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The effect of airline service major students' employment stress on learned helplessness and employment preparation behavior: a moderated mediation model of resilience

Introduction. Employment stress among airline service major students is very high, because airlines have not been recruiting during the COVID-19 pandemic, which has led to high learned helplessness and less employment preparation behavior among students. Thus, the purpose of this study was to verify the effect of resilience, one of the positive psychological variables that decrease the negative mutual influence between learned helplessness and employment preparation behavior.

Samples and methods. The participants in this study were 312 airline service major students from four universities in South Korea. Data were collected from junior students who were in their third year of university (64.7%) and senior students who were in their fourth year of university (35.3%) in South Korea. For analysis, this study used SPSS Win.25.0 and PROCESS macro for SPSS 3.5 programs to conduct the frequency test for the demographic information, reliability test, correlation test, and moderated mediation effect analysis.

Results. First, employment preparation behavior had a negative correlation with employment stress ($r = -.497, p < .01$) and learned helplessness ($r = -.361, p < .01$), as well as a positive association with resilience ($r = .484, p < .01$). Second, the conditional indirect effects of resilience on the relationship between employment stress and employment preparation behavior through learned helplessness were significant ($p < .001$) when the resilience value was low ($M-1$ SD), average (M), or high ($M+1$ SD). Therefore, the moderated mediation effect of resilience was verified.

Practical significance. This study found that airline service major students with high resilience have increased employment preparation behavior. Given the results of this study, students' resilience should be developed and strengthened to reduce or overcome students' stress and learned helplessness during the COVID-19 pandemic.

Keywords: employment stress, learned helplessness, resilience, airline major student, COVID-19

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Introduction

Since COVID-19 has spread around the world, global economies have struggled with rising unemployment. The rates of unemployment by country have increased each year in 2019 and 2020, although the global economy is expected to gradually improve with COVID-19 vaccinations [1]. The numbers of new employment opportunities are still very low in many countries [2]. In particular, airlines, one of the industries that were hit hardest by the COVID-19 pandemic, have not hired any new employees since the outbreak of COVID-19. Recruitment by airlines remains unclear even for the next few years. The closed employment in the airline industry currently represents a major source of stress for airline service major students in university or college [3].

University students' employment stress is closely related to employment preparation behavior [4], which includes all activities related to their future employment, such as searching for information, performing employment plans, acquiring specific certification or licenses required to achieve employment goals, and so on [5]. Airline service major students are educated in universities to get job in the airlines or service field after graduation, and they prepare for their employment during their university years. Employment preparation behavior is an important factor predicting the rate of students' employment, which has become one of the main performance indicators for universities in South Korea [6]. For students' employment preparation-related supports, universities provide various programs such as foreign language proficiency certificate, resume preparation, participation in employment courses, and so on [7]. However, all supports related to students' employment preparation by universities are only effective if students voluntarily engage in their employment preparation. Therefore, it is very critical to identify the negative psychological factors that hinder students' employment preparation behavior, as well as the positive psychological factors that elicit it during the COVID-19 pandemic.

In this context, the variable of interest in the relationship between employment stress and employment preparation behavior is learned helplessness, which is a psychological state wherein one learns to be resigned after experiencing repeated stress in situations they cannot control [8]. This results in negative outcomes (e.g., giving up on easy tasks, dropping out of school, school refusal, etc.) or decreased positive behaviors (e.g. hindering students' progress in achieving goals, making efforts, doing their best, etc.) [9].

According to related studies, employment stress directly affects helplessness [10], and learned helplessness directly reduces employment preparation behavior [11]. Further, learned helplessness mediates the effect between employment stress and employment preparation behavior through [10]. However, there have been no studies integrating the three variables listed above with other positive psychological variables such as resilience. Resilience is the ability to rise from adversity [12]. In the educational context, studies have shown that resilience affects students' psychological well-being and positive behaviors during the COVID-19 pandemic [12-15]. Therefore, in this study, resilience, a variable studied in positive psychology, is set as a moderated mediation variable, as research shows that students with strong resilience tend to cope with stressful situations more actively.

