



# The role of proactive personality and general self-efficacy in proactive career behavior: a mediation model

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## Abstract

The current study examined the mediating role of general self-efficacy in the relationship between university students' proactive career behavior and their proactive personality. The participants of the study consisted of 457 university students in Turkey. The Proactive Personality Scale-Short Form, the General Self-Efficacy Scale, and the Career Engagement Scale were used as data collection tools. Analysis results of the study showed that general self-efficacy had a mediating role in the relationship between proactive career behavior and proactive personality. In addition, proactive career behavior was found to have significant and positive relationships with proactive personality and general self-efficacy.

**Keywords** Proactive personality · Proactive career behavior · General self-efficacy

## Résumé

**Le rôle de la personnalité proactive et du sentiment d'efficacité généralisé dans le comportement de carrière proactif : Un modèle de médiation.** La présente étude a examiné le rôle médiateur du sentiment d'efficacité généralisé dans la relation entre le comportement de carrière proactif des étudiant-e-s universitaires et leur personnalité proactive. Les participant-e-s à l'étude étaient 457 étudiant-e-s universitaires en Turquie. La Proactive Personality Scale-Short Form, la General Self-Efficacy Scale et la Career Engagement Scale ont été utilisées pour récolter les données. Les résultats de l'analyse de l'étude ont montré que le sentiment d'efficacité généralisé avait un rôle médiateur dans la relation entre le comportement de carrière proactif et la personnal-

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ité proactive. De plus, le comportement de carrière proactif a montré des liens significatifs et positifs avec la personnalité proactive et le sentiment d'efficacité généralisée.

## Zusammenfassung

**Die Rolle der proaktiven Persönlichkeit und der allgemeinen Selbstwirksamkeit für proaktives berufliches Verhalten: Ein Mediationsmodell.** Die vorliegende Studie untersuchte die mediierende Rolle der allgemeinen Selbstwirksamkeit in der Beziehung zwischen dem proaktiven beruflichen Verhalten von Hochschulstudierenden und ihrer proaktiven Persönlichkeit. Die Teilnehmenden der Studie waren 457 Universitätsstudierende in der Türkei. Als Datenerhebungsinstrumente wurden die Proactive Personality Scale-Short Form, die General Self-Efficacy Scale und die Career Engagement Scale verwendet. Die Analyseergebnisse der Studie zeigten, dass die allgemeine Selbstwirksamkeit eine mediierende Rolle in der Beziehung zwischen proaktivem beruflichem Verhalten und proaktiver Persönlichkeit spielte. Darüber hinaus wurde festgestellt, dass proaktives berufliches Verhalten signifikante und positive Beziehungen zu proaktiver Persönlichkeit und allgemeiner Selbstwirksamkeit aufweist.

## Resumen

**El papel de la Personalidad Proactiva y la Autoeficacia General en el Comportamiento Profesional Proactivo: un Modelo de Mediación.** El presente estudio examinó el papel mediador de la autoeficacia general en la relación entre el comportamiento profesional proactivo de los estudiantes universitarios y su personalidad proactiva. Los participantes del estudio fueron 457 estudiantes universitarios de Turquía. Se utilizaron como herramientas de recolección de datos la Escala de Personalidad Proactiva-Forma Corta, la Escala de Autoeficacia General y la Escala de Compromiso con la Carrera. Los resultados del análisis del estudio mostraron que la autoeficacia general tenía un papel mediador en la relación entre el comportamiento profesional proactivo y la personalidad proactiva. Además, se encontró que el comportamiento profesional proactivo tiene relaciones significativas y positivas con la personalidad proactiva y la autoeficacia general.

## Introduction

In the twenty-first century, the business world has undergone great changes through economic and technological developments. With the effects of these changes, employees often face changing jobs and students start their business life a long time after graduation (Nodira & Nodir, 2022; Sonnentag, 2017). Changes in employment dynamics affect not only those who already have a job, but also young people who have not yet reached their career goals (Li et al., 2019). Rapid and continuous environmental changes make individuals' careers boundaryless (Wang et al., 2022; Wiernik & Kostal, 2019). A boundaryless career is an extremely important condition for both university students preparing for business life and those who are already working in the business world in today's Volatility, Uncertainty, Complexity, and Ambiguity (VUCA) world (Guan et al., 2019; Wang et al., 2022). With these

changes, the field of career counseling started to focus more on managing individuals' careers rather than making career decisions (Greenhaus et al., 2010; Wang et al., 2022). New concepts such as self-directedness (Hirschi & Koen, 2021) and career meta-competencies (Lo Presti, 2009; Ramdhani et al., 2020) emerged as a result of this condition. The changes in organizations, society, and technology require individuals to constantly manage themselves and their environment actively (Brown & Lent, 2019; Fuller & Marler, 2009). In such an environment, individuals should be "self-directed in their career" to transition from school to work and increase employability (Doganulku, 2022; Sultana, 2022).

These developments and changes highlighted skills different from the skills put forward in traditional career approaches (Uy et al., 2015). Changing business and working conditions led employers and researchers to focus on proactive personality (proactivity) in individuals (Bakker et al., 2020;). Proactive career behavior is also put forward in changing business and career conditions (Hirschi et al., 2015).

An analysis of previous studies on proactivity and proactive career behavior indicates that studies were generally carried out in organizational contexts (i.e., Bauer et al., 2019; Choi & Lee, 2019; Li et al., 2021; Lin et al., 2018; Zhu et al., 2021). Furthermore, these studies examined factors related to individuals' proactive tendencies and proactive career behaviors in the organization. Hence, studies related to proactive career behavior in terms of personality traits (proactive personality) and subjective perceptions (self-efficacy), which can differ in an individual context, seem to remain in the background. As an exception, Hirschi and Valero (2015) tested individuals' career adaptability profiles (concern, control, curiosity, and confidence) as predictors of proactive career behavior (exploration, deciding, and planning). However, there is a need for studies to reveal the relationship between proactive career behaviors and different individual-centered variables (Klehe et al., 2021). Spurk et al. (2020) stated that there were few studies on proactive career behavior in the context of individual development, and research on individual proactive career behavior was neglected. In addition, most earlier studies on proactive career behavior were conducted with working individuals (Bauer et al., 2019; Choi & Lee, 2019; Li et al., 2021; Lin et al., 2018; Zhu et al., 2021). Studies aiming to reveal the variables related to the proactive career behavior of university students, who are in the preparation stage for the transition to business life, seem to be neglected (Spurk et al., 2020). However, as they could contribute to students' individual employability, studies to reveal structures that may be related to proactive career behavior are encouraged (Ma & Chen, 2022). Different from previous studies, the current study examining proactive career behavior was conducted in an individual context and with students who were in the transition phase to business life. In this respect, the study aims to fill the gaps that were not addressed much in previous studies.

The transition period of students to business life has become longer and more difficult due to the economic difficulties worldwide, especially in Turkey. Considering the fact that proactive career behavior is an individual factor that facilitates and accelerates the transition from student to business life and increases employability (Doganulku, 2022), revealing structures and models related to proactive career behavior could provide clear roadmaps for creating these behavior patterns in individuals. Therefore, the transition process of individuals from the student to

the employee role can be facilitated and accelerated, which is the main motivation for conducting the current study. There is an intense need for exploratory research in the career field to reveal the structures that shape and motivate people's self-directed vocational behavior (Hofmans et al., 2020). Proactive career behavior is one of the important vocational behavior patterns evaluated as self-directed (Doganulku, 2022; Hirschi et al., 2015). Therefore, there is a need for exploratory research on proactive career behavior. It is stated that proactive personality (Hu et al., 2021) and general self-efficacy (Green, 2020; Marcionetti & Rossier, 2021) are related in shaping individuals' vocational behaviors and career processes. Accordingly, individuals' proactive personality and general self-efficacy may be related to their proactive career behavior. However, an analysis of the related literature indicated no studies that examined the relationship between proactive career behavior, proactive personality, and general self-efficacy in individual contexts. Knowing this could help to improve initiatives to be taken to develop these behaviors in students. In a similar vein, it can lead to research on different individual factors (e.g., different personality traits, self-confidence, psychological needs, self-esteem, etc.). In this regard, another motivation for conducting the current study is to fill this gap in the literature and to reveal the relationships between proactive personality, general self-efficacy, and proactive career behaviors that have not been investigated before. Thus, the findings of the current study are believed to shed light on future research and practices related to proactive career behavior for both researchers and practitioners.

### **Proactive personality and proactive career behavior**

A proactive personality is defined as “the relatively stable tendency to affect environmental change.” It reflects an interactive structure that argues that the behavior of the individual is in a dimension that could change the events and the environment (Bateman & Crant, 1993). Due to its structure, it directs individuals to see growth opportunities (Parker & Collins, 2010). It involves creating new possibilities for the existing order to become more advantageous, and opposing rather than passively complying with usual conditions (Crant, 2000). Proactive individuals are entrepreneurial, responsible, determined, and able to take appropriate risks (Bateman & Crant, 1993). *Reactive* individuals take personal initiatives to influence their environment and actively shape their environment (Bakker et al., 2012; Bateman & Crant, 1993).

