

PROACTIVE PERSONALITY AS A MODERATOR BETWEEN WORK STRESS AND EMPLOYEES' INTERNAL GROWTH

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We introduced and interpreted stress-related growth from the perspective of individual career development, to examine the relationship between work stress and self-efficacy, which is an indicator of internal career growth. We explored why some employees achieve self-development and growth in their career under stress but others do not. We used a 2-wave longitudinal design with engineers and accountants (202 valid samples) from the Chinese mainland. Results indicated that proactive personality had a significant moderating effect on the relationship between work stress and self-efficacy. Specifically, work stress increased the self-efficacy of highly proactive employees but decreased that of less proactive employees. This suggests that managers can moderately increase the work stress of employees with a highly proactive personality to promote their internal career growth.

Keywords: stress-related growth, work stress, internal career growth, proactive personality.

In the field of career development, work stress is usually regarded as negative, and therefore researchers and practitioners have striven to avoid or minimize the

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negative effects of work stress (Han, Wang, & Dong, 2014). In the short term, stressful events may be harmful to employees' health and career development (Hutri & Lindeman, 2002). However, in the long term, work stress may even promote employees' growth and development. Similarly to other life experiences, the phenomenon of stress-related growth can also be observed in the workplace. For instance, the employee whose computer is frequently out of order is more likely than other employees are to improve their computer maintenance skills.

Unlike previous researchers who focused on the negative outcomes of work stress (Han et al., 2014), we paid close attention to the phenomenon of stress-related growth, and elucidated the fact that work stress may have a positive impact on employees' career growth. Further, we highlighted the internal aspect of stress-related growth (e.g., increase in knowledge and/or skills), which is different from external growth indicators (e.g., promotion, salary increase) described in the traditional literature on career development (Keller, Bergman, Semmer, & Samuel, 2014). However, when the concept of stress-related growth is interpreted in greater depth, an unresolved issue emerges: If work stress leads to employee growth under some conditions but does not under others, then what are the conditions under which stress-related growth occurs? To answer this question, we empirically examined the moderating effect of proactive personality on the relationship between work stress and employees' internal growth.

The Phenomenon of Stress-Related Growth

On the basis of his observation of the phenomenon of stress-related growth in daily life, Caplan (1964) proposed crisis theory, in which he proposed the potential and probability of individuals to attain growth from adverse life experiences. When faced with stress, individuals think and reflect, seek help, or attempt to deal with stress. As time goes by, changes that indicate the attainment of growth will take place in their life philosophy, social relations, and coping behavior (Schaefer & Moos, 1992). This phenomenon of stress-related growth occurs in a wide variety of life experiences, for example, accidents, love, and death of a relative or friend.

A similar phenomenon of stress-related growth occurs in the workplace. For example, if a subproject under the management of an engineer cannot meet the requirements of the project leader, the engineer will feel stressed. The stress will drive the engineer to work harder, learn from his/her mistakes, and finally obtain the project leader's approval. After the experimental project is completed, the engineer's professional knowledge and skills are significantly improved. Consequently, he or she is selected as the leader of a new project. Meeting the unreasonable demands of customers can make a client manager feel stressed. He or she is driven to ask some experienced colleagues for advice because of the confusion and anxiety. Therefore, the client manager learns how to refuse

customers' unreasonable requirements skillfully. As a result, new customers are gained and many valued customers are retained because of the improved communication skills of the client manager, whose performance is improved and salary increased at the same time.

In the situation of stress-related growth in daily life, instead of social status, money, or other external aspects of growth, the internal aspects of personal growth are emphasized, such as personal philosophy and coping skills (Park, Cohen, & Murch, 1996). Similarly, when stress-related growth occurs in the workplace internal growth—as opposed to external growth—is highlighted. Increase in knowledge and skills (internal growth) is an indispensable aspect of employees' career development. To obtain external growth when the opportunity arises, such as the selection of a new project leader and assessment for payment of a bonus at year end, employees should first attain internal growth. For instance, the engineer's increase in knowledge is the precondition for him or her being selected as a project leader. Similarly, the client manager's enhanced communication skills are the antecedents of his/her salary raise. Moreover, we reasoned that stress-related growth can be better explained from the perspective of internal growth and this explanation could also make up for the deficiencies in the existing literature. Stress acts directly on the internal aspect of employees' growth rather than on the external aspect (Park et al., 1996). Therefore, from the perspective of internal growth, researchers can obtain a continuous and gradual image of stress-related growth, whereas from the perspective of external growth, researchers may be misled by segmental and disjointed images.

