| Research Article / Araştırma Makalesi|

Cognitive Control and Flexibility as Predictor of Career Adaptability in Emerging Adults

Beliren Yetişkinlerde Kariyer Uyumluluğunun Yordayıcısı Olarak Bilişsel Kontrol ve Esneklik[1]

Ayşe Sibel Demirtaş[2], **Ahmet Kara**[3]

Abstract

Purpose: The main purpose of this study is to reveal the predictive role of cognitive control and flexibility on career adaptability of emerging adults and the relationships among the variables.

Design/Methodology/Approach: A total of 318 emerging adults, 193 female (60.7%) and 125 male (39.3%) participated in the study. The age range of the participants in the study is 19-26 and the mean age is 21.52 (SD: 1.57). The data of the study were collected by the Career Adaptability Scale and the Cognitive Control/Flexibility Questionnaire. Pearson correlation coefficient and multiple regression analysis were used to analyze the data.

Findings: The findings of the study revealed that the variables in the study showed positive correlations and appraisal/coping flexibility factor significantly predicted career adaptability. According to the regression model, appraisal/coping flexibility factor explains approximately 12% of the total variance in career adaptability.

Highlights: The results of the study were discussed in light of the literature, and the recommendations were proposed to the experts and researchers working in the field of career psychological counseling.
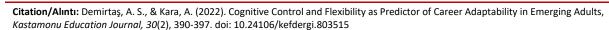
Öz

Çalışmanın amacı: Bu araştırmanın temel amacı beliren yetişkinlerde, bilişsel kontrol ve esnekliğin, kariyer uyumluluğunu yordama gücünü ve değişkenlerin aralarındaki ilişkileri ortaya koymaktır.

Materyal ve Yöntem: Araştırmaya 193'ü kadın (%60.7) ve 125'i erkek (%39.3) olmak üzere toplam 318 gönüllü beliren yetişkin katılım göstermiştir. Araştırmaya katılanların yaş ranjları 19-26, yaş ortalamaları 21.52'dir (SS: 1.57). Araştırmanın verileri, Kariyer Uyumluluğu Ölçeği ve Bilişsel Kontrol/Esneklik Ölçeği ile toplanmıştır. Verilerin analizinde Pearson korelasyon katsayısı ve çoklu regresyon analizi kullanılmıştır.

Bulgular: Çalışmanın bulguları araştırmada yer alan değişkenler arasında pozitif yönde bir ilişki olduğunu ve bilişsel kontrol/esnekliğe ait değerlendirme ve başa çıkma esnekliği faktörünün kariyer uyumluluğunu anlamlı bir şekilde yordadığını ortaya koymuştur. Regresyon modeline göre bilişsel kontrol/esnekliğin bu alt faktörü kariyer uyumluluğundaki toplam varyansın yaklaşık % 12'sini açıklamaktadır.

Önemli Vurgular: Araştırmanın sonuçları alanyazın ışığında tartışılarak, kariyer psikolojik danışmanlığı alanında çalışan uzmanlara ve araştırmacılara önerilerde bulunulmuştur.

[1] Add footnote here.
[2] **Corresponding Author,** Alanya Alaaddin Keykubat University, Faculty of Education, Department of Psychological Counseling and Guidance, Antalya, TÜRKİYE; sibel.demirtas@alanya.edu.tr, https://orcid.org/0009-0001-7793-9583
[3] Kastamonu University, Faculty of Art and Sciences, Department of Psychology / Developmental Psychology, Kastamonu, TÜRKİYE; ahmetkara@kastamonu.edu.tr, https://orcid.org/0000-0002-1155-619X

INTRODUCTION

In order to remain productive, purposeful, and profitable in their career lives, individuals need to adapt effectively to changing personal needs, environmental demands, and opportunities throughout their lives (Hartung & Cadaret, 2017). Career adaptability was first conceptualized as career maturity to describe an individual's ability to maintain career-oriented behavior and confidence in career choice in the face of business challenges (Super & Knasel, 1981). Career adaptability, which is at the center of Career Construction Theory (Savickas, 1997, Savickas, 2002, Savickas, 2005, Savickas, 2013), was defined as "a psychosocial construct that denotes an individual's resources for coping with current and anticipated tasks, transitions, traumas in their occupational roles" (Savickas & Porfeli, 2012, p. 662). Career adaptability refers to the readiness of individuals to cope with unforeseen adaptability caused by changes in working and working conditions, as well as predictable tasks in preparing and participating in work roles (Savickas, 1997). According to the Construction Theory, adaptability is a stable personality trait that includes readiness and willingness to adapt to career changes and affects the development and use of career adaptation resources (Savickas, 2013).

