



## International Journal of Educational Methodology

Volume 5, Issue 3, 325 - 335.

ISSN: 2469-9632

<http://www.ijem.com/>

# The Effect of Teachers' Savoring on Creative Behaviors: Mediating Effects of Creative Self-Efficacy and Aesthetic Experience

LingKe Kong

Dhurakij Pundit University, THAILAND

Yuan-Cheng Chang\*

Dhurakij Pundit University, THAILAND

Received: June 19, 2019 • Revised: July 10, 2019 • Accepted: July 19, 2019

**Abstract:** This study aims to explore the effect of savoring of teachers at universities in Shandong, China, on their creative behaviors, using creative self-efficacy and aesthetic experience as mediators. This study adopted the use of questionnaires to investigate teachers at 32 universities in Shandong, China. 822 valid questionnaires were retrieved and were analyzed using structural equation model (SEM). Findings from this study include: 1. teachers' savoring has a negative effect on creative behaviors; 2. teachers' creative self-efficacy has a positive effect on creative behaviors; 3. teachers' aesthetic experience has a positive effect on creative behaviors; 4. teachers' savoring, mediated by creative self-efficacy, has a positive effect on creative behaviors; 5. teachers' savoring, mediated by aesthetic experience, has a positive effect on creative behaviors.

**Keywords:** *Savoring, creative behaviors, aesthetic experience, creative self-efficacy.*

**To cite this article:** Kong, L., & Chang, Y. -C. (2019). The effect of teachers' savoring on creative behaviors: Mediating effects of creative self-efficacy and aesthetic experience. *International Journal of Educational Methodology*, 5(3), 325-335. <https://doi.org/10.12973/ijem.5.3.325>

## Introduction

The key to actualizing innovation in education lies in the innovation of teachers. Teachers' creative behaviors can actualize and modify new ideas and promote individuals' performance to cultivate new talents (Thurlings, Evers & Vermeulen, 2015; Zhou & Hoever, 2014). Moreover, Thurlings et al. (2015) pointed out that the rapid changes in techniques and society highlighted not only the necessity of employees' creative behaviors but also the importance of teachers' creative behaviors.

Previous research on creative behaviors seldom discussed the effect of employees' positive psychology variables on individuals' creative behaviors (Lee & Jeng, 2014). While the concept of "savoring" was developed in positive psychology (Seligman, 2002), Bryant (1989) points out that individuals with savoring are good at enhancing and prolonging their personal pleasure through the experience of positive events. However, university teachers are different from workplace employees. Their teaching careers are complicated and challenging, requiring great personal dedication. In addition, their jobs involve instruction of knowledge and skills that require innovation, thus playing a key role in shaping the overall development of students' personality, emotions, and social values. According to Fredrickson (2005) Broaden-and-Build Theory, the savoring of university teachers is a positive mechanism that will influence innovative behavior in a positive way. Therefore, how to promote innovative behavior through the medium of university teachers' savoring for the purpose of cultivating innovative talents at the university level needs in-depth analysis.

Moreover, Mathisen and Bronnick (2009) pointed out that an increase in creative self-efficacy was associated with an increase in individuals' creative behaviors. Hsu, Hou and Fan (2011) also found that creative self-efficacy is an important factor to promoting individuals' creativity. The participants in previous research on creative self-efficacy primarily consisted of two groups: employees (Tierney & Farmer, 2002) and undergraduate students (Liang & Chang, 2014). There is little research on the impact of creative self-efficacy on innovative behavior for university teachers. Therefore, this study regards creative self-efficacy as an important factor in exploring innovative behavior of university teachers at the individual level.

### \* Corresponding author:

Yuan-Cheng Chang, Department of Education Management, College of CHINAASEAN International, Dhurakij Pundit University, Thailand.

✉ [chen11777@hotmail.com](mailto:chen11777@hotmail.com)



Researchers also proposed that aesthetic experience facilitates the development of creative behaviors (Dewey, 1981; Richards, 1997). The thoughts that arise when viewers interact with aesthetic objects is a kind of feedback experience, and these experiences were referred to as aesthetic experience (Maquet, 1986). Moreover, in the process of creation, relevant past scenes may appear in one's mind and further influence one's creative performance.

Savoring is an indicator that moderates positive emotions (Nelson & Simmons, 2003; Simmons, 2002), and is also an individual's competence of indulging oneself in the pleasure of positive experiences. The adoption of specific savoring strategies may promote people's aesthetic experience. After an individual's digestion, accumulation, and internalization, aesthetic experience may boost one's confidence to accept challenges and is an essential factor for the emergence of creative behaviors (Davies, Higgins, Hopkins, Stecker & Cooper, 2009). In terms of creative self-efficacy, Bandura (1986) pointed out that self-efficacy is a mediator between an individual's cognition and performance. Self-efficacy also mediates the relationship between individual cognitive experience and their behavioral performance. Based on theories of social cognition and creativity, this paper takes cognition, emotion and reaction as the logical starting point and attempts to explore ways to improve the savoring and creative self-efficacy of university teachers and to obtain strong psychological motivation and positive emotions from those teachers (Clare, Schwarz, & Conway, 1994). Zhang, Wang and Li (2015) found that savoring, mediated through creative self-efficacy, affects an individual's creative performance. Therefore, this study aims to study whether the creative self-efficacy and aesthetic experience of university teachers will have mediating effects between savoring and creative behaviors.

This study thus proposes three research aims as follows: (1) to analyse the effects of savoring, creative self-efficacy, and aesthetic experience of university teachers on creative behaviors; (2) to explore the effect of university teachers' savoring, mediated through creative self-efficacy, on creative behaviors; (3) to explore the effect of the university teachers' savoring, mediated through aesthetic experience, on creative behaviors.

