ISSN 2835-4138 (digital)
https://doi.org/10.47806/ijesacademic

IJES YEAR (2025), ISSUE/VOL (7/1)
PAGES (64-79)

The Turkish Form of the Career Exploration and Decision-Making Learning Experiences Scale: Validity and Reliability Studies

Ersoy Çarkıt[1]*, Sami Kırteke[2]

Abstract

The role of past career exploration and decision-making learning experiences in the career exploration and decision-making process as facilitators or hinderers is theoretically known. However, empirical support for the role of past career exploration and decision-making learning experiences in the career exploration and decision-making process is limited due to the lack of a valid and reliable measurement tool. Therefore, this study aims to examine the validity and reliability of the Career Exploration and Decision-Making Learning Experiences Scale Turkish form. In this context, two separate studies were conducted. Study 1 included 310 undergraduate students (248 female and 62 male). In Study 1, confirmatory factor analysis was conducted to validate the factor structure of the Turkish version of the Career Exploration and Decision-Making Learning Experiences Scale. Study 2 included 340 undergraduate students (235 female and 105 male). In Study 2, multiple linear regression analyses were performed to examine the predictive role of career exploration and decision-making learning experiences on self-efficacy and outcome expectations related to the same behavioural domain. The findings of Study 1 confirmed the five-factor structure (mastery experiences, verbal persuasion, vicarious learning, positive emotion, and negative emotion) of the Turkish version of the Career Exploration and Decision-Making Learning Experiences Scale. The Cronbach's alpha values for the Turkish version of the scale were adequate in Study 1 and 2. The results of Study 2 indicated that mastery experiences, vicarious learning, and positive emotion positively predicted both self-efficacy and outcome expectations. Additionally, negative emotion was found to predict outcome expectations positively. The results are discussed in the light of the relevant literature, and limitations and recommendations are presented.

Keywords: learning experiences, career exploration and decision-making, self-efficacy, outcome expectations

Kariyer Araştırma ve Karar Verme Öğrenme Deneyimleri Ölçeği Türkçe Formu: Geçerlik ve Güvenirlik Çalışmaları

Özet (Türkçe)

Kariyer araştırma ve karar verme sürecinde, bu sürece ilişkin geçmiş öğrenme deneyimlerinin kolaylaştırıcı veya engelleyici rolü kuramsal olarak bilinmektedir. Ancak, kariyer araştırma ve karar verme sürecinde, bu sürece ilişkin geçmiş öğrenme deneyimlerinin rolüne ilişkin ampirik destek, geçerli ve güvenilir bir ölçme aracı eksikliğinden sınırlıdır. Bu nedenle, bu çalışmanın amacı Kariyer Araştırma ve Karar Verme Öğrenme Deneyimleri Ölçeği Türkçe formunun geçerlik ve güvenirliğini incelemektir. Ayrıca kariyer araştırma ve karar verme öğrenme deneyimlerinin aynı davranışsal alana ilişkin öz yetkinlik ve sonuç beklentilerini yordayıcı rolünü incelemek de amaçlanmıştır. Bu bağlamda, iki ayrı çalışma yürütülmüştür. Çalışma 1'de 310 lisans öğrencisi (248 kadın ve 62 erkek) bulunmaktadır. Çalışma 1'de Kariyer Araştırma ve Karar Verme Öğrenme Deneyimleri Ölçeği Türkçe formunun faktör yapısının doğrulanması için doğrulayıcı faktör analizi yapılmıştır. Çalışma 2'de 340 lisans öğrencisi (240 kadın ve 105 erkek) bulunmaktadır. Çalışma 2'de ise kariyer araştırma ve karar verme öğrenme deneyimlerinin aynı davranışsal alana ilişkin öz yetkinlik ve sonuç beklentilerini yordayıcı rolünü incelemek için çoklu doğrusal regresyon analizleri yapılmıştır. Çalışma 1'in sonuçları Türkçe Kariyer Araştırma ve Karar Verme Öğrenme Deneyimleri Ölçeği'nin ilişkili beş faktörlü (başarılı performanslar, sözel ikna, dolaylı öğrenme, pozitif duygu ve negatif duygu) yapısını doğrulamıştır. Kariyer Araştırma ve Karar Verme Öğrenme Deneyimleri Ölçeği Türkçe formunun Cronbach alfa değerleri Çalışma 1 ve Çalışma 2'de yeterli bulunmuştur. Çalışma 2 sonuçları başarılı performanslar, dolaylı öğrenme ve pozitif duygu öz yetkinliği ve sonuç beklentilerini pozitif yönde yordadığını göstermiştir. Ayrıca negatif duygu sonuç beklentilerini pozitif olarak yorduyordu. Sonuçlar ilgili literatür çerçevesinde tartışılmış, sınırlılıklar ve öneriler sunulmuştur.