The results of a meta-analysis study (Rudolph et al., 2017) based on the Career Construction Theory showed that career adaptability is associated with adaptation measures (cognitive ability, big five personality traits, self-esteem, basic self-assessments, proactive personality, future orientation, hope, and optimism), adaptation of responses (career planning, career exploration, professional self-efficacy, and career decision-making self-efficacy), adjustment results (career identity, search, career/ job/school satisfaction, emotional organizational commitment, job stress, employability, promotability, intention to leave, income, self-reported job performance, entrepreneurial outcomes, life satisfaction, and positive and negative emotions) and also certain demographic characteristics (age, education). Also, other studies revealed that career adaptability is related to subjective well-being (Hartung & Taber, 2008), resilience (McIlveen et al., 2019), life satisfaction (Ramos & Lopez, 2018), self-esteem (Duffy, 2010), post-traumatic growth (Prescod & Zeligman, 2018), emotional intelligence (Merino-Tejedor et al., 2018), hope and optimism (Santilli et al., 2019).

A study of adults' career adaptability in Turkey reported that the participants with a high level of resilience, hope, and optimism as positive personality traits perceived themselves as more adaptive in their careers (Büyükgöze-Kavas, 2016). In another study conducted on teacher candidates (Gerçek, 2018), it was shown that there were significant negative relationships between vocational anxiety levels and career adaptability levels. In a study conducted by Eryılmaz and Kara (2018), it was found that career adaptability of teacher candidates increased as their career decision-competence expectations increased, and career adaptability decreased as career obstacles increased.

Another important feature associated with career adaptability is cognitive flexibility. When individuals encounter situations that require adaptation, they cognitively evaluate their ability to respond adaptively to the demands of the environment (Lazarus & Folkman, 1984). Cognitive flexibility has been conceptualized as "(a) an awareness that in any given situation, there are options and alternatives available, (b) willingness to be flexible and adapt to the situation, and (c) self-efficacy in being flexible" (Martin & Rubin, 1995, p.1). According to Dennis and Vander-Wal's definition, cognitive flexibility is the "ability to switch cognitive sets to adapt to the changing environmental stimuli" (2010, p. 242). The cognitive control/flexibility concept studied in this study is based on the model introduced by Gabrys et al. (2018). According to this model, cognitive control/flexibility is an important feature that is effective in an individual's ability to adapt to new situations that require change. Cognitive control over emotion defines the ability to control individuals' negative repetitive thoughts and feelings. On the other hand, appraisal/coping flexibility requires the ability to manage negative thoughts and emotions by re-evaluating the situation that requires adaptation and to choose the appropriate strategy by creating alternative coping strategies.

Cognitive flexibility, which is an important feature related to career adaptability of individuals, is related to the ability to adjust problem-solving strategies within the scope of the requirements of a change of task (Al Jabari, 2012). In the literature, studies are showing that cognitive flexibility is an important predictor of an individual's adaptability (Lepine et al., 2000). For example, in a study conducted by Lin (2013) on university students, it was reported that cognitive flexibility was an important predictor of openness to experience. In a similar study conducted by Demirtaş in Turkey (2020), it was shown that cognitive flexibility has an important role in adjustment to university life. Although no study directly addresses the relationship between career adaptability and cognitive flexibility in the literature, there are studies that examine cognitive flexibility in terms of some variables related to career adaptability. For example, Lee et al. (2020) reported that in the mediation model they tested, cognitive flexibility levels of university students had a significant effect on career maturity. In a recent study by Yıldız et al. (2020), it has been shown that cognitive flexibility in university students is an important predictor of career future. The findings of the research conducted by Demirtaş (2019) on 509 emerging adults who received pedagogical formation training revealed that both cognitive control over emotion and appraisal/coping flexibility had negative relationships with career stress.

