Model Structure on Self-Efficacy and Career Success of IT Engineers

Qinglan Luo, Chunyan Wang and Jingyi Han
College of Business Administration, Jilin Engineering Normal University, No. 219 Xueyuan Street, Chaoyang District, Changchun, China.
Email: sunny203@126.com

Abstract. Self-efficacy is an important factor, one which affects people’s career success. But how does it affect? Does there exist any mediating variables between them? These questions have not received enough attention. So in this study, it built the work family conflict as intermediary variables, self-efficacy affect the theoretical model of career success through the questionnaire survey of 424 practitioners in IT industry. Empirical study results show that self-efficacy in IT industry has positive effect on career success, work-family conflict plays a part of the mediation relationship between self-efficacy and career success of IT practitioners.

1. Introduction
Occupation is a foundation for living, for every practitioner, how to success in their career is an ultimate and desirable goal, however, empirical study shows that a considerable number of practitioners have been bearing tremendous pressure in the career development process and facing many problems: someone was hardworking but always missed the chance of promotion and pay rise; someone is positive but others just sit on the sidelines; someone has full of good intentions but suffered from rejection and isolation from colleagues and superiors, someone was outstanding but lacked enough attention from organization. How to worked easily and achieved career success in the workplace has received a lot of attention in career management recent years. Work-family conflict is one of the focuses which organizational behavior and human resource management are paying close attention to. In this study, we took IT practitioners as the research object, explored its antecedent variables and outcome variables of perceived work-family conflict, and investigated how does work-family conflict affects their career success as well as the important role of self-efficacy in reducing work-family conflict, promoting career success.

2. Literature Review and Model Construction

2.1. The Definition

2.1.1. Work-family Conflict. Work-family conflict refers to some incompatibility pressure from work and family field which generate conflicts between roles; this conflict is from job requirement [1].

2.1.2. Self-efficacy. Self-efficacy refers to a kind of exact beliefs or confidence from an individual to his own ability, in order to complete a specific task successfully; this capability enables an individual to mobilize motivation resources, recognizing resources and a series of actions in a particular background [2].
2.1.3. Career Success. Career Success is usually defined as “positive achievements of psychological or work-related outcomes which an individual could acquired in the process of career development” [3]. From the definition, we can find that career success includes subjective and objective career success [4]. The former is a kind of individual subjective success, and the latter is obtained from others’ evaluation in the community.

2.2. Model Construction

2.2.1. Self-efficacy and Career Success. Researchers found that self-efficacy has a significant impact on job satisfaction. Ozer (1995) suggests, we can take Self-efficacy as mediator variable between child-rearing responsibilities and job satisfaction, the higher self-efficacy has, the stronger job satisfaction has [5]. Martire et al.(1998) investigated the roles of mother, wife and worker, and found that self-efficacy existence between social support of working parents and job satisfaction, it have a strong impact on job satisfaction [6]. Caprara and Steca (2005) found that when people have confidence to get what they want, job satisfaction gained is stronger than lack of confidence, which proved that the self-efficacy has a positive impact on job satisfaction [7]. Based on the above discussion of literature, we proposed the following hypothesis to IT practitioners:

H1: self-efficacy for IT practitioners has a positive impact on career success.

2.2.2. Mediating Role of Work-family Conflict. In the studies of work-family conflict, self-efficacy is an important antecedents variables of work-family conflict (Houle, 2009), people who have the self-efficacy perceived lower work-family conflict [8]. And the high self-efficacy may help people become calmer when they faced the pressure, and look for ways to solve the problem actively. Samuel (2007) confirmed the existence of a significant negative correlation between self-efficacy and work-family conflict [9], in other words, someone who has a high self-efficacy tends to manage his work-family conflict effectively, Allen (2000) also found that work-family conflict and job satisfaction are negatively correlated [10], individuals would spend more time and energy to solve work-family conflict if he or she feels a strong work-family conflict, which in turn, would increase the psychological pressure and working pressure, damage to health, and then lead to decrease job satisfaction conversely, if the level of work-family conflict reduced, job satisfaction would increase [11]. According to the literature discussed above, making the following assumptions:

H2: work-family conflict plays an intermediary role between self-efficacy and career success of IT practitioners.

Theoretical model of self-efficacy and career success of IT practitioners, as shown in Figure 1.

![Figure 1. Theoretical model](attachment:figure1.png)

3. Research Methods

3.1. Sample Description
We collected the data through questionnaires (paper questionnaires and electronic questionnaires) to practitioners who primarily come from IT industry. Program instructors distributed 520 questionnaires to respondents. A total of 498 questionnaires were returned, after deleting records of invalid questionnaires, a total of 424 questionnaires remained representing the effective response rate of 81.5%. Descriptive statistics of valid samples are shown in table 1. All items were used Likert-type Scale, response options ranged from 1 “strongly disagree” to 5 “strongly agree”.
Table 1. Distribution feature of samples.

