

# The Effects of Employment Strain and Hope on Bliss of College Students: Moderated Mediation Effect of Intelligence-change Belief

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The purpose of this study was to examine the moderated mediation of intelligence-change belief on the mediating effect of hope in the relationship between employment strain and bliss of college students, and to provide new models and basic data for improving college students' bliss. SPSS Statistics 25.0 and PROCESS macro for SPSS version 3.4 were used for descriptive statistical analysis, reliability analysis, correlation analysis and moderated mediation effect analysis. Firstly, as a result of analysing the correlation between variables, employment strain showed negative correlation with hope, intelligence-change belief and bliss. Hope, growth mind, and bliss showed positive correlation each other. Secondly, the conditional indirect effect of intelligence-change belief on the path of employment strain to bliss through hope was verified. In other words, intelligence-change belief moderated the path of employment strain to bliss through hope. This result suggests that interventions to lower employment strain should be conducted using the hope and intelligence-change belief.

**Key words:** *Employment strain, Intelligence-change belief, Hope, Bliss, University student, Moderated mediation effect.*

## Introduction

Undergraduate students establish identity and begin to become independent from their parents, while at the same time fulfilling important developmental tasks such as searching for a career path into society. The career path chosen at this time determines the direction and quality of life after college, so the process of preparing for a career and preparing for

employment is crucial (Lee, 2004). According to a recent survey by the National Statistical Office, the youth unemployment rate rose from 8.0% in 2005 to 9.5% in 2018 (National Statistics Portal, 2018).

For college students, employment is a major task related to economic independence. However, job stress is not only a major factor influencing depression (Yun & Lee, 2012), but excessive job stress can act as a threat to mental health (Cho, 2013) and so it is obvious that it will act as a factor that undermines the bliss of college students. In a study of university students in grades 3 and 4, they reported that suicidal thoughts increased with higher job stress and ‘worry about employment’ was the most influential unhappy factor in a study that investigated events affecting the bliss of university students. Conclusively, the higher the job stress, the lower the subjective well-being (Suh, 2011).

Bliss encompasses cognitive judgment and emotional reactions related to positive life experiences (Diener, 1984). Headey & Wearing (1989) claimed that bliss is determined by: the cognitive processes associated with life events; the dynamic interaction of the emotional aspects induced by life events; and the harmony or balance of positive and negative emotions that have bliss in their lives. A relatively recent study on the bliss of adolescents mainly addresses the variables related to bliss that adolescents experience. It was also related to internal factors such as life values, attitudes and psychological characteristics. It has been found that the psychological state is more relevant to the individual’s bliss than to the external condition and is more crucial in living a happy life.

Variables closely related to bliss are hope and intelligence-change belief. Hope is the possibility of achieving or wishing to achieve a goal (Naver language dictionary). Scholars have made various operational definitions for their studies. Stotland (1969) defined hope as positive expectations for achieving goals while hope is high expectations for success and hopelessness is low expectations for success. Nowotny (1989), contrary to Stotland’s concept of describing hope as a one-dimensional structure, said hope is defined as a multi-domain dynamic attribute of an individual, including expectations of what is made to do and what is valued. Hope is the desire for the future, active participation, internal motivation, trust, practical possibility, the desire for relationship with others or high existence and enthusiasm.” Snyder et al., (1998) defined hope in two dimensions; one is to find and use different ways and paths to achieve the desired goals by path thinking. It means perception of one’s ability to use these paths to achieve a goal. People with high hopes were challenged, focused on success rather than failure, perceived much more likely to achieve their goals, and maintained a positive emotional state. Conversely, people with low hopes are not doing their best, focusing on failure, focusing attention on the possibly of failing to achieve their goals and maintaining a negative emotional state (Kim, Sun-Jung, 2005).

Conversely, Dweck (2006) classified the mindset of individuals into fixed mindset and intelligence-change belief. A fixed mindset is the perception that one's qualities and talents do not change, while an intelligence-change belief is the perception that one's talents and intelligence can be improved with effort. A person with a relatively strong fixed mindset tends to do only what he or she is accustomed to and avoids new challenges because he or she is afraid of failure. Conversely, people with relatively strong intelligence-change belief perceive that they are learning from failure and tend to work harder and enjoy the challenges without fear of failure (Hyun & Park, 2013). Students with intelligence-change beliefs performed better than those with fixed mindsets in the long-term (Dweck, 2008).

Reviewing previous studies on the main variables of this study, it was found that higher employment strain caused higher difficulty of adaptation to college life, higher depression and anxiety (Kim & Cho, 2009), and higher suicide incidents (Yoon & Lee, 2012), but decreased subjective well-being or bliss (Kim, 2011; Seo, 2011). In particular, job stress of college students is closely related to the desire to find a better job and live a stable or happy life (Cho, 2013). Additionally, people with high hopes have successfully managed strain, perceiving strain as a challenge, successfully developing alternative pathways and activating motivation to pursue such pathways (Snyder, 2002). Based on these results, hope is expected to have a mediating effect on the relationship between job strain and bliss.

