

The Relationship between Interpersonal Relationship and the Subjective Well-Being of Chinese Primary and Secondary Teachers: A Mediated Moderation Model

Xuling Zhang, Yong Wang, Xingyun Liu, Shuangxue Xu

Abstract—Based on positive psychology, this study presented a mediated moderation model in which character strengths moderated the relationship between interpersonal relationship, job satisfaction and subjective well-being, with job satisfaction taking the mediation role among them. A total of 912 teachers participated in four surveys, which include the Oxford Happiness Questionnaire, Values in Action Inventory of Strengths, job satisfaction questionnaire, and the interpersonal relationship questionnaire. The results indicated that: (1) Taking interpersonal relationship as a typical work environmental variable, the result shows that it is significantly correlated to subjective well-being. (2) The character strengths of "kindness", "authenticity" moderated the effect of the teachers' interpersonal relationship on subjective well-being. (3) The teachers' job satisfaction mediated the above mentioned moderation effects. In general, this study shows that the teachers' interpersonal relationship affects their subjective well-being, with their job satisfaction as mediation and character strengths of "kindness" and "authenticity" as moderation. The managerial implications were also discussed.

Keywords—Character strength, subjective well-being, job satisfaction, interpersonal relationship.

I. INTRODUCTION

ACCORDING to positive psychology, the sense of well-being is a kind of positive experience an individual feels after making a comprehensive evaluation on the quality of life. Subjective well-being (SWB) refers to the subjectively affirmative attitude and sense that the current state of life is the ideal state of life within one's heart[1]. The teachers' SWB not only influences their own behaviours, but also affects the students. Therefore, it is important to know what the predictive factors of teachers' SWB are. In recent years, some researchers [2], [3] put forward the models of occupational well-being of Chinese teachers respectively, based on the domestic conditions of China. However, there is lack of discussion about the mutual effect of external environmental factors and internal individual elements on a teacher's SWB.

It is clear that the work environment is one source of a teacher's SWB, since the Chinese place a lot of importance on

relationships. We choose interpersonal relationships as a typical work environment variable and aim to understand its effect on teacher SWB. On the other hand, as for personal internal quality, Peterson [4] has demonstrated that "using character strengths" could make the subjects happier constantly and permanently, and the effects would still be prominent even after six months. Some Chinese scholars carried out researches on the effects of character strengths on Chinese university students' SWB [5]-[7]. But so far there are few relevant studies focusing on Chinese school teachers, looking at the relationship between their character strengths and their SWB. From the report of Chinese Education Online[8], there were about 10 million primary and secondary school teachers in China who covers about 140 million students. It's really a huge population. Also, it is important to investigate the situation of their SWB and the predictive factors.

Character strengths in this study refer to a school of positive characters reflected by individual cognition, emotion and behaviour. It is psychological process and psychological mechanism where an individual gains virtue [9]. It consists of six core virtues, namely, wisdom and knowledge (including creativity, curiosity, love of learning, judgement and perspective), justice (including citizenship, fairness, leadership), humanity (including kindness, love, social intelligence), courage (including authenticity, bravery, industry, zest), temperance (including forgiveness, modesty, prudence, self-regulation), transcendence (including appreciation of beauty and excellence, gratitude, hope, humour, religiousness/spirituality). In the light of the connotation, these six types of virtue are basically consistent with wisdom, sincerity, benevolence, courage and strictness of Chinese traditional culture, plus spiritual excellence. Upon interpersonal relationship, "sincerity" and "benevolence" might have greater effect among the six virtues; however, the character strengths of fairness, leadership, and citizenship, which are included in "sincerity", are strongly related with specific situations in the Chinese context like fairness, which means someone has the status of resource allocation, leadership, which means someone takes the role of a leader in the workplace, and citizenship points to the relationship with government; so, considering the overall population these three strengths are excluded in the research scope. The strength of love is also excluded because it is more embodied in family and personal affairs, and not interpersonal relationships. The strength of forgiveness, included in the virtue of temperance is also excluded as it is a kind of advantage in specific conflict situations. On the

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contrary, the strength of authenticity, included in the virtue of courage, belongs to the “sincerity” category in Chinese traditional culture, hence it is included in this study. Finally, this study mainly investigated the influence of the character strengths of kindness, social intelligence and authenticity on the relationship between interpersonal relationships and SWB.