Anahtar Kelimeler: öğrenme deneyimleri, kariyer araştırma ve karar verme, öz yetkinlik, sonuç beklentileri

How to cite: Çarkıt, E., & Kırteke, S. (2025). The Turkish form of the Career Exploration and Decision-Making Learning Experiences Scale: Validity and reliability studies. *International Journal of Educational Spectrum (IJES)*, *7*(1), 64-79. https://doi.org/10.47806/ijesacademic.1606188

Submission Date: December 25, 2024
Acceptance Date: February 21, 2025

[1] Dr., Nevşehir Hacı Bektaş Veli University, Türkiye, ersoy.12@hotmail.com
[2] Dr., 100th Year Vocational Education Center, Konya, Türkiye, samikirteke44@gmail.com

* Corresponding author

Introduction

Career exploration and decision-making represent a pivotal developmental task for university students (Super et al., 1996). This process, however, is frequently accompanied by challenges (Levin et al., 2024). These challenges manifest in various forms, including career barriers (Ulaş & Kızıldağ, 2018), indecision (Demirtaş-Zorbaz et al., 2023), anxiety (Brown et al., 2012; Hacker et al., 2013), and engagement in career exploration and decision-making behaviours (Lent et al., 2019). Addressing these challenges necessitates the cultivation of individuals' career exploration and decision-making self-efficacy (Betz et al., 1996; Lent & Brown, 2013). Career exploration and decision-making self-efficacy refers to an individual's belief in their abilities to perform career exploration and decision-making tasks (Lent et al., 2016). Career exploration and decision-making self-efficacy can benefit individuals by enabling them to take an active role in the career process (Bike, 2013). Research has indicated that individuals with high self-efficacy in career exploration and decision-making tend to exhibit greater career decidedness (Çarkıt, 2024a; Lent et al., 2016; Li et al., 2019; Penn & Lent, 2019). Furthermore, individuals who possess this confidence are more inclined to establish career exploration intentions (Çarkıt, 2024a; Lent et al., 2017) and engage in career exploration behaviours (Lent et al., 2019). Conversely, low levels of career exploration and decision-making self-efficacy have been associated with decision-making anxiety (Morris & Lent, 2023; Penn & Lent, 2019) and career indecision (Büyükgöze-Kavas, 2011; Choi et al., 2012; Öztemel, 2012). These studies generally demonstrate that self-efficacy facilitates career exploration and decision-making, underscoring the importance of promoting it for university students.

Learning experiences are important in developing self-efficacy in career exploration decision-making (Lent & Brown, 2013). Bandura (1986) conceptualizes learning experiences as sources of self-efficacy and defines them in four categories: mastery experiences, verbal persuasion, vicarious learning, and emotional arousal. Mastery experiences refer to past experiences performing tasks in a specific behavioural domain (Bandura, 1986). Verbal persuasion refers to the encouragement and prompting of individuals by significant others to perform tasks in a particular behavioural domain (Bandura, 1997). Vicarious learning refers to the experiences that individuals gain from observing role models performing the target behaviours (Bandura, 1986). Finally, emotional arousal refers to the positive and negative emotions an individual feels while performing tasks related to a specific behavioural domain (Bandura, 1977). As a result, people feel competent by remembering their past successful experiences in certain behavioural domains, being appreciated and encouraged by significant others while performing these behaviours, observing role models who exhibit the same behaviours, and feeling more positive emotions and less negative emotions while performing these behaviours (Bandura, 1986). Bandura argued that the most powerful learning experience that informs self-efficacy is mastery experiences.

Learning experiences constitute an important variable group of the Social Cognitive Career Theory (SCCT; Lent & Brown, 2013; Lent et al., 1994), which is rooted in Bandura's (1986) Social Cognitive Theory. Lent et al. (1994) expand Bandura's (1986) hypothesis by proposing that learning experiences inform not only self-efficacy but also outcome expectations. Therefore, self-efficacy and outcome expectations shape and cultivate thanks to positive learning experiences. Consequently, learning experiences are recognized as a pivotal source of self-efficacy and outcome expectations (Lent et al., 1994). Following other variables of the SCCT, learning experiences are defined and measured to specific behavioural domains. Career exploration and decision-making learning experiences refer to individuals' mastery

experiences related to their past career exploration and decision-making experiences, verbal encouragement received from their environment in this process, indirect learning experiences, and positive and negative emotions felt in this process (Lent et al., 2017). The SCCT assumes that career exploration and decision-making learning experiences affect the career exploration and decision-making process by strengthening or weakening self-efficacy and outcome expectations (Lent & Brown, 2013).

Since there is a limited number of measurement tools in the literature on career exploration and decision-making learning experiences, the role of this variable group in the SCCT models and the career decision-making process has not been sufficiently studied (Lent et al., 2017). Bike (2013) developed the Career Decision Learning Experiences Scale. However, this scale does not fully capture the behavioural domain of career decision-making in terms of content. To facilitate the SCCT studies on the career exploration and decision-making process, Lent et al. (2017) developed the Career Exploration and Decision-Making Learning Experiences Scale for university students. The CEDLES is grounded in Bandura's (1986) Social Cognitive Theory and Lent et al.'s (1994) classification of learning experiences (mastery experiences, verbal persuasion, vicarious learning, and emotional arousal) in the SCCT. The CEDLES include a five-factor structure, encompassing mastery experiences, verbal persuasion, vicarious learning, positive emotion, and negative emotion (Ireland & Lent, 2018; Lent et al., 2017). The scale was developed for a sample of university students in the United States. In addition, the scale was found to be both valid and reliable when administered to a sample of Chinese university students (Zhou & Xu, 2022). In accordance with the results of the scale development study conducted by Lent et al. (2017), Zhou and Xu (2022) reported in their scale adaptation study that mastery experiences, verbal persuasion, vicarious learning, and positive emotion were positively associated with self-efficacy, outcome expectations, and social support. In contrast, negative emotion was negatively associated with these variables.

