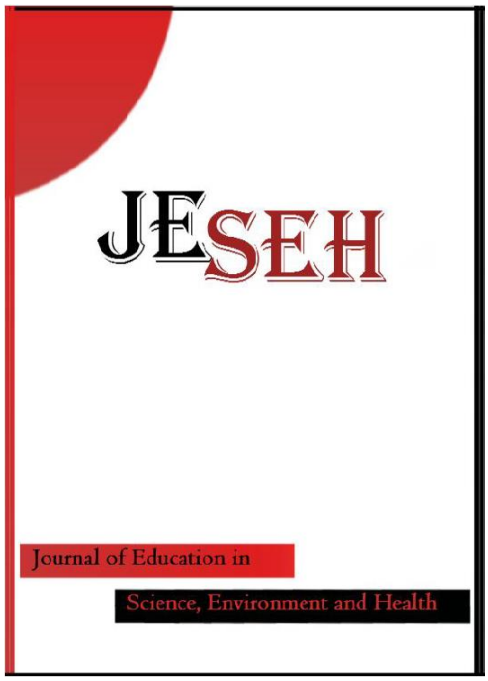

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Investigation of Protective Factors against Career Stress of Senior University Students Using Mixed Pattern Method

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Abstract

Career stress includes negative career experiences such as encountering career barriers, career indecision. This research aims to analyse and evaluate the protective factors against the career stress of senior university students with mixed-method research. For this purpose, an embedded design was used. A total of 353 individuals [AgeMean =23.55, AgeSd = 3.87], determined by sampling method, participated in the research. Data, Dispositional Hope Scale, Career Adaptabilities Scale, Career Decision-Making Self-Efficacy Scale, Career Stress Inventory, and Online Questionnaire were used. Structural equation modeling was used in quantitative data analysis. The content analysis technique was used for qualitative data analysis. As a result of the structural equation modeling analysis in quantitative findings, a protective structural model was obtained against the career stresses of senior university students. The participants revealed several ways to cope with career stress in qualitative findings. The study also examines hope, expectations for self-development, orientation towards activities that make senior students feel good, presence of those experiencing similar stress, positive inculcation, and evaluation of the effects of intrinsic/extrinsic motivators.

Introduction

Individuals may encounter different sources of stress in different developmental areas during their life. One of these areas of development is career development. In this field, the concept of stress experienced by university students is career stress (Creed, Fallon & Hood, 2009).

Career Stress

Stress is a disturbing emotional reaction shaped and developed by the individual's personal, social, and business life and creates a feeling of tension in the individual (Lazarus & Folkman, 1984). Stress can manifest itself in different areas. For example, the most common form of stress among university students is career stress (Choi et al., 2011). *Career stress* involves negative career experiences such as encountering career obstacles, career indecision, and career incompatibility (Creed, Hood, Praskova & Makransky, 2016). Further, career stress is a three-dimensional concept specific to Turkish culture. These dimensions include career ambiguity, lack of information, external conflict, and employment pressure (Özden & Sertel-Berk, 2015). Individual and environmental factors also affect career stress (Demirtaş & Kara, 2022). Personal factors include positive and negative points. Career decision-making self-efficacy, career adaptability, and hope are positive personal factors.

Career Decision-Making Self-Efficacy

Betz (1992) defined career decision-making self-efficacy as the level of self-confidence in fulfilling the professional development tasks of the individual in the career development process. In addition, career decision-making self-efficacy is described as a concept that includes five components. These components are self-appraisal, planning, goal selection, problem-solving, and occupational information (Situmorang & Salim, 2021). Therefore, it is essential to develop career decision-making self-efficacy in individual career development. Strong individual career decision-making self-efficacy increases career aspiration (Al-Bahrani, Abu Shindi, Allawati & Bakkar, 2021) and career expectancy (Abe, Chikoko & Lubinga, 2021). Accordingly, career decision distress (Guardado, 2019) and career decision-making difficulties decrease (Dursun & Kara, 2019).

Career Adaptability

Career adaptability is a psycho-social structure that shows the ability to cope with sudden or unexpected changes, difficulties, or obstacles in individual career development (Boo, Wang & Kim, 2021; Eryılmaz & Kara, 2018). It is a structure consisting of four coping competencies in the Savickas Career Construction Model (2013). In other words, confidence, concern, curiosity, and control are conceptualized as coping competencies that constitute career adaptability (Eryılmaz & Kara, 2020; Savickas & Porfeli, 2012). Further, career adaptability is a vital psycho-social resource for individual career development. An individual increases stress coping (Stoltz, Wolff, Monroe, Farris & Mazahreh, 2013), career decision-making self-efficacy (Stead, LaVeck & Rúa, 2021), and resilience (Xu et al., 2020) by using the resource. On the other hand, it decreases career stress (Demirtaş & Kara, 2022) and career anxiety (Shin & Lee, 2019).

Hope

Hope includes high-level cognitive processes such as setting goals, imagining how to reach these goals, planning, and mentally discovering new situations (Snyder, 2002). On the other hand, Jacoby & Goldzweig (2014) further emphasized the emotional aspect of hope. It is a three-dimensional emotional construct of intrapersonal, interpersonal, and transpersonal elements. It is another crucial structure in the individual career development process. An individual's hope level increases career exploration (Hirschi, Abessolo & Froidevaux, 2015), career adaptability and career decision-making self-efficacy (Kara, Orum-Çattık & Eryılmaz, 2022), and career decisions, career planning, and career self-efficacy beliefs (Hirschi, 2014) and decreases perceived stress (Sucan, 2019).

The Career Construction Model of Adaptation

This study utilized the Career Construction Model of Adaptation (Savickas, 2013) to develop the hypothetical model. There are four essential concepts in the Career Construction Model of Adaptation: adaptivity, adaptability, adapting responses, and adaptation results. These concepts are comprehensively conceptualized to measure and explain the relationships between psycho-social variables. For example, adaptivity is a psychological feature that includes individual readiness and willingness to adapt to changes or transitions in career development. In previous studies (Kara, Orum-Çattık & Eryılmaz, 2022; Rudolph, Lavigne & Zacher, 2017a), the hope variable has been used to measure the concept of adaptivity. Accordingly, hope has been included in measuring the concept of adaptivity in the current research. Adaptability reflects an individual's skills to cope with developmental tasks, transitions, and traumas in career development (Savickas, 2013). In previous studies, measuring the concept of adaptability was discussed with the career adapt-abilities variable (Johnston, 2018; Neureiter & Traut-Mattausch, 2017). In the current research, career adapt-abilities explain the concept of adaptability.