| Statistical variables | Category                  | Frequency | Percent  |
|-----------------------|---------------------------|-----------|----------|
| Sex                   | Male                      | 224       | 52.83%   |
|                       | female                    | 200       | 47.17%   |
| Marriageable age      | Under 10 years            | 120       | 28.30%   |
|                       | 10—20 years               | 239       | 56.37%   |
|                       | Above 20 years old        | 65        | 15.33%   |
| Education Background  | Less than Junior college  | 67        | 15.81%   |
|                       | Junior college            | 122       | 28.77%   |
|                       | Bachelor degree           | 149       | 35.14%   |
|                       | Master degree or above    | 86        | 20.28%   |
| Marital status        | Unmarried                 | 98        | 23.11%   |
|                       | Married                   | 278       | 65.57%   |
|                       | Marital misfortune        | 48        | 11.32%   |
| Number of children    | No child                  | 127       | 29.95%   |
|                       | One child                 | 245       | 57.78%   |
|                       | Two child                 | 46        | 10.85%   |
|                       | Three child or above      | 6         | 1.42%    |
| Work                  | Less than 1 year          | 56        | 13.21%   |
|                       | 1—5 years                 | 128       | 30.19%   |
|                       | 6—20 years                | 151       | 35.61%   |
|                       | More than 21 years        | 89        | 20.99%   |

3.2. Measuring Tools

The 8-item scale developed by Cinamon was used to measure self-efficacy, the reliability coefficient was 0.86.

We chose the job satisfaction as subjective measurement index of career success. And a 4-item scale (α =.82) which developed by Mossholder et al (2005) were used to measure it. Items included “Overall I am very satisfied with my work”, “compared with the people around me I prefer my own work”, “I like to work for this company now”, “I’m very satisfied with the work in the moment” [12].

Work-family conflict selected 3-item scale (α=.81) which prepared by Kossek and Ozeki (1998). The scale measure employees perceived work-family conflict which mainly from the three aspects: pressure, time and behavior. Items included “work anxiety affected my family life”, “work makes me do not have time to reunion with my family or friends”, “because to complete the work, I had to give up important family events”[13].

4. Results Analysis

In the study SPSS19.0 and AMOS17.0 were adopted to 424 valid questionnaires for data processing. The methods for data analysis include: descriptive statistical analysis, variance analysis, reliability and validity analysis, correlation analysis, regression analysis.

4.1. Reliability Analysis

In this paper, Cronbach’s α is calculated to evaluate the reliability of scale. When Cronbach’s α is greater than 0.70, indicating that the internal consistency of the scale is better [14]. From table 2, self-efficacy Cronbach ‘α is 0.915, career success Cronbach’s α is 0.728, Work-family conflict Cronbach’s α is 0.898. All of them are bigger than 0.7. Therefore, we concluded the scale have the good internal consistency.
Table 2. Reliability of the scale.

| Item quantity | Self-efficacy | Career success | Work-family conflict |
|---------------|---------------|----------------|---------------------|
|               | 8             | 4              | 3                   |
| Cronbach’s α  | 0.915         | 0.728          | 0.898               |

4.2. Correlation Analysis

The correlation of each variable is terrified by the coefficient Pearson. Results are shown in table 3.

Table 3. Descriptive statistical, variance and AVE.

| Variable         | S   | MD   | Self-efficacy | Career success | Work-family conflict |
|------------------|-----|------|---------------|----------------|----------------------|
| Self-efficacy    | 3.86| 0.56 | (0.726)       |                |                      |
| Career success   | 3.56| 0.52 | 0.569**       | (0.747)        |                      |
| Work-family conflict | 3.74| 0.67 | -0.358**      | -0.823**       | (0.831)              |

Note: **: p<0.01, figures inside bracket are square root of AVE

There is the strong correlation between the self-efficacy and career success. Coefficient Pearson is 0.569,-0.358,-0.823 respectively (Sig. <0.01), which indicates that the self-efficacy, career success, work family conflict are closely related to each other.

4.3. Regression Analysis and Hypothesis Testing

4.3.1. Regression Analysis of Self-efficacy to Career Success.

Table 4. Regression analysis about self-efficacy for career success.

| Variable          | Model 1 | Model 2 |
|-------------------|---------|---------|
| Age               | -0.157  | -0.209  |
| Marriageable age  | 0.200   | 0.128   |
| Number of children| -0.012  | 0.023   |
| Care for the elderly | 0.056   | 0.036   |
| self-efficacy     | 0.386** |         |
| R²                | 0.019   | 0.156   |
| Adj R²            | 0.010   | 0.147   |
| F                 | 2.245   | 17.531  |

Note: *p<0.05, **p<0.01, ***p<0.001
4.3.2. Mediating Role of Work-family Conflict Analysis.

Table 5. Regression analysis of mediating role of work-family conflict.

| Variable                | Model 1 | Model 2 | Model 3 |
|-------------------------|---------|---------|---------|
| Age                     | SW      | WF      | WFC     |
| Age-0.157               | -0.209  | -0.173  |
| Marriageable age        | 0.200   | 0.128   | 0.076   |
| Number of children      | 0.012   | 0.023   | 0.043   |
| Care for the elderly    | 0.056   | 0.036   | 0.010   |
| S                       | 0.386** |         | 0.326** |
| WF                      |         | -0.221**|
| R2                      | 0.019   | 0.156   | 0.045   |
| Adj R2                  | 0.010   | 0.147   | 0.043   |
| F                       | 2.245   | 17.531  | 25.041  |

Note: *p <0.05, *p <0.01, ***p <0.00

Hypothesis testing conclusion shown in table 6.

