

Original Paper

Research on the Relationship between Negative Life Events, Life Satisfaction and Self-Efficacy

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Abstract

Objective: This study aims to explore the moderating effect of self-efficacy on the influence of negative life events on the life satisfaction of college students. **Method:** Using convenient sampling, 431 college students participated in Negative Life Events Scale (ASLEC), Life satisfaction Scale (SWLS) and Self-efficacy scale (GSES) by questionnaire star, and the negative life events, life satisfaction and self-efficacy of college students were evaluated according to the results. The number of valid questionnaires was 335, and the effective rate was 78%. Description test, correlation analysis and regression analysis to test the relationship among negative life events, life satisfaction and self-efficacy. **Results:** ① There is a significant difference in negative life events among students from different regions, and there is no significant difference in gender, grade, or only child status; Life satisfaction and self-efficacy have significant differences in gender, place of origin, and only child, and there is no significant grade difference. ② Negative life events, life satisfaction and self-efficacy were significantly correlated; Negative life events were negatively correlated with life satisfaction and self-efficacy. There was a significant positive correlation between life satisfaction and self-efficacy. ③ Negative life events have no significant impact on life satisfaction, while self-efficacy has a significant impact on life satisfaction. ④ The results showed that self-efficacy had no moderating effect between negative life events and life satisfaction. **Conclusions:** ① There is a significant difference in negative life events among students from different regions, and there is no significant difference in gender, grade, or only child status; Life satisfaction and self-efficacy have significant differences in gender, place of origin, and only child, and there is no significant grade difference. ② Negative life events, life satisfaction and self-efficacy of college students are significantly correlated. ③ Negative life events of college students can not significantly predict life satisfaction, and self-efficacy can significantly predict life satisfaction. ④ College students' self-efficacy did not play a moderating role between negative life events and life satisfaction.

Keywords

Negative life events, Life satisfaction, Self-efficacy

1. Literature Review

1.1 Negative Life Events

Negative life events refer to various stressful events that people experience in social life (Gao Ang et al., 2020). Previous studies usually used the Adolescent Life Events Scale compiled by Liu Xianchen et al. (1997), the revised Adolescent Life Events Scale by Li et al. (2010), or self-developed questionnaires (Li Yuru et al., 2022) to measure negative life events. The Adolescent Life Events Scale by Liu Xianchen et al. (1997) is suitable for assessing negative life events among Chinese adolescents, and it has high reliability and validity; therefore, this study adopts this scale to measure negative life events among college students. Existing research has shown that there are significant gender differences in negative life events, with females experiencing more than males (Wan Yuxia et al., 2023), and no significant differences across grade levels (Li Jiaze & Li Yang, 2022). Negative life events are influenced by family economic status (Sun Kexin, 2021) and are closely related to psychological resilience (Zhang Wenyan et al., 2016), self-esteem (Sang Qingsong et al., 2019), depression (Tu Wei et al., 2023), and adolescent self-harm behaviors (Tang Jie et al., 2023). Therefore, alleviating the adverse effects of negative life events is extremely important.

1.2 Life Satisfaction

Life satisfaction refers to an individual's overall subjective experience of their quality of life (Diener E et al., 1999). Previous studies often used life satisfaction questionnaires developed by Diener et al. (2013), Leung et al. (1992), Huebner et al. (1991), and Zhang Xingui et al. (2004) for measurement. Since the questionnaire developed by Diener et al. (2013) has high reliability and validity, can be used to measure adolescents' life satisfaction, and contains relatively few items, this study uses this scale to measure life satisfaction. Life satisfaction has always been an important topic in psychological research. Previous studies have shown that life satisfaction differs significantly in terms of gender and place of origin (Pan Jingming, 2021), although some research indicates that there are no significant differences (Ji Qun & He Dahai, 2020). Moreover, life satisfaction is closely related to psychological resilience, self-esteem (Jia et al., 2018), and social support (Zhou Fangyan, 2018). In addition, life satisfaction affects an individual's coping strategies and mental health (Li Weizhi et al., 2022).