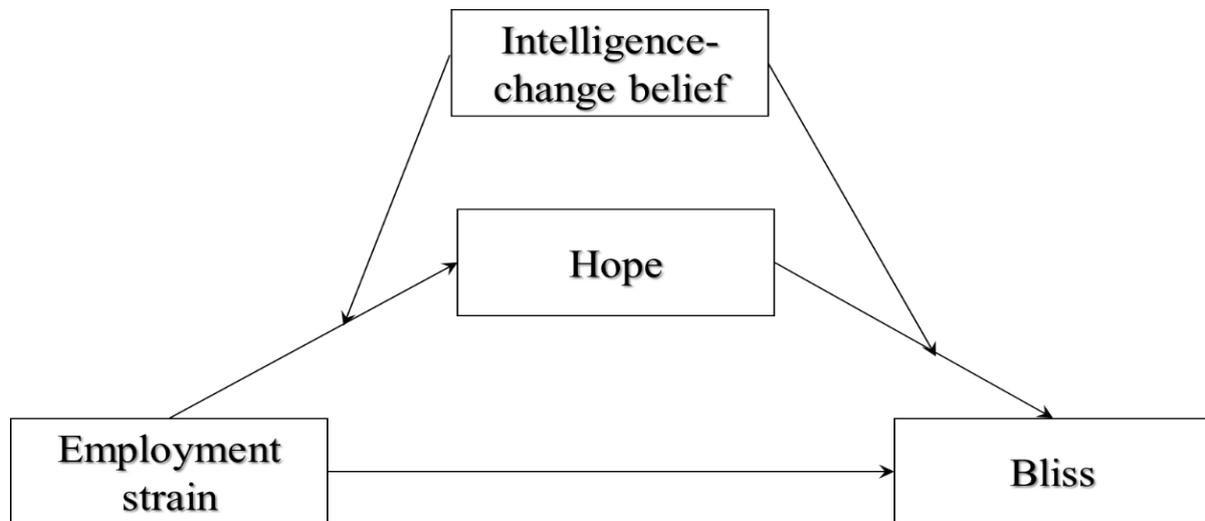
Thus, the purpose of this study was to identify the moderated mediation of intelligence-change belief on the mediating effect of hope in the relationship between employment strain and bliss of college students on bliss and to provide new models and basic data for improving college students' bliss.

## **Research Method**

### ***Research Model***

As shown in Figure 1, we set employment strain as the independent variable and bliss as the dependent variable and then used a research model to verify the moderated mediation of intelligence-change belief on the mediating effect of hope in the relationship between employment strain and bliss.

**Figure 1:** Research Model



### ***Research Subjects and Data Collection Methods***

The subject area of this study was limited to Chungnam, considering the ease of this study. One two-year College and one four-year University in Chungnam were sampled.

After explaining the purpose of the study to the selected students, they gave their consent and visited the relevant departments of the University to collect the questionnaire. A total of 364 questionnaires were used for the final analysis.

The subjects included 200 (54.9%) males and 164 (45.1%) females. Their mean age was 20.9 from a range of 18 to 27-year olds.

### ***Measuring Tools***

The main measurement tools used in this study are as follows.

#### ***Employment Strain***

To measure the employment strain of college students, the scale developed by Hwang (1998) and revised and supplemented by Kang (2007) based on the Cornell Medical Index was used. The employment strain test comprised 22 questions in five sub-areas: employment related personality stress, family environment stress, academic stress, school environment stress and jobless stress. It was a 5-point Likert scale and the higher the score, the higher the employment strain level. The Reliability of Cronbach's  $\alpha$  was 0.895.

### ***Bliss***

We used the Subjective Happiness Scale developed by Lyubomirsky & Lepper (1999). This scale comprised four questions asking about overall bliss and used a 7-point Likert scale, with the higher the score, the higher the bliss. The reliability of bliss was Cronbach's  $\alpha = 0.895$ .

### ***Hope***

To measure hope, we used the Korean version of K-DHS, developed by Snyder, et al., (1991), revised and validated by Choi, et al., (2008). Hope comprises two subscales: Agency Thinking, which measures if a goal is set; and Pathways Thinking, which measures how to reach a goal. Higher scores mean higher levels of hope. The reliability of hope was Cronbach's  $\alpha = 0.754$ .

### ***Intelligence-Change Belief***

The intelligence-change belief scale developed by Dweck (2008) and used by Ayers (2015) was used. This scale comprised 20 items and a 5-point Likert scale. The higher the score, the higher the intelligence-change belief. The reliability of intelligence-change belief was Cronbach's  $\alpha = 0.833$ .