#### *Savoring and Creative Behaviors*

Savoring has its roots in positive psychology (Bryant, 1989). Bryant and Veroff (2007) considered savoring as people's competence of induction, appreciation, and intensification of positive experiences, and the processing based on this competence. In other words, savoring is the competence of an individual's proactive creation of positive emotional experiences. From an empirical point of view, savoring was proven to maintain and intensify an individual's experience of positive emotions (Bryant, 1989, 2003; Seligman, Rashid & Parks, 2006). Bryant and Veroff (2007) posit that savoring facilitates creativity and that creativity facilitates individuals' creative performance.

Kanter (1988) considered innovation as a multi-step process of the production and implementation of ideas, and that every step involves necessary and different activities and different behaviors of individuals. Innovation primarily focuses on the actualization of creative ideas (Robbins & Coulter, 1999). Scott and Bruce (1994) defined creative behaviors as members of an organization adopting methods such as production, promotion, and actualization of creative ideas to achieve organizational goals. Kleysen and Street (2001) pointed out that an individual's creative behaviors is the act of ideas creation and the implementation of such creative ideas. Shalley, Zhou and Oldham (2004) proposed that creative behaviors include both the emergence of innovative ideas and the implementation of these innovative ideas.

Savoring is the ability of subjective perception of experiences of positive emotions, and positive emotions are closely associated with creative behaviors (Bryant & Veroff, 2007). Savoring is an indicator that moderates positive emotions (Nelson & Simmons, 2003; Simmons, 2002), and is an individual's ability to indulge oneself in the pleasure of positive experience; pleasure refers to positive moods or emotions, including satisfaction, happiness, blissfulness, confidence, and optimism. Fredrickson (2005), in her broaden-and-build theory, pointed out that individuals showed better cognitive flexibility and behavioral inclination when individuals are in the state of delight and happiness, facilitating the occurrence of creative behaviors. Findings of Lee and Jeng (2014) found that savoring facilitates creative behaviors. The positive impact of university teachers' savoring on individual innovative behavior is a positive mechanism (Fredrickson, 2005). Therefore, the first hypothesis (H<sub>1</sub>) is: Teachers' savoring has a positive effect on creative behaviors.

#### *Creative self-efficacy and Creative Behaviors*

Self-efficacy has its roots in Social Cognitive Theory (Bandura, 1997), and is a concept effectively predicting and explaining human behaviors. Tierney and Farmer (2002) extended the concept of self-efficacy to creative self-efficacy, which is defined as the evaluation of whether an individual is competent and confident to produce creative works when they are involved in a specific task. Malik, Butt and Choi (2015) considered creative self-efficacy as the competence that individuals' believe in themselves to possess creative abilities, and that this belief is an essential motivation for achieving creative performance.

Creative behaviors are the complicated consequence of the psychological processes of an individual's cognition, motivation, attitude, and emotions; an individual's creative self-efficacy is an important mediator in this regulatory process (Bandura, 1986). Tierney and Farmer (2002) found that creative self-efficacy directly facilitated employees'

creative behaviors, and these beliefs in creative behaviors and their own creative abilities had an effect on their creativity. Newman, Tse, Schwarz and Nielsen (2018) found that creative self-efficacy promoted individuals' intrinsic motivation and had an effect on the occurrence of creative behaviors. Chen and Guo (2013) have found that teachers' innovative behaviors improve as their creative self-efficacy is enhanced. Therefore, H<sub>2</sub> of this study is: The creative self-efficacy of university teachers has a positive effect on creative behaviors.

#### *Aesthetic Experience and Creative Behaviors*

Dewey (1934) considered aesthetic experience as the result of organisms' interaction with their environment to adapt for survival. Bosanquet (1968) considered aesthetic experience as a pleasant feeling or a feeling that reacts to delightful objects or events. Maquet (1986) adopted Social Cognitive Theory to explain the aesthetic experience, and believed that aesthetic perception is the definition of the imagery framed by an individual while concentrating, and pondering is an important trigger for aesthetic experience. Aesthetic experience is the interactive process of cognition and emotions (Leder, Belke, Oeberst & Augustin, 2004). Aesthetic experience may trigger an individual's inherent power and creativity (Dewey, 1981; Fenner, 2003; Lussier, 2010).

Aesthetic experience can trigger an individual's intrinsic motivation and self-belief, intensify one's daily imagination, and facilitate the occurrence of creative behaviors (Davies et al., 2009). In an aesthetic experience, individuals through the process of aesthetic pleasure, aesthetic attitude, aesthetic comprehension, and the integration of experience combines their subconsciousness and consciousness to open up the potential power to trigger creative behaviors, which could possibly affect subsequent creative behaviors (Lin, 2009). According to the Flow Theory proposed by Csikszentmihalyi (1999), creative behaviors tend to occur when individuals show deep interest and full involvement in an activity, event, or item, and find the experience pleasurable. Individuals like to appreciate the object of beauty, and can easily and unconsciously be attracted by it. In addition, the individual will feel happy and have a deep impression on what they appreciate, and then help to generate future innovative behavior; that is, the pleasure of the individual to the beauty helps to develop creativity. In addition, accepting diverse cultures and different ideas and finding the good side and value from bad things can help develop individual vision and thinking, and stimulate individual innovative behavior (Banks, 2007; Runco, 2008). Lussier (2010) also believe that the acquisition of students' aesthetic experience is positive for the development of innovative behavior.

This study proposes H<sub>3</sub>: The aesthetic experience of university teachers has a positive effect on creative behaviors.

#### *Relationship among Savoring, Creative Self-Efficacy, Aesthetic Experience, and Creative Behaviors*

Componential theory of creativity and Social Cognitive Theory are the theoretical bases of this study. Creative self-efficacy is similar to the concept of ego strength. In the event of challenging situations, creative self-efficacy provides an individual with motive and strong beliefs, intensifies their persistence, and triggers the occurrence of creative performance (Bandura, 1997; Haase, Hoff, Hanel & Innes-Ker, 2018). Self-efficacy is an important mechanism for self-regulation in Social Cognitive Theory because confidence allows an individual to express oneself without restraint, and utilize necessary resources to complete tasks and obtain positive experiences (Bandura, 1997). Savoring has been shown to maintain and intensify an individual's experience of positive emotions (Bryant, 1989, 2003; Seligman, Rashid & Parks, 2006). Individuals may sufficiently savor positive experiences and emotions, which facilitates their creative ideas and thoughts (Bryant & Veroff, 2007). Emotions are a psychological process that is related to creative thoughts and is an important factor that facilitates the process of creative behaviors (Amabile, Barsade, Mueller & Staw, 2005). Chang, Wang and Lee (2015) found that undergraduate students' savoring had a positive effect on creative self-efficacy.