Meanwhile, adaptive responses are adaptive behaviors exhibited by the individual to adapt to changing conditions in career development (Hirschi, Herrmann & Keller, 2015). Career decision-making self-efficacy has been evaluated in measuring the concept of adapting responses in previous quantitative studies (Kara, Orum-Çattık & Eryılmaz, 2022) and meta-analysis research (Rudolph, Lavigne & Zacher, 2017a). Based on previous studies' theoretical and empirical findings, the concept of adapting responses in the current research was measured with the career decision-making self-efficacy variable. Finally, the concept of adaptation results is the career results obtained by the individual during the process of structuring his career development (Šverko & Babarović, 2019). Previous theoretical explanations (Rudolph, Lavigne & Zacher, 2017a; Rudolph, Lavigne, Katz & Zacher, 2017b) stated that the concept of adaptation results could explain career stress. Based on these theoretical explanations, the concept of adaptation results determined career stress.

Based on the labor market performance of undergraduate university graduates in Turkey, only 7.5% of the prospective teachers were employed for six months before graduation. Those employed in the first six months after graduation were 58.7%, and 26% were employed for one year or more after graduation (TR Presidential Human Resources Office, 2022). In addition, the unemployment rate for the young population (15-24 age group) is 24.7%, and the employment rate is 30.1%. This age group's labor force participation rate is 39.9% (TÜİK, 2021). These findings reveal a pessimistic view of employment and unemployment trends in Turkey.
Most senior university students in Turkey fear unemployment (Kara, Altınok & Şahin, 2019). Therefore, one of the most common problems among university graduates in Turkey is career stress (Gürpınar, Emül & Siyez, 2021). The most critical career problems experienced by university students in Turkey are the lack of self-

evaluation, difficulties in setting appropriate goals, and inadequate decision-making skills (Işık, 2010). Accordingly, the present study focuses on research samples of Turkish university graduates.

The current research is vital in determining the factors that reduce the career stress of senior university students. The decrease in individual career stress also lowers unemployment anxieties (Demirtaş & Kara, 2022), career indecisions (Kang, Lee & Lee, 2020), and depression (Jeong, 2016). On the other hand, career expectations (Gürpınar, Emül, & Siyez, 2021) and commitment to a career choice (Lee, 2015) increase. As a result, researching the protective factors of senior university students against career stress provides valuable insights for such students' career and mental health development. Based on previous studies of quantitative research on the Career Construction Model of Adaptation (Hirschi, Herrmann & Keller, 2015; Kara, Orum-Çattık & Eryılmaz, 2022) and meta-analysis studies (Rudolph, Lavigne & Zacher, 2017a; Rudolph, Lavigne, Katz & Zacher, 2017b), there is a lack of research testing a model with mixed design. Therefore, this research aims to analyze and evaluate the protective factors against senior university students' career stress through quantitative (Figures 1 and 3) and qualitative research methods (Figure 4).

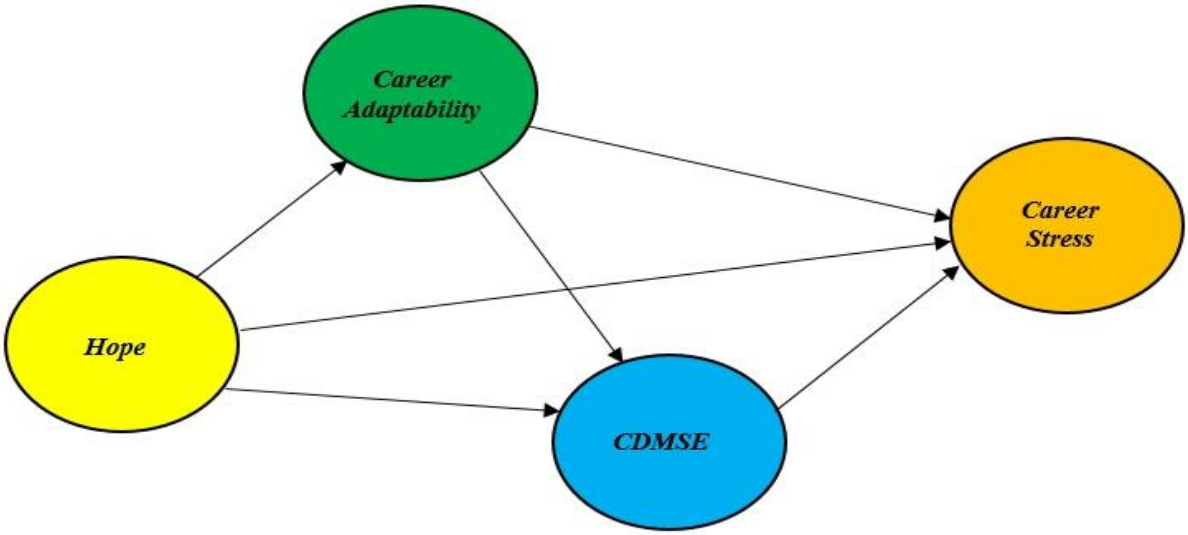

Figure 1. The hypothetical model

Note: CDMSE: Career Decision-Making Self-Efficacy.

Method

Research Model

The current research uses an embedded design. Therefore, quantitative or qualitative data are collected and analysed before, after, or together. Any data (qualitative or quantitative) in this design must support the other (Creswell, 2012). In the current research, quantitative data constitute the primary data set, while qualitative data plays a supporting role as the second data set. In addition, the causal design constitutes the quantitative part of the current research. The causal research design establishes cause-effect relationships between variables (Neuman, 2016). Hope, career adaptability, and career decision-making self-efficacy are the cause variables, and career stress is the outcome variable. On the other hand, a phenomenological design determines perceptions, experiences, and meanings about a phenomenon (Patton, 2014). The current research used a phenomenological design to explore the perceptions and experiences of senior university students about the phenomenon of career stress and the meaning attributed to this phenomenon.