The question of whether individuals can adapt to new or changing situations is becoming more and more important in today's rapidly developing and changing world (Morrison & Hall, 2002; Hamtiaux & Houssemand, 2012). The life period in which the participants constitute the study group of this research is a phase of the life-span between adolescence and adulthood, which is conceptualized as emerging adulthood by Arnett (2000). Arnett (2000) suggested that emerging adulthood is a different period between the ages of 18 and 25 when adolescents become more independent and explore various life possibilities. Five basic characteristics distinguish emerging adulthood from the previous adolescence period or the following young adulthood as a developmental period (Arnett, 2006). First, it is the period when people are most likely to discover various possibilities for their

lives in various fields, particularly love and work, as a starting point for making permanent choices that will form the basis of their adult lives. Secondly, the discoveries in the emerging adult stage make this stage of life not only highly stimulating and eventful but also highly unstable. The various behaviors of individuals at this stage reflect their discovery of different possibilities and their frequent change of direction regarding love, work, and education. Third, individuals at this stage are more self-centered rather than selfish. Their social obligations, their low duties, and responsibilities towards others give them autonomy in managing their own lives. Fourth, this phase is a period in which the individual feels in between, neither as an adolescent nor as an adult. Fifth, and lastly, this phase is the age of possibilities where individuals are highly optimistic about their future and people have a unique opportunity to transform their lives (Arnett, 2006). Although there is limited research on emerging adulthood in Turkey, it is stated that this period is comprised of the age range of 19-26 (Atak & Çok, 2007). The results of the limited number of studies show that this period takes place within the framework of the limitations brought by the social, economic, and cultural conditions and that the dependence on the family is relatively more preserved in this process in Turkey (Doğan & Cebioğlu, 2011). Also, due to the high unemployment and the complexity of businesses in Turkey, individuals can be directed to only certain professions by their families in this period (Doğan & Cebioğlu, 2011). Therefore, while emerging adults tend to explore various career opportunities that are compatible with the developmental period they are in, they also face difficulties in finding satisfying and longer-term jobs (Konstam et al., 2015). Career adaptability is an important feature that helps individuals effectively deal with career uncertainty and uncertain job roles (Chong & Leong, 2017). In light of theoretical explanations and research, this study aims to examine career adaptability of emerging adults who continue their university education in Turkey in terms of cognitive control/flexibility levels. It was hypothesized that emerging adults with high cognitive control/flexibility levels would have high career adaptability. It is considered that the results of the research will contribute to the field of career psychological counseling. This study examining career adaptability of emerging adults in terms of cognitive processes is thought to be important as career psychological counseling is a process that not only helps individuals make career-related decisions but also helps them manage their careers effectively throughout their lives and develop resilience to cope with the challenges that arise as their work lives progress (Kidd, 2007).

METHOD/MATERIALS

In this section, research design, study group, data collection tools, process/data analysis, and data analysis subtitles are presented.

Research Design

This research is designed in a correlational design. In the correlational design, the existence and direction of relationships between variables are discussed (Fraenkel & Wallen, 2006). This study was conducted following the correlational research design as it aimed to reveal the predictive role of cognitive control/flexibility levels (predictive variable) of emerging adults on their career adaptability (predicted variable) and the relationships between them.

Study Group

A total of 318 volunteers, including 193 women (60.7%) and 125 men (39.3%), participated in the study. The age ranges of the participants are 19-26 and the average age is 21.52 (SD: 1.57). In determining the study group, a convenience sampling method, which includes studying an accessible sample, was used (Cohen et al., 2007). Based on this method, the university students who continue the programs in the Faculty of Education of a university located in the Mediterranean Region and the students who continue the pedagogical formation education at the same faculty were included in the study. Informed consent was provided for participation in the study, and volunteerism was taken as a basis.

Measures

The data of the study were collected by the Career Adaptability Scale and the Cognitive Control and Flexibility Questionnaire.

Career Adaptability Scale (CAS). The CAS was developed by Eryılmaz and Kara (2016). The measurement tool consists of 10 items and two dimensions including career discovery and career plan. While the lowest 10 points were taken from the CAS; the highest 50 points can be obtained. The lowest score is 10 and the highest score is 50 obtained from the 5 Likert-type scale. The increase in the scores obtained from the scale is interpreted as the higher career adaptability of the individuals. The exploratory and confirmatory factor analysis methods were used in the validity study of the scale. In the exploratory factor analysis, the total explained variance was found to be 55.87%. Also, the results of the confirmatory factor analysis revealed that the two-factor model had high fit indexes (Eryılmaz & Kara, 2016). Cronbach's alpha internal consistency coefficient was found as .85. In this study, the first-level confirmatory factor analysis was used for the construct validity of the Career Adaptability Scale. The results of the goodness of fit indexes of the scale ($\chi2 / df$ = 3.23, CFI = .94, IFI = .94, NFI = .91, TLI = .92, GFI = .93, AGFI = .89, RMSEA = .08 (90% GA RMSEA = [.06, .10])) has been interpreted as within acceptable limits (Jöreskog & Sörbom, 1993; Kline, 2005; Schumacker & Lomax, 1996; Tabachnick & Fidell, 2013). Also, Cronbach's alpha reliability coefficient calculated for the reliability analysis in this study was α = .71 for career plan and α = .86 for career exploration, and α = .85 for the total scale.