Savoring is an indicator that moderates positive emotions (Nelson & Simmons, 2003; Simmons, 2002). It is also the indulgence of oneself in the pleasure of positive experiences. Pleasure is a positive emotion or feeling. Aesthetic experience is a psychological process that integrates the emotions, cognition, and comprehension of a pleasurable experience. Aesthetic experience, in other words, is the interactive process of cognition and emotions (Leder, et al., 2004). Related research shows that people tend to possess more aesthetic experience when they concentrate on delightful objects (Ferguson & Sheldon, 2013). Bryant and Veroff (2007) proposed that savoring is the competence of subjective manipulation of the mind to experience positive emotions and positive emotions are closely associated with creative behaviors. Also Bryant and Veroff (2007) propose that savoring aids in enhancing creativity and that creativity aids in enhancing the individual's creative performance.

Studies (Hong, Huang & Lin, 2008; Chen & Guo, 2013) found that creative self-efficacy mediates the relationship between an individual's creative behaviors and the emergence of creativity. Liang and Chang (2014) found that college students' creative self-efficacy directly affects their creativity, and intrinsic motivation indirectly affects students' creativity through creative self-efficacy. Aesthetic experience is the experience that appears in an individual's cognitive process, and self-efficacy may thus mediate the aesthetic experience and behavioral performance. Researchers also agreed that aesthetic experience, mediated through individuals' self-efficacy, may facilitate creative behaviors and individuals' creativity (Lin, 2009; Dewey, 1981; Lussier, 2010). Thus, H<sub>4</sub>: University teachers' savoring has a positive

effect, mediated through creative self-efficacy, on creative behaviors; H<sub>5</sub>: University teachers' savoring has a positive effect, mediated through aesthetic experience, on creative behaviors.

## Method

### Research Framework

The participants in this study are the university teachers in Shandong, China. This study explored the effect of the university teachers' savoring on creative behaviors, and the mediating effects of creative self-efficacy and aesthetic experience. The framework of this study is shown in Figure 1.

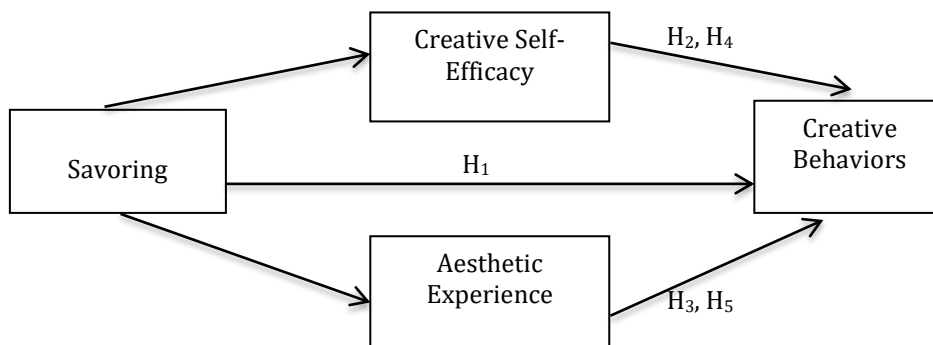


Figure 1. Research Framework

### Participants and Sampling

Participants in this study were recruited from colleges and universities in Shandong, China. There are a total of 145 colleges and universities, out of which, 67 of them provide undergraduate education, and 78 of them provide higher vocational education. In the pilot study of this research, teachers at universities in Jinan, Qingdao, and Heze were recruited as participants. 200 questionnaires were distributed, and 198 valid questionnaires were retrieved.

Convenience sampling (Creswell, 2005) was adopted during formal testing. This study investigated teachers at 32 universities and vocational colleges in seven cities in Shandong, including Jinan, Taian, Qingdao, Yantai, Heze, Jining, and Liaocheng. 20-35 questionnaires were distributed at every school, and a total of 900 questionnaires were distributed. 822 valid questionnaires were retrieved.

The statistical distribution of the demographic variables of the samples used for this study is as follows. 411 participants (50%) were male and 411 (50%) were female; in terms of educational background, a larger number of participants (408, 49.6%) had earned master's degrees and only 8 participants (1%) had obtained qualifications lower than a bachelor's degree; the age of most (270, 32.8%) participants ranged between 36 and 45; also, most of the participants (356, 43.3%) had been teachers for less than 5 years; further, most participants (561, 68.2%) were married; and a greater number of participants (377, 45.9%) worked at mid-level designations, followed by those (240, 29.2%) holding sub-high level titles.

### Analyses of Reliability and Validity of Research Tools

This study conducted reliability and validity analyses on the Savoring Scale, Creative Self-Efficacy Scale, Aesthetic Experience Scale, and Creative Behaviors Scale. This study also conducted a Confirmatory Factor Analysis (CFA) on the items on every scale to test the quality of internal structure and goodness of fit.

#### (1) Savoring Scale

This study adopted the "Savoring" Aptitude Scale, developed by Lee and Jeng (2014). This five-point Likert scale consists of two constructs and ten items (from 1, standing for "I don't agree at all", until 5, standing for "I totally agree"). The constructs are imagined blissfulness and pleasurable experience. Examples of the ten items are "I am able to reminisce about pleasurable events from the past", "I am able to imagine the future optimistically", and "I am able to share happiness with others". Reliability analysis of the Savoring Scale revealed a Cronbach's  $\alpha$  coefficient of 0.75 for the comprehensive scale, a Cronbach's  $\alpha$  coefficient of 0.83 for the "imagined blissfulness" subscale, and a Cronbach's  $\alpha$  coefficient of .86 for the "pleasurable experience" subscale, all of which were higher than the criterion.