In many forms of internal growth an important factor is the increase of self-efficacy, which is worth further research. The reasons are as follows:

First, *self-efficacy* refers to the belief in one's capability to mobilize the motivation, cognitive resources, and courses of action needed to meet given situational demands (Bandura, & Locke, 2003). As a concept, self-efficacy is different from knowledge, skills, or experiences, and it is a comprehensive ability that is constructed on the basis of these specific factors. In the field of career development, Powell, Hubschman, and Doran (2001) pointed out that employees can obtain a greater sense of self-efficacy when they understand the mechanism of causation and master the common rules. According to Bandura and Locke (2003), the explanatory power of self-efficacy is greater than that of other variables of individual difference.

Secondly, self-efficacy has a close relationship with external career growth and career success. Compared with their colleagues, managers with high self-efficacy have a higher probability of promotion and a higher level of salary (Bandura, 1997). Self-efficacy can affect the creativity of scholars either directly or indirectly, and then bring them generous income and promotion (Bandura,

1997). Therefore, external growth and the growth of self-efficacy are consistent in direction, although the two are not synchronized.

We also reasoned that the growth of self-efficacy is a factor that enterprises need in today's society. With the globalization of economic competition and the widespread use of information technology, enterprises have to cope with an ever-changing external environment, and employees have to struggle with these uncertainties. As a result, enterprises need people who not only have one or two fixed skills but employees with comprehensive abilities. Self-efficacy is a typical individual comprehensive ability that can meet the needs of enterprises.

Finally, we believed that the growth of self-efficacy is significant for employees in today's more volatile and unstable organizational environment in which individuals can no longer expect to have lifetime employment within one organization. In this boundaryless career era, with respect to the career ladder an enterprise provides, employees attach great importance to marketability in the labor market and their capability to be reemployed (Eby, Butts, & Lockwood, 2003). For employees who move interorganizationally, the knowledge and skills related closely to their original jobs are less important than their self-efficacy, which will continue to play a key role throughout their working life. In empirical studies it has been shown that individuals with high self-efficacy perform well when being recruited for a different job (Bandura, 1997). Employees with high efficacy understand the common rules and can master a new job by understanding the general principles (Powell et al., 2001).

The Mechanism Underlying Stress-Related Growth

Work stress serves as an opportunity for learning and growth, stimulates learning activities, and eventually contributes to employees' growth (Parker & Sprigg, 1999; Skule, 2004).

First, work stress reminds employees to learn and improve, and can be seen as an opportunity to learn within a work role. Conceptually, work stress indicates that job demands are beyond the employee's personal ability. By emphasizing the need to enhance their personal ability, stressors provide employees with a learning opportunity. For similar reasons, Skule (2004) asserted that learning-intensive work is commonly seen in stressful environments.

Second, work stress can stimulate the learning behaviors of employees. Work stress indicates that a gap remains between existing abilities and those needed to fulfill the job requirements, thus leading to active learning behaviors of the employees, such as learning by trial and error and consulting with experienced staff (De Jonge, Spoor, Sonnentag, Dormann, & Van den Tooren, 2012; Zhao, Liu, & Yu, 2013). De Lange et al. (2009) found that work stress has a positive correlation with motivation to learn and active problem solving. De Jonge et

al. (2012) found that work stress, such as high demands of concentration and precision, has a significant positive correlation with active learning behaviors.

Work stress may also lead to the internal growth of employees through the promotion of their learning. Employees' learning is considered to be an important means of employees' achieving growth and development in the boundaryless career era (McDonald & Hite, 2005). Through active learning, employees can solve problems, enhance their knowledge and skills and, more importantly, achieve growth in their comprehensive abilities (Wielenga-Meijer, Taris, Kompier, & Wigboldus, 2010). Taris, Kompier, Geurts, Houtman and Van den Heuvel (2010) found that work stress increases the level of self-efficacy longitudinally.