### ***Data Analysis***

Collected data were analysed using SPSS Statistics 25.0 and SPSS PROCESS macro 3.4. Frequency analysis and reliability analysis were conducted for basic analysis and Pearson's correlation analysis was conducted to identify correlations between variables. To verify the moderated mediation effect, model 58 of SPSS PROCESS macro was used.

## **Results and Discussion**

### ***Relationship between Major Variables***

As a result of correlation analysis among major variables, employment strain showed negative correlation with hope, intelligence-change belief and bliss; and hope, intelligence-change belief and bliss showed positive correlation each other. Among them, hope and bliss showed the highest correlation ( $r = 0.591$ ,  $p < 0.01$ ), followed by employment strain and bliss ( $r = -0.509$ ,  $p < 0.01$ ), and hope and intelligence-change belief ( $r = -0.414$ ,  $p < 0.01$ ). The overall correlation coefficient was -0.591 to -0.401, indicating no multicollinearity.

**Table 1:** Correlation among major variables and descriptive statistics

	Employment strain	Hope	Growth mindset	Bliss
Employment strain	1			
Hope	-0.382**	1		
Growth mindset	-0.353**	0.414**	1	
Bliss	-0.509**	0.591**	0.401**	1
M	2.3009	2.9337	3.5443	4.7479
SD	0.68265	0.40126	0.46591	1.01868

\*\*p < 0.01

### ***Moderated Mediation Effect of Intelligence-Change Belief***

To verify if the intelligence-change belief moderates the mediating effect of hope in the relationship between employment strain and bliss of college students, we analysed it by using model 58 of the PROCESS macro proposed by Hayes (2018). Bootstrap was used to verify the moderated mediation effect. During the bootstrap verification, the number of samples was set at 5,000, the confidence interval was 95% and the values of employment strain, intelligence-change belief and hope were centred. The analysis results are shown in Table 2.

Firstly, as a result of analysing if the intelligence-change belief moderates the relationship between employment strain and hope, the interaction term between employment strain and intelligence-change belief was significant (-0.1419,  $p < 0.01$ ). The amount of  $R^2$  increased ( $R^2 = 0.0165$ ,  $p < 0.01$ ) and the interaction term was also significant. Thus, the moderated effect of intelligence-change belief on the relationship between employment strain and hope was verified.

As a result of the conditional effect analysis of employment strain according to the intelligence-change belief value, the conditional effects were significant in M-SD, M and M+SD of intelligence-change belief. As a result of analysing the significance area of moderating effect, the conditional effect of employment strain was significant when the value of intelligence-change belief was higher than -0.6115.

Secondly, as a result of analysing if the intelligence-change belief moderates the relationship between hope and bliss, the interaction term of hope and intelligence-change belief was significant (-0.5971,  $p < 0.01$ ) and the increase of  $R^2$  according to the interaction term also was significant (0.0122,  $p < 0.01$ ). Thus, the moderated effect of intelligence-change belief on the relationship between hope and bliss was verified.

As a result of the conditional effect analysis of hope according to the intelligence-change belief value, the conditional effects were significant in M-SD, M and M+SD of intelligence-

change belief. As a result of analysing the significance area of moderating effect, the conditional effect of hope was significant at all of the values of intelligence-change belief.

Thirdly, as a result of analysing the conditional indirect effect of the intelligence-change belief on the path of employment strain to bliss through hope, the conditional indirect effect was significant in M-SD, M and M+SD. Thus, the moderated mediation effect of intelligence-change belief on the relationship between employment strain and bliss through hope was verified.