The CEDLES (Lent et al., 2017) has frequently been employed to test the SCCT Career Self-Management Model (Lent & Brown, 2013). In accordance with the assumptions of the SCCT, previous studies have demonstrated that career exploration and decision-making learning experiences facilitate the career decision-making process (Lent et al., 2017). For instance, these learning experiences are related to self-efficacy and outcome expectations regarding career exploration and decision-making (Ireland & Lent, 2018; Lent et al., 2017). Furthermore, mastery experiences in career exploration and decision-making are a positive predictor of self-efficacy (Ireland & Lent, 2018; Lent et al., 2017). In addition, positive emotion has been found to predict self-efficacy positively, while negative emotion has been found to predict it negatively. Similarly, vicarious learning and positive emotion have been shown to positively influence positive outcome expectancies, while negative emotion has been demonstrated to negatively predict them (Ireland & Lent, 2018; Lent et al., 2017). Similarly, Lent et al. (2019) reported that mastery experiences and positive emotions positively predicted career exploration and decision-making self-efficacy. According to the SCCT, learning experiences are influenced by individual inputs, such as gender roles, and contextual factors, such as social support and barriers (Lent et al., 1994). This proposition is supported by findings that learning experiences mediate the relationship between the perception of social support with self-efficacy and outcome expectations (Ireland & Lent, 2018). Furthermore, learning experiences have been found to mediate the relationship among personality traits, including neuroticism, conscientiousness, extraversion, self-efficacy, and outcome expectations (Ireland & Lent, 2018). Additionally, mastery experiences and positive emotions have been demonstrated to predict career decidedness, both directly and indirectly, through self-efficacy (Lent et al., 2017, 2019). The extant studies summarized above

underscore the importance of career exploration and decision-making learning experiences for the career development process, and they also indicate that the CEDLES facilitates research on career exploration and decision-making.

The Present Study

The present study focuses on learning experiences related to the behavioural domain of career exploration and decision-making. In Türkiye, the Mathematics Self-Efficacy Expectancy Informational Sources Scale (Özyürek, 2002, 2010) was developed for a sample of high school students. Additionally, the Engineering Learning Experiences Scale, a tool developed by Garriott et al. (2021), was adapted into Turkish by Gerçek et al. (2023) for a sample of engineering undergraduate students. Özyürek's (2002, 2010) scale assesses the sources of confidence in high school students' mathematics ability (Özyürek, 2005). The Engineering Learning Experiences Scale (Garriott et al., 2021) assesses undergraduate engineering students' perceptions of their learning experiences in engineering majors. The behavioural domains that these scales focus on (i.e., the behavioural domains of learning mathematics and engineering, respectively) differ from the behavioural domains focused on in the current study (i.e., career exploration and decision-making). To date, no scale has been found in Türkiye that specifically assesses undergraduate students' career exploration and decision-making learning experiences. Consequently, the extant literature on career exploration and decision-making learning experiences in Türkiye remains limited. Furthermore, as previously mentioned, extant studies have yielded mixed results concerning the association between career exploration and decision-making learning experiences and self-efficacy, as well as outcome expectations.

This study aims to conduct validity and reliability studies of the CEDLES developed by Lent et al. (2017) with a sample of Turkish university students. The aim was also to examine whether career exploration and decision-making learning experiences predict self-efficacy and outcome expectations in the same behavioural domain. To this end, two distinct studies were conducted. Study 1 examined the validation of the five-factor correlational structure of the CEDLES with data collected from Turkish undergraduate students. Study 2 examined the predictive role of career exploration and decision-making learning experiences on self-efficacy and outcome expectations in the same behavioural domain. In other words, Study 2 examines whether career exploration and decision-making learning experiences predict self-efficacy (Research Question 1) and outcome expectations (Research Question 2) in a sample of Turkish undergraduate students. Based on the literature summarized above and SCCT (Lent & Brown, 2013), mastery experiences, verbal persuasion, vicarious learning, and positive emotion were expected to predict self-efficacy positively, while negative emotion was expected to predict it negatively. Similarly, mastery experiences, verbal persuasion, vicarious learning, and positive emotion were expected to positively predict outcome expectations, whereas negative emotion was expected to predict them negatively. The present study's findings are expected to contribute to the advancement of knowledge regarding career exploration and decision-making and offer implications for practice, given the malleable nature of learning experiences. Specifically, CEDLES can be used to identify learning experiences that influence the career exploration and decision-making process of Turkish university students. Furthermore, the CEDLES can be utilized by researchers and psychological counsellors operating within university counselling or career development centres.

Study 1
Method

Participants

The participants in this study comprised 310 undergraduate students from a state university, with 248 identifying as female and 62 as male. The participants were selected through a convenience sampling method. The age of the participants ranged from 18 to 34 years old (mean = 21.16, standard deviation = 2.22). The decision to employ convenience sampling was predicated on its advantageous characteristics concerning temporal, financial, and logistical constraints. The participants were categorized as follows: 62 were first-year students (20%), 60 were second-year students (19.4%), 98 were third-year students (31.6%), and 90 were fourth-year students (29%). Furthermore, the participants' socioeconomic status was assessed, revealing that 15 individuals reported having a lower socioeconomic status (4.8%), 30 individuals reported having a below-middle socioeconomic status (9.7%), 219 individuals reported having a middle socioeconomic status (70.6%), 42 individuals reported having an above-middle socioeconomic status (13.5%), and four individuals reported having a very high socioeconomic status (1.3%).