Participants and Procedure

Research data was obtained through Google Docs consisting of two parts, quantitative and qualitative. In the quantitative part, the participants were asked to mark the appropriate items in the quantitative data collection tools. In contrast, in the qualitative part, the participants were asked, "When you feel stressed about the profession you have chosen, how do you go about overcoming it? What are your coping resources?" The answer

tab was opened to respond to the question sentence, and the participants were asked to write their responses. The data set excluded those reluctant to participate in the research (7 people), who attended the second grade (2 people), and who attended the third grade (28 people). A total of 353 individuals [AgeMean =23.55, AgeSd = 3.87], determined by the criterion sampling method (criteria: being a senior student at a public university in Turkey and volunteering), participated in the research. There were more female participants, with261 women (73.9%) and 92 men (26.1%).

Data Collection Tools

Dispositional Hope Scale (DHS)

Snyder et al. (1991) developed the DHS tool. Meanwhile, Tarhan and Bacanli (2015) adapted DHS to Turkish conditions and performed the validity and reliability analysis with eight items and two dimensions (actuating thinking and alternative ways thinking). Further, Tarhan and Bacanli (2015) examined construct validity using the exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) techniques. The EFA of DHS was 61% of its explained variance. The findings show CFA's the goodness-of-fit values were at an acceptable level (RFI = 0.90, CFI = 0.96, GFI = .96 and RMSEA = 0.07). In line with Tarhan and Bacanli's (2015) reliability analysis, the Cronbach Alpha internal consistency coefficient of the DHS total score was 0.84; and the test-retest reliability coefficient was 0.86.

Career Adaptabilities Scale (CAS)

The researchers who developed CAS are Savickas and Porfeli (2012). Subsequently, Kanten (2012) adapted CAS to Turkish conditions and conducted a validity and reliability analysis. CAS's original form has a 24-item and four-dimensional structure (confidence, concern, curiosity, and control). Kanten (2012) looked at construct validity through the confirmatory factor analysis technique (CAF). It has been proven that CAF has 19 items, a four-dimensional structure, and an acceptable level of goodness-of-fit values ($\chi 2/df = 3.5$; NNFI= 0.92, RFI= 0.90, CFI= 0.93 and RMSEA = 0.07). The Cronbach Alpha internal consistency coefficient among the sub-dimensions of CAS ranged between .61 and .81 in Kanten's (2012) reliability analysis.

Career Decision-Making Self-Efficacy Scale (CDSS)

The researchers who developed the CDSS are Betz et al. (1996). Işık (2010) is the researcher who adapted the CDSS to Turkish conditions and conducted a validity and reliability analysis. CDSS is a data collection tool with 25 items and five dimensions (self-appraisal, planning, goal selection, problem-solving, and occupational information). Işık (2010) examined construct validity through exploratory (EFA) and confirmatory factor analysis (CFA) techniques. Accordingly, the total explained variance in the EFA findings was 49%. In the CFA findings, CDSS was at an acceptable level ($\chi 2/df = 1.37$, GFI = 0.90, CFI = 0.90, SRMR = 0.07 and RMSEA =0.04). In the reliability analysis by Işık (2010), the Cronbach Alpha internal consistency coefficient of the total score of the CDSS was .88; and the test-retest reliability coefficient was 0.81.

Career Stress Inventory (CSI)

CSI was developed by Choi et al. (2011). Subsequently, Özden & Sertel-Berk (2015) adapted CSI to Turkish conditions and analyzed its validity and reliability. CSI has 20 items and a three-dimensional structure (career ambiguity, lack of information, external conflict, and employment pressure). Construct validity was evaluated with the exploratory factor analysis (EFA) technique by Özden & Sertel-Berk (2015). In the EFA findings, the total explained variance of CSI was 64.7%, and its eigenvalue was above 1. In addition, within the scope of reliability analysis, the Cronbach Alpha internal consistency coefficient of the total score of the CSI was 0.94; and the test-retest reliability coefficient was 0.81.

Online Survey Form

An Online Survey Form prepared by the researcher was used to collect qualitative data. In the questionnaire form, the participants were asked, "When you feel stressed about the profession you have chosen, how do you

go about overcoming it? What are your coping resources?" The answer tab was opened to respond to the question sentence, and the participants were asked to write their responses. The expressions and thoughts of the participants written on this form were evaluated as a qualitative data source.

Data Analysis

Quantitative Data Analysis

Preliminary analysis was performed before the quantitative data analysis. After the preliminary analysis, the data were analyzed using the structural equation modeling technique in two stages (first stage: testing the measurement model; the second stage: testing the structural model) (Anderson & Gerbing, 1988). In evaluating the measurement model and the structural model, some goodness-of-fit indices [$3 \leq \chi 2/df \leq 5$, $.90 \leq$ CFI, IFI, NFI, TLI $\leq .95$ (Baumgartner & Homburg, 1996; Bentler, 1980; Kline, 2015), $05 \leq$ RMSEA $\leq .09$ (Chen, Yeh & Huan, 2014; Steiger, 1990)], standardized and unstandardized factor loads, path coefficients, standard error, t values, and R^2 values were used. Skewness and kurtosis values for normality, correlation, VIF, and tolerance were also considered for multicollinearity (Finney & DiStefano, 2013; Kline, 2015). Finally, the significance of the indirect effects was tested by making 1000 resamples using the bootstrapping analysis method (Hayes, 2017).

Qualitative Data Analysis

The content analysis technique was used to evaluate qualitative data. The analysis was carried out in four main stages. Firstly, the coding of the data was carried out. Next, the coded data were classified according to similarities and differences, and sub-themes and main themes were reached. In the third stage, the central theme and sub-themes were arranged by reviewing their suitability. Finally, the findings were defined and interpreted (Corbin & Strauss, 2015). The validity and reliability of the findings obtained in the current research were verified. In this context, the researcher used a detailed description and expert supervision to increase internal validity (credibility). In order to increase the external validity (transferability), the researcher scrutinized the qualitative data and described the participants' views in detail. Finally, using the data diversity method, the researcher increased reliability (consistency) (Merriam, 2009).

Results

Quantitative Findings

In this section, the preliminary analysis is made first (see Tables 1 and 2). Then the measurement model test (see Figure 2 and Table 3) was performed, followed by the structural model test (see Figure 3 and Table 4). Finally, the bootstrapping method was used to test the significance of indirect effects (see Table 5).