Cognitive Control and Flexibility Questionnaire (CCFQ). The scale was developed by Gabrys et al. (2018). The scale measures the ability of individuals to maintain control over their negative thoughts and emotions, their ability to approach the situation with alternative perspectives, and to show the appropriate response instead of giving sudden reactions in challenging situations. The adaptation study of the scale to Turkish was conducted by Demirtaş (2019). The psychometric properties of the scale were investigated by linguistic equivalence, item analysis, construct validity, and Cronbach's alpha reliability. The results of the

confirmatory factor analysis showed that the two-factor structure of the scale, Cognitive Control over Emotion and Appraisal and Coping Flexibility, has adequate fit values. Cronbach's alpha coefficients obtained in the adaptation study of the scale were reported as between .85 and .91. In this study, the construct validity of the CCFQ was evaluated with first-level confirmatory factor analysis. The first-order confirmatory factor analysis results showed that the goodness of fit indexes of the scale ($\chi2 / df$ = 2.69, CFI = .90, IFI = .90, NFI = .85, TLI = .88, GFI = .89, AGFI = .86, RMSEA = .07 (90% GA RMSEA = [.06, .08]) were within acceptable limits (Jöreskog & Sörbom, 1993; Kline, 2005; Schumacker & Lomax, 1996; Tabachnick & Fidell, 2013). Cronbach's alpha coefficients of the scale were calculated as α = .83 for cognitive control over emotions factor; α = .87 for appraisal and coping flexibility and α = .88. for the total.

Research Design

The data of the study were collected in a state university in the Mediterranean Region in the 2019-2020 academic year. The Data collection tools were applied by the researcher in a classroom. The study was based on volunteerism by providing informed consent. First, the validity and reliability analyses of the measures were conducted. The first-level confirmatory factor analysis was performed for the construct validity of the measures. AMOS 21 program was used in these analyzes. Then, the preliminary analyzes of the data were calculated. At this stage, the skewness and kurtosis values were examined for the normality assumption. After the normality assumption was met, Pearson correlation analysis and the multiple regression analysis techniques were applied. These analyzes were done through SPSS 21.

FINDINGS

The kurtosis and skewness values for the normality assumption were investigated. As the values of skewness and kurtosis showed acceptable ranges in the region of -1 to +1 (career adaptability: skewness -81, kurtosis: 1.17; cognitive control over emotion: skewness .14, kurtosis: -.41; appraisal and coping flexibility: skewness -.39, kurtosis .76; cognitive control/flexibility: skewness -.04, kurtosis .21), it was concluded that the scores did not show a significant deviation from the normal distribution (Tabachnick & Fidell, 2013). Descriptive statistics and the skewness/kurtosis values are given in Table 1.

Table 1. Descriptive Statistics, Skewness ve Kurtosis Values

Variables	N	$\bar{X}$	SD	Skewness	Kurtosis
Career Adaptability	318	39.53	5.83	-.81	1.17
Cognitive Control Over Emotion	318	36.66	9.59	.14	-.41
Appraisal and Coping Flexibility	318	47.72	7.49	-.39	.76
Cognitive Control/Flexibility	318	84.39	14.73	-.04	.21

The Pearson correlation analysis finding between the variables in the study are presented in Table 2.

Table 2. Pearson's Product of Moments Correlation Analysis Results

Variables	Career Adaptability	Cognitive Control over Emotion	Appraisal and Coping Flexibility
Career Adaptability	1	.24**	.34**
Cognitive Control over Emotion	.24**	1	.47**
Appraisal and Coping Flexibility	.34**	.47**	1

p< .01**, *p*<.05*

Table 2 shows that career adaptability is positively correlated with cognitive control over emotion factor (r=.24; *p*<.01). Also, there is a positive relationship between career adaptability and appraisal/coping flexibility factor (r= .34; *p*<.01). The findings of the multiple regression analysis among the variables in the study are given in Table 3.