Measure

The Career Exploration and Decision-Making Learning Experiences Scale (CEDLES). The CEDLES was developed by Lent et al. (2017) to assess learning experiences related to the behavioural domain of career exploration and decision-making based on Bandura's (1997) concept of learning experiences. The scale comprises five subscales, each comprising four items: mastery experiences, verbal persuasion, vicarious learning, positive and negative emotion. Participants are instructed to respond to each item on a 5-point Likert scale, ranging from *strongly disagree* (1) to *strongly agree* (5). Participants respond to the positive and negative emotion items on a Likert scale ranging from *very little or not at all* (1) to *very much* (5). The five-factor correlational model demonstrated a good fit for the data, as evidenced by the following statistical indices: $\chi 2 = 240.55$, df = 160, CFI = .97, RMSEA = .04, and SRMR = .06. The subscales of the CEDLES demonstrated a positive correlation with self-efficacy. The Cronbach's alpha values of the subscales ranged between .80 and .89 (Ireland & Lent, 2018; Lent et al., 2017).

Translation Procedure

Translating the CEDLES into Turkish, the translation process suggested by Ægisdóttir et al. (2008) was followed. The items of the CEDLES were translated into Turkish independently by the two experts. Two experts came together and compared the two translations. As a result of the comparison, it was seen that the translations were mostly similar. A comparative analysis of the resulting translations led to a consensus on the most suitable translation. A subsequent comparison of the original form and its Turkish translation revealed that the latter was suitable for utilization. Subsequently, a group of university students (n = 8) from the study group was consulted to assess the comprehensibility and cultural appropriateness of the items. The analysis revealed no significant issues, necessitating no modifications to the items.

Data Collection

The data were collected using Google Forms. Following the thorough review of a page elucidating the aim of the study, all participants provided their consent. The participants were

informed that they were free to withdraw from the study at any participation stage and that their responses were voluntary. The scale was completed in an average time of approximately five to six minutes. The study was conducted to assess the validity and reliability of the CEDLES, and permission was obtained from the scale's developer prior to its implementation.

Data Analysis

The data were analyzed using the statistical software AMOS and SPSS. Confirmatory factor analysis (CFA) was conducted to evaluate the fit of the five-factor structure of the scale with the data. It is emphasized that five to 10 times the number of estimated parameters is adequate for CFA (Worthington & Whittaker, 2006). In this model, the number of estimated parameters was 50. Therefore, since the number of participants was more than six times the estimated parameters, it was deemed adequate. The goodness of fit of the model was determined by the cut-off values established by Tabachnick & Fidell (2013) for CFI and TLI (i.e., ≥ .90) and RMSEA and SRMR (i.e., ≤ .08). The skewness kurtosis values of all items were within ±1.5. These values indicated a normal distribution (Tabachnick & Fidell, 2013). Therefore, CFA was executed with maximum likelihood. Additionally, Cronbach's alpha coefficient was calculated to determine the internal consistency of the scale.

Results

First, a single-factor structure was tested. For this, CFA was conducted by loading all items on a single latent variable. The one-factor model did fit the data poorly: $\chi 2$ = 1078.738, df = 170, CFI = .67, TLI = .63, RMSEA = .132, and SRMR = .114. The five-factor relational model fit perfectly with the data: $\chi 2$ = 245.710, df = 160, CFI = .97, TLI = .96, RMSEA = .042, and SRMR = .050. In the five-factor correlational model, all items loaded significantly on the relevant factors at $p < .001$, and item factor loadings ranged from .34 to .87. CFA results for the five-factor correlational model are presented in Figure 1.

The internal consistency coefficients of the subscales of the Turkish CEDLES were α = .78 for mastery experiences, α = .89 for verbal persuasion, α = .85 for vicarious learning, α = .73 for positive affect, and α = .81 for negative affect.