CFA of the Savoring Scale shows that factor loadings ranged from 0.66 to 0.75, and measurement errors ranged from 0.44 to 0.56 without a negative error variance; the  $\chi^2$  coefficient for the scale was 148.60,  $\chi^2/df=4.37$ , RMSEA=0.06, GFI=0.96, AGFI=0.94, NFI=0.96, CFI=0.97, IFI=0.97, all of which were higher than the criterion of 0.90. In terms of the goodness of fit of the internal structure, the component reliability coefficients for latent variables were 0.81 for

“Brainstorming” and 0.83 for “Creative Application”, all of which were higher than 0.60. Average variance extracted values were 0.47 for “Brainstorming” and 0.50 for “Creative Application”, all of which were higher than the evaluative criterion of 0.45. This suggests that this scale had good reliability and validity.

### (2) Creative Self-Efficacy Scale

This study adopted the Creative Self-Efficacy Scale, which was modified by Tsai(2012) by taking Chinese culture background into account. We used a five-point Likert scale ranging from “I don't agree at all” to “I totally agree”. Items included “I am able to use creative ways to achieve most of the goals that I set”, and “Compared to others, I am able to complete most tasks creatively”. The Cronbach's  $\alpha$  coefficient for this scale is 0.89, indicating high reliability.

CFA on the Creative Self-Efficacy Scale shows that factor loadings ranged from 0.69 to 0.76, and measurement errors ranged from 0.42 to 0.52 without a negative error variance. The  $\chi^2$  coefficient for the scale was 136.12,  $\chi^2/df=5.72$ , RMSEA=0.10, which was higher than the strict criterion of 0.08. GFI=0.95, AGFI=0.90, NFI=0.95, CFI=0.96, IFI=0.96, all of which were higher than the criterion of 0.90. In terms of the goodness of fit of the internal structure, the component reliability (CR) coefficient for latent variables was 0.89, which was higher than the criterion of 0.6; average variance extracted (AVE) value was 0.54, which was higher than the criterion of 0.5. This suggests that this scale had good fit, reliability and validity.

### (3) Aesthetic Experience Scale

This study adopted the Aesthetic Experience Scale, which was developed by Chang (2017). The scale consists of four constructs: aesthetic pleasure, aesthetic attitude, aesthetic comprehension and integration of experience. We used a five-point Likert scale ranging from “I don't agree at all” to “I totally agree”. Items included “I feel happy when I am appreciating beautiful things”, and “I am willing to accept and appreciate diverse opinions and suggestions raised by others”. In terms of reliability analysis, Cronbach's  $\alpha$  coefficient for aesthetic pleasure, aesthetic attitude, aesthetic comprehension and integration of experience was 0.90, 0.88, 0.89 and 0.88 respectively.

In terms of CFA, factor loadings ranged from 0.68 to 0.77, and measurement errors ranged from 0.41 to 0.54. The  $\chi^2$  coefficient for the scale was 678.65,  $\chi^2/df=3.71$ , and RMSEA was 0.06, GFI=0.93, AGFI=0.91, NFI=0.93, CFI=0.95, IFI=0.95. In terms of CR coefficients, the coefficients for aesthetic pleasure, aesthetic attitude, aesthetic comprehension and integration of experience was 0.88, 0.85, 0.87, and 0.84 respectively. The AVE values for aesthetic pleasure, aesthetic attitude, aesthetic comprehension and integration of experience, were 0.55, 0.52, 0.54, and 0.50, respectively. This suggests that this scale had good fit, reliability and validity.

### (4) Creative Behaviors Scale

This study adopted the Employees' Creative Behaviors Scale (Zhang & Shi, 2009) consisting of 6 items, which include “I tend to proactively find and apply new methods at work”, and “I tend to communicate and promote my new ideas with colleagues and managers”. We used a five-point Likert scale ranging from “I don't agree at all” to “I totally agree”. The Cronbach's  $\alpha$  coefficient for this scale was 0.89.

In terms of CFA and goodness of fit, factor loadings ranged from 0.73 to 0.76, and measurement errors ranged from 0.42 to 0.47. The  $\chi^2$  coefficient for the scale was 40.55,  $\chi^2/df=4.37$ , RMSEA=0.06, GFI=0.98, AGF=0.96, NFI=0.98, CFI=0.99, IFI=0.99, which were all higher than the criterion of 0.90. In terms of the goodness of fit of the internal structure, CR=0.88, AVE=0.56. This suggests that this scale had good fit, reliability and validity.

## Research Findings and Analyses

Data analyses and tests were conducted based on the proposed hypotheses of this study and include the common method variance test and correlation analysis of variables. SEM was also adopted to analyze the paths and research models of variables.

### Common Method Variance

This study adopted Harman's single factor test to determine the presence of common method variance. When conducting factor analysis, the extraction of a single factor or the high explainability of a factor can determine the presence of serious common method variance. If a factor accounts for more than 50% variance of all variables, serious common method variance is considered to exist (Podsakoff, Mackenzie, Lee, & Podsakoff, 2003).

The scales in this study consisted of four variables and a total of 44 items. This study adopted Harman's single factor test on unrotated factor solutions of exploratory factor analysis and extracted eight factors. The factor with the highest explainability accounts for 47.09% variance of all variables, which is lower than 50%, indicating the absence of serious common method variance.

### *Correlation Analyses among Variables*

This study found that the mean, standard deviation, correlation coefficients, and correlation coefficients among variables ranged from 0.66 to 0.80. The correlation coefficient between Savoring and Creative Self-Efficacy is 0.75, the correlation coefficient between Savoring and Aesthetic Experience is 0.77, and the correlation coefficient between Savoring and Creative Behaviors is 0.66. The correlation coefficient between Creative Self-Efficacy and Aesthetic Experience was 0.78, the correlation coefficient between Creative Self-Efficacy and Creative Behaviors was 0.71, the correlation coefficient between Aesthetic Experience and Creative Behaviors was 0.80. The correlation among constructs were all statistically significant ( $p < 0.01$ ). The mean of variables ranged from 3.92 to 4.05, which is above average.