1.3 Self-efficacy

Self-efficacy refers to one's belief and perception of being able to complete tasks (Jia Linxiang & Wang Baojian, 2018). Tools previously used to measure self-efficacy include the Self-Efficacy Scale, revised by Wang Caikang (2001) and others based on the scale developed by Schwarzer et al., as well as the Self-Efficacy Questionnaire compiled by Bian Yufang (2004). Different self-efficacy scales focus on different aspects, but this study aims to measure an individual's overall belief in their ability to complete tasks when faced with them. Therefore, this study adopts the Self-Efficacy Scale revised by Wang Caikang (2001) and others based on Schwarzer et al.'s scale. Previous research has shown that there are no significant differences in self-efficacy based on gender, but there are significant differences based on whether one is an only child (Xu Zhuzhu & Guo Congbin, 2020) and on economic status (Yuan et al.,

2020). Self-efficacy plays an important role in personal coping strategies (Jiang Meng et al., 2022), social support (Zhang Lingling, 2020), and the sense of meaning in life (Zhang Xin et al., 2020).

1.4 The Relationship between Negative Life Events, Life Satisfaction, and Self-Efficacy

Previous studies have explored the relationship among negative life events, life satisfaction, and self-efficacy to some extent. Research has shown that negative life events can lead to a decrease in individuals' subjective well-being (Fu Qiaoqiao et al., 2012), and the cognitive component of subjective well-being is mainly measured through life satisfaction (Yuan Shuhua & Xing Zhanjun, 2017); therefore, it is inferred that life satisfaction may be affected by negative life events. There is a significant negative correlation between negative life events and self-efficacy (Li Jiase & Li Yang, 2022), and self-efficacy is closely related to life satisfaction (Chen Bizhong & Zheng Xue, 2020).

The relationships among these three variables are closely interconnected in pairs. In addition, studies have shown that core self-evaluation plays a mediating role between negative life events and life satisfaction (Ma Junjun & Wang Zhenzhen, 2018). Self-efficacy refers to the belief and awareness of one's ability to complete tasks, which is consistent with core self-evaluation. Other research has indicated that explanatory optimism can play a moderating role between negative life events and life satisfaction, and explanatory optimism is closely related to self-efficacy (Cheng Long et al., 2022). However, there is still insufficient evidence to suggest whether self-efficacy has a moderating effect between negative life events and life satisfaction.

1.5 Research Questions and Hypotheses

Negative life events, life satisfaction, and self-efficacy are interrelated. According to experience and previous research, negative life events are considered the independent variable, while life satisfaction is considered the dependent variable. Negative life events affect individuals' perception of their ability to accomplish tasks, that is, they influence self-efficacy. In turn, self-efficacy affects life satisfaction. Core self-evaluation plays a mediating role between negative life events and life satisfaction (Ma Junjun & Wang Zhenzhen, 2018). Self-efficacy refers to the belief and perception of one's ability to complete tasks, which is consistent with core self-evaluation. Explanatory optimism can play a moderating role between negative life events and life satisfaction, and it is closely related to self-efficacy (Cheng Long et al., 2022). Therefore, the research question arises as to whether self-efficacy moderates the relationship between negative life events and life satisfaction. When facing negative life events, moderating through self-efficacy can motivate individuals to better cope with these events, thereby affecting life satisfaction. Negative life events, life satisfaction, and self-efficacy are highly significant to individuals. As people live in today's diverse society, encountering negative life events is inevitable. If not properly managed, the impact of negative life events on individuals can be devastating.

In summary, the hypotheses of this study are:

H1: There are no significant differences in negative life events, life satisfaction, and self-efficacy among college students in terms of gender, grade level, place of origin, or whether they are an only child.

H2: Negative life events, life satisfaction, and self-efficacy are interrelated among college students.

H3: Negative life events and self-efficacy can significantly predict life satisfaction in college students.