The purpose of this study is to examine the moderated mediation effect of resilience in the impact of employment stress on employment preparation behavior through learned helplessness. Given the results of the studies referenced above, this study will provide

a model using resilience as an alternative for improving airline service major students' behavior to prepare for employment. To achieve this purpose, the following research questions are set:

First, what are the correlations between employment stress, learned helplessness, employment preparation behavior, and resilience?

Second, does learned helplessness mediate the link between employment stress and employment preparation behavior?

Third, does resilience moderate the relationship between learned helplessness and employment preparation behavior?

Fourth, does resilience moderate the mediating effect of learned helplessness on the relationship between employment stress and employment preparation behavior?

Theoretical Background

1. Relationship between employment stress and employment preparation behavior

University students tend to feel the pressure of employment during their time in school due to the future uncertainty they face after graduation [16]. Employment stress is a major factor influencing the psychological problems (anxiety, depression, or helplessness) of students [17], as well as employment-related behaviors [10]. Because of employment stress, university students typically do their best in preparing for employment [18].

Employment stress among airline service major students has usually been very high, because the competition for employment as airline flight attendants was at a maximum of 200-300 to 1 before the COVID-19 pandemic [19]. Since the outbreak of COVID-19, employment stress among airline service major students has reached its peak, because there has been no airline crew recruitment due to the COVID-19 pandemic [3].

Seo [20] argued that employment stress perceived by university students acts as a dysfunctional factor that makes it difficult for active preparatory behavior to take place; in other words, if university students do not manage their employment stress positively, they will either make fewer preparations for employment or give up. Nevertheless, the results of previous studies on university students' employment stress and employment preparation behavior have not shown consistent results. Some studies have found that the higher the employment stress, the less the employment preparation behavior [21-24]. By contrast, other studies have verified that employment stress has a positive effect on employment preparation behavior [20; 25; 26].

Regarding the link between employment stress and employment preparation behavior among airline service major students, few studies have examined the correlation between those two variables. After the outbreak of COVID-19, due to difficulties in the aviation industry, research on the employment stress and employment preparation behavior of aviation service major students has become more urgent in terms of providing guidance for students' employment after graduation. Thus, this study identifies how much airline service major students perceive employment stress during the COVID-19 pandemic, and how it influences their employment preparation behavior.

2. The mediating effect of learned helplessness

For more insightful research on student's stress, Grant et al. [27] argued that it is necessary to analyze the mediator or moderator variables that might affect the relationship between

student's stress and behavioral outcomes. Learned helplessness perceived by students has been considered as an important concept [28], because it is driven from students' stress, and it increase adverse outcomes or decrease positive outcomes. If students face a state of lethargy due to repeated experiences of stress, schools can become a hotbed of learned helplessness [29].

Learned helplessness can be defined as a psychological state of "motivational, cognitive, and emotional deficits that may follow from an organism's exposure to uncontrollable stressors" [30, p. 567] such as the COVID-19 pandemic. In other words, it can be regarded as a repetitive avoidance method that occurs when one is psychologically coping with difficulties caused by the ineluctable stress. Although there have been few studies examining the mediating effect of learned helplessness on the relationship between students' employment stress and employment preparation behavior, studies on learned helplessness as a mediator have recently emerged in the educational context [31].

In the link between students' social withdrawal (attitude to isolate themselves from those around them) and smartphone dependency behavior, learned helplessness has been shown to have an effect [32] as a mediator. It has also been shown to mediate the negative link between students' perceived peer relationship and smartphone dependency behavior [33]. Yeo [34] showed that learned helplessness mediated the link between students' self-control and academic achievement. In addition, the mediating effect of learned helplessness was also verified in the link between students' perceived parental psychological control and career maturity [35]. Park and Kim [10] found that the stress of having to get a job made students become lethargic, which caused their preparation behavior for employment to weaken.

Given the results of the previous studies stated above, it can be predicted that employment stress may influence employment preparation behavior through learned helplessness in addition to the direct impact between employment stress and employment preparation behavior in this study.