This concept, which emerged in the early 1990s, has been widely used in many fields (Gerhardt et al., 2009). The career field covering business and working life is one of the areas where a proactive personality is widely used. A proactive personality plays an important role in healthy career development (Crant, 1995; Presbitero, 2015). This is because proactivity provides internal motivation to initiate and strive for a different and better future (Abid et al., 2021). A proactive personality is also considered to have an important place in business life. Personality is one of the important sources that affect success in business life (Seibert et al., 1999). With the help of their characteristics, individuals with a proactive personality solve problems at work and in working conditions actively (Veldhoven & Dorenbosch, 2008). As a

result, it seems that a proactive personality is an important contribution to an individual's career.

A behavior that is voluntarily performed by an individual to bring about new situations is described as proactive behavior (Doganer, 2014). One of the proactive behaviors includes proactive career behavior demonstrated by individuals in their career. Proactive career behavior is defined as career behavior, such as career planning, career exploration, networking, skill development, and voluntary participation (Hirschi & Freund, 2014; Hirschi et al., 2014). It also refers to a behavior in which individuals take the initiative to build their career rather than simply respond to opportunities (Peng et al., 2021). Such behavior is a behavior that individuals demonstrate proactively (Strauss et al., 2012). Proactive career behavior is defined as "person-environment fit behavior" (Parker & Collins, 2010). It is accepted that proactive career behavior is an important structure that facilitates individuals to proactively build their career and achieve positive career results (Kuijpers et al., 2006; Peng et al., 2021). Proactive career behavior is reported to play a key role in positive career outcomes such as career success (Zacher, 2014) and career satisfaction (Seibert et al., 2001).

A proactive personality reflects the individual's tendency to act proactively (Bakker et al., 2012; Bozbayındır & Alev, 2018; Crant, 1995). This trait refers to an individual's predisposition to act proactively to bring about meaningful changes in their environment (Bateman & Crant, 1993). A proactive personality is one of the important motivating sources of proactive behavior (Erdogan & Bauer, 2005). Therefore, proactive people influence their environment through proactive behaviors (Fuller & Marler, 2009).

A proactive personality is expressed as a characteristic associated with an individual's career success (Seibert et al., 1999). It is known that individuals with proactive personality traits show certain characteristics, such as setting challenging goals, seeking opportunities, having socially interactive and innovative moods, taking initiative, and having high motivation (Korkmaz, 2020). Proactive individuals take initiatives related to their career. These initiatives are career planning, skill development, and consultation with others (Fuller & Marler, 2009). Considering the proactive career behavior stated by Hirschi et al. (2014), it can be said that individuals proactively reflect their proactive personality traits in their career behavior. However, there is little information about when and how someone with a proactive personality should act proactively (McCormick et al., 2019). Therefore, it seems that the relationship between proactive personality and proactive behavior still needs to be understood. Hence, the present study proposes the following hypothesis.

**H1** Proactive personality has a positive, direct effect on proactive career behavior.

### **General self-efficacy as a mediator**

Self-efficacy is defined as individuals' beliefs about what they can do. Four main sources of self-efficacy include mastery experiences, vicarious experiences, verbal persuasion, and emotional and physiological states (Bandura, 1977). Social

cognitive theory (SCT) argues that individuals should have strong self-efficacy to use their skills efficiently (Kurbanoglu, 2004). Bandura (1977) states that self-efficacy beliefs in any area can be generalized to similar areas. The concept of general self-efficacy began to be used as a result of Bandura's evaluation. General self-efficacy is defined as the individual's self-confidence in the face of new situations that are difficult to cope with or are unfamiliar (Scholz et al., 2002). In other words, it refers to the belief used by the individual in coping with stressful and difficult life events (Scholz & Schwarzer, 2005).

SCT emphasizes self-efficacy as a key concept underlying human behavior (Abid et al., 2021). Self-efficacy is seen as the basis of human behavior and has a strong influence on human behavior (Pajares, 1996, 2002). Bandura (1997) stated that general self-efficacy beliefs had direct effects on behaviors. This feature determines how much effort individuals spend on a particular subject and how long they continue their behavior despite obstacles (Bandura, 1977). General self-efficacy is known to be a feature that helps to predict individuals' behaviors (Aypay, 2010).

Bandura's (1991) SCT conceptualizes individuals as actively engaged in thought and behavior processes to achieve their goals. Individuals become more active and exert more effort as their self-efficacy belief gets stronger (Aypay, 2010). Bandura (1986) states that along with the abilities they have, individuals' behaviors are affected by their beliefs about those abilities. Resources that motivate individuals to act proactively are based on the idea of "I can do it" (Parker et al., 2010). A high level of self-efficacy is known to increase the level of proactive behavior (Cetin, 2011). Bandura (1977) argues that rather than the multiplicity of skills individuals have, beliefs about what they can do with these skills are more important. Therefore, only having proactive personality traits is not considered to be sufficient for the emergence of proactive behavior; one should also have self-efficacy beliefs.

It is reported that the effect of personality on performance may not always be valid. It is recommended to determine the mediator and moderator variables between personality and performance to increase this validity (Beaty et al., 2001). Self-efficacy affects an individual's cognitive, affective, motivational, and choice processes (Bandura, 1989). In other words, self-efficacy is effective on individuals' thoughts that start a behavior, emotions that help to struggle with difficulties, and performances that are exhibited to achieve the goals and choices that are made. Little is known about when and how someone with a proactive personality should act proactively (McCormick et al., 2019). From Bandura's SCT point of view (1986), individuals with proactive personality traits may exhibit proactive behaviors in their career when they have higher self-efficacy beliefs. Therefore, we expect that general self-efficacy acts as a mediator in the relationship between proactive personality and proactive career behavior, which leads to Hypotheses (Hs) 2, 3, and 4.

**H2** Proactive personality predicts general self-efficacy positively.

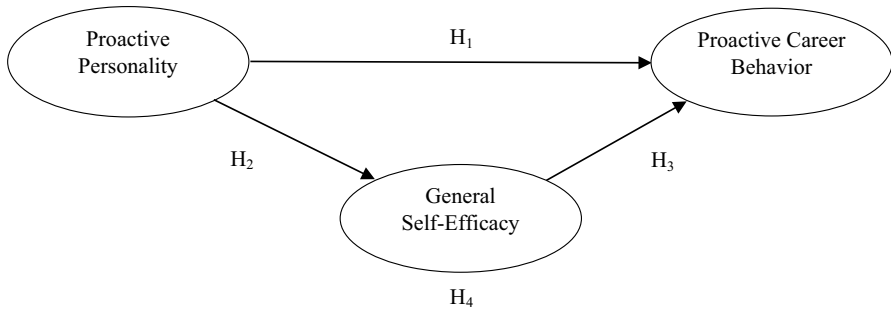
**H3** General self-efficacy predicts proactive career behavior positively.

**H4** General self-efficacy has a mediating role in the relationship between proactive personality and proactive career behavior.

### **The present study**

Having a university education is of great importance in Turkey; one of the reasons for this interest in university education is the high perception of the contribution of university education to individuals' leading better lives. According to statistics in Turkey, people with the highest income are university graduates (Turkish Statistical Institute [TURKSTAT], 2019). However, individuals in Turkey have difficulties in transitioning from the student role to the employee role (Civilidag, 2019). In addition, there is a labor market in which university graduates may face unemployment. According to the latest data, the youth unemployment rate in Turkey is approximately 25% (TURKSTAT, 2021). Therefore, in Turkey, where there is an opportunity and an unpredictable environment in the labor market, having proactive career behavior can be an advantage for university students, who are potential employees. This is because such behavior involves dealing with career development tasks proactively (Peng et al., 2021). In Turkey, there is also a need to examine the obstacles in front of young people's employment, especially the barriers, such as not being able to take initiative due to low self-efficacy perception toward themselves (Yavuzaslan & Daglioglu, 2019). Therefore, it is important to address the proactive career behavior of university students and the proactive personality traits and general self-efficacy beliefs that may have an impact on such behavior.

There is a need to investigate the antecedents and mechanisms of proactive career behavior in the literature (Peng et al., 2021). McCormick et al. (2019) reported the need for revealing the process between proactive personality and proactive behavior. SCT has been considered to be one of the most appropriate theoretical bases while carrying out this review because resources that motivate individuals to act proactively are based on the idea of "I can do it" (Parker et al., 2010). This idea expresses the belief in self-efficacy, which is one of the most important aspects of SCT. In addition, although career development theorists emphasize the important role of self-efficacy beliefs in vocational behavior, it is stated that self-efficacy is functionalized as a career-specific self-efficacy (Green, 2020). The role of general self-efficacy in promoting people's career development tends to be overlooked (Song & Chon, 2012). For this reason, Green (2020) states that there is a strong need for research to uncover the basic processes of how general self-efficacy may affect vocational behavior to assist career counselors in developing meaningful interventions in the future. In light of these explanations, the current study aims to examine the effects of general self-efficacy and proactive personality on proactive career behavior. Figure 1 shows the mediation model of the current study.