H4: Self-efficacy plays a moderating role between negative life events and life satisfaction.

1.6 Research Significance

With the improvement of social development, life satisfaction has become increasingly important to people. Life satisfaction is an essential component of our need for a better life. It encompasses personal cognitive evaluations, emotional experiences, and more. Moreover, life satisfaction is one of the important indicators for measuring an individual's psychological health and quality of life (Ma Yuanguang & Jia Wenzhi, 2017), making it particularly significant for individuals. College students with high life satisfaction tend to view things more positively and are more willing to try new experiences; those with low life satisfaction are less likely to try and experience higher academic burnout. College students with high life satisfaction enjoy life more happily and find it more meaningful, whereas those with low life satisfaction often feel that life is empty and hopeless. Therefore, college students' life satisfaction is a matter of great importance.

Negative life events affect individuals' emotional experiences and can impact various aspects of students' lives, such as emotions (Hu Jun, 2022) and eating behaviors (Feng Guo, et al., 2022). When individuals experience negative life events, they often generate many adverse emotions, which, if not properly addressed, can easily harm their physical and mental health.

Self-efficacy is a core concept in social cognitive theory and an important topic in psychological research. Beliefs and awareness regarding the ability to complete tasks are crucial for individuals in coping with adverse events in life. Self-efficacy can enhance adolescents' psychological resilience and provide support for their lives (Wu Zelian et al., 2009).

In summary, it is very necessary to explore the relationship among negative life events, life satisfaction, and self-efficacy.

2. Research Method

3.1 Subject

A total of 431 questionnaires were collected using convenient sampling, of which 335 were valid, resulting in a response rate of 78%. The specific distribution of the samples is shown in Table 1.

Table1. Participant Distribution Table

Demographic variables	Items	<i>n</i>	Proportion/%
Gender	Male	77	23
	Female	258	77
Grade	Freshman	30	9.0
	Sophomore	46	13.7
	Junior year	82	24.5

	Senior year	177	52.8
Place of origin of students	Town	148	44.2
	Countryside	187	55.8
Only child	Yes	106	31.6
	No	229	68.4

2.2 Research Tools

2.2.1 Adolescent Self-Rating Life Events Check List

The Negative Life Events Scale (Adolescent Self-Rating Life Events Checklist, ASLEC) was used for measurement. This scale was developed by Liu Xianchen et al. (1997) and includes 27 negative life event items, covering six dimensions: interpersonal relationships, academic stress, punishment, loss of relatives and property, health adaptation problems, and other factors. Participants were asked to rate the frequency of events occurring and the degree of impact on a scale of 0-5 over the past year, where 0 indicates the event did not occur, 1 indicates the event occurred but had little impact, and 5 indicates a very significant impact. Higher scores indicate greater levels of influence. The scale has good reliability and validity among Chinese adolescents, with a Cronbach's alpha of 0.85, and a Cronbach's alpha of 0.956 in this study.

2.2.2 Life Satisfaction Scale

The Life Satisfaction Scale (SWLS) developed by Diener et al. was used for measurement. The scale consists of 5 items and uses a 7-point Likert scoring method, with 'strongly disagree' to 'strongly agree' corresponding to scores of 1 to 7. Higher scores indicate higher life satisfaction. The Cronbach's alpha coefficient in this study was 0.879.

2.2.3 General Self-efficacy Scale

Measured using the General Self-efficacy Scale (GSES) developed by Schwarzer et al. and adapted by Wang Caikang (2001), this scale consists of 10 items. Participants are required to rate each item on a scale from 1 to 4, where 1 indicates 'completely incorrect' and 4 indicates 'completely correct.' Higher scores indicate a higher level of general self-efficacy. In this study, the scale's Cronbach's alpha coefficient was 0.897.