Table 1. Descriptive statistics

Variables	Mean	Standard Deviation	Skewness	Kurtosis
Alternative Ways Thinking	26,05	4,48	-1,075	2,567
Actuating Thinking	23,95	5,38	-,808	,667
Concern	11,49	2,53	-,432	-,274
Control	21,47	3,12	-1,087	2,026
Curiosity	19,59	3,79	-,464	-,077
Confidence	25,97	3,49	-,921	1,491
Self-Appraisal	20,25	3,18	-,406	-,072
Occupational Information	19,81	3,08	-,478	,071
Goal Selection	20,03	3,38	-,552	,367
Planning	19,17	3,47	-,535	,378
Problem-Solving	18,08	3,78	-,203	-,542
CALI	27,40	11,94	,369	-,768
External Conflict	10,28	5,29	,615	-,643
Employment Pressure	24,32	7,13	-,638	-,068

Note: CALI: Career Ambiguity and Lack of Information

Preliminary Analysis

Before proceeding to the structural equation modeling approach, the accompanying assumptions were checked. Firstly, the skewness and kurtosis values for the normality assumption were evaluated. The skewness values of the current research vary between (-1.08 and .61) and kurtosis values (-.76 and 2.56). These values are within the limits of normality as the kurtosis value is not greater than +/-7, and the skewness value is not greater than +/-2, in line with Finney & DiStefano (2013).

The multicollinearity assumption was evaluated with VIF and tolerance values. The VIF values ranged from 2.07 to 4.46; tolerance values vary between .22 and .48. Since these values are within the tolerance greater than .10 and VIF less than five recommended by Kline (2015), there is no multicollinearity problem in the current study.

Table 2. Correlations

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Alternative Ways Thinking	1													
2. Actuating Thinking	,688**	1												
3. Concern	,413**	,502**	1											
4. Control	,469**	,538**	,532**	1										
5. Curiosity	,393**	,380**	,660**	,525**	1									
6. Confidence	,596**	,538**	,484**	,627**	,522**	1								
7. Self-Appraisal	,482**	,611**	,530**	,563**	,537**	,551**	1							
8. Occupational Information	,447**	,489**	,496**	,445**	,511**	,425**	,727**	1						
9. Goal Selection	,444**	,553**	,501**	,521**	,518**	,485**	,825**	,703**	1					
10. Planning	,441**	,606**	,574**	,548**	,549**	,520**	,790**	,670**	,787**	1				
11. Problem Solving	,422**	,579**	,461**	,390**	,439**	,391**	,639**	,583**	,620**	,664**	1			
12. CALI	-,301**	-,377**	-,460**	-,477**	-,334**	-,351**	-,546**	-,454**	-,561**	-,565**	-,346**	1		
13. External Conflict	-,206**	-,171**	-,189**	-,348**	-,128*	-,218**	-,283**	-,187**	-,342**	-,296**	-,114*	,653**	1	
14. Employment Pressure	-,138**	-,215**	-,159**	-,196**	-,149**	-,126*	-,229**	-,173**	-,240**	-,327**	-,312**	,495**	,381**	1

Note: CALI: Career Ambiguity and Lack of Information, **p<.01, *p<.05.

Table 2 shows the relationships between the observed variables. Based on Table 2, the relationships among the observed variables are significant. The highest correlation between the observed variables was between actuating thinking, one of the sub-dimensions of hope, and self-appraisal, one of the sub-dimensions of career decision-making self-efficacy (r = .61, p < .01).

Table 3. Data findings of the measurement model

Predicted		Predictor	Estimate	S.E.	*t*
CALI	<---	Career Stress	1,000		
External Conflict	<---	Career Stress	,272	,024	11,307*
Employment Pressure	<---	Career Stress	,275	,032	8,718*
Confidence	<---	Career Adaptability	1,000		
Curiosity	<---	Career Adaptability	1,072	,082	13,079*
Control	<---	Career Adaptability	,926	,067	13,742*
Concern	<---	Career Adaptability	,734	,055	13,439*
Problem-Solving	<---	CDMSE	1,000		
Planning	<---	CDMSE	1,129	,069	16,296*
Goal Selection	<---	CDMSE	1,111	,067	16,483*
Occupational Information	<---	CDMSE	,892	,062	14,474*
Self-Appraisal	<---	CDMSE	1,071	,064	16,865*
Alternative Ways Thinking	<---	Hope	1,000		
Actuating Thinking	<---	Hope	1,391	,095	14,680*

Note: *p<.001, CALI: Career Ambiguity and Lack of Information, CDMSE: Career Decision-Making Self-Efficacy.

Structural Equation Modeling (First Stage: Measurement Model)

The measurement model of this research was based on four latent variables (hope, career adaptability, career decision-making self-efficacy, and career stress) and 14 observed variables (alternative ways thinking, actuating thinking, concern, control, curiosity, confidence, self-appraisal, occupational information, goal selection, planning, problem-solving, career ambiguity and lack of information, external conflict, and employment pressure). The values of goodness-of-fit [$\chi 2$/df (291.908/71) = 4.11, p=.00, CFI = 0.93, IFI = 0.93, NFI= 0.91, TLI= 0.91, RMSEA = 0.09] were at an acceptable level. In addition, the standardized factor loads of the measurement model ranged between .48 and 1.03 (see Figure 2), and all t values (see Table 3) were significant. In other words, the observed variables in this research represent the latent variables in a meaningful way. Thus, the measurement model was validated.