3. Moderating effect of resilience

Resilience can be defined from various perspectives according to the research areas [36]. In an educational context, resilience is considered as "a set of attitudes and behaviors which are associated with an individual's ability to recover from adversity and also to actively adapt in the face of these adversities" [37, p.44]. Students with high resilience can reduce or overcome the negative impacts of a helpless state of mind or adverse situations [38]. Demonstrating resilience itself is associated with positive progress and outcomes [39]. Thus, resilience has become an essential capacity for students to improve in diverse higher education learning environments [40].

Recently, studies in educational fields have shown that resilience is an important variable that serves as a moderator between student-related variables. In a study [41] on students' smartphone addiction, such an addiction was shown to negatively affect students' school life adaptation, but resilience reduced the negative impact between smartphone addiction and school adjustment. Choi et al. [42] also found that the negative psychological states (depression, anxiety, impulsivity, and aggression) of college students were associated with Internet addiction or overuse, and that resilience played a moderating role in preventing students with negative psychological states from becoming addicted to the internet. In a study on social welfare major students' employment stress [43], students with high employment stress had a low quality of life, and resilience served as the moderating variable

that alleviated the negative relationship between employment stress and quality of life. Bang [44] showed that resilience moderated the negative relationship between tourism-related major students' employment stress and adaptation to college life.

Despite the academic attention in the educational context, there have been few studies verifying the moderating effect of resilience in the relationship between learned helplessness and employment preparation behavior. However, resilience can be predicted to act as a factor that relieves the negative symptoms, such as the fact that airline service major students with high learned helplessness do not prepare for their future employment, because resilience has been proven to be one of the representative variables that prevent negative psychological states from leading to negative behavioral outcomes. Thus, based on the results of the studies reviewed above, this study will verify the moderating effect of resilience between learned helplessness and employment preparation behavior. Further, it will examine whether resilience moderates the mediating effects of learned helplessness in the link between employment stress and employment preparation behavior.

Research method

1. Research model

This study used the 'Model 14 of PROCESS macro ver.3.5' as a statistical method for the moderated mediation analysis. Figure 1 depicts the conceptualized research model.

Figure 1 Conceptualized research model

2. Data Collection and Samples

Online survey questionnaires were distributed to airline service major students from the four universities from May 22 to May 29, 2021 in South Korea. After providing study consent, a total of 312 airline service major students participated in this study. Following data collection, we conducted the frequency test for demographic information. The ratio of female to male students was 90.4% to 9.6%, respectively, which is similar to the actual proportion of female and male flight attendants in South Korea [45]. The participants among airline service major students consisted of juniors (64.7%) and seniors (35.3%) in universities of South Korea.

3. Research tools

3.1. Employment stress

The measurement of employment stress perceived by airline service major students during the COVID-19 pandemic was developed by Park and Jeon [3]. The construct

of employment stress consists of three sub-dimensions containing three items each: 'employment anxiety', 'employment transition', and 'lack of preparation for employment'. There are nine items in total rated on a 5-point Likert-type scale; the higher the score, the higher the employment stress. In this study, Cronbach's α of employment stress was .748.

3.2. Learned helplessness

Korean version of Learned Helplessness Scale (K-LHS) was developed by Kim and Shin [46]. This study adopted four sub-dimensions used in studies on college student's learned helplessness: 'passivity', 'lack of control', 'lack of confidence', and 'lack of responsibility' [47; 48]. The present study used a short version of K-LHS with one item for each dimension, and each item was rated using a 5-point Likert-type scale, where higher scores represent higher learned helplessness. The reliability of learned helplessness in this study was verified with a Cronbach's α of .712.

3.3. Employment preparation behavior

Recent studies have used a scale of employment preparation behavior rated by airline service major students [49-51]. In this study, a single dimension with four questions was adopted from Jeon's study [45]. The self-report questionnaire was measured on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (Strongly agree). The higher the score, the more preparation for future employment one was undertaking. In this study, the reliability of employment preparation behavior by Cronbach's α was .704.

3.4. Resilience

The Brief Resilience Scale (BRS) is one of the best and most highly recommended measurement tools for this domain [52]. The original BRS was designed by Smith and colleagues [53], and it included six items. This study used a Korean version of BRS adopted in a study on college student's resilience during the COVID-19 pandemic [54]. The participants were asked to respond on a 5-point Likert scale. Higher scores on this scale reflect higher levels of resilience, and the reliability of resilience in this study presents good internal consistency, with a Cronbach's α of .822.