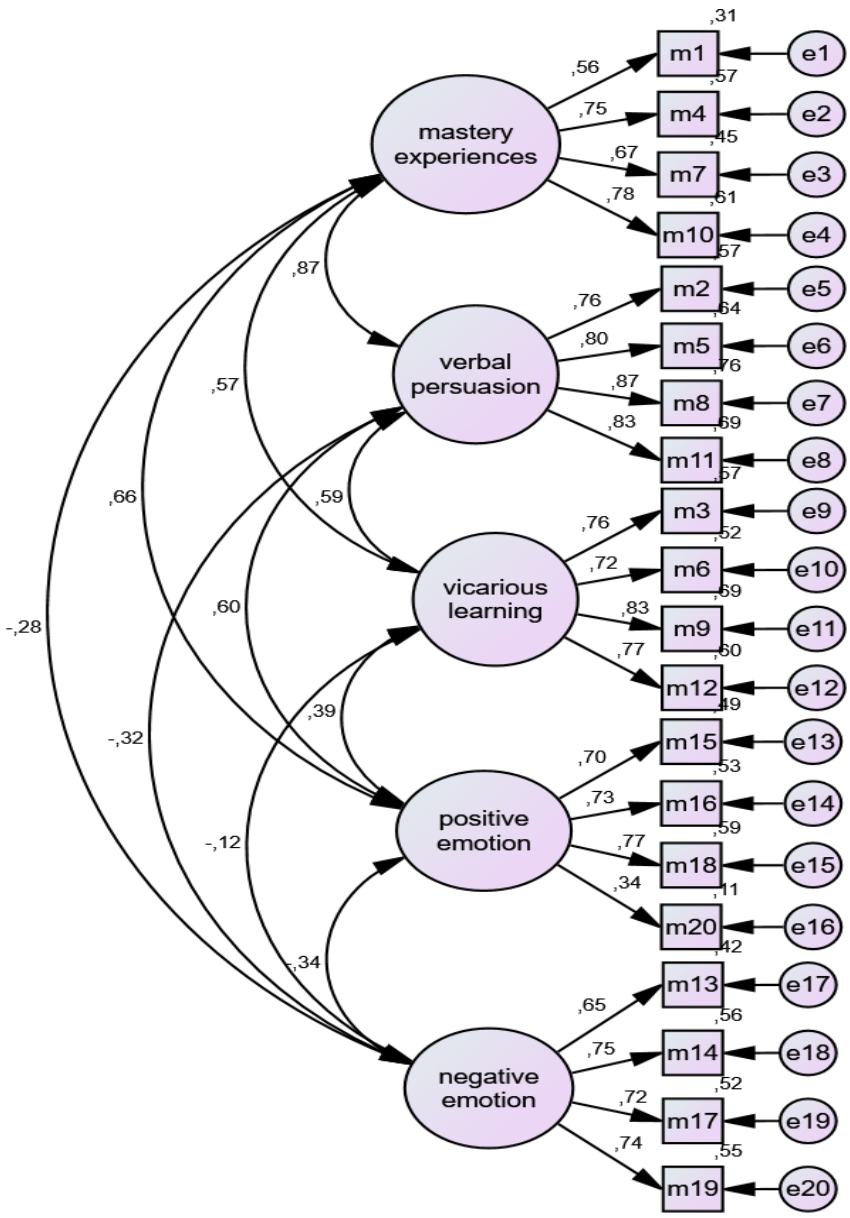

Figure 1. Five-factor correlational model

Study 2
Method

Participants

Participants were 340 (235 female and 105 male) undergraduate students from a state university selected by convenience sampling. The age of the participants ranged between 18 and 35 (Mean = 21.17, Standard Deviation = 2.80). The convenience sampling method was preferred due to its benefits in terms of time, cost, and effort. Of the participants, 91 were first-year students (26.8%), 116 were second-year students (34.1%), 64 were third-year students (18.8%) and 64 were fourth-year students (18.8%). Five (1.5%) students stated they were in the foreign language preparatory class.

Measure

In Study 2, the following scales were used with the Turkish form of the CEDLES created in Study 1.

The Career Exploration and Decision Self-Efficacy Scale. Self-efficacy was measured using the Turkish version (Çarkıt, 2024a) of the Career Exploration and Decision Self-Efficacy Scale (Lent et al., 2016). The scale consists of two subscales (brief decision-making and coping) and 12 items. In this study, the eight-item brief decisional self-efficacy subscale of the scale was used. Participants answered the items on a 5-point Likert scale ranging from 0 = *not at all confident* to 4 = *completely confident*. The scale was found to be a good fit for a sample of Turkish undergraduate students: $\chi 2$ = 127.58, df = 53, CFI = .94, TLI = .93, RMSEA = .07, and SRMR = .05. The Turkish Career Exploration and Decision Self-Efficacy Scale was positively related to outcome expectations and career decidedness and had high internal consistency (α = .92) (Çarkıt, 2024a). With the present data, the α value of the scale was found to be .92.

The Career Decision-Making Outcome Expectations Scale. Outcome expectations were measured using the Turkish version (Çarkıt, 2024b) of the Career Decision-Making Outcome Expectations Scale (Betz & Voyten, 1997; Lent et al., 2017). The scale has eight items and is unidimensional. Participants answer the items on a 5-point Likert scale ranging from *strongly disagree* (1) to *strongly agree* (5). The scale was found to be a good fit for a sample of Turkish undergraduate students: $\chi 2$ = 56.48, df = 20, CFI = .97, TLI = .96, RMSEA = .07, and SRMR = .02. The Turkish Career Decision-Making Outcome Expectations Scale was positively related to self-efficacy and exploration intentions and was found to have high internal consistency (α = .92) (Çarkıt, 2024b). With the present data, the α value of the scale was .93.

Data Collection

The data collection process of Study 2 was the same as the data collection process of Study 1. Data were collected through Google Forms. All participants approved the informed consent form after reading a page about the purpose of the study. All participants answered the set of scales voluntarily and were aware that they were free to withdraw at any participation stage. Participants took approximately 10 minutes to answer the scale.