Since job satisfaction is directly related to SWB and also an outcome of the work environment, we assume that it might be a mediation variable between the relationship of interpersonal relationship and SWB. Job satisfaction refers to the subjective feeling on job generated by the evaluation of job characteristics [10], the feeling and psychical reaction to people’s work environment. According to Joan, et al.[11], job satisfaction was listed as the evaluation index for a teacher’s SWB. And related researches in China [12], [13] found that the overall job satisfaction of teachers in primary and secondary schools had a significantly positive relation with SWB. In this regard, this study aims to explore the relationship between interpersonal relationship and school teacher’s SWB and the regulating effect of character strengths in it, as well as further assess the intervening effect of job satisfaction on the mechanism. The assumptions of this study are hence proposed as follows: (1) the school teachers’ interpersonal relationships are a predictor for their SWB; (2) the strengths of kindness, social intelligence and authenticity regulate to a teacher’s psychological reaction towards interpersonal relationships; (3) job satisfaction, as a person’s direct psychological reaction towards the work environment, is the intervening variable for the reciprocal effect of interpersonal relationship and character strength on school a teacher’s SWB. The framework of the variables is shown in Fig. 1.

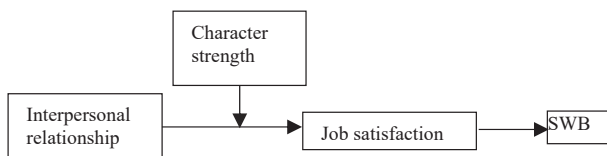


Fig. 1 Research variable framework

II. METHOD

A. Participants

Twelve primary and secondary schools from six provinces, with a total of 912 teachers took part in the survey. After checking and excluding invalid questionnaires, the study included 805 valid samples. Among them, 226 were male teachers (28.07%) and 579 were female teachers (71.93%); 405 primary school teachers (50.31%), 247 junior high school teachers (30.68%), 153 high school teachers (19.01%); 36 municipal elite teachers (4.47%), 76 county or district level elite teachers (9.44%), 27 countryside elite teachers (3.35%), 94 school level elite teachers (11.68%), and 404 non-elite teachers (50.19%). There are 168 people who did not fill in this item (20.87%).

B. Measures

1. Oxford Happiness Questionnaire (OHQ)

Originally formulated by Michael Argyle in 1989 as the Oxford Happiness Inventory (OHI), it was jointly revised and developed to the OHQ by Peter Hills and Michael Argyle in 2002. Internal consistency reliability α reached 0.85, the 6-month-after retest reliability is 0.67, 6-year-after retest reliability is between 0.5-0.6 [14]. Chinese scholars Li Yian and Chen Yanlei [15] also tested the reliability and validity of its Chinese version. Internal consistency α and split-half reliability coefficient are 0.92 and 0.90, respectively. In this study, Cronbach’s α of the scale is 0.94. The scale consists of 29 items with four point scoring from zero to three. The higher the total score the higher the SWB.

2. Values in Action Inventory of Strengths (VIA-IS)

Peterson and Seligman [9] convened a group of social scientists and developed VIA-IS to measure 24 character strengths which constitute six virtues for above 18-year-old adults. There are the total of 240 items with 10 items for each character strength. It is a Likert-type five-point scale ranging from one=very much unlike me to five=very much like me. The higher the score, the more prominent the strength [16]. This scale has already been used by more than 350,000 people, across more than 200 countries [4]. The reliability of it in this study reaches 0.99.

3. Job Satisfaction Questionnaire

There are two ways to measure job satisfaction. One is the overall evaluation method and the other is a comprehensive evaluation method. Research shows that the two methods are equally valid [17]. In this study the overall evaluation method was chosen to measure the teacher’s job satisfaction.

4. Interpersonal Relationship Questionnaire

The interpersonal relationship questionnaire used in this study referred to the questionnaire of teachers job well-being developed by Chinese scholar Wu Lin [2], to study the relationship between colleagues, leaders, and work effectiveness (student relationship). It consists of eight items. Each item is administered with a one to five-point range from strongly disagree to strongly agree. The reliability of the questionnaire in this study is 0.80.

C. Data Analyses

Each school arranged a time for gathering the teachers to conduct the anonymous survey.