Table 3. Variance Statistics Regarding the Variable Predicting Career Adaptability

Model	R	R²	SEE	Variance Statistics				
Model 1	.35	.12	5.47	ΔR²	ΔF	Df1	Df2	*p*
				.12	22.58	2	315	.00

Not. SEE = Standard Error of Estimate, df = Degree of Freedom

Table 3 shows that the regression model developed to determine to what extent appraisal/coping flexibility predicts career adaptability ($F_{(2,315)}$ = 22.58, p< .01, R = .35, R^2 = .12, $ΔR^2$= .12) is statistically significant.

Table 4. Multiple Regression Analysis of the Variable Predicting Career Adaptability

Model		Unstandardized Coefficients		Standardized Coefficients			
		B	SE	β		*t*	*p*
Model 1	(Constant)	26.34	1.99			14.26	.00
	Cognitive Control Over Emotion	.06	.03	.10		1.68	.09
	Appraisal and Coping Flexibility	.22	.04	.29**		4.90	.00

Not: p< .01**, p<.05*

Table 4 shows that appraisal and coping flexibility is a significant predictor of career adaptability (β= 29; t= 4.90; p<.01) and explains approximately 12% of the variance in career adaptability.

DISCUSSION

The results showed that career adaptability positively correlated with both factors (cognitive control over emotion and appraisal/coping flexibility) of cognitive control/flexibility. On the other hand, only appraisal/coping flexibility factor statistically predicted career adaptability. The regression model revealed that appraisal/coping flexibility explained approximately 12% of the variance in career adaptability.

Career adaptability is an important characteristic that helps individuals effectively deal with career ambiguity and uncertain job roles (Chong & Leong, 2017). In cognitive control/flexibility model conceptualized by Gabrys et al. (2018), cognitive control over emotion refers to an individual's ability to control repetitive negative thoughts and emotions. Appraisal/coping flexibility shows the tendency to manage negative thoughts and emotions by re-evaluating stressful situations and formulating multiple alternative coping strategies before choosing the appropriate one. Although no study addresses career adaptability in terms of the cognitive control/flexibility model of Gabrys et al. (2018), there are limited studies on the relationship between career adaptability and cognitive flexibility. This study is consistent with the research findings conducted by Chong and Leong (2017) on 307 university students with work experience in the career field, demonstrating that responsibility, cognitive flexibility, and environmental exploration are associated with strategic career management through career adaptability. The results of an experimental study conducted by Janeiro et al. (2014) on high school students showed that a six-week career intervention aimed at increasing career adaptability had a stronger effect on students with low career maturity, pessimistic, and highly negative views about the future. The appraisal and coping flexibility factor of cognitive control/flexibility is related to the ability to engage in a series of effortful behaviors that can facilitate the selection of alternative coping strategies. Therefore, it can be concluded that this experimental study confirms the relationships between career adaptability and appraisal/coping flexibility. Furthermore, the findings of the study by Yıldız-Akyol and Boyacı (2020) examining career adaptability of university students in terms of their career futures showed that there is a positive significant relationship between cognitive flexibility and career adaptability, which is one of the factors of career future, consistent with this study. In light of all these studies, it can be said that cognitive flexibility is an important feature that increases career adaptability.

CONCLUSION AND RECOMMENDATIONS

In the light of the relevant literature and based on the research findings, it can be concluded that individuals with cognitive flexibility have the ability to evaluate occupational ambiguity in detail and appropriately, to create more than one alternative coping strategy before choosing the appropriate one, and thus have a higher level of career adaptability. This study examining the cognitive control/flexibility levels and career adaptability of emerging adults has some limitations. One limitation of the study is that the participants were selected using the convenience sampling method. Similar studies on different samples can increase the generalizability of the research findings. Another limitation of the research is that the research is carried out in a cross-sectional design since it cannot reveal the causality between the relationships. Besides these limitations, it is thought that the research will contribute to the understanding of the relationships between cognitive control/flexibility and career adaptability. Based on these results, some suggestions can be made for future research. Based on the regression model found significant in this study, different models can be created in the relational research design. Also, experimental studies may be suggested to examine the relationships between variables in the context of cause and effect. The findings of the study can provide a guide to experts working in the field emphasizing that individuals' cognitive flexibility has an important role in increasing career adaptability when designing career

psycho-educational programs. In this context, it is considered that the programs developed based on cognitive flexibility will contribute significantly to the career development of individuals. In addition to career psycho-educational programs aimed at assessing and developing individuals' competencies and skills, this study is also considered to be important in terms of career psychological counseling which is a process that not only helps individuals make career-related decisions but also helps them manage their careers effectively throughout their lives and develop emotional resilience to cope with the challenges that arise as their work lives progress (Kidd, 2007).