Data Analysis

The collected data were analyzed using SPSS. Multiple linear regression analysis was conducted to examine the level of prediction of career exploration and decision-making learning experiences on self-efficacy and outcome expectations related to the same behavioural domain. The required sample size calculation for multiple linear regression analysis was made with the G Power program. The results showed that 138 participants were needed for five predictor variables, a medium effect size (.15), and a significance level of .05. Therefore, the current sample size was adequate for multiple linear regression analysis. The assumption of normality was assessed by calculating the skewness and kurtosis values of the variables (see Table 1). As the skewness and kurtosis values were found to be between ±1.5, it was determined that the assumption of a normal distribution was not violated (Tabachnick & Fidell, 2013). The multicollinearity assumption was assessed by examining the Variance Inflation Factors (VIF) values. The VIF values ranged from 1.09 to 2.17. As the VIF value

was less than 10, it can be concluded that there is no multicollinearity problem. Finally, the risk of autocorrelation was examined by calculating the Durbin-Watson coefficient. The Durbin-Watson coefficient was found to be 1.82 and 2.07. As the Durbin-Watson coefficient is close to 2, the probability of autocorrelation among error terms is negligible (Tabachnick & Fidell, 2013).

Results

Table 1 presents the results of the correlation analysis and the descriptive statistics. Four subscale scores (mastery experiences, verbal persuasion, vicarious learning, and positive emotion) exhibited a positive relationship with self-efficacy, while the negative emotion subscale demonstrated a negative association. Furthermore, the four previously mentioned subscale scores (mastery experiences, verbal persuasion, vicarious learning, and positive emotion) were positively related to outcome expectancies.

Table 1. The relationships among study variables and descriptive statistics

Variables	1	2	3	4	5	6	*7*
1. Mastery experiences	(.77)						
2. Verbal persuasion	.64**	(.83)					
3. Vicarious learning	.49**	.49**	(.84)				
4. Positive emotion	.56**	.40**	.39**	(.69)			
5. Negative emotion	-.25**	-.17**	-.09	-.24**	(.79)		
6. Self-efficacy	.69**	.51**	.52**	.52**	-.20**	(.92)	
7. Outcome expectations	.37**	.23**	.31**	.30**	.05	.38**	(.93)
M	3.73	3.57	3.53	3.46	3.11	2.89	4.08
SD	.76	.83	.96	.79	.95	.75	.80
Skewness	-.69	-.59	-.54	-.30	-.12	-1.02	-.102
Kurtosis	.99	.50	-.18	.30	-.66	1.79	1.11

**$p < .01$. The Cronbach's alpha values are presented in parentheses on the diagonal.

Multiple linear regression analysis was conducted to test whether career exploration and decision-making learning experiences could predict self-efficacy for career exploration and decision-making. Multiple linear regression analysis was conducted, with all variables entered into the analysis simultaneously. Table 2 presents the findings of this regression analysis.

Table 2. Prediction of self-efficacy

Model	*B*	*SE*	β	*t*	*p*
Constant	.01	.21		.04	.972
Mastery experiences	.47	.05	.48	8.79	.000
Verbal persuasion	.04	.05	.04	.82	.416
Vicarious learning	.16	.04	.21	4.61	.000
Positive emotion	.14	.04	.15	3.185	.002
Negative emotion	-.02	.03	-.02	-.59	.553

$F = 78.456$; $R^2 = .540$; $\Delta R^2 = .533$; $p = .000$

The findings indicated that the regression model demonstrated statistical significance ($F = 78.456$, $p < .001$). The regression model accounted for 53% of the variance in self-efficacy within the same behavioural domain. The regression model revealed that mastery experiences

(β = .48, $p < .001$), vicarious learning (β = .21, $p < .001$), and positive emotion (β = .15, $p < .01$) significantly predicted self-efficacy, while verbal persuasion (β = .04, $p > .05$) and negative emotion (β = -.02, $p > .05$) did not.

In order to determine whether career exploration and decision-making learning experiences can predict outcome expectations regarding career exploration and decision-making, a multiple linear regression analysis was conducted, all variables were entered into the analysis simultaneously. Table 3 presents the findings of the regression analysis.

Table 3. Prediction of outcome expectations

Model	*B*	*SE*	β	*t*	*p*
Constant	1.80	.29		6.15	.000
Mastery experiences	.31	.08	.30	4.12	.000
Verbal persuasion	-.06	.06	-.06	-.92	.360
Vicarious learning	.14	.05	.16	2.73	.007
Positive emotion	.13	.06	.13	2.07	.039
Negative emotion	.13	.04	.15	2.98	.003

$F = 15.790$; $R^2 = .191$; $\Delta R^2 = .179$; $p = .000$

The findings indicated that the regression model demonstrated statistical significance ($F = 15.790$, $p < .001$). The regression model explained approximately 18% of the outcome expectations related to the same behavioural domain. The regression model revealed that mastery experiences (β = .30, $p < .001$), vicarious learning (β = .16, $p < .01$), positive emotions (β = .13, $p < .05$), and negative emotions (β =.15, $p < .01$) significantly predicted outcome expectancies, while verbal persuasion did not (β = -.06, $p > .05$).

Conclusion and Discussion

The present study examined the factor structure and reliability of the Turkish version of the CEDLES. The results indicate that the Turkish version of the CEDLES is a suitable instrument for assessing Turkish university student's career exploration and decision-making learning experiences, thereby substantiating the factor structure and theoretical underpinnings of the original study (Lent et al., 2017). Additionally, the findings indicated that career exploration and decision-making learning experiences accounted for a substantial proportion of the variance in self-efficacy and outcome expectancies within the same behavioural domain.