2.3 Common Method Bias

Questionnaires collected using the self-report method may lead to common method bias. Therefore, the study primarily employed the following measures to control for it: ① Using scales with high reliability and validity for measurement; ② Ensuring that the questionnaires were filled out anonymously; ③ Providing participants with clear instructions for completing the tasks. Data were analyzed and preprocessed using SPSS 23.0, and the results showed that the first factor explained 31.04% of the variance, which is below the 40% critical threshold, indicating that there is no serious common method bias in the data.

2.4 Statistical Analysis Methods

Data were organized and analyzed using SPSS 23.0 statistical software. The main methods used included mean, standard deviation, t-test, Pearson correlation analysis, Harman's single factor analysis, and the test of moderating effects.

3. Results

3.1 Descriptive Statistics of Negative Life Events, Life Satisfaction, and Self-efficacy

According to the results of descriptive statistical analysis (Table 2), the mean score of negative life events is below the scale midpoint, indicating that college students experience relatively few negative life events; the mean score of life satisfaction fluctuates around the scale midpoint, suggesting that college students have a moderate level of life satisfaction; the mean score of self-efficacy is above the scale midpoint, indicating that college students have a relatively high sense of self-efficacy.

Table 2. Descriptive Statistics of Negative Life Events, Life Satisfaction, and Self-Efficacy($M\pm SD$)

Demographic variables	Items	Negative life events	Life satisfaction	Self-efficacy
Gender	Male	34.584±28.849	21.182±5.479	27.584±4.905
	Female	39.503±27.895	19.407±6.431	26.318±4.471
Grade	Freshman	39.633±28.093	22.533±5.667	27.300±5.491
	Sophomore	46.891±30.617	19.435±5.913	27.217±4.496
	Junior year	35.866±28.601	19.207±6.087	26.537±4.420
	Senior year	37.107±27.089	19.735±6.454	26.367±4.556
Place of origin of students	Town	33.419±26.696	20.703±6.549	27.304±4.814
	Countryside	42.294±28.717	19.113±5.949	26.058±4.354
Only child	Yes	34.047±25.215	20.472±6.349	26.830±4.714
	No	40.376±29.245	19.511±6.212	26.507±4.551

3.2 Demographic Analysis of Negative Life Events, Life Satisfaction, and Self-Efficacy

Through the analysis of mean differences, the results of the demographic variable differences are obtained as shown in Table 3.

Table 3. Demographic Differences of Various Variables

Demographic variables		Negative life events	Life satisfaction	Self-efficacy
gender	<i>df</i>	333	333	333
	<i>t</i>	-1.347	2.393*	2.132*
grade	<i>df</i> ₁	3	3	3
	<i>df</i> ₂	331	331	331

	<i>F</i>	1.772	2.233	0.662
Place of origin of students	<i>df</i>	333	333	333
	<i>t</i>	-2.857**	2.324*	2.480*
	<i>df</i>	333	333	333
Only child	<i>t</i>	-2.028*	1.307	0.599

Note. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$ (The same applies below)

Regarding gender differences, there is no significant gender difference in negative life events among college students, but there is a significant gender difference in life satisfaction ($t=2.393$, $p < 0.05$), with male students showing significantly higher life satisfaction than female students. There is also a significant gender difference in self-efficacy ($t=2.132$, $p < 0.05$), with male students having significantly higher self-efficacy than female students.

There are no significant grade-level differences among college students in negative life events, life satisfaction, or self-efficacy.

In terms of place of origin, there are significant differences among college students in negative life events, life satisfaction, and self-efficacy based on their hometown. Urban students experience significantly fewer negative life events than rural students ($t=-2.857$, $p < 0.01$). Urban students also have significantly higher life satisfaction and self-efficacy than rural students ($t=2.324$, $p < 0.05$; $t=2.480$, $p < 0.05$).

Regarding the status of being an only child, there is a significant difference in negative life events. Only children experience significantly fewer negative life events than non-only children ($t=-2.028$, $p < 0.05$). There are no significant differences in life satisfaction or self-efficacy.