Unfortunately, the mechanism of stress-related growth as currently described in the literature still faces many objections. Through a three-wave longitudinal study, Taris and Feij (2004) found that high levels of strain have an adverse effect on learning. Using a two-wave longitudinal design with an interval of one year between the two waves, Taris, Kompier, De Lange, Schaufeli and Schreurs (2003) revealed that work stress has a lagging negative influence on learning motivation and personal accomplishment.

According to Rau (2006), employees who face work stress do not automatically learn. In the same way, work stress does not directly equate to the growth of self-efficacy or to any other type of individual growth. Two possibilities exist to explain the relationship between work stress and employees' growth. One explanation is that work stress stimulates employees' learning and then makes them grow; the other is that stressors hinder employees' learning and growth. Based on these contradictory findings we concluded that this implies that the mechanism of stress-related growth is not yet fully understood. From the perspective of methodology, we argued that certain factors that were neglected in previous research could reconcile these inconsistent findings and, thus, increase understanding of stress-related growth.

Personal factors and external conditions are indispensable mechanisms underlying stress-related growth (Frese, Garst, & Fay, 2007). Although the organization, as an environmental factor, provides opportunities for employees' learning and development, ultimately it depends on the employees themselves as to how to evaluate these opportunities and whether or not to make use of them. In previous empirical studies on stress-related growth the findings also showed that individual difference is worth further examination. In view of the inconsistent results in their own empirical studies, Park et al. (1996) turned their attention to personality. Similarly, De Lange et al. (2009) found significant age differences in the relationship between work stress and learning-related behaviors.

Moderating Effect of Proactive Personality

The concept of proactive personality was put forward by Bateman and Crant in 1993. Along with the deepening of research, the concept of *proactive personality* has been extended, including the three core elements of self-starting, future orientation, and active changes (Fuller & Marler, 2009; Zhao, Zhao, Zhou, & Xu, 2011). Eby et al. (2003, p. 691) asserted that proactive personality is a “knowing why” variable that is a predictor of career success. On the basis of two-year longitudinal research, Seibert, Kraimer, and Crant (2001) found that proactive personality is positively related to salary progression, promotion, and other external career growth factors. In this study, we expected proactive personality to affect employees’ internal growth.

Highly proactive employees are self-starting and future-oriented. They have a long-term vision for their career and can set clear objectives for their career development (Fay & Frese, 2001). When work stress occurs, highly proactive employees may compare the actual state with their career goals. In this way, they evaluate work stress proactively and view work stress as a challenge. For highly proactive employees, a stressor is a reminder that their abilities are inadequate and serves as a learning opportunity. For a person with a less proactive personality who does not have a clear career plan, work stress is evaluated in isolation and is more likely to be viewed as a negative rather than a positive factor (Fay & Sonnentag, 2002).

Highly proactive employees actively look for positive changes. They take action to change the adverse aspects in their career development (Fuller & Marler, 2009; Zhao et al., 2011). The occurrence of work stress indicates that employees’ abilities are insufficient for the task they are working on. As learning is undoubtedly one of the best ways to improve one’s abilities, under work stress highly proactive employees will take the initiative to conduct trial-and-error learning and observational learning. In an in-depth study, Parker and Sprigg (1999) found that employees with a highly proactive personality have a greater sense of ownership when encountering production problems than do those with a less proactive personality. This greater sense of ownership encourages employees to take action, for example, to engage in active learning. In short, when opportunities for personal development emerge in the form of stressors, highly proactive individuals scan the stressful situation and identify the opportunities for learning. On the contrary, employees with a less proactive personality usually say to themselves “It’s not my job” when they encounter stressors and rarely take action (Parker, Bindl, & Strauss, 2010).

Highly proactive individuals insist on thriving in a difficult environment and overcome the difficulties, preparing themselves for career growth. Employees face more difficulties than usual when it comes to learning in situations of work stress. Test failure is one of the most common difficulties faced by engineers.

Highly proactive engineers will continue to test new materials and designs, and will show their persistence until the problems are resolved (Tornau & Frese, 2013). The persistence of highly proactive engineers ensures their growth. Engineers with a less proactive personality will easily give up their attempts to find solutions, will terminate their learning, and will find difficulty in attaining growth under stress.

Thus, faced with learning opportunities in the form of work stress, it has been found that highly proactive employees identify, and make good use of, these opportunities. When personal factors and external opportunities are both present simultaneously, then stress-related growth is achieved.