Based on this result, savoring, creative self-efficacy and aesthetic experience are positive correlated with creative behaviors. This result shows that when teachers think that savoring, creative self-efficacy and aesthetic experience are higher, the more the creative behaviors will be. However, the results of this analysis can only prove the correlation between relevant variables but cannot explain causal relationships between variables.

### *SEM Analysis*

#### *(1) Goodness of Fit of the Overall Model*

First, this study conducted a test of goodness of fit on the overall model. The  $\chi^2$  coefficient for the model was 2591.84,  $\chi^2/df = 2.91$ , GFI = 0.88, AGFI = 0.86, NFI = 0.88, TLI = 0.92, CFI = 0.92, IFI = 0.92, RFI = 0.88, and RMR = 0.03, which meets the indexes of goodness of fit proposed by Hair, Black, Babin and Anderson (2010), indicating reasonable goodness of fit.

#### *(2) Effects of Savoring, Creative Self-Efficacy, and Aesthetic Experience on Creative Behaviors*

In Figure 2 and Table 1, the standardized coefficients for the effects of savoring, creative self-efficacy, and aesthetic experience on creative behaviors were -0.352 [-0.704, -0.040], 0.337 [0.133, 0.568], and 0.936 [0.727, 1.255], respectively, and with all p-values lower than 0.05, 0 did not fall within the confidence interval. Thus, the SEM Full Model shown in Figure 2 suggest that significant positive effects of creative self-efficacy and aesthetic experience on creative behaviors were indicated. However, savoring exerted a significant negative effect on creative behaviors. Therefore, the hypothesis  $H_1$  was invalidated and hypotheses  $H_2$  and  $H_3$  were validated.

#### *(3) Mediating Effects of Creative Self-Efficacy and Aesthetic Experience on the Relationship between Savoring and Creative Behaviors*

To validate the mediating effects of creative self-efficacy and aesthetic experience between savoring and creative behaviors, this study adopted the Bootstrap method proposed by Shrout and Bolger (2002). Bootstrapping is a method that utilizes a resampling procedure to obtain the average value of a mediation effect and a 95% confidence interval. This is a non-parametric method based on resampling with replacement repeated persistently, perhaps as many as 5000 times. The indirect effect is computed, and a sampling distribution can be empirically generated from each of these samples. A correction for bias can, thus, be made because the mean of the bootstrapped distribution does not exactly equal the indirect effect. A confidence interval, a p value, or a standard error can be determined through the distribution. Very typically, a confidence interval is computed, and it is checked to determine if zero is within the interval. As Shrout and Bolger (2002) have suggested, the mediating effect is statistically significant ( $p < 0.05$ ) if 0 does not fall within the 95% confidence interval of resampling. As Shrout and Bolger (2002) have suggested, the mediating effect is statistically significant ( $p < 0.05$ ) if 0 does not fall in the 95% confidence interval of resampling.

The indirect effects shown in Table 1 suggest that the total mediating effects of creative self-efficacy and aesthetic experience between savoring and creative behaviors were 1.17, and 0 did not fall in the confidence interval [0.005, 0.020], which indicates statistically significant ( $p < 0.05$ ) mediating effects of creative self-efficacy and aesthetic experience. The mediating effect of creative self-efficacy between savoring and creative behaviors is 0.306 (0.909 \* 0.337). The mediation effect of aesthetic experience between savoring and creative behaviors was 0.856 (0.915 \* 0.936). The total effect was 0.812 (-0.352 + 0.856 + 0.306), and 0 did not fall in the confidence interval [0.743, 0.867], indicating statistical significance. In addition, creative self-efficacy and aesthetic experience had partial mediating effects between savoring and creative behaviors (Table 1 and Figure 2). Hypotheses  $H_4$ , and  $H_5$  are thus validated.

Table 1. Bootstrap SEM analysis of total, direct, and indirect effects

Effect	Estimate	p value	Confidence Interval
<b>Direct effect</b>			
TA-AE	0.915	0.001	[0.859, 0.952]
TA-SE	0.909	0.000	[0.871, 0.942]
TA-IB	-0.352	0.025	[-0.704, -0.040]
AE-IB	0.936	0.000	[0.727, 1.255]
SE-IB	0.337	0.001	[0.133, 0.568]
<b>Indirect effect</b>			
TA-IB	1.168	0.001	[0.005, 0.020]
TA-AE-IB	0.856		
TA-SE-IB	0.306		
<b>Total effect</b>			
TA-IB	0.812	0.000	[0.743, 0.867]

Note. TA: savoring; AE: aesthetic experience; SE: creative self-efficacy; IB: creative behaviors