This study took advantage of SPSS 22.0, Mplus7.0 software for statistical analysis. For the descriptive statistics and correlation analysis, this study mainly used SPSS22.0; then, in order to test the relationship between a teacher’s interpersonal relationship and SWB and the moderation model, Mplus7.0 was utilized to combine a single factor covariance analysis method [18]. It tested three character strengths one by one to see if any of them would play a regulating role of teachers’ interpersonal relationship. The independent variables (X , interpersonal relationships) and regulating variables (U ,

character strengths) as well as intermediary variables (W , job satisfaction) are set as layer 1 variables. The school is the group. And none variable were put into layer 2 to affect the dependent variables (subject well-being).

According to the step-by-step test method proposed by Wang Mengcheng [19], the first step is to construct an equation, of which SWB is dependent variable; interpersonal relationships, character strengths and their interaction are independent variables; regression coefficients are the equations of C_1 , C_2 and C_3 to test the impact of interaction on the SWB. The second step is to construct an equation, of which the job satisfaction is dependent variable; interpersonal relationship, character strengths and their interaction are independent variables; the regression coefficients are M_4 , M_5 , M_6 , three equations of a'_1 , a'_2 , a'_3 ; the third step is to construct an equation, of which SWB is dependent variable; interpersonal relationship, character strengths, their interaction and job satisfaction are independent variables; regression coefficients are the equations of c'_1 , c'_2 , c'_3 and b'_1 .

III. RESULTS

A. Descriptive Statistics and Correlation Coefficients

1. Overall SWB of Primary and Middle School Teachers

The results showed that the average SWB of primary and secondary Chinese school teachers was 38.95, with the standard deviation of 12.66. According to the previous studies, the scores of the majority of people in the world is between 40 and 42 [16]. The Chinese teachers' SWB was significantly lower than the international average ($t(805) = -2.36$, $p = 0.02$, *Cohen's d* = 0.17). This is similar to the results of the 2013 global well-being index report released by Columbia University, in which the Chinese people's well-being index is quite low (156 countries were tested and among which China ranked ninety-third) [20].

TABLE I
CORRELATION AMONG VARIABLES

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6
1 SWB	38.95	12.66	1					
2 authenticity	39.88	5.64	0.35**	1				
3 kindness	39.91	5.99	0.42**	0.87**	1			
4 social intelligence	35.42	5.91	0.38**	0.70**	0.72**	1		
5 job satisfaction	3.67	0.68	0.45**	0.23**	0.26**	0.32**	1	
6 interpersonal relationship	3.71	0.57	0.46**	0.35**	0.43**	0.23**	0.38**	1

** $P < 0.01$

2. Correlation of Variables

Significant positive correlation was found among all the variables, see Table I.

The data suggested the independent variable and the regulating variable were in statistically significant but

comparatively low positive correlation, and hence were comparatively independent for follow-up regulating effect testing[21].

From the step-by-step testing procedures Wang Mengcheng [19] suggested, the result of the first step shows only kindness and authenticity moderate the effect of interpersonal relationship on school teachers' SWB ($C_{3_1} = 0.28$, $p = 0.039$; $C_{3_2} = 0.25$, $p = 0.047$).

At the second step, the result shows a_3 in the model is significant when taking interpersonal relationship as independent variable and both kindness and authenticity as moderating variables. This suggests the influence of the interactions of interpersonal relationship and character strengths (kindness, authenticity) on SWB were at least partially mediated by job satisfaction. In equation M_3 , kindness moderates the relationship between interpersonal relationship and job satisfaction ($a_3 = 0.03$, $p = 0.008$). In M_4 , authenticity moderates the relationship between interpersonal relationship and job satisfaction ($a_3 = 0.03$, $p = 0.006$).

TABLE II
MODEL TESTING RESULT

	M_1	M_2	M_3	M_4	M_5	M_6
interpersonal relationship(X)	6.301**	4.503**	0.499**	0.555**	4.342**	5.982**
character strength(U)	0.682**	0.720**	0.096**	0.104**	1.361**	1.120**
X*U	0.280*	0.250*	0.028*	0.032*	0.315**	0.233*
job satisfaction(W)					3.497**	3.564**
direct effect					4.342**	5.982**
indirect effect					1.417**	1.865**

Note: $M_1 \rightarrow M_4$ is the regression model with the dependent variable of job satisfaction; $M_5 \rightarrow M_6$ is the regression model with the dependent variable of a teacher's well-being

Note: ** $p < 0.005$, * $p < 0.05$

The result of the third step shows that job satisfaction has significant impact on SWB when taking that as the mediating variable ($b_1 = 3.50$, $p < 0.001$). M_6 also suggests that job satisfaction significantly influences SWB when taking job satisfaction as the mediating variable ($b_1 = 3.56$, $p < 0.00$).