Confirmatory factor analysis results showed that the Turkish version of CEDLES had five correlated factors consistent with the original scale (Ireland & Lent, 2018; Lent et al., 2017). The findings indicated that the five-factor structure of the CEDLES Turkish version exhibited an optimal fit with the data and was more suitable than the one-factor model. These outcomes are consistent with the theoretical underpinnings of the CEDLES framework (Bandura, 1997; Lent et al., 2017). The findings also align with the factor structure of the original CEDLES (Ireland & Lent, 2018; Lent et al., 2017) and its Chinese version (Zhou & Xu, 2022). On the other hand, the reliability of the Turkish CEDLES was substantiated by Cronbach's alpha values of the five-factor model. The Cronbach's alpha values of the subscales ranged from .69 to .89, which were similar to the Cronbach's alpha values of the original scale (Lent et al., 2017), the Chinese version (Zhou & Xu, 2022), and in previous studies (Chang et al., 2023; Garrison et al., 2023; Ireland & Lent, 2018). The correlation between mastery experiences and

verbal persuasion items was high, reflecting the results in the original version of the scale. Lent et al. (2017) and Ireland and Lent (2018) posit that this phenomenon may be attributable to individuals with limited experience in making important decisions relying on feedback from significant others (e.g., family members, friends, and educators) to inform their self-perception in this domain. Significant others may intentionally or unintentionally convey their perceptions regarding career exploration and decision-making abilities to individuals, and it may be challenging to differentiate between mastery experiences and verbal persuasion, as these statements may be particularly influential, especially for individuals with limited experience in making significant decisions (Lent et al., 2017). Prior studies have indicated that support and feedback from significant others play a particularly significant role in career exploration and decision-making in Turkey (Çarkıt, 2024a; Koçakoğlu & Yalçın, 2020; Öztemel, 2013). Consequently, the observed high correlation between mastery experiences and verbal persuasion factors may suggest that Turkish university students value encouragement, guidance, and support from their significant others regarding self-efficacy and outcome expectations, particularly given their limited experience in making significant decisions.

Career exploration and decision-making learning experiences were significant predictors of self-efficacy and outcome expectations related to career exploration and decision-making. Specifically, mastery experiences, vicarious learning, and positive emotions have been shown to predict self-efficacy and outcome expectancies positively. These findings align with the theoretical framework proposed by Lent and Brown (2013), which posits that learning experiences shape self-efficacy and outcome expectancies. The present study's findings are consistent with previous studies (Ireland & Lent, 2018; Lent et al., 2017; Zhou & Xu, 2022). The findings imply that university students with past mastery experiences and role models in career exploration and decision-making and who experience positive emotions in this process are more likely to have confidence in their abilities in career exploration and decision-making. The findings also imply that these students may possess a stronger conviction that their engagement in career exploration and decision-making endeavors might culminate in favorable outcomes.

A notable finding was that negative emotions predicted outcome expectations positively. This finding inconsistent with the results reported by Zhou and Xu (2022), who found that negative emotion was negatively related to outcome expectancies. Moreover, the SCCT (Lent & Brown, 2013) posits that students who encounter negative emotions during the career exploration and decision-making process weaken the conviction that engaging in career exploration and decision-making behaviours yields positive outcomes. However, the present finding suggests that students who experience negative emotions in the career exploration and decision-making process may believe that performing tasks in this behavioural domain may lead to positive outcomes. Contrary to the prevailing hypothesis, the present study found that negative emotions positively predicted outcome expectancies. Parallelly, Lent et al. (2017) found that negative emotions, contrary to expectations, positively predicted outcome expectations. The present result suggests that university students who encounter negative emotions in the career exploration and decision-making process are more likely to nurture expectations that their career exploration and decision-making behaviours might yield positive outcomes. This outcome may be attributable to statistical suppression, or it may signify that students who encounter negative emotions in the career exploration and decision-making process may contemplate the positive outcomes of their behaviours, contemplating the possibility of focusing on coping with these emotions (Lent et al., 2017).

Limitations and Future Direction

The present study demonstrates the validity and reliability of the Turkish CEDLES in measuring university students' learning experiences related to career exploration and decision-making. However, it is imperative to consider the study's limitations. Firstly, participants in the present study were selected employing a convenience sampling method. Consequently, it would be advantageous for subsequent studies to assess the validity and reliability of the CEDLES in samples of students from diverse regions and universities. Given the significance of career exploration and decision-making in the developmental process of university students (Super et al., 1996), the decision to focus on this particular sample was made. However, given the significance of career exploration and decision-making as a fundamental behavioural domain across the life-span, it would be advantageous to extend the study to include participants from diverse developmental stages in subsequent research. For instance, it may be beneficial to assess whether the CEDLES effectively capture the career exploration and decision-making learning experiences of adolescents and adults. A notable limitation of the present study is the omission of examining the stability coefficient of the CEDLES. In future studies, the stability coefficient of the CEDLES should be examined using the test-retest technique. The present study examined the relationships of Turkish CEDLES with self-efficacy and outcome expectancies, and the results supported its concurrent validity. Subsequent studies must ascertain the concurrent validity of the Turkish CEDLES by investigating its associations with other SCCT variables (e.g., decisional support, exploratory goals, career decidedness, and decisional anxiety). The CEDLES can be used to test the formal hypotheses of the SCCT (Lent & Brown, 2013). However, conflicting findings emerge in the extant literature concerning the relationship between negative emotions experienced during career exploration and decision-making and outcome expectancies. Consequently, further research should be conducted on the relationship between career exploration and decision-making learning experiences and self-efficacy and outcome expectancies. Finally, the CEDLES can by counsellors working in university counseling or career development centres to facilitate students' career exploration and decision-making processes. Turkish CEDLES can be used to evaluate the effectiveness of programs by developing intervention programs that aim to improve university student's career exploration and decision-making learning experiences.