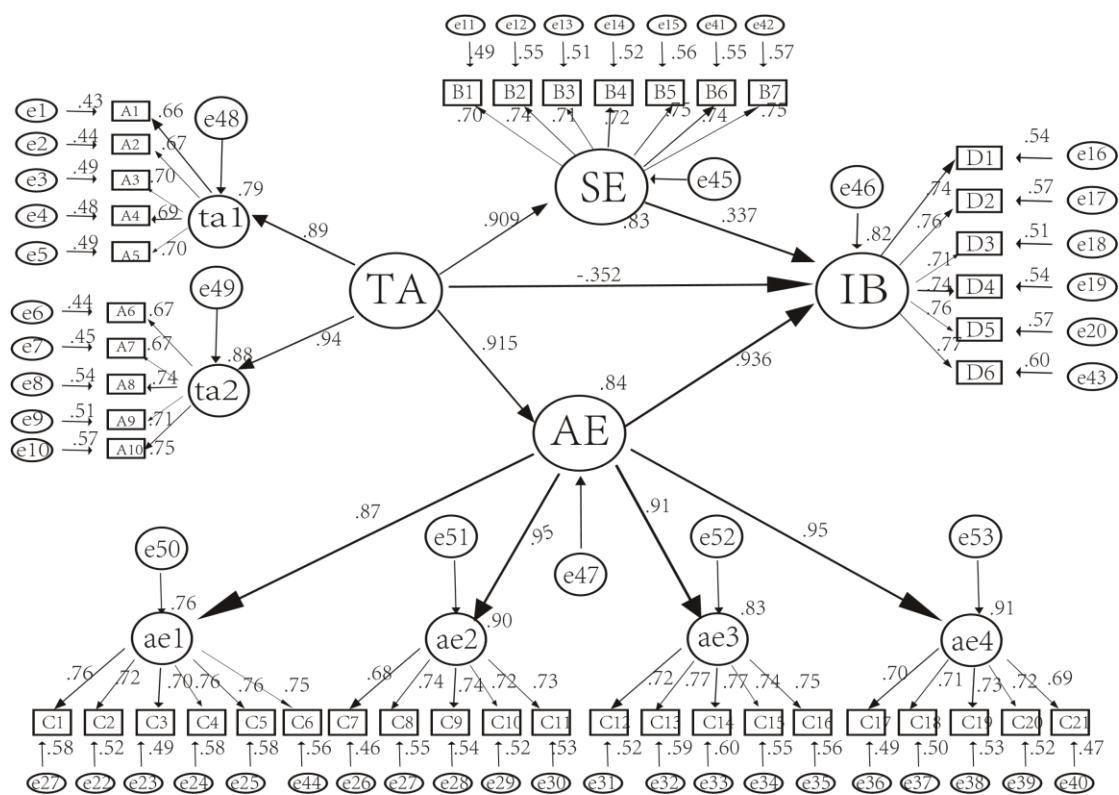


Figure 2. SEM Full Model

Based on the above results, the savoring of university teachers has significant negative effect on innovative behaviors. second, the savoring of university teachers affected creative self-efficacy in a positive way; third, the university teachers’ savoring played a positive role in impacting aesthetic experience; fourth, innovative behavior was positively influenced by university teachers’ creative self-efficacy; fifth, the university teachers’ aesthetic experience had a positive effect on innovative behavior; sixth, the positive impact on self-efficacy by university teachers’ aesthetic experience; seventh, university teachers’ savoring exerted positive influence on innovative behavior through creative self-efficacy; and finally, university teachers’ savoring positively affected innovative behavior through aesthetic experience (Figure 2).

### Conclusion and Discussion

#### (1) Savoring of University Teachers Has a Negative Effect on Creative Behaviors

This study found that the savoring of university teachers has a negative effect on creative behaviors, which is different from the results by Lee and Jeng (2014). Bryant (1989) is the first researcher who talked about the concept of “coping”. Lazarus (1993) proposed that “coping” refers to an individual’s intentional and proactive handling of negative events. Savoring is contrary to “coping”, and refers to an individual’s proactive pursuit, perception, and intensification of the

pleasurable experience following positive events (Bryant & Veroff, 1984). In recent years, colleges and universities in China restrict and limit the innovation of teachers, and teachers would escape from or adjust themselves to self-relevant resources, which is "coping" in other words. This led to teachers who were able to savor refusing to participate in the school requested innovative activities, which is also the reason for the negative effect of the savoring of university teachers on creative behaviors.

*(2) Creative Self-Efficacy of University Teachers Has a Positive Effect on Creative Behaviors*

This study found that creative self-efficacy has a positive effect on creative behaviors, which concurs with research by Hsu, Hou and Fan (2011), Robbins and Kegley (2010), and Tierney and Farmer (2002). In the process of creative thinking, ego-strength should receive more attention than cognitive skills (Runco, 2004) because creative efforts depend on continuous intrinsic self-support to trigger an individual's willingness to take on challenges and to come up with groundbreaking ideas when performing a task (Amabile, 1983; Bandura, 1997), which then triggers an individual's creative performance. This suggests that university teachers believe that it is more important to have the ability to think creatively. This is, possibly, because university teachers find it hard to have creative ideas. Therefore, university teachers show better creative behavioral performance when they encounter challenges and have innovative ideas or confidence that their thoughts are different from others. It is thus important to emphasize and cultivate university teachers' beliefs in creative thinking.

*(3) Aesthetic Experience of University Teachers Has a Positive Effect on Creative Behaviors*

Study findings show that the aesthetic experience of university teachers has a positive effect on creative behaviors, which is consistent with researchers' notion (Lin, 2009; Chen, 2013). According to the Flow Theory posited by Csikszentmihalyi (1999), creative behaviors tend to occur when individuals felt an aesthetic experience as they show deep interest and participating fully in an activity, event, or item. Therefore, university teachers enjoy appreciating beautiful objects, and the feelings of delight and blissfulness deepen the impression of university teachers on these objects and become an experience for potential success, facilitating creative behaviors in the future. If university teachers meet with their colleagues and friends frequently and discuss events relevant to beauty, they can obtain relevant experience in the process of sharing, and also facilitates creative behaviors. Therefore, the experiences mentioned above may facilitate teachers' development of creative behaviors, and deserves educational attention.

*(4) Creative Self-Efficacy of University Teachers Mediated the Relationship between Savoring and Creative Behaviors*

Study results found that savoring, partially mediated through creative self-efficacy, has a positive effect on creative behaviors. Bryant and Veroff (2007) proposed that savoring refers to the ability to mindfully experiencing positive emotions. Moreover, savoring and attainment are associated with the positive perceptive ability, which is related to intrinsic self-awareness. Therefore, teachers can savor proactively for positive feelings and experiences, and through their own creative beliefs and confidence to facilitate their own creative behaviors and performance.