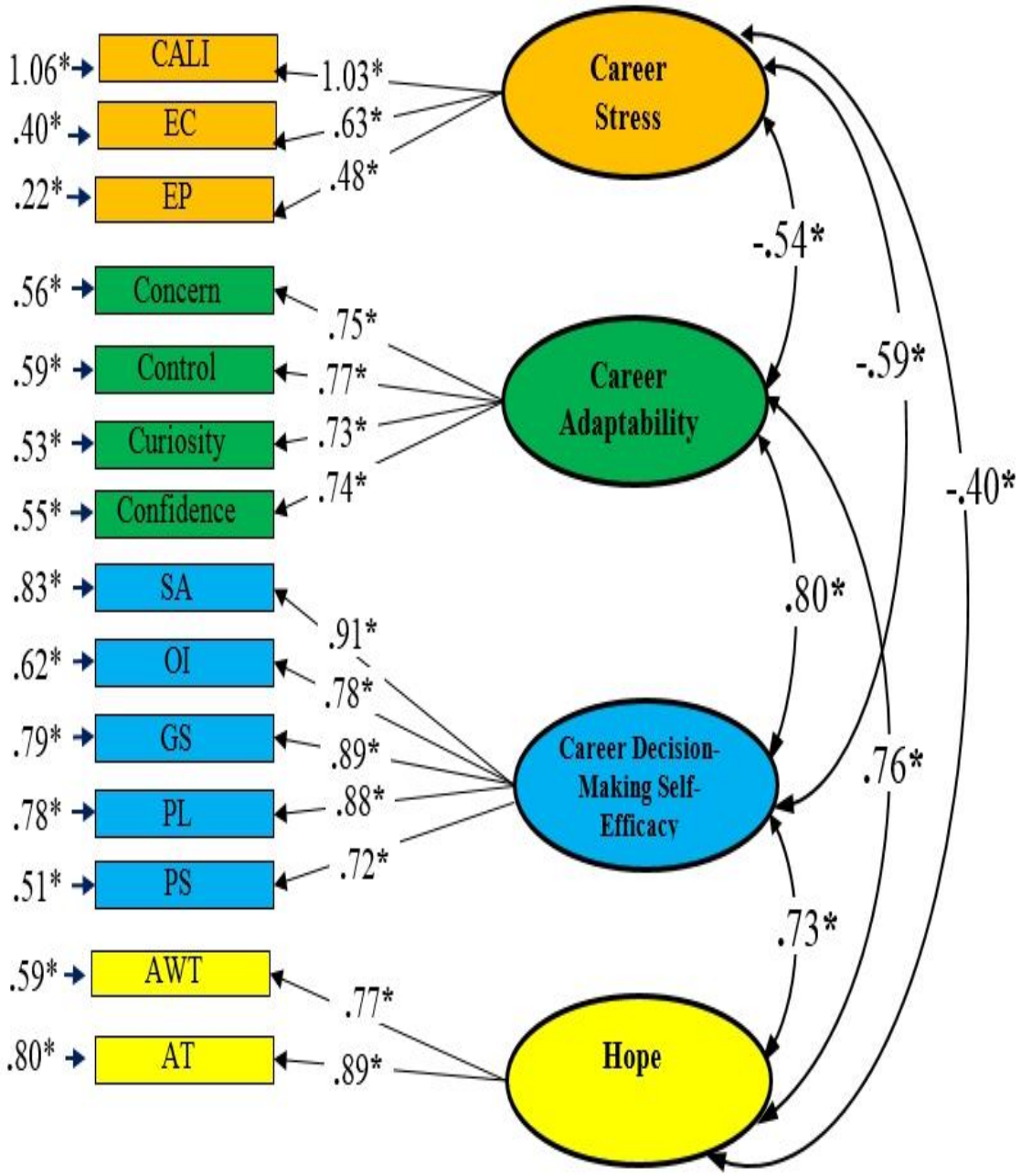

Figure 2. Standardized factor loads of the measurement model

Note: *p<.001, CALI: Career Ambiguity and Lack of Information, EC: External Conflict, EP: Employment Pressure, SA: Self-Appraisal, OI: Occupational Information, GS: Goal Selection, PL: Planning, PS: Problem-Solving, AWT: Alternative Ways Thinking, AT: Actuating Thinking.

Structural Equation Modelling (Second Stage: Structural Model)

In this research, the measurement model was validated in the first stage. Next, the structural model was tested. The goodness-of-fit values were at an acceptable level [$\chi 2/df$ (291.908/71) = 4.11, p=.00, CFI = 0.93, IFI = 0.93, NFI= 0.91, TLI= 0.91, RMSEA = 0.09]. In addition, the structural model's standardized path coefficients (see Figure 3), non-standardized path coefficients, standard error, and t values (see Table 4) exist.