4. Data analysis

Frequency tests for demographic information, reliability tests for internal consistency, and correlation among variables analysis were conducted by SPSS Win 25.0 statistics tool. This study also analyzed the mediation effect, the moderation effect, and the moderated mediation effect with the PROCESS macro for the SPSS version 3.5 proposed by Hayes [55]. The bootstrapping test was conducted to verify those effects.

Results

1. Correlations and Descriptive Statistics

Pearson's correlation analysis was conducted to characterize the linear relationships among variables. As presented in Table 1, there was a statistically significant relationships among four variables: employment stress, learned helplessness, resilience, and employment preparation behavior. Employment stress was negatively correlated with employment preparation behavior ($r = -.497$, $p < .01$), and it was positively associated with learned

helplessness ($r = .418, p < .01$). There was a negative correlation between employment stress and resilience ($r = -.384, p < .01$). Learned helplessness had a negative correlation with employment preparation behavior ($r = -.361, p < .01$) and resilience ($r = -.382, p < .01$). There was a positive correlation between resilience and employment preparation behavior ($r = .484, p < .01$). Learned helplessness had an average value of 4.6883, which was the highest among the variables.

Table 1

Correlations and descriptive statistics

	Employment stress	Learned helplessness	Resilience	Employment	M	SD
Employment stress	1				4.2333	0.45337
Learned helplessness	.418**	1			4.6883	0.24635
Resilience	-.384**	-.382**	1		4.2671	0.56347
Employment preparation behavior	-.497**	-.361**	.484**	1	2.0329	0.47434

** $p < .01$

2. Moderated Mediation Effect

The procedure of Model 14 of the PROCESS macro for SPSS proposed by Hayes [55] was used to verify whether resilience moderates the mediating effect of learned helplessness on the link between employment stress and employment preparation behavior. The moderated mediation effect was examined by the bootstrapping method while using 5,000 samples and a 95% confidence interval. Table 2 lists the results of the moderated mediation effect. The direct effects among employment stress, learned helplessness and employment preparation behavior were significant. Specifically, employment stress increased learned helplessness ($\beta = .1185, p > .01$), and learned helplessness decreased employment preparation behavior ($\beta = -1.9492, p > .05$), thus showing that learned helplessness played a mediating role in the link between employment stress and employment preparation behavior.

The interaction term between learned helplessness and resilience had a significant effect on employment preparation behavior, and the increase in R^2 ($\Delta R^2 = .0186, p < .01$) according to the interaction term was also significant; therefore, resilience moderated the relationship between learned helplessness and employment preparation behavior.

The conditional effect of learned helplessness according to the value of resilience was significant ($p < .001$) when resilience was low ($M-1$ SD), average (M), or high ($M+1$ SD). As the value of resilience increased, the effect of learned helplessness decreased.

The Johnson-Neyman method, a type of floodlight analysis [56], was used to verify in which area the moderating effect was conditionally significant according to the value of moderating variable. The effect of learned helplessness on employment preparation behavior was significant in the area where the value of resilience was higher than 4.4858, whereas it was not significant in the area where the value of resilience was lower than 4.4858. In other words, resilience conditionally moderated the relationship between learned helplessness and employment preparation behavior in the area above 4.4858.

Conditional indirect effects (employment stress $\rightarrow$ learned helplessness $\rightarrow$ employment preparation behavior) on the relationship between employment stress and employment preparation behavior were significant when the value of resilience was high, and when the

value of resilience was decreased, the conditional indirect effect was not significant. The moderated mediation effect index was significant ($-.1162 \sim -.0172$). Therefore, regarding the effect of employment stress on employment preparation behavior through learned helplessness, the moderated mediation effect of resilience was verified.