Table 6. Regression analysis of mediating role of work-family conflict.

| Hypothesis | Contents                                      | Result |
|------------|-----------------------------------------------|--------|
| H1         | The workplace friendship has positive effect on the career success. | True   |
| H2         | POS positively moderates the relationship between the workplace friendship and the career success. | True   |

5. Conclusion and Outlook for the Future

5.1. Discussions
Self-efficacy has a positive impact on the career success of IT practitioners (\( \beta = 0.353, p <0.01 \)), in the other word, the higher self-efficacy has, the more easily career success of IT practitioners get, the lower self-efficacy has, the lower job satisfaction has, so that hinder career development and success. Work-family conflict plays a part of the mediation relationship between self-efficacy and career success of IT practitioners (Model 2, \( \beta = 0.386, p <0.01 \); model 13, \( \beta = 0.326, p <0.01 \)), that is, self-efficacy has a negative impact on work-family conflict, work-family conflict of IT practitioners has a negative effect on career success.

5.2. The Outlook for the Future
In this study, we took IT practitioners as research object, but did not do the relevant study to other population groups, therefore, the further research needed to explore the generality of these findings. In addition, for IT practitioners, except self-efficacy, what kind of any other factors would affect their career development? How to increase job satisfaction? Some Scholars have pointed out that work family enrichment can push practitioners gain access career success, so this may be another level to study work-family conflict, it is also worthy to discuss and study in the future.

6. Acknowledgment
This paper is sponsored by Soft Science Project fund from Jilin Provincial Science and Technology department (Project Title: Research on training mode and countermeasures of artisan talents in Jilin Provincial. Contract NO. 20180418009FG). This paper is sponsored by project fund from
Jilin Planning Office of Philosophy and Social Science(Project Title: Research on influence and countermeasures of artisan talents growth in Jilin Provincial equipment manufacturing industry. Contract NO. 2018B86)

7. References
[1] J. H. Greenhaus and N. J. Beutell, Sources of conflict between work and family roles. The Academy of Management Review, Vol.8, 1976, pp.99-107.
[2] J. C. Quick and L. E. Tctrick (eds.), Handbook of occupational health psychology. Washington, DC: American Psychological Association, 2003, pp. 143-162.
[3] Seibert, By Kent W., and M. W. Daudelin. "The Role of Reflection in Managerial Learning." (1999).
[4] R. M. Baron, D. A. Kenny, The moderator -mediator variable distinction in social psychological research: conceptual stragetic, and statistical considerations. Journal of Personality and Social Psychology, Vol.51, No.6, 1986, pp.1173-1182.
[5] E. M. Ozer, The impact of childcare responsibility and self-efficacy on the psychological health of professional working mothers. Psychology of Women Quarterly, Vol. 19, 1995, pp. 315-352.
[6] L. M. Martire, M. P. Stephens and A. L. Townsend, Emotional support and well-being of midlife women: role-specific mastery as a mediational mechanism. Psychology and Aging, Vol. 13 No. 3, 1998, pp. 396-404.
[7] G. V. Caprara and P. Steca, Affective and social self-regulatory efficacy beliefs as determinants of positive thinking and happiness. European Psychologist, Vol.10, 2005, pp.275-286.
[8] L. Houle, C. Samuel and Olga E. Favreau, Role conflict and well-being among employed mothers: the mediating effects of self-efficacy. www.emeraldinsight.com/1754-2413.html.
[9] O.S. Samuel, Relationships of Emotional Intelligence and Self-Efficacy to Work Attitudes among Secondary School Teachers in Southwestern Nigeria. Essays in Education, Vol.20, 2007.
[10] T. D. Allen, D. E. L. Herst, C. S. Bruck, M. Sutton, Consequences associated with work-to-family conflict: A review and agenda for future research. Journal of Occupational Health Psychology, Vol. 5, 2000, pp. 278-308.
[11] S. Mauno, U. Kinnunen, M. Pyykko, Does work-family conflict mediate the relationship between work-family culture and self-reported distress? Evidence from five Finnish organizations. Journal of Occupational and Organizational Psychology, Vol.4, 2005, pp.509-530.
[12] Mossholder K W, Settoon R P, Henagan S C. A Relational Perspective on Turnover: Examining Structural, Attitudinal, and Behavioral Predictors. [J]. Academy of Management Journal, 2005, 48(4):607-618.
[13] Ernst Kossek E, Ozeki C. Work-Family Conflict, Policies, and the Job-Life Satisfaction Relationship: A Review and Directions for Organizational Behavior-Human Resources Research [J]. Journal of Applied Psychology, 1998, 83(2):139-149.
[14] Nunnally J C. An Overview of Psychological Measurement [M]/// Clinical Diagnosis of Mental Disorders. Springer US, 1978.