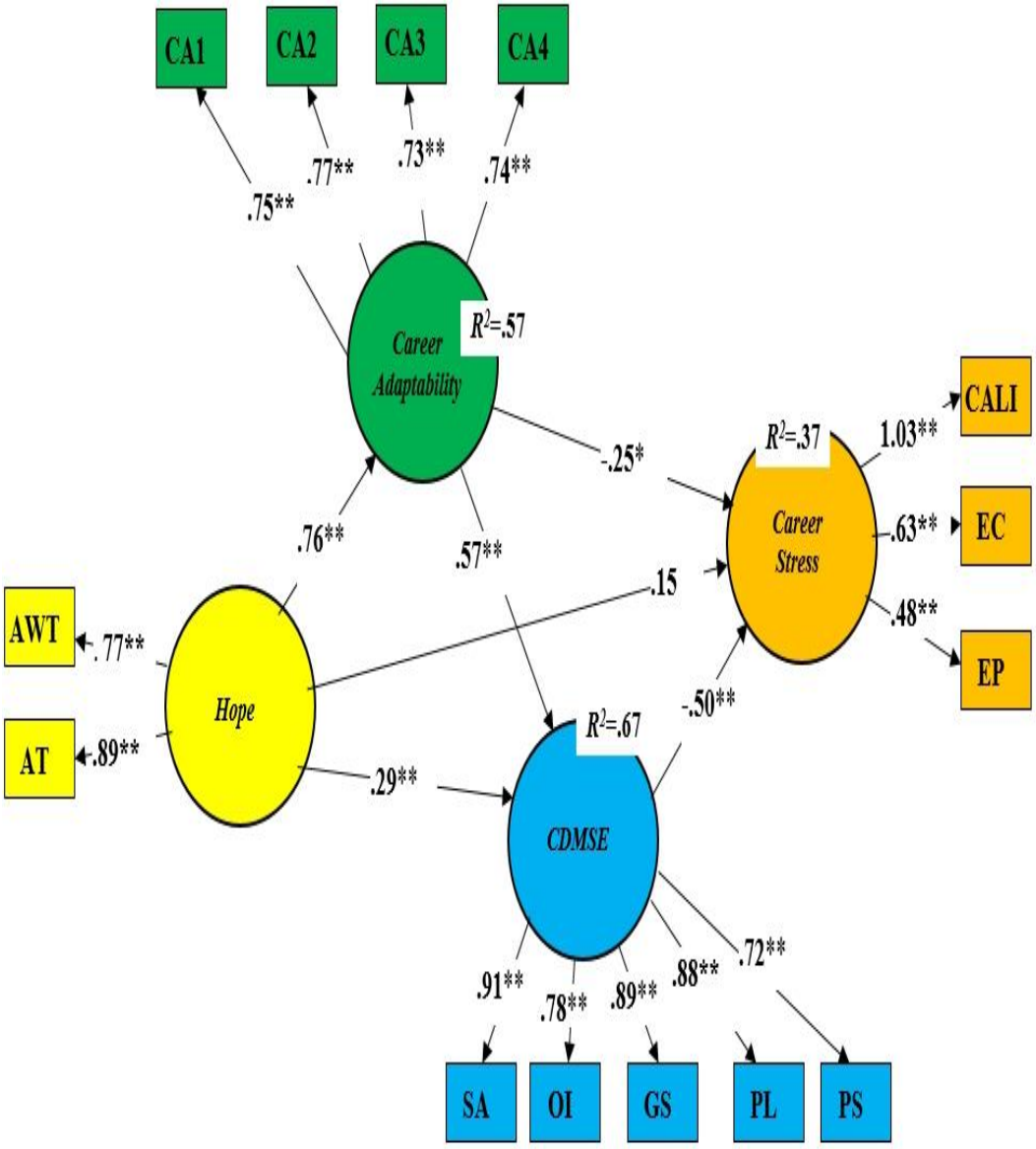

Figure 3. Standardized path coefficients of the structural model

Note: **p<.001, *p<.05. CALI: Career Ambiguity and Lack of Information, EC: External Conflict
EP: Employment Pressure, SA: Self-Appraisal, OI: Occupational Information, GS: Goal Selection, PL: Planning,
PS: Problem-Solving, AWT: Alternative Ways Thinking, AT: Actuating Thinking.
CA1: Concern, CA2: Control, CA3: Curiosity, CA4: Confidence.

Based on Figure 3, a one-unit increase in hope increases career adaptability by 0.76 (t=11.099; p<.001). A one-unit increase in career adaptability increases career decision-making self-efficacy by 0.57 (t=6.670; p<.001). Meanwhile, a one-unit increase in career decision-making self-efficacy reduces career stress by 0.50 (t=-5.554; p<.001). A one-unit increase in hope increases career decision-making self-efficacy by 0.29 (t=3.770; p<.001). Further, a one-unit increase in career adaptability reduces career stress by 0.25 (t=-2.427; p<.05). The explained variances revealed that hope accounts for 57% of career adaptability. Hope and career adaptability contributed 67% of career decision-making self-efficacy. While hope, career adaptability, and career decision-making self-efficacy accounted for 37% of career stress.

Table 4. Data findings of the structural model

Predicted		Predictor	Estimate	S.E.	*t*
Career Adaptability	<---	Hope	,416	,038	11,009**
CDMSE	<---	Career Adaptability	,820	,123	6,670**
CDMSE	<---	Hope	,229	,061	3,770**
Career Stress	<---	Hope	,542	,306	1,769
Career Stress	<---	Career Adaptability	-1,621	,668	-2,427*
Career Stress	<---	CDMSE	-2,286	,411	-5,554**
CALI	<---	Career Stress	1,000		
External Conflict	<---	Career Stress	,272	,024	11,307**
Employment Pressure	<---	Career Stress	,275	,032	8,718**
Control	<---	Career Adaptability	1,261	,090	13,939**
Curiosity	<---	Career Adaptability	1,460	,110	13,249**
Confidence	<---	Career Adaptability	1,362	,101	13,439**
Concern	<---	Career Adaptability	1,000		
Problem-Solving	<---	CDMSE	1,000		
Planning	<---	CDMSE	1,129	,069	16,296**
Goal Selection	<---	CDMSE	1,111	,067	16,483**
Occupational Information	<---	CDMSE	,892	,062	14,474**
Self-Appraisal	<---	CDMSE	1,071	,064	16,865**
Alternative Ways Thinking	<---	Hope	1,000		
Actuating Thinking	<---	Hope	1,391	,095	14,680**

Note: **p<.001, *p<.05. CALI: Career Ambiguity and Lack of Information. CDMSE: Career Decision-Making Self-Efficacy

Bootstrapping Analysis (Significance Levels of Indirect Effects)

The researcher used the bootstrapping method to test the significance of the indirect effects of 1000 resamples (Hayes, 2017). Table 5 shows the results of the analysis.

Table 5. Data findings of the bootstrapping analysis

Standardized Indirect effect	β	SE	95% CI Lower	95% CI Upper
Hope → Career Adaptability → CDMSE	.43*	.21	.231	1.091
Career Adaptability → CDMSE → Career Stress	-.28*	.11	-.509	-.162
Hope → Career Adaptability → CDMSE → Career Stress	-.55*	.21	-1.126	-.403

Note: *p<.05, β: Standardized path coefficient, SE: Standard Error, CDMSE: Career Decision-Making Self-Efficacy.

The criterion for accepting the mediation effects as significant in Table 5 is that the lower and upper bound confidence intervals do not contain zero (Shrout & Bolger, 2002). Based on the bootstrapping analysis, the mediation effect of career adaptability was significant between hope and career decision-making self-efficacy ([β = .43, 95% CI (.231, 1.091)].

In addition, the mediation effect of career decision-making self-efficacy was significant in the relationship between career adaptability and career stress ([β = -.28, 95% CI (-.509, -.162)]. Finally, the mediation effect of career adaptability and career decision-making self-efficacy was significant in the relationship between hope and career stress ([β = -.55, 95% CI (-1.126, -.403)].

Qualitative Findings

The qualitative data analysis revealed the central theme of coping with career stress. Six sub-themes were also identified: (1) hope, (2) research and self-development, (3) tending to feel-good activities, (4) positive inculcation, (5) universality, and (6) intrinsic and extrinsic motivators.