3.3 Correlation Analysis of Negative Life Events, Life Satisfaction, and Self-Efficacy

A Pearson correlation analysis was conducted to examine the relationships between negative life events, life satisfaction, and self-efficacy among college students in pairs (Table 4).

Table 4. Correlation Analysis of Negative Life Events, Life Satisfaction, and Self-Efficacy

Items	Negative life events	Life satisfaction	Self-efficacy
Life satisfaction	-.173**	1	
Self-efficacy	-.171**	.542**	1

There is a highly significant negative correlation between negative life events and life satisfaction among college students ($r = -0.172$, $p < 0.05$), a highly significant negative correlation with self-efficacy ($r = -0.171$, $p < 0.05$), and a highly significant positive correlation with self-efficacy ($r = 0.542$, $p < 0.001$).

3.4 Linear Regression Analysis

Through the above relevant analyses, it was determined that negative life events, life satisfaction, and self-efficacy are all related, thus allowing for the next step of testing. The independent variables in the

study include negative life events and self-efficacy, while the dependent variable is life satisfaction. A regression analysis was conducted on the variables (Table 5).

Table 5. Linear Regression Analysis

model	<i>B</i>	β	<i>t</i>	<i>VIF</i>	<i>R</i> ²	<i>F</i>
constant	0.006		.020		0.296	71.202**
Negative life events	-.018	-.082	-1.768	1.030		
Self-efficacy	.719	-.528	11.326*	1.030		

The regression fit this time is good ($R^2 = 0.2960.2$). There is no multicollinearity between variables ($VIF = 1.0305$), and the regression equation is significant. Based on the practical significance of negative life events in real life, negative life events are an important factor affecting life satisfaction, and thus are included in the final equation. Finally, the regression equation derived from the variables is: Life satisfaction = 0.006 - 0.018 * Negative Life Events + 0.719 * Self-efficacy.

3.5 Testing the Moderating Effect of Self-Efficacy

In order to explore the deeper internal relationships among various variables, investigate how negative life events affect life satisfaction, and examine the impact coefficients of this effect, this study takes negative life events as the independent variable and life satisfaction as the dependent variable, exploring the moderating role of self-efficacy. The results are shown in Table 6.

Table 6. Test of Moderating Effects

Predictor variable	β	<i>t</i>	<i>R</i> ²
Negative life events	-.173	-3.197**	.027
Self-efficacy	.528	11.326**	.296
Negative life events*Self-efficacy	-.015	-.315	.294

Linear regression was used to test whether self-efficacy plays a moderating role between negative life events and life satisfaction. After centering the independent variable, dependent variable, and moderating variable, gender, grade, place of origin, and whether being an only child were used as control variables. The independent variable was negative life events, the dependent variable was life satisfaction, and the moderating variable was self-efficacy for statistical analysis. The results showed that the interaction between negative life events and self-efficacy was not significant ($\beta = -0.015$, $p > 0.05$).

4. Discussion

4.1 Characteristics of Negative Life Events, Life Satisfaction, and Self-Efficacy

The average score of negative life events among college students is lower than the midpoint of the scale,

indicating that college students experience relatively few negative life events, which is consistent with previous studies (Tang Jie, et al., 2023). Life satisfaction is at a moderate level, which is also consistent with previous studies (Yin Xiaolan, et al., 2023). The average score of self-efficacy is higher than the midpoint of the scale, consistent with previous research (Xu Zhuzhu & Guo Congbin, 2020).

There is no significant gender difference in negative life events among college students, which is inconsistent with previous research (Wan Yuxia et al., 2023). However, consistent with past studies, female college students report more negative life events than male students (Wan Yuxia et al., 2023).

There are no significant grade-level differences in negative life events, life satisfaction, or self-efficacy among college students, which aligns with previous studies (Gao et al., 2020).

There are significant differences based on the place of origin in negative life events, life satisfaction, and self-efficacy, with urban students reporting fewer negative life events than rural students. Previous research suggests that negative life events are related to family economic status (Sun Kexin, 2021). Given the differences in economic development between urban and rural areas, the family economic conditions may also differ. Relatively developed urban economies, well-established infrastructure, and corresponding regulations may contribute to differences in negative life events, life satisfaction, and self-efficacy between urban and rural students.