**Figure 1** The hypothesized structural model

## Method

### Participants

The participants of this study were university students enrolled in Cukurova University, which is located in the Eastern Mediterranean region of Turkey. The participants consisted of a total of 457 students, of which 254 were female (55.6%) and 203 were male (44.4%). Convenience sampling method was utilized in this study. The participants' age ranged between 18 and 25 years, and their average age was 21.22 years (SD 1.46).

### Measures

#### Proactive Personality Scale-Short Form

The scale was developed by Seibert et al. (1999) to determine individuals' proactive personality levels. The Turkish adaptation of the scale was performed by Akın and Özcan (2015) with a population of university students. The seven-point Likert-type scale has a one-factor structure. There are ten items on the scale; for example, "I look for new ways to improve my life." The increase in the scores obtained from the scale indicates high proactive personality traits. Cronbach's alpha value was found to be 0.86 in the Turkish adaptation study. In addition, the criterion-correlation validity of the scale was examined within the scope of validity. In this context, the correlation between the long version and the short version of the scale was examined, and Cronbach's alpha value was found to be 0.96.

#### The General Self-Efficacy Scale

The General Self-Efficacy Scale was developed by Schwarzer and Jerusalem (1995) to measure individuals' general self-efficacy belief levels. The Turkish adaptation of the scale was performed by Aypay (2010) with university students. The four-point Likert-type scale consists of one dimension. There are ten items



on the scale; for example, “I can always manage to solve difficult problems if I try hard enough.” The increase in the scores obtained from the scale indicates increased general self-efficacy beliefs. During the development phase of the scale, data were collected from 23 countries, and these collected data were analyzed separately. As a result of the analyses performed, Cronbach’s alpha values were found to range between 0.76 and 0.90. A single-factor dimension was obtained in all confirmatory analyses within the scope of the validity analysis. In addition, within the scope of the criterion validity, data collected from 180 students revealed significant correlations between general self-efficacy and extraversion at a level of 0.49, hope for success at a level of 0.46, and fear of failure at a level of 0.45. The Cronbach’s alpha value was found to be 0.83 in the Turkish adaptation study.

### The Career Engagement Scale

The scale was developed by Hirschi et al. (2014) to measure individuals’ proactive career behavior levels. The Turkish adaptation of the scale was conducted by Korkmaz et al. (2020) with a population of university students. The five-point Likert-type scale consists of one dimension. There are nine items on the scale; for example, “...undertook things to achieve your career goals.” High scores obtained from the scale indicate individuals’ higher proactive career behavior. Cronbach’s alpha value calculated within the scope of the reliability analysis of the scale was found to be 0.89. A confirmatory factor analysis was performed within the scope of the validity analyses of the scale. The goodness of fit values of the model related to the one-dimension structure was reported to be in an acceptable range:  $\chi^2/df = 2.03$ ,  $p < 0.01$ ; CFI (Comparative Fit Index) 0.97; TLI (Tucker-Lewis Index) 0.95; RMSEA (Root Mean Square Error of Approximation) 0.06 [confidence interval (CI) 0.04, 0.08]; and SRMR (Standardized Root Mean Squared Residual) 0.04. Within the scope of criterion correlation validity, a correlation coefficient was obtained between the scale and self-exploration ( $r = 0.57$ ), environmental exploration ( $r = 0.72$ ), career planning ( $r = 0.46$ ), networking ( $r = 0.41$ ), and vocational identity ( $r = 0.32$ ). Cronbach’s alpha value calculated in the Turkish adaptation study was found to be 0.88.

### Procedures and ethics

Ethical approval was obtained from Karamanoglu Mehmetbey University ethics committee before collecting the research data (E-75732670-020-67387). Due to restrictions of the coronavirus disease 2019 (COVID-19) pandemic, data were collected online (Google forms). Before filling out the measurement tools, the participants were directed to the information page (informed consent), which contained information regarding the purpose and scope of the study. Students who approved the informed consent form and agreed to participate in the study

answered the questions in the data collection tools. No personal information that is not in line with the purpose of the study was requested from the participants.

## Data analysis

Before the data obtained were analyzed, the extreme values of the data were examined by considering the  $z$ -scores. Data with values other than  $\pm 3$  were considered outliers (Cokluk et al., 2016). No data with values other than  $\pm 3$  were found in the dataset of the measurement tools used in the study, so no data were excluded from the analysis. Normality assumptions were tested before the analyses. Kurtosis and skewness coefficients of the variables within  $\pm 1.5$  are considered normal distributions (Tabachnick & Fidell, 2007). It was concluded that the data showed normal distribution (Table 3). Relationships between proactive personality, general self-efficacy, and proactive career behavior were examined by Pearson correlation analysis.

The structural equation model (using maximum likelihood) was used to test the research model. In line with the suggestions of Anderson and Gerbing (1988), the structural equation model was implemented in two stages. First, the measurement model and then the structural model were tested. In testing the measurement model and the structural model,  $\chi^2/df < 5$ , CFI  $> 0.90$ , GFI (Goodness of Fit Index)  $> 0.85$ , TLI  $> 0.90$ , and RMSEA  $< 0.10$  were considered as evaluation standards (Kline, 2005; Marcoulides & Schumacher, 2001; Tabachnick & Fidell, 2007). A structural equation model, using full information maximum likelihood estimation, was conducted to examine whether general self-efficacy had a mediating role in the relationship between proactive personality and proactive career behavior. A one-stage mediation model was designed as recommended by Zhao et al. (2010) in the examination of the mediation effect. In this regard, all the variables were included in the mediation model together without examining the significant zero-order effect of proactive personality on proactive career behavior. As Figure 1 shows, proactive personality was considered an endogenous latent variable; general self-efficacy was considered the latent variable acting as a mediator; and proactive career behavior was considered the latent and dependent variable. Bootstrapping tests were performed to examine whether general self-efficacy mediated the relationship between proactive personality and proactive career behavior (Preacher & Hayes, 2008). A 95% confidence interval and a 10,000 resampling were used in the bootstrap analysis to determine the mediating effect of general self-efficacy. Data analysis was performed using SPSS 25 and AMOS Graphics 24 programs.

## Results

### Measurement model

The goodness of fit values of the measurement model was found to be within acceptable limits [ $\chi^2_{(368, N = 457)} = 1005.317$ ;  $p < 0.001$ ;  $\chi^2/df = 2.73$ ; GFI = 0.865; CFI = 0.912; TLI = 0.903; RMSEA = 0.062]. The validity and reliability values were

**Table 1.** The validity and reliability values of the measurement model

Construct	Item	Factor loadings	CR	AVE	Cronbach alpha	McDonald's omega
Proactive personality	PP1	0.66	0.87	0.62	0.87	0.88
	PP2	0.70				
	PP3	0.64				
	PP4	0.71				
	PP5	0.56				
	PP6	0.61				
	PP7	0.58				
	PP8	0.57				
	PP9	0.73				
	PP10	0.70				
General self-efficacy	GSE1	0.61	0.91	0.58	0.91	0.91
	GSE2	0.62				
	GSE3	0.68				
	GSE4	0.79				
	GSE5	0.76				
	GSE6	0.66				
	GSE7	0.70				
	GSE8	0.74				
	GSE9	0.73				
	GSE10	0.74				
Proactive career behavior	PCB1	0.73	0.92	0.55	0.91	0.91
	PCB2	0.83				
	PCB3	0.86				
	PCB4	0.81				
	PCB5	0.58				
	PCB6	0.69				
	PCB7	0.73				
	PCB8	0.68				
	PCB9	0.80				

**Table 2** The square root of AVE and inter-construct correlation values

	1	2	3
1. Proactive personality	0.78 <sup>a</sup>		
2. General self-efficacy	0.71	0.76 <sup>a</sup>	
3. Proactive career behavior	0.71	0.62	0.74 <sup>a</sup>

<sup>a</sup>Diagonals are the square root of AVE

also examined within the scope of the measurement model. The average variance extracted (AVE), the factor loadings for convergent validity, the square root of AVE, the inter-construct correlations for discriminant validity and composite reliability (CR), Cronbach's alpha, and the McDonald's omega for reliability were calculated. The calculated validity and reliability values are presented in Tables 1 and 2. Table 1 shows that the factor loadings and AVE values are greater than 0.50 (Fornell & Larcker, 1981; Hair et al., 2010). In addition, the CR, Cronbach's alpha, and McDonald's omega values are greater than 0.70 (Nunnally & Bernstein, 1994; Taber, 2018).