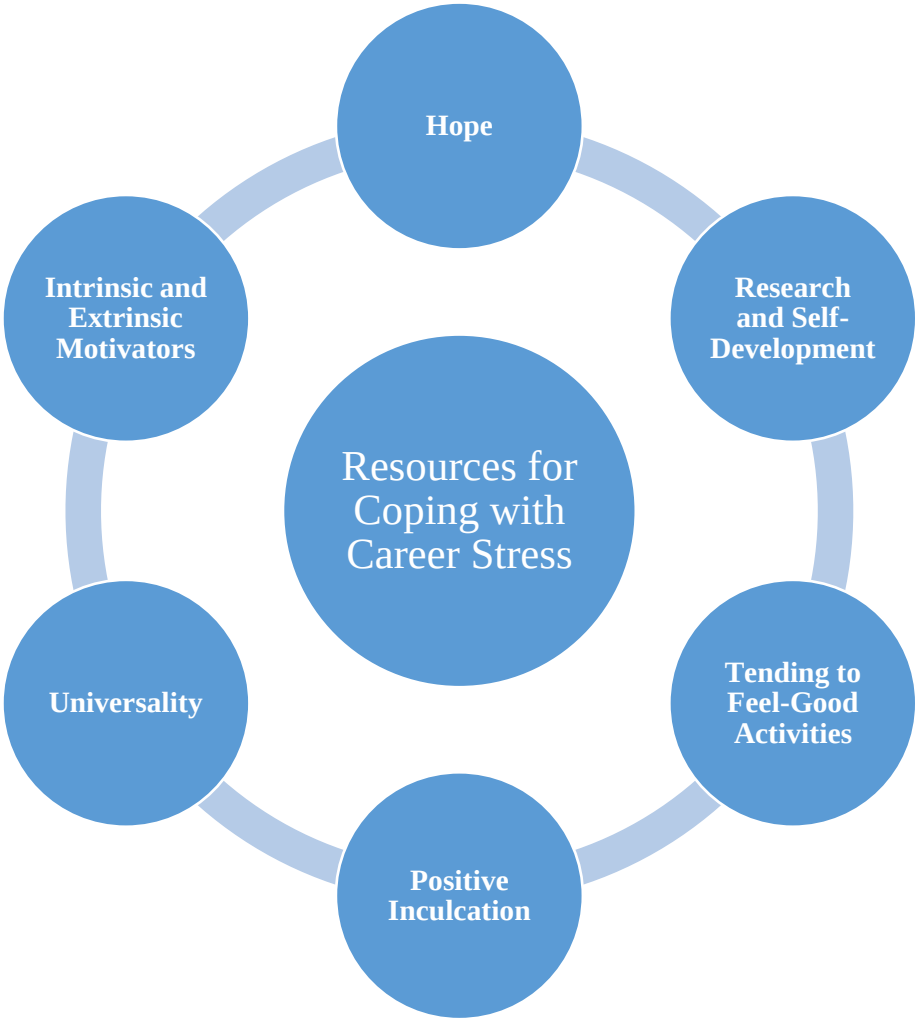

Figure 4. Central theme and sub-themes of coping with career stress

Hope

University seniors emphasized the characteristics of different resources in coping with career stress. The first of these sources is hope. One of the participants said that by instilling a sense of hope and not giving up on his/her dreams, hope became a resource for coping with stress. Another participant stated that another way of coping with stress is to think it is not long to reach their dream. The opinions of senior university students on this subject are given below.

> *My coping resources are generally based on what I can do, my faith and hope. My dreams for the future. I try to think more positively and try to be positive towards life by looking at the glass as half full (Mehmet).*

> *I try to be hopeful to cope, and I try to think hopeful that I can do as successful people in the profession did. (Ezgi).*

Research and Self-Development

The participants stated that they alleviated stress through detailed research and planning for the future. This finding highlighted the importance of research and self-development to cope with career stress as follows:

> *I try to learn as much as I can by reading more. I create plans for the future to reduce my stress and design backup plans considering the possibility of these plans not being realized. I try to improve*

myself so that I can perform my job better and get rid of stress. I can cope by doing more research and learning (Ayşe).

I'm trying to create a roadmap for myself. About what I will do when I graduate, what kind of training I will receive and which exams I will attend. As this uncertainty disappears, I realize that my stress decreases (Meryem).

Tending to Feel-Good Activities

Another point senior university students mentioned as a resource for coping with career stress is focusing on activities that make them feel good. For example, one of the participants said that when he/she is stressed, he/she listens to his/her favourite music, feels good, and continues to work. One of the participants stated that he/she reduced his/her stress by doing physical activities and examining his/her negative thoughts. The opinions of senior university students on this point are given below.

When I'm feeling stressed, I turn on my favourite music and try to relax, and then I feel better (Ali).
I tend to activities that I like, such as breathing exercises and relaxation exercises, to feel more positive, to question non-cognitive thoughts, to get away from this feeling of stress (Nurcan).

Positive Inculcations

One of the resources that senior university students apply in coping with career stress is the positive inculcations they make for themselves. The participants stated that they could encourage themselves by remembering their previous successes, stimulating their motivation to succeed. One of the participants also stated that he/she has the power to change regardless of the conditions and processes and that he/she can reduce stress by inspiring himself/herself to achieve it step-by-step. This point is based on the opinions of senior university students as follows:

When I feel stressed about my chosen profession, I usually remind myself that I am qualified for this profession and that I have received the necessary training. I remind myself not to give up. I focus on what I've accomplished before, so I see what I've done and suggest that I can do it now (Hakan).

I remind myself that I took the best opportunity that I could in the current circumstances and that it was wiser to follow this path, and I remind myself that it is always in my hands to change the course when the conditions and process change. Everything will be step-by-step, don't worry, as long as you work, I encourage myself, this relaxes me (Serap).

Universality

Another primary method of senior university students coping with career stress is that participants feel they are not alone (principle of universality). The participants viewed career stress problems as acceptable. Examples of this situation are given below:

Knowing that many people are just like me gives me some relief. I think all graduates experience this situation (Canan)

I think that many people can go through the same paths and reach their goals, and I am not lacking in them (Nuray).

Intrinsic and Extrinsic Motivators

One of the participants said that by dreaming of practicing his/her profession and thinking about the stories of successful people, he/she increased his/her internal motivation, thus overcoming stress. Another participant stated that external motivation from employed graduates made him/her feel good and decreased his/her stress. The opinions of senior university students on this point are given below:

> *I try to increase my motivation by imagining the times when I do my job. When I think I can't succeed, I try to motivate myself by thinking about how successful people succeed and it reduces my stress (Fatma).*
>
> *Listening to the speeches of the settled alumni and motivational words relax me. I also talk to my friends who will positively influence and motivate me (Murat).*

Therefore, the qualitative and quantitative findings in the structural model of the current study have some similar points. First, both quantitative and qualitative findings revealed protective factors against career stress. The sub-theme of hope in qualitative findings is similar to the exogenous hope variable in the structural model. In addition, the sub-themes of research and self-development and intrinsic and extrinsic motivators correspond to the structural model's career decision-making self-efficacy mediator variable. Finally, the sub-themes of tending to feel-good activities, positive inculcation, and universality are associated with the structural model's career adaptability mediator variable.