Finally, according to Wang Mengcheng[19], C'_3 takes direct moderating effect and $a_3 b_1$ takes indirect moderating effect. Table II suggests that both models have significant direct and indirect effect, showing there are mediated moderating effects in both models. Figs. 2 and 3 illustrate the variables relationship of the two models.

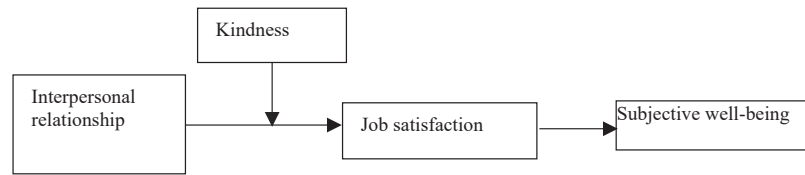


Fig. 2 Relationship between interpersonal relationship and SWB for primary and middle school teachers: The moderating role of “kindness” mediated by job satisfaction

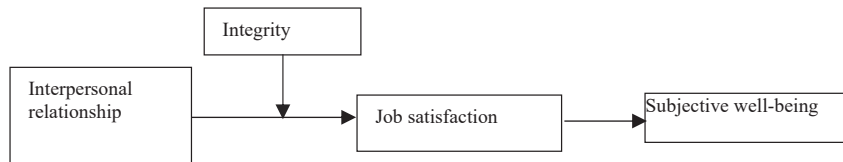


Fig. 3 Relationship between interpersonal relationship and SWB for primary and middle school teachers: The moderating role of “authenticity” mediated by job satisfaction

IV. DISCUSSION

According to the results, in China, the SWB of the primary and secondary school teachers is dramatically lower than international average, which indicates that there is still much space for the improvement of SWB of the teachers in China.

For Chinese school teachers, interpersonal relationships are one of the predictors of SWB; the character strength of kindness and authenticity can moderate the relationship between interpersonal relationship and SWB, which is mediated by job satisfaction. The results indicate that: (1) Chinese school teachers are very much concerned about their interpersonal relationships and interpersonal relationships influencing their SWB; (2) Both kindness and authenticity are “other-focused” character strengths. Kindness is a selfless character, people with such a character strength has a basic view of humanity, i.e. others matter. They are fond of making other people happy, and helping others actively. Undoubtedly it will strengthen the positive correlation between interpersonal relationship and job satisfaction. Authenticity refers to notion that a person is the same outside and inside. He/she can genuinely express his/her thought, feeling and behaviour. They believe that honesty and sincerity are the basis of trust, also they gain better interpersonal relationship through these. It will also strengthen the positive correlation between interpersonal relationship and job satisfaction, as they always treat others with sincerity and treasure the relationships. It is confusing why the strength of “social intelligence” does not interfere with the relationship between interpersonal relationship and SWB significantly. This is because “social intelligence” focuses more on how to “play herself or himself” in different situations. It may hence bring superficially good interpersonal relationships, but in the end, it actually cannot interfere with their satisfaction and SWB.

According to the result, job satisfaction takes the mediation role between interpersonal relationship and SWB. Job satisfaction itself is not only cognitive but also affective outcome [22], it's a part of the SWB. Precious research shows that [23], individual coping style has a close relation with SWB, whereas cognition of the environment determines the

coping style. When someone cannot handle his/her interpersonal relationship properly, he/she may perceive a worse work environment, and which will lead to worse job satisfaction and SWB.

A. Shortcomings and the Future Research Direction

Firstly, although 12 primary and secondary schools were involved in the study, it was not a strict random sampling, and therefore, the representativeness of this sample was limited. Secondly, there were 284 items in the survey, which was somewhat burdensome for the subjects and might bring more data bias.

V. CONCLUSION

This study aims at discussing the relationships and interventions between interpersonal relationship, character strengths, job satisfaction and SWB of Chinese primary and secondary school teachers, and establishing a mediated moderation model. The results show that interpersonal relationship is a predictor of teachers' SWB; kindness and authenticity moderate the relationship between interpersonal relationship and SWB, and the effect is mediated by job satisfaction. This study enriches the previous researches, and the established model could be instruction for practice to improve the teachers' job satisfaction and SWB.