As presented in Table 2, the square root of AVE was greater than the inter-construct correlations (Fornell & Larcker, 1981). In addition, inter-construct correlations appeared to be no greater than 0.85 (Kline, 2005). It can therefore be said that the values in Tables 1 and 2 are acceptable in terms of validity and reliability.

### Findings regarding the correlation analysis between the variables

Correlation analysis was conducted to determine the relationships between proactive personality, general self-efficacy, and proactive career behavior. The analysis results are presented in Table 3.

As can be seen in Table 3, proactive career behavior had positive and significant relationships with proactive personality ( $r = 0.64, p < 0.01$ ) and general self-efficacy ( $r = 0.58, p < 0.01$ ). These findings indicated that while proactive personality and general self-efficacy scores increased, proactive career behavior scores also increased. In addition, a significant, positive relationship was found between proactive personality and general self-efficacy ( $r = 0.63, p < 0.01$ ).

### Findings regarding the structural equation model of the research

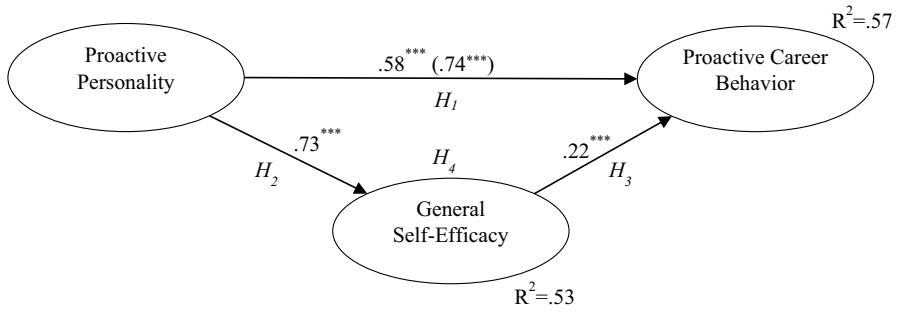
The model regarding the mediating role of general self-efficacy in the relationship between proactive personality and proactive career behavior was tested. The findings are shown in Figure 2.

First of all, the model's goodness of fit values were tested, and it was found to be within acceptable limits [ $\chi^2_{(368, N = 457)} = 1005.317; p < 0.001; \chi^2/df = 2.73; GFI = 0.865; CFI = 0.912; TLI = 0.903; RMSEA = 0.062$ ]. The total effect of the proactive personality on the proactive career behavior was found to be significant

**Table 3** The correlation coefficients between the study variables

	$M \pm SD$	Kurtosis	Skewness	Cronbach's alpha	1	2	3
1. Proactive personality	54.49 $\pm$ 8.10	1.4	-0.77	0.87	-		
2. General self-efficacy	30.19 $\pm$ 5.62	-0.55	-0.12	0.91	0.63**	-	
3. Proactive career behavior	30.71 $\pm$ 7.27	-0.17	-0.20	0.91	0.64**	0.58**	-

\*\* $p < .01$ ,  $M$  mean,  $SD$  standard deviation



**Figure 2** Mediation model. The coefficients between the latent variables (those in the ellipses) are standardized coefficients. The coefficient expressed in parentheses is the proactive personality’s total effect coefficient on proactive career behavior. \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

( $\beta = 0.74, p < 0.001$ ). The direct effects of proactive personality on general self-efficacy ( $\beta = 0.73, p < 0.001$ ) and proactive career behavior ( $\beta = 0.58, p < 0.001$ ) were found to be statistically significant. In addition, the direct effect of general self-efficacy on proactive career behavior ( $\beta = 0.22, p < 0.001$ ) was found to be statistically significant. Proactive personality and general self-efficacy explained 57% of the variance in proactive career behavior.

Bootstrapping analysis was performed to test the significance of the mediating role of general self-efficacy in the relationship between proactive personality and proactive career behavior. The results of the analysis are presented in Table 4.

As can be seen in Table 4, the lower and upper confidence intervals of all the path coefficients of the variables did not include zero. The mediating role of general self-efficacy in the relationship between proactive personality and proactive career behavior was significant ( $\beta = 0.16, p < 0.001$ ; CI 0.04–0.26). Therefore, general self-efficacy was found to have a partial mediating role in the relationship between proactive personality and proactive career behavior.

**Table 4** Bootstrapping test of the mediating effect

Pathways	$\beta$	SE	95% CI
<i>Direct effect</i>			
Proactive personality → General self-efficacy	0.73***	0.04	0.65–0.80
Proactive personality → Proactive career behavior	0.58***	0.08	0.43–0.74
General self-efficacy → Proactive career behavior	0.22***	0.08	0.05–0.36
<i>Indirect effect</i>			
Proactive personality → General self-efficacy → Proactive career behavior	0.16***	0.05	0.04–0.26
<i>Total effect</i>			
Proactive personality → Proactive career behavior	0.74***	0.03	0.66–0.80

\*\*\* $p < .001$ , CI confidence interval

Standardized beta coefficients ( $\beta$ ) were reported

## Discussion

The current study examined the relationships among proactive personality, general self-efficacy, and proactive career behavior. Consistent with the hypothetical model, it was found that the positive relationship between proactive personality and proactive career behavior could be mediated by general self-efficacy. These results contribute to the relevant literature and present important theoretical and practical implications.

First, when H1 was tested, a positive relationship was found to exist between proactive personality and proactive career behavior. Therefore, H1 was accepted. It is known that there is a need to investigate the relationship between proactive career behavior and personality traits (Korkmaz et al., 2020). When the literature was examined, no studies were found to have examined the relationship between proactive personality and proactive career behavior. However, a number of research findings can help to understand the relationship between proactive personality and proactive career behavior. For example, proactive personality was reported to be related to individuals' behaviors at work and in the workplace; for example, organizational citizenship behavior (Bakker et al., 2012) and innovative behavior (Kong & Li, 2018; Li & Mao, 2014; Su & Zhang, 2020). However, the literature reported a positive relationship between a proactive personality and certain career behaviors and attitudes. For example, Mensmann and Frese (2019) and Seibert et al. (2001) found a positive relationship between career initiative, which included career planning and other career behavior, and proactive personality. Similarly, Lochab and Nath (2020) and Briscoe and Hall (2006) found a positive relationship between proactive personality and boundaryless and protean career attitudes. This result of the study extends the earlier research findings by revealing that individuals with a proactive personality demonstrate their proactive behavior in the career field as well. This result is consistent with Crant's (2000) view indicating that "proactive personality was effective on behavior." A proactive personality was reported to be one of the two internal resources that were important in understanding proactive career behavior (Abid et al., 2021). A proactive personality was indicated as important for a successful career, as it strengthened individuals' career development (Herrmann et al., 2015). Research showed that proactive personality was an important construct associated with career success (Byrne et al., 2008; Ng et al., 2005; Ugwu et al., 2021). In addition, proactive personality is known to be associated with important career-related concepts such as career adaptability (Jiang, 2017). To sum up, the present study revealed that the relationship between proactive personality and proactive career behavior was strong.

Secondly, when H2 was tested, it was found that a proactive personality had a positive effect on general self-efficacy. Therefore, H2 was accepted. The literature includes studies that indicated a relationship between proactive personality and self-efficacy. For example, in their study on college students, Hsieh and Huang (2014) found a positive relationship between proactive personality and career decision self-efficacy. In their study on primary and middle school teachers, Li

et al. (2017) found a positive relationship between proactive personality and self-efficacy. Several studies in the literature documented similar relationships (Akin, 2014; Bozbayındır & Alev, 2018; Brown et al., 2006; Er, 2018; Huang, 2017; Kalkan, 2019; Peker, 2018). A proactive personality provides a transition to self-directed, that is, internal action (Karimi et al., 2021). Furthermore, Tierney and Farmer (2011) emphasized that self-efficacy was activated by internal factors. Therefore, the predictive role of the proactive personality on self-efficacy may also be influenced by the internal orientation of the proactive personality.

Thirdly, when H3 was tested, general self-efficacy was found to have a positive effect on proactive career behavior. Therefore, H3 was accepted. General self-efficacy was one of the two internal resources important to understanding proactive career behavior. General self-efficacy was reported to be another resource that activated individuals' proactive career behavior as well as proactive personality (Abid et al., 2021). Bandura (1997) stated that general self-efficacy beliefs affected behaviors directly. Self-efficacy has always played an important role in human life. Self-efficacy becomes important in situations such as how individuals think, what goals they have, and how they struggle in the face of difficulties (Bandura, 1982). Therefore, by its nature, self-efficacy has a strong effect on human behaviors (Pajares, 1996, 2002).