In terms of work stress, prominent differences exist between individuals with a highly proactive personality and those with a less proactive personality. Those with a low proactive personality display little initiative in their career development. They do not seek opportunities actively and tend to regard work stress as trouble (Tornau & Frese, 2013). Thus, they view potential opportunities for career development as an additional burden and evade these burdens rather than learn and, as a result, they are unable to attain growth. If the situation worsens, these individuals may attain negative growth, that is, decrease in knowledge, skills, or self-efficacy (Parker & Sprigg, 1999). Withdrawal by evading the burden rather than learning a new skill may lead to the obsolescence of previous knowledge and skills, resulting in the negative growth of employees with a low proactive personality. This situation is similar to the warning given by Karasek and Theorell (1990, p. 103) that “a diminished feeling of mastery over the situation...in turn restricts the capacity to cope with job strain and leads to still higher residual strain levels, ad infinitum.” Therefore, we proposed the following hypothesis:

Hypothesis: A proactive personality will moderate the influence of work stress on employees' internal career growth. Specifically, work stress will be positively related to internal career growth among employees with a highly proactive personality but will be negatively related to internal career growth among employees with a less proactive personality.

Method

Participants

We invited 320 engineers and accountants employed at research institutes and accounting firms (four organizations in total) to participate in a longitudinal survey. We chose engineers and accountants as the respondents for two reasons. First, compared with other employees in these organizations, knowledge-based employees have higher educational qualifications and are more concerned about their career development (Drucker, 1999). In China, the introduction

Table 1. Means, Standard Deviations, Correlations, and Cronbach's α for Study Variables

Variable	Gender	Age	Job tenure	Marital status	Education level	Work stress ^{T1}	Work stress ^{T2}	Proactive personality ^{T1}	Proactive personality ^{T2}	Self-efficacy ^{T1}	Self-efficacy ^{T2}
Gender	1										
Age	.027	1									
Job tenure	-.37	.973***	1								
Marital status	.091	.645***	.595***	1							
Education level	.165*	-.098	-.160*	.068	1						
Work stress ^{T1}	.102	-.059	-.090	-.057	.045	1					
Work stress ^{T2}	.128	.109	.088	.110	-.013	.236**	1				
Proactive personality ^{T1}	.162*	-.293***	-.290***	-.131	.043	-.049	-.078	1			
Proactive personality ^{T2}	.135	-.224**	-.214**	-.119	-.065	-.045	-.027	.454***	1		
Self-efficacy ^{T1}	.120	.082	.081	.124	.077	-.115	-.196**	.169*	.362***	1	
Self-efficacy ^{T2}	-.029	.033	.034	.050	-.091	-.125	-.162*	.221**	.306***	.465***	1
<i>M</i>	.6848	31.9554	8.8515	.6667	3.4455	2.4356	2.2921	3.3423	3.3479	3.4845	3.4332
<i>SD</i>	.46587	7.01406	7.63601	.47258	.57260	.91875	.83388	.90420	.84411	.70424	.78832
Cronbach's α	/	/	/	/	/	/	/	.946	.922	.926	.961

Note. *N* = 202; * $p < .05$, ** $p < .01$, *** $p < .001$; T1 = time 1, T2 = time 2; Gender 1 = man, 0 = woman; Marital status 1 = married, 0 = unmarried; Education level 1 = high school or below, 2 = college degree, 3 = bachelor's degree, 4 = master's degree, 5 = doctorate.

of overseas talent and the market-oriented reform of personnel allocation are actively implemented. In fact, the free mobility of knowledge staff among different enterprises is encouraged and enhanced (Gao, 2012; Pan & Liu, 2012). In the movement among organizations, knowledge workers pay more attention to their internal growth to improve their marketability. In addition, the success of enterprises largely depends on knowledge-based employees. The competitive pressure faced by enterprises is transformed into work stress for knowledge-based workers. Therefore, knowledge-based employees confront more work stress than other employees do. On the basis of these considerations, we believe that knowledge-based employees were an appropriate sample for the study of stress-related growth in the current employment environment in China.

Procedure

To diminish the possibility of common methods bias caused by the self-report survey, we collected longitudinal data in accordance with the method suggested by Zapf, Dormann, and Frese (1996). We sent out 320 survey forms at two time points, with an interval of three months between the first and second distribution. The first time, 278 survey forms were returned; the second time, 252 survey forms were returned. The respondents were not required to identify themselves and the anonymous forms from the two time points were matched by the last four numbers of the respondents' mobile phones. Out of all the collected forms there were 202 valid samples matched between first and second collection, comprising 139 men (68.8%) and 63 women (31.2%). The age of the respondents ranged from 22 to 57 years.