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REFERENCES

- [1] E. Diener, “Subjective well-being: The science of happiness and a proposal for a national index,” *American psychologist*, vol. 55, p. 34, 2000.

- [2] L. Wu, X. L. Hu, X. L. Xing, and H. S. Li, "A study on the structure of professional well-being and questionnaire in middle-school teachers," *Psychological Research*, vol. 1, pp. 47-51, 2008.
- [3] X. C. Zhang, J. Hu, J. D. Song, H. C. Zhang, and W. Zhang, "The relationship between psychological capital and subjective well-being in primary school teachers: the mediating role of occupational stress.," *Psychological Development and Education*, vol. 30, pp. 200-207, 2014.
- [4] C. Peterson, *A primer in positive psychology*: Oxford University Press, 2006.
- [5] Y. Zhou and X. P. Liu, "Character strengths of college students: The relationship between character strengths and subjective well-being. ," *Psychological Development and Education*, vol. 27, pp. 536-542, 2011.
- [6] W. J. Duan and Y. Niu, "The relationship of character strengths and happiness on Chongqing primary and secondary students," *Journal of Leshan Normal University*, vol. 28, pp. 115-119, 2013. (in Chinese)
- [7] W. Duan, Y. H. Zhang, T. T. Li, X. Q. Tang, and T. Y. Duan, "Influence of parenting style and character strength on psychology harmony," *Psychological Exploration*, vol. 32, pp. 183-187, 2012.
- [8] CERNET. (2015). Chinese Education Online. Available: <http://www.eol.cn/html/jijiao/report/2015/pc/content.html>(in Chinese)
- [9] C. Peterson and M. E. P. Seligman, "Character Strengths and Virtues: A Handbook and Classification," *American Journal of Psychiatry*, vol. 162, pp. 419-421, 2004.
- [10] S. P. Robbins and J. T. A., *Organizational Behavior*. Beijing: Renmin University Press, 2008.
- [11] J. E. V. Horn, D. T. W. Taris, W. B. Schaufeli, and P. J. G. Schreurs, "The structure of occupational well-being: A study among Dutch teachers," *Journal of Occupational & Organizational Psychology*, vol. 77, pp. 365-375, 2004.
- [12] C. Rongbao, "Predictive role of teaching efficacy, job satisfaction on happiness Among Primary and Secondary Teachers," *Shanxi Normal University*, 2011. (in Chinese)
- [13] Z. T. Dai, "Study of nine-year compulsory education teachers' job satisfaction and subjective well-being," *Henan University*, 2013. (in Chinese)
- [14] P. Hills and M. Argyle, "The Oxford Happiness Questionnaire: a compact scale for the measurement of psychological well-being," *Personality & Individual Differences*, vol. 33, pp. 1073-1082, 2002.
- [15] Y. A. Li and Y. L. Chen, "Dimensional structure of Oxford happiness questionnaire (revision) and verification of its reliability and validity," *Health Medicine Research and Practice*, vol. 10, pp. 31-37, 2013.
- [16] J. Ren, *Positive Psychology* vol. 8. Shanghai: Shanghai Education Press, 2006. (in Chinese)
- [17] J. P. Wanous, A. E. Reichers, and M. J. Hudy, "Overall job satisfaction: how good are single-item measures?," *Journal of applied Psychology*, vol. 82, p. 247, 1997.
- [18] S. W. Raudenbush and A. S. Bryk, *Hierarchical linear models: Applications and data analysis methods* vol. 1: Sage, 2002.
- [19] W. Mengcheng, *Latent variable modeling and Mplus application: basic articles*: Chongqing university press 2014. (in Chinese)
- [20] (2013). Global well-being index report. Available: <http://world.huanqiu.com/exclusive/2013-09/4343957.html>.
- [21] Z. L. Wen, L. Zhang, and H. K. T., "Mediated moderator and moderated mediator," *Acta Psychologica Sinica*, vol. 38, pp. 448-452, 2006.
- [22] A. P. Brief and H. M. Weiss, "Organizational behavior: Affect in the workplace," *Annual review of psychology*, vol. 53, pp. 279-307, 2002.
- [23] X. Jihua and X. Xiufeng, ""The way to deal with the questionnaire" the validity and reliability study " *Chinese Mental Health Journal*, vol. 10, pp. 164-168, 1996.