The SCT emphasized the importance of cognition in affecting behaviors (Bandura, 1991). Resources that motivate individuals to act proactively were based on the idea of "I can do it" (Parker et al., 2010). Self-efficacy determines whether the behavior will be shown, and how much effort the individual will put into fulfilling the behavior (Lankard Brown, 1999). High self-efficacy belief is expressed as one of the antecedents of proactive career behavior (Bozbayındır & Alev, 2018). The literature reported a relationship between self-efficacy and proactive career behavior. For example, Ohly and Fritz (2007) found that work-related self-efficacy led to proactive behavior at work. Bledow and Frese (2009) found that high self-efficacy led to more proactive behavior. Korkmaz et al. (2020) found a relationship between proactive career behavior and career decision self-efficacy in their study with university students. Another study reported that general self-efficacy was related to coping behavior associated with proactive career behavior, such as planning, searching for information, and approaching problems positively (Luszczynska et al., 2005). In addition, some studies showed that high self-efficacy increased the level of proactive behavior (Cetin, 2011).

Finally, when H4 was tested, general self-efficacy was found to have a mediating role in the relationship between proactive personality and proactive career behavior. The current study suggests that individuals should believe in themselves so that they can use their proactive personality traits more effectively in proactive career behavior. Bandura (1986) stated that individuals' behaviors were more affected by their beliefs about those abilities; namely, by their self-efficacy, than their abilities. Self-efficacy was reported to mediate completing certain tasks or exhibiting certain behaviors (Hackett & Betz, 1981). In this line of research, the detecting role of general self-efficacy in the current study revealed a mechanism through which proactive personality shaped proactive career behavior. This result explained what the effect of a proactive personality would be on proactive career behavior. This explanation

is consistent with Bandura's (1986) view that along with their abilities, individuals' behaviors are influenced by their beliefs about those abilities. Strengthening individuals' proactive personality traits could increase their general self-efficacy. Strengthening general self-efficacy could also encourage individuals to act proactively in their career. The results of the current study revealed that general self-efficacy had a mediating role in the relationship between proactive personality traits and proactive career behavior. This result indicates the importance of encouraging university students and graduates to increase their self-efficacy to prepare them for the business world with the global economy. Therefore, this result of the study revealed that general self-efficacy was an important variable that determined whether and for how long an individual would display proactive career behavior.

In Turkey, students take an exam at the end of high school to be enrolled in one of the undergraduate programs at a university. Students show high interest in this exam because university education in Turkey is believed to offer students great opportunities for the life and career they want. However, with the latest regulations, the score criterion application applied to enter a university has been removed (The Council of Higher Education, CoHE, 2022). With this application, students can now choose a program by sorting according to the score on the exam without the score criterion. This regulation gives more opportunities to students who want to be enrolled in a university. Therefore, the number of university graduates will increase even more in the future. In the previous application, students had to obtain the required minimum score (threshold score) to be able to choose programs at a university. With the current application, if they wish, students will be placed in a program at university. Furthermore, programs such as medicine, education, and engineering still attract great attention in Turkey, and these programs offer a good future and career opportunities for students. However, unemployment or decent work is an important reality for graduates from programs other than those that attract such attention. While unemployment in Turkey was around 10% over the last 10 years, it was calculated to be 12% in 2021. More specifically, the youth unemployment rate has been calculated to be around 20% over the last 10 years, and 25% in 2021 (TURKSTAT, 2021). Therefore, a large number of university students in Turkey may face uncertain and unpredictable conditions in the labor market after graduation. University students can see growth opportunities through the proactive personality feature. After graduation, proactive personality, such as career planning, career exploration, networking, skills development and voluntary participation, can increase the likelihood of finding a job or decent work. When individuals encounter uncertain and unpredictable situations (problematic situations in their careers) in the labor market, along with the idea of self-efficacy regarding their potential, they can turn proactive personality traits into proactive behaviors in their career.

### **Study limitations**

The current study has a number of limitations. Cross-sectionally collected data do not allow true cause-and-effect inferences regarding the results from the current study. These results can be analyzed through intervention studies and longitudinal



studies. Another limitation is that this study was conducted with university students, which may limit the generalization of research results to other groups, such as employees. Therefore, similar models could be tested in working groups in future studies. Another limitation is the use of only one variable in the model that reflects individuals' beliefs, such as general self-efficacy. Other belief variables (career self-efficacy, irrational beliefs in career choices, dysfunctional career beliefs, career plateau beliefs, and career-planning beliefs) could also be considered in the relationship between proactive personality and proactive career behavior.

## Conclusions

It is becoming increasingly important for individuals to have proactive features in their career and to exhibit such behaviors. In the current study, we argue that an individual's proactive personality traits are important in activating proactive behaviors through general self-efficacy beliefs. The current study showed that individuals with more proactive personality traits and a higher belief in what they can do are more likely to exhibit proactive career behavior. According to the results of the current research, individuals strengthen their self-beliefs when they are more proactive. Proactive career behavior increases as individuals' self-beliefs become stronger. These results empirically and theoretically extend proactive personality theory, social cognitive theory, and proactive career theory.

The current study also has theoretical implications. First of all, it contributes to the career counseling literature in terms of examining the relationship between proactive career behavior, proactive personality traits, and general self-efficacy. In addition, as the SCT suggests, the findings support the view that beliefs affect behaviors. It has also been proven that this view applies to career behavior as well. The current study responds to McCormick et al.'s (2019) call for revealing the process between proactive personality and proactive behavior. It also extends this call to proactive career behavior. Research on proactive career behavior has been conducted in the past, mostly in organizational contexts and with working individuals. However, proactive career behavior is a behavioral pattern that contributes to individuals' employability positively. In a world where employment problems are increasing daily, there is a need for studies to clarify which variables are related to the proactive career behavior of university students who are in the preparation stage for business life. The current study makes a theoretical contribution to meet this need. The role of general self-efficacy in promoting people's career development tends to be overlooked (Song & Chon, 2012). However, the effect of general self-efficacy on individuals' career processes is expected to be revealed (Green, 2020). In the current study, proactive career behavior, which is an important vocational behavior, was handled in the context of general self-efficacy rather than in the context of field-specific self-efficacy, and the study focused on an area that is not sufficiently focused on by career researchers.

The current study may have certain practical implications. First, the results show that proactive personality and general self-efficacy beliefs are important predictors of proactive career behavior. This result suggests that individuals who want to

have a successful career should acquire proactive personality traits and strengthen their self-belief. The findings can help psychological counselors, policymakers, and human resource departments in companies to plan and design interventions. Results from the study can guide university students to prepare for a more dynamic work environment. For this, psychoeducational studies that increase proactive personality and general self-efficacy could be conducted by psychological counselors to prepare university students for business life. When hiring newly graduated university students, human resource managers could create a strategy for recruiting proactive employees by examining individuals' proactive personality traits and general self-efficacy. Proactive personality traits and general self-efficacy beliefs of university graduates and individuals who are about to start working life can be examined. Individuals who need to develop themselves in terms of these features could be included in preparatory trainings by relevant institutions and organizations before work. One of the most important missions of universities is to prepare young people for business life. In this context, there are career centers and psychological counseling centers that provide services for students to support their career development processes. The results obtained in the current study are considered to guide professionals who provide services in these units at universities. These professionals can take proactive personality and general self-efficacy as a basis in their studies to develop students' proactive career behavior, and can carry out studies based on strengthening these features.

## Appendix 1: Scales and Sample Items from Scales

### Proactive Personality Scale-Short Form

	Strongly disagree	Disagree	More or less disagree	Undecided	More or less agree	Agree	Strongly agree
1. I am constantly on the lookout for new ways to improve my life	1	2	3	4	5	6	7
2. Nothing is more exciting than seeing my ideas turn into reality	1	2	3	4	5	6	7
3. No matter what the odds, if I believe in something I will make it happen	1	2	3	4	5	6	7
4. I excel at identifying opportunities	1	2	3	4	5	6	7
5. If I believe in an idea, no obstacle will prevent me from making it happen	1	2	3	4	5	6	7

## General Self-Efficacy Scale

	Not at all true	Hardly true	Moderately true	Exactly true
1. I can always manage to solve difficult problems if I try hard enough	1	2	3	4
2. It is easy for me to stick to my aims and accomplish my goals	1	2	3	4
3. Thanks to my resourcefulness, I know how to handle unforeseen situations	1	2	3	4
4. I can remain calm when facing difficulties because I can rely on my coping abilities	1	2	3	4
5. If I am in trouble, I can usually think of a solution	1	2	3	4

## Career Engagement Scale

To what extent have you in the past 6 months.	Strongly disagree	Disagree	Undecided	Agree	Strongly agree
1. Actively sought to design your professional future	1	2	3	4	5
2. Cared for the development of your career	1	2	3	4	5
3. Sincerely thought about personal values, interests, abilities, and weaknesses	1	2	3	4	5
4. Established or maintained contacts with people who can help you professionally	1	2	3	4	5
5. Assumed duties or positions that will help you progress professionally	1	2	3	4	5

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## References

Abid, G., Arya, B., Arshad, A., Ahmed, S., & Farooqi, S. (2021). Positive personality traits and self-leadership in sustainable organizations: Mediating influence of thriving and moderating role of