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest concerning the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

Statements of Publication Ethics

We hereby declare that the study has no unethical issues and that research and publication ethics have been observed carefully.

Authors' Contribution Rate

A.S.D and A.K. conceived of the presented idea. A.S.D. and A.K. wrote the introduction. A.S.D. collected and transcribed the data. A.K. analyzed the data and wrote the findings. A.S.D. wrote the discussion and conclusion. A.K. wrote the recommendations. All authors contributed to the final manuscript.

Researchers' Contribution Rate

The study was conducted and reported with the equal collaboration of the researchers.

Ethics Committee Approval Information

The research was reviewed and approved by the Scientific Research and Publication Ethics Committee of Alanya Alaaddin Keykubat University (Approval Date: 01.06.2020, Approval Document Number: 88431307-050.01.04-E.9233).

REFERENCES

Al Jabari, R. M. (2012). *Relationships among self-esteem, cognitive and psychological flexibility, and psychological symptomatology* [Unpublished master's thesis]. University of North Texas. https://digital.library.unt.edu/ark:/67531/metadc177172/m2/1/high_res_d/thesis.pdf

Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist, 55*, 469– 480. https://doi.org/10.1037/0003-066X.55.5.469

Arnett, J. J. (2006). *Emerging adulthood: Understanding the new way of coming of age.* In J. J. Arnett & J. L. Tanner (Eds.), *Emerging adults in America: Coming of age in the 21st century* (pp. 3–19). American Psychological Association. https://doi.org/ 10.1037/11381-001

Atak, H., & Çok, F. (2007, February 15-16). *Emerging adulthood and perceived adulthood in Turkey* [Conference presentation]. 3rd Conference on Emerging Adulthood, Tucson, AZ, USA.

Büyükgöze- Kavas, A. (2016). Predicting career adaptability from positive psychological traits. *The Career Development Quarterly, 64*(2), 114-125. https://doi.org/10.1002/cdq.1204

Chong, S., Leong, F. T. L. (2017). Antecedents of career adaptability in strategic career management. *Journal of Career Assessment, 25*(2), 268- 280. https://doi.org/10.1177/1069072715621522

Demirtaş, A. S. (2019). Cognitive control and cognitive flexibility in the context of stress: A scale adaptation. *Studies in Psychology, 39*(2), 345- 368. https://doi.org/10.26650/SP2019-0028

Demirtaş, A. S. (2020). Optimism and happiness in undergraduate students: Cognitive flexibility and adjustment to university life as mediators. *Annals of Psychology, 36*(2), 320-329. https://doi.org/10.6018/analesps.381181

Dennis, J. P., & Vander Wal, J. S. V. (2010). The Cognitive Flexibility Inventory: Instrument development and estimates of reliability and validity. *Cognitive Therapy and Research, 34*(3), 241-253 https://doi.org/10.1007/s10608-009-9276-4

Doğan, A., & Cebioğlu, Ş. (2011). Beliren yetişkinlik: Ergenlikten yetişkinliğe uzanan bir dönem. *Türk Psikoloji Yazıları, 14*(28), 11–21. https://psycnet.apa.org/record/2012-02972-002

Duffy, R. D. (2010). Sense of control and career adaptability among undergraduate students. *Journal of Career Assessment, 18*, 420-430. https://doi.org/10.1177/1069072710374587

Dyson, R, & Renk, K. (2006). Freshmen adaptation to university life: Depressive symptoms, stress, and coping. *Journal of Clinical Psychology, 62*(10), 1231-1244. https://doi.org 10.12691/rpbs-3-2-1

Eryılmaz, A., & Kara, A. (2016). Investigation of psychometric properties of Career Adaptability Scale. *The Online Journal of Counseling and Education,* *5*(1), 29-39. http://eds.b.ebscohost.com/eds/pdfviewer/pdfviewer?vid=0&sid=68026f82-edd2-4967-aba6-8c4773c55c7f%40pdc-v-sessmgr05

Eryılmaz, A., & Kara, A. (2018). Öğretmen adaylarının kariyer uyumlulukları: kariyer kararı yetkinlik beklentisi ve kariyer engelleri açısından incelenmesi. *International Online Journal of Educational Sciences, 10*(2), 235-244. https://doi.org/10.15345/iojes.2018.02.016

Fraenkel, J. R. & Wallen, N. E. (2006). *How to design and evaluate research in education* (7th ed.). McGraw-Hill Pub.

