The results in Table 3 indicated that the interaction of transformational leadership and perceived organizational support was positively related to CSM (β=0.23, p<0.001) and OCB (β=0.11, p<0.01). This study followed Aiken and West[61] to operationalize high and low values of perceived organizational support using one standard deviation above or below the mean (see Figure 2A and B). In support of our prediction, Figure 2 reveals that the forms of moderation of the positive relationship between TL and CSM/OCB was stronger for employees high in perceived organizational support than for employees low in POS. These results provide considerable support for H4a, H4b.

Moderated Mediating Effect Analysis

To examine H5a and H5b that predicted the moderated mediating model, this study employed the same bootstrapping analyses using PROCESS. As indicated in Table 4, conditional indirect effects of developmental HR practices on career self-management via transformational leadership were significant when perceived organizational support was high (β=0.3, boot 95% CI [0.22, 0.38], did not include zero) but insignificant when perceived organizational support was low (β=0.08, boot 95% CI [−.01, 0.16], included zero). These results supported H5a.Moreover, conditional indirect effects of developmental HR practices on OCB through transformational leadership were both significant no matter how high (β=0.22, boot 95% CI [0.14, 0.29], did not include zero) or low (β=0.12, boot 95% CI [0.05, 0.19], did not include zero). These results supported H5b. In sum, the moderated-mediation results revealed that POS strengthened the mediating effect of TL on the relationship between developmental HR practices and CSM/OCB.

Discussion

This study reveals the influence mechanism of developmental HR practices on career self-management and OCB, as well as the moderating effect of perceived organizational support and the mediating effect of transformational direct

Table 3 Regression Analyses for Testing the Hypothesized Relationships

	Career Self-Management						Organizational Citizenship Behavior						Transformational Leadership	
	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14
Control variables														
Gender	−0.09	−0.06	−0.07	−0.08	−0.09	−0.08	0.01	0.04	0.04	0.03	0.01	0.02	−0.02	0.01
Age	0.02	0.03	0.04	0.04	0.02	0.03	0.06	0.07	0.08*	0.08	0.06	0.06	−0.04	−0.03
Tenure	0.06	0.02	0.01	0.02	0.02	0.01	0.07	0.03	0.02	0.03	0.02	0.02	0.08*	0.03
Education background	0.06	0.07	0.07	0.06	0.07	0.08	−0.01	0.01	0.01	0.00	0.01	0.01	−0.01	0.01
Nature of enterprises	−0.02	−0.03	−0.03	−0.02	−0.03	−0.03	0.01	−0.01	0.00	0.01	0.00	0.00	−0.01	−0.02
Independent variables														
Developmental HR practices		0.46***	0.27***					0.54***	0.33***					0.58***
Mediator														
Transformational leadership			0.33***	0.47***	0.31***	0.37***			0.36***	0.53***	0.32***	0.35***		
Moderator														
Perceived organizational support					0.26***	0.29***					0.33***	0.34***		
TL×POS						0.23***						0.11**		
R^2	0.02	0.23	0.31	0.26	0.32	0.37	0.02	0.29	0.38	0.31	0.40	0.41	0.01	0.00
ΔR^2	0.01	0.22	0.30	0.25	0.31	0.37	0.01	0.28	0.37	0.30	0.39	0.40	0.31	0.31
F	2.22*	27.61***	35.77***	32.72***	37.23***	41.91***	2.26*	37.56***	48.54***	41.67***	52.79***	48.33***	1.08	42.66***

Notes: N = 571; ***$p < 0.001$, **$p < 0.01$, *$p < 0.05$; Δ, Adjusted R^2.
Abbreviations: TL, transformational leadership; POS, perceived organizational support.
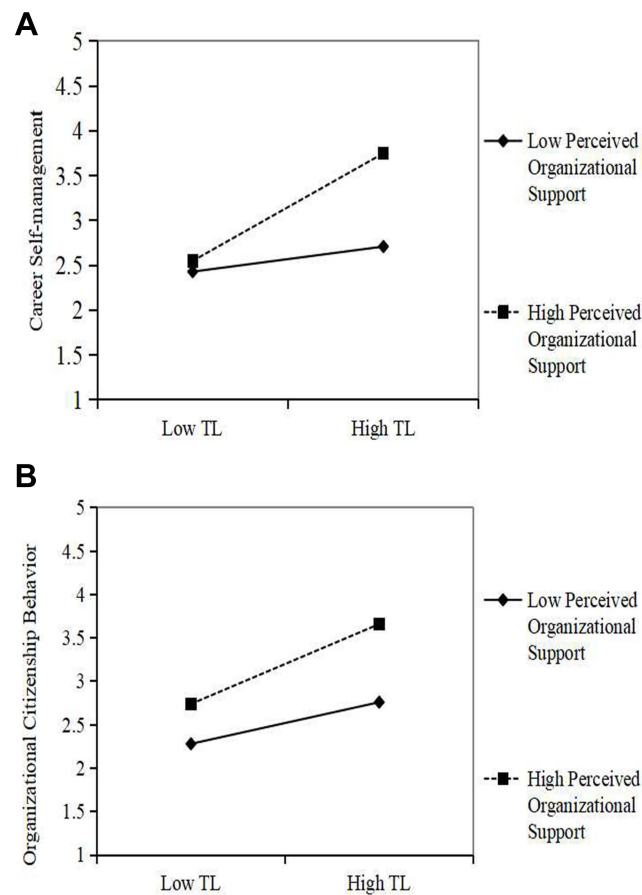
Figure 2 (**A**) The interactive effect of perceived organizational support and TL (transformational leadership) on career self-management. (**B**) The interactive effect of perceived organizational support and TL (transformational leadership) on OCB.