- proactive personality. *Sustainable Production and Consumption*, 25, 299–311. <https://doi.org/10.1016/j.spc.2020.09.005>
- Akın, U. (2014). The relationship between principals' initiative taking levels and self-efficacy. *Educational Administration: Theory and Practice*, 20(2), 125–149. <https://app.trdizin.gov.tr/makale/TVRZek56RTVPUT09/okul-mudurlerinin-inisiyatif-alma-duzeyleri-ile-oz-yeterlikleri-arasi-ndaki-iliski>
- Akın, A., & Özcan, N. A. (2015). Short Turkish version of Proactive Scale: a study of validity and reliability. *Mevlana International Journal of Education*, 5(1), 165–172. <https://doi.org/10.13054/mije.14.12.5.1>
- Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: a review and recommended two-step approach. *Psychological Bulletin*, 103(3), 411–423. <https://doi.org/10.1037/0033-2909.103.3.411>
- Aypay, A. (2010). The adaptations study of General Self Efficacy (GSE) scale to Turkish. *İnönü Üniversitesi Eğitim Fakültesi Dergisi*, 11(2), 113–132. <https://dergipark.org.tr/en/pub/inuefd/issue/8702/108659>
- Bakker, A. B., Petrou, P., Op den Kamp, E. M., & Tims, M. (2020). Proactive vitality management, work engagement, and creativity: the role of goal orientation. *Applied Psychology*, 69(2), 351–378. <https://doi.org/10.1111/apps.12173>
- Bakker, A. B., Tims, M., & Derks, D. (2012). Proactive personality and job performance: the role of job crafting and work engagement. *Human Relations*, 65(10), 1359–1378. <https://doi.org/10.1177/0018726712453471>
- Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioral change. *Psychological Review*, 84(2), 191–215. <https://doi.org/10.1037/0033-295X.84.2.191>
- Bandura, A. (1982). Self-efficacy mechanism in human agency. *American Psychologist*, 37(2), 122–147. <https://doi.org/10.1037/0003-066X.37.2.122>
- Bandura, A. (1986). *Social foundations of thought and action: a social cognitive theory*. Prentice-Hall.
- Bandura, A. (1989). Human agency in social cognitive theory. *American Psychologist*, 44(9), 1175–1184. <https://doi.org/10.1037/0003-066X.44.9.1175>
- Bandura, A. (1991). Social cognitive theory of self-regulation. *Organizational Behavior and Human Decision Processes*, 50(2), 248–287. [https://doi.org/10.1016/0749-5978\(91\)90022-L](https://doi.org/10.1016/0749-5978(91)90022-L)
- Bandura, A. (1997). *Self-efficacy: the exercise of control*. Freeman.
- Bateman, T. S., & Crant, J. M. (1993). The proactive component of organizational behavior: a measure and correlates. *Journal of Organizational Behavior*, 14, 103–118. <https://doi.org/10.1002/job.4030140202>
- Bauer, T. N., Perrot, S., Liden, R. C., & Erdogan, B. (2019). Understanding the consequences of newcomer proactive behaviors: the moderating contextual role of servant leadership. *Journal of Vocational Behavior*, 112, 356–368. <https://doi.org/10.1016/j.jvb.2019.05.001>
- Beaty, J. C., Cleveland, J. N., & Murphy, K. R. (2001). The relation between personality and contextual performance in “strong” versus “weak” situations. *Human Performance*, 14(2), 125–148. [https://doi.org/10.1207/S15327043HUP1402\\_01](https://doi.org/10.1207/S15327043HUP1402_01)
- Bledow, R., & Frese, M. (2009). A situational judgment test of personal initiative and its relationship to performance. *Personnel Psychology*, 62(2), 229–258. <https://doi.org/10.1111/j.1744-6570.2009.01137.x>
- Bozbayındır, F., & Alev, S. (2018). The analysis of the relationship between self-efficacy, proactive personality and openness to change perceptions teachers. *İnönü University Journal of the Faculty of Education*, 19(2), 293–311. <https://doi.org/10.17679/inuefd.346666>
- Briscoe, J. P., & Hall, D. T. (2006). The interplay of boundaryless and protean careers: combinations and implications. *Journal of Vocational Behavior*, 69(1), 4–18. <https://doi.org/10.1016/j.jvb.2005.09.002>
- Brown, D. J., Cober, R. T., Kane, K., Levy, P. E., & Shalhoop, J. (2006). Proactive personality and the successful job search: a field investigation with college graduates. *Journal of Applied Psychology*, 91(3), 717–726. <https://doi.org/10.1037/0021-9010.91.3.717>
- Brown, S. D., & Lent, R. W. (2019). Social cognitive career theory at 25: progress in studying the domain satisfaction and career self-management models. *Journal of Career Assessment*, 27(4), 563–578. <https://doi.org/10.1177/1069072719852736>
- Byrne, Z. S., Dik, B. J., & Chiaburu, D. S. (2008). Alternatives to traditional mentoring in fostering career success. *Journal of Vocational Behavior*, 72(3), 429–442. <https://doi.org/10.1016/j.jvb.2007.11.010>

- Cetin, F. (2011). The roles of self-efficacy and locus of control in the intrapreneurship. *Business and Economics Research Journal*, 2(3), 69–85. <https://www.acarindex.com/dosyalar/makale/acarindex-1423873767.pdf>
- Choi, S. H., & Lee, J. M. (2019). The effect of job crafting on organization effectiveness-mediating role of proactive behavior. *Management & Information Systems Review*, 38(2), 47–66. <https://doi.org/10.29214/damis.2019.38.2.003>
- Civilidag, A. (2019). A phenomenological approach to the unemployment problem: From the views of young unemployed undergraduates. *Mediterranean Journal of Humanities*, 9(2), 197–217. <https://doi.org/10.13114/MJH.2019.485>
- CoHE, The Council of Higher Education. (2022). *Yükseköğretim Kurulunun Yükseköğretim Kurumları Sınavına (YKS) İlişkin Aldığı Kararlar* [Decisions of the Council of Higher Education Regarding the Higher Education Institutions Exam (YKS)]. <https://www.yok.gov.tr/Sayfalar/Haberler/2022/yok-ten-yks-ye-iliskin-kararlar.aspx>
- Cokluk, O., Sekercioglu, G., & Buyukozturk, S. (2016). *Sosyal bilimler için çok değişkenli istatistik SPSS ve LISREL uygulamaları* [Applications of multivariate statistics SPSS and LISREL for social sciences] (4th ed.). Anı Publishing.
- Crant, J. M. (2000). Proactive behavior in organizations. *Journal of Management*, 26(3), 435–462. <https://doi.org/10.1177/014920630002600304>
- Crant, M. J. (1995). The Proactive Personality Scale and objective job performance among real estate agents. *Journal of Applied Psychology*, 80(4), 532–537. <https://doi.org/10.1037/0021-9010.80.4.532>
- Doganer, E. A. (2014). *Girişimcilik okulu* [Entrepreneurship school]. Kural Disi Publishing.
- Doganulku, H. A. (2022). Life goals and proactive career behaviors: The mediating role of visions about the future and the moderating role of intolerance of uncertainty. *Current Psychology*. <https://doi.org/10.1007/s12144-022-03236-2>
- Er, N. (2018). *Psychological hardiness and proactive personality as predictors of primary school teachers' self-efficacy* [Master's thesis, Gazi University]. <https://tez.yok.gov.tr/UlusalTezMercezi/>
- Erdogan, B., & Bauer, T. N. (2005). Enhancing career benefits of employee proactive personality: the role of fit with jobs and organizations. *Personnel Psychology*, 58(4), 859–891. <https://doi.org/10.1111/j.1744-6570.2005.00772.x>
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39–50. <https://doi.org/10.2307/3151312>
- Fuller, B., & Marler, L. E. (2009). Change driven by nature: a meta-analytic review of the proactive personality literature. *Journal of Vocational Behavior*, 75(3), 329–345. <https://doi.org/10.1016/j.jvb.2009.05.008>
- Gerhardt, M., Ashenbaum, B., & Newman, W. R. (2009). Understanding the impact of proactive personality on job performance: The roles of tenure and self-management. *Journal of Leadership & Organizational Studies*, 16(1), 61–72. <https://doi.org/10.1177/1548051809334192>
- Green, Z. A. (2020). The mediating effect of well-being between generalized self-efficacy and vocational identity development. *International Journal for Educational and Vocational Guidance*, 20(2), 215–241. <https://doi.org/10.1007/s10775-019-09401-7>
- Greenhaus, J. H., Callanan, G. A., & Godshalk, V. M. (2010). *Career management*. Sage.
- Guan, Y., Arthur, M. B., Khapova, S. N., Hall, R. J., & Lord, R. G. (2019). Career boundarylessness and career success: a review, integration and guide to future research. *Journal of Vocational Behavior*, 110, 390–402. <https://doi.org/10.1016/j.jvb.2018.05.013>
- Hackett, G., & Betz, N. (1981). A self-efficacy approach to the career development of women. *Journal of Vocational Behavior*, 18(3), 326–339. [https://doi.org/10.1016/0001-8791\(81\)90019-1](https://doi.org/10.1016/0001-8791(81)90019-1)
- Hair, J. E., Back, W. C., Babin, B. J., & Rolph, E. A. (2010). *Multivariate data analysis*. Pearson Hall.
- Herrmann, A., Hirschi, A., & Baruch, Y. (2015). The protean career orientation as predictor of career outcomes: Evaluation of incremental validity and mediation effects. *Journal of Vocational Behavior*, 88, 205–214. <https://doi.org/10.1016/j.jvb.2015.03.008>
- Hirschi, A., & Koen, J. (2021). Contemporary career orientations and career self-management: a review and integration. *Journal of Vocational Behavior*, 126, 103505. <https://doi.org/10.1016/j.jvb.2020.103505>