Gabrys, R. L., Tabri, N., Anisman, H., & Matheson, K. (2018). Cognitive control and flexibility in the context of stress and depressive symptoms: The Cognitive Control and Flexibility Questionnaire. *Frontiers in Psychology, 9*, 1-19. https://doi.org/10.3389/fpsyg.2018.02219

Gerçek, M. (2018). Mesleki kaygı ve kariyer uyumluluğu arasındaki ilişkiler: Öğretmen adayları açısından bir inceleme. *Trakya Üniversitesi Sosyal Bilimler Dergisi, 20*(2), 297-312. https://doi.org/10.26468/trakyasobed.401010

Han, H., & Rojewski, J. W. (2015). Gender-specific models of work-bound Korean adolescents' social supports and career adaptability on subsequent job satisfaction. *Journal of Career Development, 42*(2), 149-164. https://doi.org/10.1177/0894845314545786

Hamtiaux A., & Houssemand, C. (2012). Adaptability, cognitive flexibility, personal need for structure, and rigidity. Psychology Research, 2(10), 563-585. . https://doi.org/10.17265/2159-5542/2012.10.001

Hartung P. J., Cadaret M. C. (2017) Career adaptability: Changing self and situation for satisfaction and success. In Maree K. (Ed) *Psychology of Career Adaptability, Employability and Resilience (pp.15-28).* Springer, Cham. . https://doi.org/10.1007/978-3-319-66954-0_2

Hartung, P. J., & Taber, B. J. (2008). Career construction and subjective well-being. *Journal of Career Assessment, 16*, 75–85. . https://doi.org/10.1177/1069072707305772

Janeiro, I. N., Mota, L. P., Ribas, A. M. (2014). Effects of two types of career interventions on students with different career coping styles. *Journal of Vocational Behavior, 85*(1), 115-124. https://doi.org/10.1016/j.jvb.2014.05.006.

Jolliffe I.T. (1986). Principal Components in Regression Analysis. In: *Principal Component Analysis*. Springer Series in Statistics. Springer, New York, NY. https://doi.org/10.1007/978-1-4757-1904-8_8

Jöreskog, K. G., & Sörbom, D. (1993). *LISREL 8: Structural equation modeling with the SIMPLIS command language*. Scientific Software International.

Kidd, J. M. (2007). Career counseling. H. Gunz and M. A. Peiperl (Ed.), *Handbook of Career Studies* içinde (ss.97–113). Thousand Oaks, CA: Sage. Kline, R. B. (2005). *Methodology in the social sciences. Principles and practice of structural equation modeling* (2nd ed.). Guilford Press.

Konstam, V., Tomek, S., Celen-Demirtas, S., & Sweeney, K. (2015). Volunteering and reemployment status in unemployed emerging adults: A time-worthy investment? *Journal of Career Assessment, 23*(1):152-165. https://doi.org/10.1177/1069072714523248

Lazarus, R., & Folkman, S. (1984). *Stress, appraisal, and coping*. Springer.

Lee, H.-J., Park, J.-Y., & Cho, K. (2020). Effects of parental attachment on career maturity in university students: Moderating effect of career decision-making self-efficacy and cognitive flexibility. *The Journal of the Korea Contents Association, 20*(3), 324-335. https://doi.org/10.5392/JKCA.2020.20.03.324

LePine, J. A., Colquitt, J. A., & Erez, A. (2000). Adaptability to changing task contexts: Effects of general cognitive ability, conscientiousness, and openness to experience. *Personnel Psychology, 53*(3), 563–593. https://10.1111/j.1744-6570.2000.tb00214.x

Lin, Y. (2013). The effects of cognitive flexibility and openness to change on college students' academic performance [Unpublished master's thesis]. La Sierra University https://search.proquest.com/pqdtglobal/docview/1433926373/fulltextPDF/45D01BF762A1409APQ/1?accountid=11054