supervisors. As predicted, developmental HR practices have a positive effect on both CSM and OCB, which is a hint of a virtuous circle where one reinforces the other. This finding is consistent with the prior findings that investment in employees has a significant positive impact on employees' behaviors.[51,62] Furthermore, a partial mediating effect of transformational direct supervisors on the relationship between developmental HR practices and CSM /OCB was also found, which is affected by the moderating role of perceived organizational support. The higher the employees' perception of organizational support is, the more likely the direct supervisors are to cultivate their CSM and OCB by giving day-to-day direction, which can serve as a signal to employees that the organization is willing to support their growth and development.[63] Therefore, all hypotheses are supported.

Although the author has previously suggested that developmental HR practices positively relate to employees' behaviors which benefit the organizations, the self-development of employees has not been considered. Therefore, the study is among the first to spotlight the relationship of developmental HR practices with employees' career self-management and OCB from a mutual gains perspective and further enrich the internal mechanism between them.

Theoretical Contributions
First, the results of this study extend the current literature of developmental HR practices and its impact. As the "best practice" in strategic HR management, developmental HR practices emphasize human-centered development and support rather than coercion and control to ensure that organizations obtain sustainable competitive advantages.[64] Unfortunately, a lack of previous work was found to examine the effects of developmental HR practices on individual development. Meanwhile, some career researchers have called for theoretical and empirical studies to clarify the role of organizational management factors played by HR practices in shaping individual career self-management recently.[65] Supporting

Table 4 Results of Indirect Effect and Moderated Mediating Effect

Independent Variables	Moderator	Indirect Effect				Moderated Mediating Effect			
		Effect	Standard Error	Lower Limit	Upper Limit	Index	Standard Error	Lower Limit	Upper Limit
CSM	Low POS	0.08	0.04	−0.01	0.16	0.13	0.03	0.07	0.19
	Mean POS	0.19	0.03***	0.12	0.25				
	High POS	0.3	0.04***	0.22	0.38				
OCB	Low POS	0.12	0.04***	0.05	0.19	0.06	0.03	0.01	0.11
	Mean POS	0.17	0.03***	0.11	0.23				
	High POS	0.22	0.04***	0.14	0.29				

Notes: N=571; ***p<0.001.
Abbreviations: CSM, career self-management; OCB, organizational citizenship behavior; POS, perceived organizational support.

hypothesis, organizational support resources (ie developmental HR practices), which enable employees to perceive high-quality social exchange relationships,[28] were found to stimulate both CSM and OCB. This is consistent with the prior findings that positive outcomes of developmental HR practices are repeatedly found in workplace by drawing on the theory of social exchange theory.

Second, this study extends the interactive mechanism between HR practices and leadership by identifying transformational direct supervisor as a mediator rather than a moderator based on signal theory. Most of the previous studies discussed and tested that HR practices and leadership are likely to interact in either synergistic or substitutable way by taking leadership as a moderator.[66,67] But this study wants to respond to Leroy et al's[39] call for researchers to examine how leaders implement HR practices. Our findings suggest that developmental HR practices directly promote employees' career self-management and organizational citizenship behavior. More interestingly, developmental HR practices also contribute to cultivating transformational direct supervisors who consistent with organizational values, and indirectly influence employee behaviors through them. In particular, the interaction between them makes us rethink that scholars should not only pay attention to the fit between HR and corporate strategy, but also focus on the value fit between HR and other organizational variables that are more proximal to HR practices, such as direct supervisors.