Table 2

Analysis of the moderated mediation effect of resilience on the relationship between employment stress, learned helplessness, and employment preparation behavior

Mediating variable model (DV: Learned helplessness)						
Variables	B	SE	1. t value	2. p	LLCI*	ULCI**
Constant	4.1868	.1282	32.6502	.0000	3.9344	4.4391
Employment stress	.1185	.0301	3.9336	.0001	.0592	.1777
Dependent variable model (DV: Employment preparation behavior)						
Variables	B	SE	3. t value	4. p	LLCI*	ULCI**
Constant	-5.1746	3.7457	-1.3815	.1681	-12.5451	2.1960
Employment stress	-.2501	.0565	-4.4232	.0000	-.3613	-.1388
Learned helplessness	-1.9492	.8026	-2.4287	.0157	.3700	3.5285
Resilience	2.0594	.8626	2.3874	.0175	.3620	3.7568
Learned helplessness × resilience	-.4823	.1846	-2.6129	.0094	-.8455	-.1191
Test of highest order unconditional interaction						
1. Interaction term	1. R2		2. F		1. p	
Learned helplessness × Resilience	.0186		6.8274		.0094	
Conditional effects of learned helplessness at values of resilience						
Resilience	Effect	se	t	p	LLCI*	ULCI**
3.7036	.1631	.1530	1.0658	.2874	-.1380	.4641
4.2671	-.1087	.1043	-1.0419	.2983	-.3139	.0966
4.8306	-.3804	.1414	-2.6909	.0075	-.6586	-.1022
Conditional effects of learned helplessness at values of resilience						
Resilience	Effect	se	t	p	LLCI*	ULCI**
3.1000	.4542	.2466	1.8415	.0665	-.0311	.9395
3.2583	.3778	.1952	1.7136	.0876	-.0560	.8116
...						
4.0500	-.0040	.1147	-.0348	.9723	-.2296	.2216
4.2083	-.0803	.1057	-.7600	.4479	-.2884	.1277
4.3667	-.1567	.1045	-1.4999	.1347	-.3623	.0489
4.4858	-.2142	.1088	-1.9677	.0500	-4.284	.000
4.5250	-.2331	.1112	-2.0960	.0369	-.4519	-.0143
4.6833	-.3094	.1246	-2.4837	.0135	-.5546	-.0643
4.8417	-.3858	.1428	-2.7021	.0073	-.6667	-.1048
5.0000	-.4621	.1642	-2.8148	.0052	-.7852	-.1391

Direct effect of employment stress on employment preparation behavior					
Effect	se	t	p	BootLLCI*	BootULCI**
-.2501	.0565	-4.4232	.0000	-.3613	-.1388
Conditional indirect effects of learned helplessness on employment preparation behavior (Employment stress → learned helplessness → employment preparation behavior)					
Resilience		Effect	BootSE	BootLLCI*	BootULCI**
3.7036		.0193	.0185	-.0160	.0584
4.2671		-.0129	.0126	-.0406	.0107
4.8306		-.0451	.0218	-.0926	-.0069
Index of moderated mediation					
Resilience		Index	BootSE	BootLLCI*	BootULCI**
		-.0571	.0281	-.1162	-.0172

*LLCI = The lower bound of the indirect effect within the 95% confidence interval

**ULCI = The upper bound of the indirect effect within the 95% confidence interval

As shown in Figure 3, the result of visualizing the conditional effect of learned helplessness was presented by dividing resilience into high, medium, and low groups. The high resilience group showed increased employment preparation behavior despite the high learned helplessness, whereas the low resilience group showed reduced employment preparation behavior in the situation of the high learned helplessness. The slope of the low resilience group is steep, which means that employment preparation behavior decreased sharply when the learned helplessness of the low resilience group increased. Regardless of whether their learned helplessness was high or low, the high resilience group was more prepared for their future employment than the low resilience group.

Figure 3 The moderating effect of resilience on the mediating effect of learned helplessness

Discussion and conclusion

This study was conducted to identify the moderated mediating effect of resilience on the effects of employment stress and learned helplessness on employment preparation behavior while targeting airline service major students. The discussion based on the research results is as follows.

First, the significant correlations among employment stress, learned helplessness, employment preparation behavior, and resilience were verified by the Pearson correlation analysis. Employment stress was positively correlated with learned helplessness, and it was negatively correlated with employment preparation behavior; these findings are consistent with previous studies showing that students with high employment stress had significant negative employment preparation behavior and were less likely to engage in employment-ready behaviors before graduation [10], and the higher the students' stress, the higher the learned helplessness [57].