**Table 2:** Results of the moderated mediation analysis

Variables	Effect	SE	t-value	p	LLCI*	ULCI**
Mediating variable model (Dependent variable: Hope)						
Constant	-0.0159	0.0191	-0.8303	0.4069	-0.0535	0.0217
Employment strain	-0.1658	0.0288	-5.7617	0.0000	-0.2224	-0.1092
Intelligence-change belief	0.2536	0.0426	5.9490	0.0000	0.1698	0.3374
Employment strain x Intelligence-change belief	-0.1419	0.0504	-2.8149	0.0051	-0.2411	-0.0428
<i>R</i> <sup>2</sup> increase due to the input of interaction:						
	<i>R</i> <sup>2</sup>		F		p	
Employment strain x Intelligence-change belief	0.0165		7.9237		0.0051	
Conditional effects of employment strain at values of intelligence-change belief:						
Intelligence-change belief	Effect	se	t	p	LLCI*	ULCI**
-.4659	-0.0997	0.0354	-2.8141	0.0052	-0.1693	-0.0300
.0000	-0.1658	0.0288	-5.7617	0.0000	-0.2224	-0.1092
.4659	-0.2319	0.0388	-5.9781	0.0000	-0.3082	-0.1556
Conditional effect of employment strain at values of intelligence-change belief:						
Intelligence-change belief	Effect	se	t	p	LLCI	ULCI
-1.1943	0.0037	0.0643	0.0574	0.9543	-0.1227	0.1301
-1.0843	-0.0119	0.0594	-0.2008	0.8410	-0.1287	0.1048
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-0.6443	-0.0744	0.0414	-1.7984	0.0730	-0.1557	0.0070
<b>-0.6115</b>	<b>-0.0790</b>	<b>0.0402</b>	<b>-1.9666</b>	<b>0.0500</b>	<b>-0.1580</b>	<b>0.0000</b>
-0.5343	-0.0900	0.0376	-2.3962	0.0171	-0.1638	-0.0161
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0.8957	-0.2929	0.0558	-5.2540	0.0000	-.4026	-0.1833
1.0057	-0.3085	0.0606	-5.0933	0.0000	-.4277	-0.1894
Dependent variable model (Dependent variable: Bliss)						
Variables	Effect	SE	t-value	p	LLCI*	ULCI**
Constant	4.7940	0.0424	113.1577	0.0000	4.7107	4.8773
Strain	-0.4673	0.0641	-7.2906	0.0000	-0.5933	-0.3412
Hope	1.1935	0.1184	10.0820	0.0000	0.9607	1.4263
Intelligence-change belief	0.2340	0.0955	2.4518	0.0147	0.0463	0.4218
Hope x Intelligence-change belief	-0.5971	0.2082	-2.8677	0.0044	-1.0065	-0.1876
$R^2$ increase due to the input of interaction:						
	$R^2$	F	p			
Hope x Intelligence-change belief	0.0122	8.2237	0.0044			
Conditional effect of hope at values of intelligence-change belief:						
Intelligence-change belief	Effect	se	t	p	LLCI*	ULCI**
-0.4659	1.4717	0.1759	8.3645	0.0000	1.1256	1.8177
0.0000	1.1935	0.1184	10.0820	0.0000	0.9607	1.4263
0.4659	0.9153	0.1261	7.2608	0.0000	0.6674	1.1632
Conditional effect of hope at values of intelligence-change belief:						
Intelligence-change belief	Effect	se	t	p	LLCI	ULCI
-1.1943	1.9065	0.3085	6.1808	0.0000	1.2999	2.5131
-1.0843	1.8408	0.2872	6.4089	0.0000	1.2760	2.4057
.	.	.	.	.	.	.

0.8957	0.6587	0.1852	3.5557	0.0004	0.2944	1.0229
1.0057	0.5930	0.2040	2.9073	0.0039	0.1919	0.9941
Direct effect of employment strain on Bliss:						
Effect	se	t-value	p	LLCI*	ULCI**	
-0.4673	0.0641	-7.2906	0.0000	-0.5933	-0.3412	
Conditional indirect effects of employment strain on bliss:						
Intelligence-change belief	Effect	se	LLCI*	ULCI**		
-0.4659	-0.1467	0.0500	-0.2464	-0.0510		
0.0000	-0.1979	0.0414	-0.2845	-0.1216		
0.4659	-0.2123	0.0536	-0.3260	-0.1160		

\*LLCI = lower limit within 95% confidence interval of boot indirect effect.

\*\* ULCI = upper limit within 95% confidence interval of boot indirect effect.

## Conclusion

This study examined the moderated mediation effect of intelligence-change belief on the relationship between employment strain, hope and bliss. The conclusion is as follows.

Firstly, as a result of analysing the correlation between variables, employment strain showed negative correlation with hope, intelligence-change belief and bliss; and hope, growth mind and bliss showed positive correlation each other.

Secondly, the conditional indirect effect of intelligence-change belief on the path of employment strain to bliss through hope was verified. In other words, intelligence-change belief moderated the path of employment strain to bliss through hope. These findings suggest that there is a limit to simply lowering the employment strain to promote bliss of university students. Thus, it was suggested that interventions to lower employment strain should be conducted using the hope and intelligence-change belief.

This study is meaningful in that it revealed the importance of moderated mediation effect of intelligence-change belief in the relationship between employment strain, hope and bliss. Nevertheless, the limitations of this study are as follows. Firstly, since this study is the result of purposefully collected data for students enrolled in a university, it is limited to the generalisation of students preparing for employment. In the future, it is necessary to compare characteristics of high school students and university graduates seeking employment. Secondly, it is necessary to examine in detail how employment strain changes within the



program participation period through the program participation study. An experimental study is needed to examine how the relationship between happiness and hope changes with changes in employment strain or how employment strain changes with changes in happiness and intelligence-change belief.

### **Acknowledgment**

This study was undertaken with the support of a research grant in 2019 from Hanseo University.



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