A final implication of our findings is related to transformational leadership theory. Although a growing number of studies have analyzed the role of HR practices and leadership, they focus on a specific level of leadership, usually upper-level leaders (ie chief executive officers) or skip-level leaders, which refer to leaders above the focal employee's immediate supervisor in the organization's formal chain of command,[68,69] without considering the importance of the lower-level leaders (ie direct supervisors). Developmental HR practices transmitted as rules and regulations are easily lead to inconsistence between what employees understand and the organizations set actually.[70] Transformational direct supervisors emphasize "sharing organizational vision and values" and "high-quality leader-member exchange".[13] In particular, they constantly observe and learn organizational policies and practices as well as interact directly and openly with front-line employees. They can implement and deliver accurately the firm-level HR practices that support employees' need and motivation to be perceived by employees.[71] Albeit small, our addition and focus on transformational leadership of direct supervisors enriches the existing theoretical research on transformational leadership.

Practical Implications

As our results suggest that developmental HR practices can promote employees' career self-management and organizational citizenship behavior. As a first step, organizations should realize that employees need to be valued and establish a series of HR practices. Employees are more willing to conduct OCB when they perceive that the organizations support them in the long term which in turn would form a cohesion to enhance organizational competitive advantage. But one point needs to be emphasized that HR practices and goals should be designed more understandable and practical so as to ensure the implementation of policies.[71]

Secondly, managers should pay attention to the path and boundary conditions where developmental HR practices take effect, so as to effectively exert the optimal effect of HR policies. The results show that part of the signals of

developmental HR practices indirectly affect employees' behavior through the intermediary role of line managers. Therefore, organizations should direct their effort to cultivate the transformational behaviors of direct supervisors and strictly implement the selection focusing on line managers who match the values and culture of the organization. At the same time, the HR departments should also strengthen the training and incentives to ensure that employees perceive developmental HR practices accurately and implement them as desired.

Finally, the findings suggest the importance of CSM, particularly talent development and retention are of prime concern. Although CSM is a type of self-regulatory behavior which tends to depend on personality, the organizations can also carry out more career counseling[6] and career support from supervisors[72] to intervene and help employees. Especially employees who are limited in knowledge and information acquisition in the process of professional self-management. In conclusion, the organizations must focus on the antecedents of individual career self-management and its outcome in order to encourage employees and enhance organizational competitiveness.

Limitations and Suggestions for Future Research

While the research provides some important insights, there are limitations. The first limitation concerns the design of the study. Although HR practices impact employees' attitudes and behaviors in the long run, this study used a retrospective method which is commonly used in the research of organizations and the results provided a supportive verification of the hypothetical relationships. However, cross-sectional design limits the accuracy of causal logic between variables and may be affected by biases from specific moments in the past.[73] Given these concerns, a more thorough understanding of the described process would require a longitudinal design to further observe the logical associations between variables.

Second, our research focused on organizations with well-structured HR management systems, this study excluded unicorn companies (with more than 100 employees) that have been established for less than five years and small and medium-sized enterprises (SMEs) with less than 100 employees. But in fact, future research could explore SMEs. In these companies, the upper-level HR policies have limited influence and the role of the direct supervisors is more important in the interaction with employees because the model of HR management or the formal HR policies are taking shape. It would be interesting to explore how HR practices and direct supervisors influence employees' career self-management and organizational citizenship behavior together.

Finally, due to the possible regional differences in characteristics of enterprises and methods of management,[3] it is unclear the extent to which our findings may be generalizable to different regions in China, other national contexts and industries. Future research could expand the scope of the research through cross-country and multi-industry comparative analysis to shed light on the process of specific HR practices and its boundary condition and improve the realistic value of research results in the field of HR practices.

Conclusion

This study advances the current literature of developmental HR practices by examining a moderated mediation model in which one moderator (perceived organizational support) and one mediator (informational direct supervisors) were identified in the influencing mechanism of developmental HR practices on employees' behaviors, specifically CSM and OCB. The study provides substantive support for the notion that signal theory could serve as a theoretical rationale in predicting leadership behaviors of direct supervisors signaling managerial intentions to employees. More importantly, drawing on social exchange theory, the findings also reinforce the current understandings of the positive outcomes of developmental HR practices by linking it to employees' behaviors. Overall, organizations and leaders should be aware of the importance of co-development of individuals and organizations in the Chinese companies where the applications of developmental HR practices may still be in its infancy.

Ethical Statement

This study was approved by the Ethic Committee on Human Experimentation of Sichuan University and adhered to the Declaration of Helsinki. In the first-wave questionnaire, we introduced the study purposes and explained that this study welcomed voluntary participation and the data, complying with the principle of confidentiality, is only used for research

purposes. Before responses to the questionnaire, all participants filled in a written informed consent form, claimed their understanding of the study purposes and they would like to participate in the study voluntarily.

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