- Hirschi, A., & Freund, P. A. (2014). Career Engagement: Investigating intraindividual predictors of weekly fluctuations in proactive career behaviors. *The Career Development Quarterly*, 62, 5–20. <https://doi.org/10.1002/j.2161-0045.2014.00066.x>
- Hirschi, A., Freund, P. A., & Herrmann, A. (2014). The Career Engagement Scale: Development and validation of a measure of proactive career behaviors. *Journal of Career Assessment*, 22(4), 575–594. <https://doi.org/10.1177/1069072713514813>
- Hirschi, A., Herrmann, A., & Keller, A. C. (2015). Career adaptivity, adaptability, and adapting: a conceptual and empirical investigation. *Journal of Vocational Behavior*, 87, 1–10. <https://doi.org/10.1016/j.jvb.2014.11.008>
- Hirschi, A., & Valero, D. (2015). Career adaptability profiles and their relationship to adaptivity and adapting. *Journal of Vocational Behavior*, 88, 220–229. <https://doi.org/10.1016/j.jvb.2015.03.010>
- Hofmans, J., Wille, B., & Schreurs, B. (2020). Person-centered methods in vocational research. *Journal of Vocational Behavior*, 118, 103398. <https://doi.org/10.1016/j.jvb.2020.103398>
- Hsieh, H. H., & Huang, J. T. (2014). The effects of socioeconomic status and proactive personality on career decision self-efficacy. *The Career Development Quarterly*, 62(1), 29–43. <https://doi.org/10.1002/j.2161-0045.2014.00068.x>
- Hu, X., He, Y., Ma, D., Zhao, S., Xiong, H., & Wan, G. (2021). Mediating model of college students' proactive personality and career adaptability. *The Career Development Quarterly*, 69(3), 216–230. <https://doi.org/10.1002/cdq.12269>
- Huang, J. (2017). The relationship between employee psychological empowerment and proactive behavior: self-efficacy as mediator. *Social Behavior and Personality*, 45(7), 1157–1166. <https://doi.org/10.2224/sbp.6609>
- Jiang, Z. (2017). Proactive personality and career adaptability: the role of thriving at work. *Journal of Vocational Behavior*, 98, 85–97. <https://doi.org/10.1016/j.jvb.2016.10.003>
- Kalkan, H. (2019). *Analysis of the relationship between proactive exhibition levels and perception perceptions of official teachers in official and private secondary schools* [Master's thesis, İnönü University]. <https://tez.yok.gov.tr/UlusalTezMerkezi/>
- Karimi, S., Ahmadi Malek, F., & YaghoubiFarani, A. (2021). The relationship between proactive personality and employees' creativity: the mediating role of intrinsic motivation and creative self-efficacy. *Economic Research-Ekonomska Istraživanja*. <https://doi.org/10.1080/1331677X.2021.2013913>
- Klehe, U. C., Fasbender, U., & van der Horst, A. (2021). Going full circle: integrating research on career adaptation and proactivity. *Journal of Vocational Behavior*, 126, 103526. <https://doi.org/10.1016/j.jvb.2020.103526>
- Kline, R. B. (2005). *Principles and practice of structural equation modeling*. Guilford Press.
- Kong, Y., & Li, M. (2018). Proactive personality and innovative behavior: the mediating roles of job-related affect and work engagement. *Social Behavior and Personality*, 46(3), 431–446. <https://doi.org/10.2224/sbp.6618>
- Korkmaz, O., Kirdok, O., Alkal, A., & Akca, M. S. (2020). Career Engagement Scale: validity and reliability study of the measurement of proactive career behavior. *International Social Sciences Studies Journal*, 72(6), 4668–4677. <https://doi.org/10.26449/sss.j.2570>
- Korkmaz, Ö. (2020). *The effects of proactive personality trait on self-efficacy, creativity and job satisfaction* [Master's thesis, Kirikkale University]. <https://tez.yok.gov.tr/UlusalTezMerkezi/>
- Kuijpers, M. A. C. T., Schyns, B., & Scheerens, J. (2006). Career competencies for career success. *The Career Development Quarterly*, 55(2), 168–178. <https://doi.org/10.1002/j.2161-0045.2006.tb00011.x>
- Kurbanoglu, S. (2004). Self-efficacy belief and its importance for information professionals. *Information World*, 5(2), 137–152. <https://doi.org/10.15612/BD.2004.484>
- Lankard Brown, B. (1999). Self-Efficacy beliefs and career development. *Clearinghouse on Adult, Career, and Vocational Education*. <https://files.eric.ed.gov/fulltext/ED429187.pdf>
- Li, H., Ngo, H. Y., & Cheung, F. (2019). Linking protean career orientation and career decidedness: the mediating role of career decision self-efficacy. *Journal of Vocational Behavior*, 115, 103322. <https://doi.org/10.1016/j.jvb.2019.103322>
- Li, X., Zhang, A., & Guo, Y. (2021). Are proactive employees more creative? The roles of multisource information exchange and social exchange-based employee–organization relationships. *Personality and Individual Differences*, 170(15), 110484. <https://doi.org/10.1016/j.paid.2020.110484>

- Li, L., & Mao, S. (2014). Moderating effects of proactive personality on factors influencing work engagement based on the job demands-resources model. *Social Behavior and Personality*, 42(1), 7–16. <https://doi.org/10.2224/sbp.2014.42.1.7>
- Li, M., Wang, Z., Gao, J., & You, X. (2017). Proactive personality and job satisfaction: the mediating effects of self-efficacy and work engagement in teachers. *Current Psychology*, 36(1), 48–55. <https://doi.org/10.1007/s12144-015-9383-1>
- Lin, X. S., Chen, Z. X., Ashford, S. J., Lee, C., & Qian, J. (2018). A self-consistency motivation analysis of employee reactions to job insecurity: the roles of organization-based self-esteem and proactive personality. *Journal of Business Research*, 92, 168–178. <https://doi.org/10.1016/j.jbusres.2018.07.028>
- Lo Presti, A. (2009). Snakes and ladders: stressing the role of meta-competencies for post-modern careers. *International Journal for Educational and Vocational Guidance*, 9(2), 125–134. <https://doi.org/10.1007/s10775-009-9157-0>
- Lochab, A., & Nath, V. (2020). Proactive personality, goal orientation and meta-skills as predictors of protean and boundaryless career attitudes. *South Asian Journal of Business Studies*, 9(1), 130–143. <https://doi.org/10.1108/SAJBS-01-2019-0014>
- Luszczynska, A., Gutierrez-Dona, B., & Schwarzer, R. (2005). General self-efficacy in various domains of human functioning: evidence from five countries. *International Journal of Psychology*, 40(2), 80–89. <https://doi.org/10.1080/00207590444000041>
- Ma, Y., & Chen, S. C. (2022). Understanding the determinants and consequences of perceived employability in graduate labor market in China. *International Journal for Educational and Vocational Guidance*. <https://doi.org/10.1007/s10775-022-09567-7>
- Marcionetti, J., & Rossier, J. (2021). A longitudinal study of relations among adolescents' self-esteem, general self-efficacy, career adaptability, and life satisfaction. *Journal of Career Development*, 48(4), 475–490. <https://doi.org/10.1177/0894845319861691>
- Marcoulides, G., & Schumacher, R. (2001). *New developments and techniques in structural equation modeling*. Lawrence Erlbaum Associates.
- McCormick, B. W., Guay, R. P., Colbert, A. E., & Stewart, G. L. (2019). Proactive personality and proactive behavior: perspectives on person–situation interactions. *Journal of Occupational and Organizational Psychology*, 92(1), 30–51. <https://doi.org/10.1111/joop.12234>
- Mensmann, M., & Frese, M. (2019). Who stays proactive after entrepreneurship training? Need for cognition, personal initiative maintenance, and well-being. *Journal of Organizational Behavior*, 40(1), 20–37. <https://doi.org/10.1002/job.2333>
- Ng, T. W. H., Eby, L. T., Sorensen, K. L., & Feldman, D. C. (2005). Predictors of objective and subjective career success. A meta-analysis. *Personnel Psychology*, 58(2), 367–408. <https://doi.org/10.1111/j.1744-6570.2005.00515.x>
- Nodira, T., & Nodir, M. (2022). Labor force, its employment and unemployment. *Web of Scientist: International Scientific Research Journal*, 3(11), 1191–1205. <https://doi.org/10.17605/OSF.IO/WUNM3>
- Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory*. McGraw-Hill.
- Ohly, S., & Fritz, C. (2007). Challenging the status quo: what motivates proactive behavior? *Journal of Occupational and Organizational Psychology*, 80(4), 623–629. <https://doi.org/10.1348/096317907X180360>
- Pajares, F. (2002). Overview of social cognitive theory and of self-efficacy. <http://www.uky.edu/~eushe2/Pajares/eff.html>
- Pajares, F. (1996). Self-efficacy beliefs and mathematical problem-solving of gifted students. *Contemporary Educational Psychology*, 21(4), 325–344. <https://doi.org/10.1006/ceps.1996.0025>
- Parker, S. K., Bindl, U. K., & Strauss, K. (2010). Making things happen: a model of proactive motivation. *Journal of Management*, 36(4), 827–856. <https://doi.org/10.1177/0149206310363732>
- Parker, S. K., & Collins, C. G. (2010). Taking stock: integrating and differentiating multiple proactive behaviors. *Journal of Management*, 36(3), 633–662. <https://doi.org/10.1177/0149206308321554>
- Peker, T. (2018). *The mediating role of proactive personality between self-efficacy and life satisfaction* [Master's thesis, Ordu University]. <https://tez.yok.gov.tr/UlusalTezMerkezi/>
- Peng, P., Song, Y., & Yu, G. (2021). Cultivating proactive career behavior: the role of career adaptability and job embeddedness. *Hypothesis and Theory*, 12, 1–16. <https://doi.org/10.3389/fpsyg.2021.603890>
- Preacher, K. J., & Hayes, A. F. (2008). Assessing mediation in communication research. In *The Sage sourcebook of advanced data analysis methods for communication research*. Sage.