Discussion and Conclusion

This research aims to analyse and evaluate the protective factors against career stress among senior university students using quantitative and qualitative research methods. As a result of the structural equation modeling analysis in quantitative findings, a protective structural model was obtained against the career stresses of senior university students. In qualitative findings, the participants revealed ways of coping with career stress: hope, research and self-development, orientation to feel-good activities, the presence of those experiencing similar stress, positive inculcation, and evaluation of the effects of intrinsic/extrinsic motivators.

The structural career stress-coping model in the quantitative part was established based on the Career Construction Model of Adaptation (Savickas, 2013). Previous quantitative studies (Hirschi, Herrmann & Keller, 2015; Kara, Orum-Çattık & Eryılmaz, 2022) and meta-analysis (Rudolph, Lavigne & Zacher, 2017a; Rudolph, Lavigne, Katz & Zacher, 2017b) were examined. However, there is a limited number of studies on the effectiveness of the Career Construction Model of Adaptation. Therefore, the current research is essential to fill the gaps in existing studies on the subject matter.

Two structures make the current research different from existing studies. First is the quantitative or meta-analysis method to test the Career Construction Model of Adaptation. The current research has gone beyond the Career Construction Model of Adaptation by extensively testing it with a mixed research design that includes both qualitative and qualitative research. Likewise, there are theoretical explanations in the literature that career stress is a dependent variable in explaining the concept of adaptation results (Rudolph, Lavigne & Zacher, 2017a; Rudolph, Lavigne, Katz & Zacher, 2017b). In this regard, the present research went a step further from existing studies by using career stress to measure the concept of adaptation results to confirm theoretical explanations empirically.

The quantitative part of the current research examined a protective structural model of senior university students against career stress. The research findings support the Chaos Theory of Careers by Bright and Pryor (2005). According to this theory, career development is constantly changing and filled with stress and uncertainties. Although chaos is perceived as obscurity, confusion, and coincidence, it encourages individuals to develop flexible behaviours and increase their tolerance for chaos to reach an identifiable orderly structure. In addition, individuals can take uncertainty in a positive light by exhibiting specific behaviour and tendencies in situations of uncertainty. Bright (2020) explained this situation with the metaphor of traffic lights. Individuals try to reduce and manage uncertainty when the traffic light is yellow. These individuals plan and make predictions of their behavioural outcomes. On the other hand, individuals tend to accept and embrace change when the traffic light is green. These individuals plan and exhibit risk-taking behaviours (Korkut-Owen, 2021). The current research shows hope and career adaptability as a yellow light (planning and predicting). This planning and predicting (hope and career adaptability) alone is not enough. In order to reduce the uncertainties that will arise, the green light, symbolized as accepting, internalizing, and revealing the changes for the future, should be put into practice.

When the qualitative data obtained within the scope of the research were examined, the participants underlined being hopeful in coping with career stress. Previous studies emphasized increasing the concept of hope, which has both cognitive and emotional aspects, in coping with individual perceived stress (Sucan, 2019). The quantitative findings of the current research confirmed that the hope variable is a protective factor against career

stress. Likewise, similar findings in the statements of the participants show how effective hope is in eliminating career stress.

The participants also stated the necessity of research and self-development to cope with career stress. The participants in the current research showed that they cope with career stress by having the "what is in there" foresight and engaging in behaviours that improve their career decision competency expectations, such as research and self-development. Individuals getting to know themselves better, developing a perspective on their interests and choices, and pursuing their career goals more actively are indicators of their professional commitment. Career stress decreases, and career decision-making self-efficacy develops through correct self-assessment, learning about the profession, and goal setting (Guardado, 2019).

Another qualitative finding revealed that the participants could cope with stress by engaging in feel-good activities and positive inculcations. According to Lazarus and Folkman (1984), stress is a factor that forces or impairs the psychological well-being of individuals. In other words, stress negatively affects the psychological well-being of individuals, such as their personal development, self-acceptance, positive social relationships, and meaningful purpose in life (Günay & Çelik, 2019). For this reason, the participants must focus on activities that make them feel good and have positive inculcations about themselves. This way, they develop a coping resource to overcome career stress. Further, the findings on feel-good activities and positive inculcations are explained by the A life-span, life-space approach to career development (Super, 1980). According to this theory, career development and mental health are related processes from the perspective of lifelong development (Kara, 2016; Eryılmaz & Mutlu, 2017). In the current study, individuals engaging in activities that made them feel good and positive inculcations show that they want to improve their mental health. Therefore, they reduced career stress by carrying this positive development into career development areas.

In the present research, the qualitative findings show that when participants see other individuals experiencing similar career stress, they feel the stress is acceptable. Yalom talked about healing factors that provide change and development in the group counseling process. One of them is universality. The principle of universality is that individuals feel that they are not alone in the group process and begin to see the problem they experience as acceptable (Koydemir, 2012). The participants in this research are individuals in their last year as senior students. They were relieved that other individuals like them also had similar experiences, thus lowering their stress.

In the last qualitative finding, the participants emphasized the existence of internal and external motivators in coping with career stress. Higher success-oriented motivation in university student's decreases career stress (Yemenici, Bozkurt & Özkara, 2020). In the current research, some participants reduced their career stress by dreaming of a successful career. In other words, intrinsic motivation is a factor that reduces career stress among senior university students. In addition, other participants stated that positive motivational words from the external environment reduced their career stress. In other words, external motivators, such as the external environment other than internal motives, also reduce career stress among senior university students.

Limitations and Recommendations

The current research has some limitations. First, the quantitative data were obtained instantaneously and involved a cross-sectional research group. Second, qualitative data were collected through an online questionnaire. Nevertheless, the current research examines career stress among senior university students through a protective structural model and quantitative and qualitative findings. The dimensions of this model shed light on experimental research that includes psycho-educational programs to reduce career stress in the future. In the qualitative finding of the current research, the participants stated that they used six resources to cope with career stress. These qualitative data may constitute variables in quantitative research on career stress in the future. Finally, the present study's qualitative and quantitative data will guide the strategies of career counsellors for clients experiencing career stress.

Scientific Ethics Declaration

The author declares that the scientific ethical and legal responsibility of this article published in JESEH journal belongs to the author.

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