In this sample of knowledge-based employees, a period of 3 months was considered suitable for covering the cycle of most of the projects in which they were engaged. During this timespan, work problems, employee learning behaviors, and internal growth have the chance to emerge.

Measurements

Internal career growth was operationalized as general self-efficacy in our research design. We selected the Scale of General Self-Efficacy developed by Chen, Gully, and Eden (2001). Items in the scale include "I am confident that I can perform effectively in many different tasks," and "Compared with other people, I can do most tasks very well."

Work stress has a variety of forms. In previous studies, for instance, the scales developed by Karasek (1979), and the revised versions of these, the focus of the items was mainly on workload and time pressure, which are factors more suitable for employees engaged in repetitive jobs. The job characteristics of knowledge-based employees are different from those of blue-collar employees in that knowledge-based employees like engineers and accountants are working

at tasks such as improvement of product performance, or company audits that involve varied content and method. In contrast blue-collar employees, such as stevedores, work at tasks for which the content and method are almost the same day after day. If the scales used as measures in research cannot embody the characteristics of the job, the effects of stress may be underestimated (Taris et al., 2003). In view of this, to measure stressors we composed a single item that highlighted work problems, which is an important stressor for the knowledge-based employees who were our respondent group. The item was: "There are some unresolved problems or problems without answers in your daily work." According to Daniels, Boocock, Glover, Hartley, and Holland (2009), using one item is feasible, and the benefit of doing so is to shorten the instrument.

With regard to proactive personality, we adopted the measurement scale developed by Bateman and Crant (1993). Examples are "I excel at identifying opportunities," "If I see something I don't like, I fix it," and "If I believe in an idea, no obstacle will prevent me from making it happen."

We made a bidirectional translation of each of the existing scales that we used to ensure that the Chinese version was consistent with the original. For each scale, respondents rated the items on a 5-point Likert scale where 1 represents *totally disagree* and 5 represents *totally agree*.

Results

In the regression analysis, we first entered the control variables of gender, age, job tenure, marital status, education level, and self-efficacy (Time 1). In our longitudinal study design we included self-efficacy (Time 1) in the regression model. Our main purpose was to reduce the potential measurement deviation in the self-report data. We also included work stress (Time 1) as an independent variable, and proactive personality (Time 1) as a moderating variable. We then built a binary interaction term work stress \times proactive personality in accordance with the method used by Aiken and West (1990). We centered the two variables, respectively, around zero by subtracting each variable from its mean. Then, we multiplied the two transformed variables. This transformation does not change the correlation among the variables, and it can effectively reduce the multicollinearity.

As shown in Figure 1, when the variable proactive personality is assigned a high value, work stress is positively correlated with career growth; when proactive personality is assigned a low value, work stress has a negative correlation with career growth. Therefore, our hypothesis was supported.

Table 2. *Regression Analysis*

		Model 1	Model 2	Model 3
Step 1	Self-efficacy ^{T1}	.492***	.457***	.437***
	Gender	-.086	-.108	-.119
	Age	.378	.482	.406
	Job tenure	-.456	-.503	-.455
	Marital status	.025	.014	.039
	Education level	-.176*	-.173*	-.166*
Step 2	Work stress		-.042	-.061
	Proactive personality		.163*	.174*
Step 3	Work stress × Proactive personality			.175**
	R ²	.258***	.282***	.312***
	ΔR ²	.258***	.025	.029**

Note. $N = 202$; * $p < .05$, ** $p < .01$, *** $p < .001$; Dependent variable = Self-efficacy^{T1}.