Martin, M. M., & Rubin, R. B. (1995). A new measure of cognitive flexibility. *Psychological Reports, 76*(2), 623-626. https://doi.org/10.2466/pr0.1995.76.2.623

McIlveen, P., Perera, H. N., Baguley, M., van Rensburg, H., Ganguly, R., Jasman, A., & Veskova, J. (2019). Impact of teachers' career adaptability and family on professional learning. *Asia-Pacific Journal of Teacher Education, 47*(2), 103-117. https://doi.org/10.1080/1359866X.2018.1444141

Merino-Tejedor, E., Hontangas, P. M., & Petrides, K. V. (2018). Career adaptability mediates the effect of trait emotional ıntelligence on academic engagement. *Revista de Psicodidáctica, 23*(2), 77-85. https://doi.org/10.1016/j.psicoe.2017.10.002

Morrison, R. F., & Hall, D. T. (2002). Career adaptability. In D. T. Hall (Ed.), *Careers in and out of organizations* (pp. 205-234). Thousand Oaks, Sage.

Prescod, D. J., & Zeligman, M. (2018). Career adaptability of trauma survivors: The moderating role of posttraumatic growth. *The Career Development Quarterly, 66*(2), 107-120. https://doi.org/10.1002/cdq.12126

Ramos, K., & Lopez, F. G. (2018). Attachment security and career adaptability as predictors of subjective well-being among career transitioners. *Journal of Vocational Behavior, 104*, 72-85. https://doi.org/10.1016/J.JVB.2017.10.004

Rudolph, C. W., Lavigne, K. N., & Zacher, H. (2017). Career adaptability: A meta-analysis of relationships with measures of adaptivity, adapting responses, and adaptation results. *Journal of Vocational Behavior, 98*, 17–34. https://doi.org/10.1016/j.jvb.2016.09.002

Santilli, S., Nota, L., & Hartung, P. J. (2019). Efficacy of a group career construction intervention with early adolescent youth. *Journal of Vocational Behavior, 111*, 49-58. https://doi.org/10.1016/j.jvb.2018.06.007

Savickas, M. L. (1997). Career adaptability: An integrative construct for life-span, life-space theory. *The Career Development Quarterly, 45*, 247-259. . https://doi.org/10.1002/j.2161-0045.1997.tb00469.x

Savickas, M. L. (2002). Career construction: A developmental theory of vocational behavior. In D. Brown & Associates (Eds.), *Career choice*

and development (pp. 149–205). Jossey Bass.

Savickas, M. L. (2005). The theory and practice of career construction. In S. D. Brown, & R. W. Lent (Eds.), *Career development and counselling: Putting theory and research to work* (pp. 42-70). Wiley

Savickas, M. L. (2012). Life design: A paradigm for career intervention in the 21st century. *Journal of Counseling and Development, 90*, 13-19. https://doi.org/10.1111/j.1556-6676.2012.00002.x

Savickas, M. L. (2013). Career construction theory and practice. In R. W. Lent ve S. D. Brown (Eds.), *Career development and counseling: Putting theory and research to work* (pp. 144-180). Wiley.

Savickas, M. L., & Porfeli, E. J. (2012). Career Adapt-Abilities Scale: Construction, reliability, and measurement equivalence across 13 countries. *Journal of Vocational Behavior, 80*(3), 661–673. https://doi.org/10.1016/j.jvb.2012.01.011

Schumacker, E. R., & Lomax, G. R. (1996). *A beginner's guide to structural equation modeling*. Erlbaum.

Super, D. E., & Knasel, E. G. (1981) Career development in adulthood: Some theoretical problems and a possible solution. *British Journal of Guidance & Counselling, 9*,2, 194-201. https://doi.org/10.1080/03069888108258214

Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics* (6th ed.). Allyn & Bacon/Pearson Education.

Taylor, R. (1990). Interpretation of the correlation coefficient: A basic review. *Journal of Diagnostic Medical Sonography*, 6(1), 35-39. . https://doi.org/10.1177/875647939000600106

Yıldız-Akyol, E., & Boyacı, M. (2020). Cognitive flexibility and positivity as predictors of career future in university students. *Turkish Psychological Counseling and Guidance Journal, 10*(57), 297-320. https://dergipark.org.tr/en/download/article-file/1162250