Second, learned helplessness had a mediating effect on the link between employment stress and employment preparation behavior. These results are in the same context as the research results showing that employment stress had a direct effect on employment preparation behavior [22-24], that stress increases learned helplessness [10; 57], and that learned helplessness decreases employment preparation behavior [10; 11]. The employment stress of airline service major students may currently be at its peak, because airlines have not recruited employees as flight attendants during the COVID-19 pandemic. Airline service major students typically enter university to become flight attendants after graduation, and they receive theoretical and practical education through specialized curriculums to become flight attendants. However, airline service major students are now under stress which they cannot control that is caused by the uncertainty of the COVID-19 pandemic [3], which is causing learned helplessness, and which in turn eventually reduces employment preparation behavior. That is, the employment stress experienced by airline service major students during the COVID-19 pandemic is an important cause of their decreasing employment preparation behavior. In the end, this study proved the logic that employment stress increases learned helplessness and eventually decreases employment preparation behavior.

Third, resilience moderated the relationship between learned helplessness and employment preparation behavior. In other words, the learned helplessness experience perceived by airline service major students decreased their employment preparation behavior, but in this process, the effect of learned helplessness depends on the degree of resilience. Students with high resilience are able to adapt to and overcome the COVID-19 pandemic situations [58]. By contrast, when facing difficult employment situations, students with less resilience give up their efforts and change their careers or prepare less for employment in other occupations compared to those who are more resilient.

Fourth, the moderated mediation effect of resilience was verified in the path of employment stress and employment preparation behavior through learned helplessness. In other words, the indirect effect of employment stress on employment preparation behavior via learned helplessness depends on resilience, and as the degree of resilience increases, the effect of learned helplessness on employment preparation behavior gradually decreases. This means that even though airline service major students

experience learned helplessness due to employment stress, airline service major students with high resilience have more employment preparation behavior than students who are less resilient. In COVID-19 pandemic situations, airline service major students experience learned helplessness due to high and low employment stress, but not all of them give up preparing or prepare less for employment, and resilience works as a mechanism by which employment stress slows the negative path leading to employment preparation behavior through learned helplessness.

This research is the first empirical study that analyzed the moderated mediation effect of resilience on the effects of employment stress and learned helplessness on employment preparation behavior while targeting airline service major students. Thus, the academic and practical implications based on the research results presented here are very meaningful for future studies. From the academic perspective, previous studies focused on the direct effects among students' stress and employment related variables, and they individually identified the mediating or moderating effect on the link between related variables. However, this study used an integrated research model with the moderated mediation variable, and it can suggest more insights that can be applied to the educational context.

From the practical perspective, when professors or faculty members in the airline service major counsel students to reduce employment stress which increases learned helplessness and decreases employment preparation behavior, they need to provide specific guidelines for employment preparation to students. However, it is not easy to reduce employment stress stemming from the COVID-19 pandemic. It may be more feasible and effective to educate airline service major students about resilience as a factor that can reduce the mutual negative relationship between learned helplessness and employment preparation behavior. Students with high resilience will find out and actively prepare for what they can do (e.g., finding employment in another occupation) rather than feel exceedingly stressed about employment or helpless, as they do not blame the COVID-19 pandemic situations. Thus, it is very urgent to study the factors affecting resilience and to develop resilience programs that can help students overcome or alleviate learned helplessness driven from employment stress.

Nevertheless, the limitations of this study that provide opportunities for further studies are as follows. This study used the Brief Resilience Scale (BRS) with a single dimension to measure airline service major students' resilience. If a resilience scale with multiple dimensions could be used in future studies, it would lead to be more diverse results. Additionally, this study collected data from juniors (in the third year of university) and seniors (in the fourth year of university) who are typically beginning to prepare for airline employment in South Korea. Thus, these results cannot be generalized to populations in other years of university or in other countries. Future studies with more varied samples should be conducted to validate the moderating effect of resilience on the mediating effect between employment stress and employment preparation behavior through learned helplessness in different educational research contexts.

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