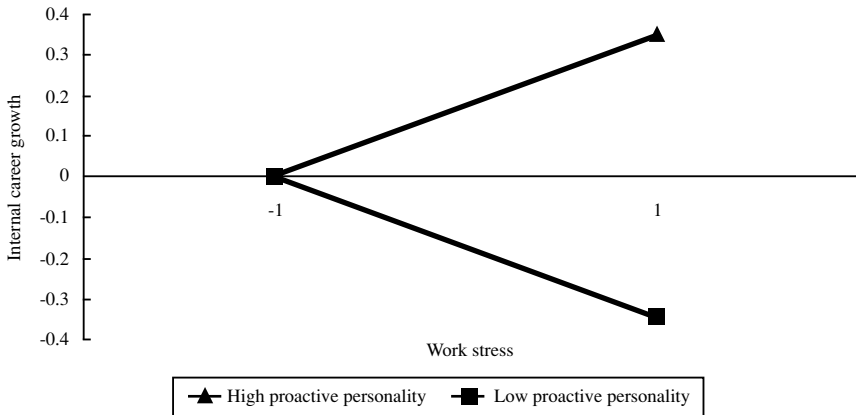


Figure 1. *Moderating effect of proactive personality.*

Note. High proactive personality slope is significant at $p < .01$; Low proactive personality slope is significant at $p < .01$.

Discussion

In this study we clarified the factors underlying the phenomenon of stress-related growth, empirically investigated the positive effects of work stress on internal career growth, and determined the key moderating effect of proactive personality. We have contributed to the personnel psychology literature in three ways.

Firstly, we found that highly proactive employees can attain internal growth under work stress, which is unlike the findings in previous studies. Most scholars of career development have focused on organizational support mechanisms, such as fairness and equity, reward structure, organizational climate, leadership, and life–work balance (McDonald & Hite, 2005; van Veldhoven & Dorenbosch, 2008) and have ignored the influence of work stress, which is common in the workplace. The few researchers who have examined the relationship between work stress and career development have put a one-sided emphasis on the negative effect of work stress. For example, Hutri and Lindeman (2002) found a positive relationship between work stress and occupational crises. To make up for the lack of balance in previous research, we tested the positive effect of work stress on career growth longitudinally and reinterpreted the role of work stress in the field of career development.

Secondly, we highlighted internal career growth, which is different from external career growth. We believe that previous researchers focused too much attention on the external aspects of career growth and neglected internal career growth, which is an indispensable component of employees' growth (Keller et al., 2014). Internal growth is the premise of external growth. At the same time, it is also one of the possible results of work stress. Logically, internal growth connects work stress and external growth. From the perspective of internal growth, the mechanism of stress-related growth can be interpreted more directly, avoiding the influence of exogenous variables.

We also found that proactive personality had a moderating effect on the relationship between work stress and internal career growth. Previous researchers only described the phenomenon of stress-related growth or gave plausible evidence but did not fully explain the underlying mechanisms (Park et al. 1996). We found that it was only for proactive employees that work stress could promote their career growth. In this study we have discussed in-depth the differences between employees with a highly proactive personality and those with a less proactive personality. Highly proactive employees consider stressors as learning opportunities, take action to learn, and attain internal growth. On the contrary, employees with a less proactive personality show little initiative in their career development. They would rather evade the stress than learn from it, and thus they cannot attain growth. By explaining the interaction between work stress and proactive personality, we have deepened the understanding on stress-related growth.

Practical Implications

Our findings can help managers in three aspects of their management role. First, we have reminded managers that work stress has two sides. Aside from its already well-known negative effects, work stress can also have a positive effect.

As work stress can promote employees' growth, managers should not eliminate or minimize work stress without giving it some consideration.

We have also provided the opportunity for managers to extend their understanding of how career growth occurs. Both internal growth and external growth are important aspects of career growth. Under work stress, internal growth often occurs earlier than employee promotion and salary increases. Therefore, managers should guide employees to learn from problems, improve themselves under stress, and prepare themselves for external growth.

Thirdly, in this study we have provided insight for managers on stress-related growth. Employees with a highly proactive personality perform differently from those with a less proactive personality when faced with work stress. Therefore, the two kinds of employees should be treated differently. Managers can moderately increase the work stress of employees with a highly proactive personality and can achieve beneficial effects. Conversely, they should minimize the work stress of those with a less proactive personality.

Limitations

The lack of measurement of employees' external growth is the most significant limitation in our study. This limitation did not allow us to further examine the relationship between work stress and external growth and to conduct an empirical comparison of internal growth and external growth. The single-item measure of work stress was another limitation. This item focused on work problems and neglected other stressors, such as deadlines and workload. Finally, the sample was limited to engineers and accountants, who represent only two types of professional calling, and this to some extent weakened the external validity of the research conclusion.

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