*(5) Aesthetic Experience of University Teachers Mediated the Relationship between Savoring and Creative Behaviors*

Study findings found that savoring, partially mediated by aesthetic experience, has a positive effect on creative behaviors. Teachers can accept different cultures and thoughts because of their own inclinations to beautiful things, memory, and life enjoyment (Bryant & Veroff, 2007), as well as liking beautiful things. Through the process, teachers gain experience, which facilitates their recollection of previous positive experiences and things in the process of creation and apply them to creative behaviors and performance.

### **Research Suggestions**

University teachers should enhance creative self-efficacy and aesthetic experience to facilitate the effect of savoring on creative behaviors. Study results found that teachers' savoring has a negative effect on creative behaviors, but a positive effect on creative behaviors when mediated through creative self-efficacy and aesthetic experience. Therefore, for current university teachers in China, it is only meaningful to adopt savoring to facilitate creative behaviors only when teachers first possess creative self-efficacy or aesthetic experience.

The exploration of the negative effect of savoring on creative behaviors. Another issue exists in the results of this study -- the reasons for the negative effect of savoring on creative behaviors. This study proposed that this is because teachers in China universities are requested to innovate in a coercive way. Coercion, however, is contrary to the connotations of savoring, and thus led to a negative effect. However, researchers may conduct studies on this issue to understand if there were other more specific factors in the future.

### **Limitations of the Study**

Since constraints were faced during data collection, the compiled data were confined only to Shandong. The replication of the study in different regions of China would enable better generalizability of the findings of the study. At the same time, data collection during a real creative experience could have elicited superior responses, and the findings of the study could have been improved.



The present study has relied largely on the quantitative methodology of data collection and is, therefore, restricted. Hence, data collection employing more qualitative methods should be undertaken in the future to provide a wider perspective to the present study. For instance, prospective research designs could employ the case study methodology or content analysis to provide a holistic view of the given subject.

### References

- Amabile, T. M. (1983). The social psychology of creativity: A componential conceptualization. *Journal of Personality and Social Psychology, 45*(2), 357-376.
- Amabile, T. M., Barsade, S. G., Mueller, J. S., & Staw, B. M. (2005). Affect and creativity at work. *Administrative Science Quarterly, 50*(3), 367-403.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York, NY: Freeman.
- Banks, J. A. (2007). *An introduction to multicultural education* (4th Ed.). Boston, MA: Allyn & Bacon.
- Bosanquet, B. (1968). *Three lectures on aesthetic*. New York, NY: Kraus Reprint Company.
- Bryant, F. B. (1989). A four-factor model of perceived control: Avoiding, coping, obtaining, and savoring. *Journal of Personality, 57*(4), 773-779.
- Bryant, F. B., & Veroff, J. (1984). Dimensions of subjective mental health in American men and women. *Journal of Health and Social Behavior, 25*(2), 116-135.
- Bryant, F. B., & Veroff, J. (2007). *Savoring: A New Model of Positive Experience*. New Jersey: Lawrence Erlbaum Associates.
- Chang, Y. C. (2017). Construction on students' aesthetics experience scale. *International Journal of Organizational Innovation, 10*(1), 110-130.
- Chen, Y. S., & Guo, M. C. (2013). Four-dimensional achievement goal effects on creative teaching performance: testing the mediating effects of creative self-efficacy and the cross-level moderating effects of team learning behavior. *Journal of Research in Education Sciences, 58*(3), 85-120.
- Chen, L. Z. (2013). An exploratory study of the implications of holistic aesthetic experience for teaching. *Research in Arts Education, 25*, 109-135.
- Clore, G. L., Schwarz, N., & Conway, M. (1994). *Affective causes and consequences of social information processing*. In R. S. Wyer & T. K. Srull (Eds.), *Handbook of social cognition* (pp. 344-535). Hillsdale, NJ: Lawrence Erlbaum.
- Csikszentmihalyi, M. (1999). Implications of a systems perspective for the study of creativity. In R. J. Sternberg (Ed.), *The handbook of creativity* (pp. 313-335). New York: Cambridge University Press.
- Davies, S., Higgins, K., Hopkins, R., Stecker, R., & Cooper, D. (2009). *A companion to aesthetics*. Malden, MA: Wiley-Blackwell.
- Dewey, J. (1934). *Art as experience*. New York, NY: Perigree.
- Dewey, J. (1981). Experience and nature, In J. Dewey (Ed.), *John Dewey: The later works, 1* (1925-1953). Carbondale & Edwardsville: Southern Illinois University Press.
- Fenner, D. E. W. (2003). Aesthetic experience and aesthetic analysis. *Journal of Aesthetic Education, 37*(1), 40-53.
- Ferguson, Y. L., & Sheldon, K. M. (2013). Trying to be happier really can work: Two experimental studies. *The Journal of Positive Psychology, 8*(1), 23-33.
- Fredrickson, B. L. (2005). Positive emotions. In C. R. Snyder & S. J. Lopez (Eds.), *Handbook of positive psychology* (pp. 120-134). New York: Oxford University Press.
- Haase, J., Hoff, E. V., Hanel, P. H., & Innes-Ker, Å. (2018). A Meta- Analysis of the Relation between Creative Self-Efficacy and Different Creativity Measurements. *Creativity Research Journal, 30*(1), 1-16. DOI: 10.1080/10400419.2018.1411436
- Hair, J. F., Jr., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate Data Analysis* (7th Ed.). Upper Saddle River, New Jersey: Prentice Hall.