There is a significant difference between only children and non-only children in negative life events, with only children experiencing fewer negative life events. This may be because only children receive more care and protection from their parents. However, no significant differences exist between only children and non-only children in self-efficacy and life satisfaction. Although non-only children experience more negative life events, these experiences may also provide more opportunities for growth. Meanwhile, only children, though receiving fewer hardships, gain more confidence from parental care and attention. Therefore, there are no significant differences in self-efficacy and life satisfaction between only children and non-only children.

4.2 The Relationship between Negative Life Events, Life Satisfaction, and Self-efficacy

This study found that there are significant correlations between negative life events, life satisfaction, and self-efficacy among college students. There is a significant negative correlation between negative life events and life satisfaction, which is consistent with previous research (Li Jiase & Li Yang, 2022), and a significant negative correlation also exists with self-efficacy (Yuan Shuhua & Xing Zhanjun, 2017). Life satisfaction and self-efficacy (Chen Bizhong & Zheng Xue, 2020) show a significant positive correlation, which aligns with prior studies.

Regression analysis revealed that negative life events do not have a significant predictive effect on life satisfaction, while self-efficacy has a significant positive predictive effect on life satisfaction, meaning that the higher the self-efficacy, the higher the life satisfaction. There is no multicollinearity among the variables, indicating that there is no distortion or difficulty in accurately estimating the regression model due to high correlations between variables. The lack of a significant predictive effect of negative life events on life satisfaction may be influenced by other additional variables, which requires further

investigation. Although there is a significant negative correlation between negative life events and life satisfaction, the nonsignificant regression suggests that there may be more complex relationships at play. The significant positive predictive effect of self-efficacy on life satisfaction indicates that life satisfaction can be predicted through self-efficacy.

The results did not find a moderating effect of self-efficacy between negative life events and life satisfaction. One possible reason is issues related to data collection, which may have affected the results. Another reason could be the existence of a more complex relationship among negative life events, life satisfaction, and self-efficacy, or other variables not explored in this study that significantly impact the relationship among these three variables, resulting in an insignificant moderating effect. Finally, it is also possible that there truly is no moderating effect; even if an individual encounters stressful events and believes they are capable of coping with them, it may still inevitably affect their life satisfaction. The specifics of this require further research for deeper exploration.

4.3 Limitations and Prospects

This study explored the relationships among the three variables, and the results are consistent with previous research. Compared to previous studies, this research considers self-efficacy as a moderating variable, which has certain significance for guiding college students' mental health levels.

However, this study also has several limitations: In terms of questionnaire collection, convenience sampling was used rather than random sampling, so there is considerable room for improvement in sample size and representativeness. There were substantial differences among the samples, with fewer first-year students and a certain gender imbalance. Additionally, the questionnaire items were relatively uniform, so future studies could improve by increasing the sample size and revising the questionnaire. Moreover, the questionnaire used in this study is self-reported and may differ from actual situations. When individuals face negative life events in reality, they may feel confident in handling them, indicating a certain level of self-efficacy. However, whether life satisfaction would align with the questionnaire data is uncertain, and this could be further explored through experiments in future research.

5. Conclusion

This study explored the relationships among negative life events, life satisfaction, and self-efficacy, and drew the following conclusions:

- (1) Negative life events showed significant differences based on students' place of origin and only-child status, but no significant differences by gender or grade; life satisfaction and self-efficacy showed significant differences by gender and place of origin, but no significant differences by grade or only-child status;
- (2) Negative life events, life satisfaction, and self-efficacy of college students are all significantly correlated;
- (3) Negative life events of college students cannot significantly predict life satisfaction, whereas self-efficacy can significantly predict life satisfaction;
- (4) Self-efficacy of college students does not have a

significant moderating effect between negative life events and life satisfaction.

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