- Presbitero, A. (2015). Proactivity in career development of employees: the roles of proactive personality and cognitive complexity. *Career Development International*, 20(5), 525–538. <https://doi.org/10.1108/CDI-03-2015-0043>
- Ramdhani, R. N., Budiamin, A., & Budiman, N. (2020). Career meta-competencies and counseling career intervention 4.0 era using life design career counseling to develop career adaptability. In *1st International conference on information technology and education (ICITE 2020)* (pp. 708–713). Atlantis Press.
- Scholz, U., Gutierrez- Dona, B., Sud, S., & Schwarzer, R. (2002). Is general self efficacy a universal construct? *European Journal of Psychological Assessment*, 18(3), 242–251. <https://doi.org/10.1027/1015-5759.18.3.242>
- Scholz, U., & Schwarzer, R. (2005). The general self-efficacy scale: multicultural validation studies. *The Journal of Psychology*, 139(5), 439–457. <https://doi.org/10.3200/jrpl.139.5.439-457>
- Schwarzer, R., & Jerusalem, M. (1995). Generalized Self-efficacy Scale. In J. Weinman, S. Wright, & M. Johnston (Eds.), *Measures in health psychology: A user's portfolio. Causal and control beliefs* (pp. 35–37). NFER-Nelson.
- Seibert, S. E., Crant, M., & Kraimer, M. L. (1999). Proactive personality and career success. *Journal of Applied Psychology*, 84(3), 416–427. <https://doi.org/10.1037/0021-9010.84.3.416>
- Seibert, S. E., Kraimer, M. L., & Crant, J. M. (2001). What do proactive people do? A longitudinal model linking proactive personality and career success. *Personnel Psychology*, 54, 845–874. <https://doi.org/10.1111/j.1744-6570.2001.tb00234.x>
- Song, Z., & Chon, K. (2012). General self-efficacy's effect on career choice goals via vocational interests and person–job fit: a mediation model. *International Journal of Hospitality Management*, 31(3), 798–808. <https://doi.org/10.1016/j.ijhm.2011.09.016>
- Sonntag, S. (2017). Career proactivity. In S. K. Parker & U. K. Bindl (Eds.), *Proactivity at work* (pp. 49–76). Routledge.
- Spurk, D., Volmer, J., Orth, M., & Göritz, A. S. (2020). How do career adaptability and proactive career behaviours interrelate over time? An inter- and intraindividual investigation. *Journal of Occupational and Organizational Psychology*, 93(1), 158–186. <https://doi.org/10.1111/joop.12288>
- Strauss, K., Griffin, M. A., & Parker, S. K. (2012). Future work selves: how salient hoped-for identities motivate proactive career behaviors. *Journal of Applied Psychology*, 97, 580–598. <https://doi.org/10.1037/a0026423>
- Su, F., & Zhang, J. (2020). Proactive personality and innovative behavior: a moderated mediation model. *Social Behavior and Personality*, 48(3), 1–12. <https://doi.org/10.2224/sbp.8622>
- Sultana, R. G. (2022). Four ‘dirty words’ in career guidance: From common sense to good sense. *International Journal for Educational and Vocational Guidance*. <https://doi.org/10.1007/s10775-022-09550-2>
- Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics*. Pearson.
- Taber, K. S. (2018). The use of Cronbach's alpha when developing and reporting research instruments in science education. *Research in Science Education*, 48, 1273–1296. <https://doi.org/10.1007/s11165-016-9602-2>
- Tierney, P., & Farmer, S. M. (2011). Creative self-efficacy development and creative performance over time. *Journal of Applied Psychology*, 96(2), 277. <https://doi.org/10.1037/a0020952>
- TURKSTAT, Turkish Statistical Institute. (2019). *Kazanç Yapısı Araştırması, 2018* [Earnings Structure Research]. <https://data.tuik.gov.tr/Bulten/Index?p=Kazanc-Yapisi-Arastirmasi-2018-30580>
- TURKSTAT, Turkish Statistical Institute. (2021). *İşgücü İstatistikleri, Ocak 2021* [Labor Statistics, January 2021]. <https://data.tuik.gov.tr/Bulten/Index?p=Isgucu-Istatistikleri-Ocak-2021-37486>
- Ugwu, L. E., Enwereuzor, I. K., Nwankwo, B. E., Ugwueze, S., Ogba, F. N., Nnadozie, E. E., Eze, A., & Ezech, M. A. (2021). Proactive personality and social support with pre-retirement anxiety: mediating role of subjective career success. *Frontiers in Psychology*, 12, 1743. <https://doi.org/10.3389/fpsyg.2021.569065>
- Uy, M. A., Chan, K., Sam, Y. L., Ho, M. R., & Chernyshenkod, O. S. (2015). Proactivity, adaptability and boundaryless career attitudes: the mediating role of entrepreneurial alertness. *Journal of Vocational Behavior*, 86, 115–123. <https://doi.org/10.1016/j.jvb.2014.11.005>
- Veldhoven, M., & Dorenbosch, L. (2008). Age, proactivity and career development. *Career Development International*, 13(2), 112–131. <https://doi.org/10.1108/13620430810860530>
- Wang, F., Xu, Y., Zhou, X., Fu, A., Guan, Y., She, Z., Wang, Z., & Bi, Y. (2022). Are adaptable employees more likely to stay? Boundaryless careers and career ecosystem perspectives on career adaptability and turnover. *Applied Psychology*, 71(4), 1326–1346. <https://doi.org/10.1111/apps.12356>



- Wiernik, B. M., & Kostal, J. W. (2019). Protean and boundaryless career orientations: a critical review and meta-analysis. *Journal of Counseling Psychology, 66*(3), 280–307. <https://doi.org/10.1037/cou0000324>
- Yavuzaslan, K., & Daglioglu, C. (2019). *Türkiye'nin genç işsizlik sorunu ve üniversite öğrencilerinin meslek seçimi bilinci [Türkiye's youth unemployment problem and university students' awareness of career choice]*. Ivpe Publishing.
- Zacher, H. (2014). Career adaptability predicts subjective career success above and beyond personality traits and core self-evaluations. *Journal of Vocational Behavior, 84*, 21–30. <https://doi.org/10.1016/j.jvb.2013.10.002>
- Zhao, X., Lynch, J. G., Jr., & Chen, Q. (2010). Reconsidering Baron and Kenny: myths and truths about mediation analysis. *Journal of Consumer Research, 37*(2), 197–206. <https://doi.org/10.1086/651257>
- Zhu, X. X., Li, C., Wang, X. L., Liu, J. N., & Xia, S. (2021). How does information sharing of a supervisor influence proactive change behavior of an employee? The chain mediating role of family-like employee–organization relationship and relationship energy. *Frontiers in Psychology, 12*, 739968. <https://doi.org/10.3389/fpsyg.2021.739968>

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