- Hong, S. P., Huang, H. Y., & Lin, S. R. (2008). Do significant others' feedback influence one's creative behavior? Using structural equation modeling to examine creativity self-efficacy and creativity motivation mediation effect. *Bulletin of Educational Psychology, 40*(2), 303-322.
- Hsu, M. L. A., Hou, S. T., & Fan, H. L. (2011). Creative self-efficacy and innovative behavior in a service setting: optimism as a moderator. *Journal of Creative Behavior, 45*(4), 258-272.
- Lazarus, R. S. (1993). Coping theory and research: Past, present, and future. *Psychosomatic Medicine, 55*(3), 234-247.
- Leder, H., Belke, B., Oeberst, A., & Augustin, D. (2004). A model of aesthetic appreciation and aesthetic judgments. *British Journal of Psychology, 95*(4), 489-508.
- Liang, C., & Chang, C. C. (2014). Predicting scientific imagination from the joint influences of intrinsic motivation, self-efficacy, agreeableness, and extraversion. *Learning and Individual Differences, 31*, 36-42.
- Lussier, C. (2010). Aesthetic literacy: The gold medal standard of learning excellence in dance. *Physical and Health Education, 76*(1), 40-44.
- Lee, H. M., & Jeng, B. J. (2014). Effect of elementary school teachers' savoring on innovative behavior: Organizational innovation climate as moderating variable. *Hua-Yi Journal of the Social Science and the Humanities, 30*(1), 21-46.
- Malik, M. A. R., Butt, A. N., & Choi, J. N. (2015). Rewards and employee creative performance: Moderating effects of creative self-efficacy, reward importance, and locus of control. *Journal of Organizational Behavior, 36*(1), 59-74.
- Mathisen, G. E., & Bronnack, K. S. (2009). Creative self-efficacy: An intervention study. *International Journal of Educational Research, 48*(1), 21-29.
- Maquet, J. (1986). *The Aesthetic Experience: An Anthropologist Looks at the Visual Arts*. New Haven and London: Yale University Press.
- Nelson, D. L., & Simmons, B. L. (2003). Health psychology and work stress: A more positive approach. In J. C. Quick & L. E. Tetrick (Eds.), *Handbook of occupational health psychology* (pp. 97-119). Washington, DC: American Psychological Association.
- Newman, A., Tse, H. H. M., Schwarz, G., & Nielsen, I. (2018). The effects of employees' creative self-efficacy on innovative behavior: the role of entrepreneurial leadership. *Journal of Business Research, 89*, 1-9. <https://doi.org/10.1016/j.jbusres.2018.04.001>
- Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: a critical review of the literature and recommended remedies. *Journal of Applied Psychology, 88*(5), 879-903.
- Richards, R. (1997). Conclusions: when illness yields creativity. In M. A. Runco & R. Richards (Eds.), *Eminent Creativity, everyday creativity, and Health* (pp.485-450). Greenwich, CT: Ablex.
- Robbins, S. P., & Coulter, M. (1999). *Management*. New York: Prentice-Hall.
- Robbins, T. L. & Kegley, K. (2010). Playing with thinker toys to build creative abilities through online instruction. *Thinking Skills and Creativity, 5*, 40-48.
- Runco, M. A. (2004). Personal creativity and culture. In S. Lau, A. N. N. Hui, & G. Y. C. Ng (Eds.), *Creativity when east meets west* (pp. 9-22). River Edge, NJ: World Scientific. <sup>[1]</sup><sub>SEP</sub>
- Runco, M. A. (2008). Commentary: Divergent thinking is not synonymous with creativity. *Psychology of Aesthetics, Creativity and the Arts, 2*, 93-96.
- Shalley, C. E., Zhou, J., & Oldham, G. R. (2004). The effects of personal and contextual characteristics on creativity: *Where should we go from here?* *Journal of Management, 30*(6), 933-958.
- Shrout, P. E., & Bolger, N. (2002). Mediation in experimental and non-experimental studies: New procedures and recommendations. *Psychological Methods, 7*(4), 422-445.
- Scott, S. G. & Bruce, R. A. (1994). Determinants of Innovative Behavior: A Path Model of Individual Innovation. *Academy of Management Journal, 37*(3), 580-606.
- Seligman, M. E. P. (2002). Positive psychology, positive prevention, and positive therapy. In C. R. Snyder, & S. J. Lopez (Eds.), *Handbook of positive psychology* (vol. 2, pp. 3-9). London: Oxford University Press.
- Seligman, M. E., Rashid, T., & Parks, A. C. (2006). Positive psychotherapy. *American Psychologist, 61*(8), 774-788.
- Shrout, P. E., & Bolger, N. (2002). Mediation in experimental and non-experimental studies: New procedures and recommendations. *Psychological Methods, 7*, 422-445.

- Simmons, B. L. (2002). Positive psychology at work: Savoring challenge and engagement. In R. Burke & D. L. Nelson (Eds.), *Advancing women's careers: Research and practice* (pp. 273- 286). Oxford, UK: Blackwell.
- Thurling, M., Evers, A. T., & Vermenulen, M. (2015). Toward a model of explaining teachers' innovative behavior: A literature review. *Review of Educational Research, 85*(3), 430-471.
- Tierney, P., & Farmer, S. M. (2002). Creative self-efficacy: Its potential antecedents and relationship to creative performance. *Academy of Management Journal, 45*(6), 1137-1148.
- Tsai, Y. T. (2012). *The Relationship between Creativity Self-Efficacy and Commitment to Organizational Change-The Moderating Effect of Employability* (Unpublished Master's Thesis). Chang Gung University, Taiwan.
- Chang, S. H., Wang, C. L., & Lee, J. C. (2015). The Effects of Savoring on Individual Creativity: and the Moderated Mediatory Effects of Perceived School Support for Creativity. *Chinese Journal of Science Education, 23*(4), 397-419.
- Zhou, J., & Hoever, I. J. (2014). Research on workplace creativity: A review and redirection. *Annual Review of Organizational Psychology and Organizational Behavior, 1*, 333-359.
- Zhang, W. Q., & Shi, J. T. (2009). Effect of goal-oriented managers of development on creative atmosphere and creative behaviors. *Scientific Research, 27*(3), 459-465.
- Zhang, S. X., Wang, Z. L., & Li, J. Q. (2015). The effects of savoring on individual creativity: The mediatory effects of creative self-efficacy and the moderated mediatory effects of perceived school support for creativity. *Chinese Journal of Science Education, 23*(4), 397-419.