References

Ægisdóttir, S., Gerstein, L. H., & Çinarbaş, D. C. (2008). Methodological issues in cross-cultural counseling research: Equivalence, bias, and translations. *The Counseling Psychologist, 36*(2), 188–219. https://doi.org/10.1177/0011000007305384

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.(1986). *Social foundations of thought and action: A social cognitive theory.* Prentice-Hall, Inc.

Bandura, A. (1997). *Self-efficacy: The exercise of control.* Freeman.

Betz, N. E., Klein, K. L., & Taylor, K. M. (1996). Evaluation of a short form of the Career Decision-Making Self-Efficacy Scale. *Journal of Career Assessment, 4*(1), 47–57. https://doi.org/10.1177/106907279600400103

Betz, N. E., & Voyten, K. K. (1997). Efficacy and outcome expectations influence career exploration and decidedness. *The Career Development Quarterly, 46*(2), 179–189. https://doi.org/10.1002/j.2161-0045.1997.tb01004.x

Bike, D. H. (2013). *Career decision learning experiences: Development and validation of a scale* [Doctoral Dissertation]. University of Missouri–Columbia.

Brown, S. D., Hacker, J., Abrams, M., Carr, A., Rector, C., Lamp, K., Telander, K., & Siena, A. (2012). Validation of a four-factor model of career indecision. *Journal of Career Assessment, 20*(1), 3–21. https://doi.org/10.1177/1069072711417154

Büyükgöze-Kavas, A. (2011). *Testing a model of career ındecision among university students based on social cognitive career theory* [Yayımlanmamış doktora tezi]. Middle East Tecnical University.

Chang, B., Zekai, L., Wang, L., Zhong, L., & Shen, Y. (2023). A latent profile analysis linking career learning experience profile to career decision-making difficulties. *The Career Development Quarterly, 71*, 111–123. https://doi.org/10.1002/cdq.12322

Choi, B. Y., Park, H., Yang, E., Lee, S. K., Lee, Y., & Lee, S. M. (2012). Understanding career decision self-efficacy: A meta-analytic approach. *Journal of Career Development, 39*(5), 443–460. https://doi.org/10.1177/0894845311398042

Çarkıt, E. (2024a). Adaptation to turkish of the career exploration and decision self-efficacy scale. *The Career Development Quarterly, 72*(3), 215–230. https://doi.org/10.1002/cdq.12353

Çarkıt, E. (2024b). Validating the Turkish versions of the Career Decision-Making Outcome Expectancies and the Career Decision-Making Exploratory Intentions Scales in undergraduate students. *Nevşehir Hacı Bektaş Veli Üniversitesi SBE Dergisi, 14*(2), 884–895. https://doi.org/10.30783/nevsosbilen.1470007

Demirtaş-Zorbaz, S., Korkut-Owen, F., Arıcı-Şahin, F., & Mutlu, T. (2023). Career sailboat: A model for enhancing career decision-making self-efficacy among job-seekers. *British Journal of Guidance & Counselling, 51*(2), 284-297. https://doi.org/10.1080/03069885.2023.2177615

Garrison, Y. L., Kim, T., Son, Y., Aldrich, C., Ali, S. R., & Jiao, T. (2023). Fluent or discriminated? English language and experiential sources of career self-efficacy among Asian international students in the United States. *International Journal for Educational and Vocational Guidance*, 1-21. https://doi.org/10.1007/s10775-023-09620-z

Garriott, P. O., Hunt, H. K., Navarro, R. L., Flores, L. Y., Lee, B. H., Suh, H. N., Brionez, J., Slivensky, D., Lee, H. S. (2021). Development and initial validation of the engineering learning experiences scale. *Journal of Vocational Behavior, 124*, 103516. https://doi.org/10.1016/j.jvb.2020.103516

Gerçek, M., Elmas-Atay, S., & Yılmaz, D. (2023). Engineering Learning Experiences: A Scale Adaptation and Validation into Turkish. *Journal of Career Development, 50*(3) 612–632. https://doi.org/10.1177/08948453221120685

Hacker, J., Carr, A., Abrams, M., & Brown, S. D. (2013). Development of the Career Indecision Profile: Factor structure, reliability, and validity. *Journal of Career Assessment, 21*(1), 32–41. https://doi.org/10.1177/1069072712453832

Ireland, G. W., & Lent, R. W. (2018). Career exploration and decision-making learning experiences: A test of the career self-management model. *Journal of Vocational Behavior, 106,* 37–47. https://doi.org/101016/j.jvb.2017.11.004

Koçakoğlu, M. G., & Yalçın, B. (2020). Kariyer gelişim sürecinde aile. *International Social Mentality and Researcher Thinkers Journal, 6*(37), 1921-1929.

Lent, R. W., & Brown, S. D. (2013). Social cognitive model of career self-management: Toward a unifying view of adaptive career behavior across the life span. *Journal of Counseling Psychology, 60,* 557–568. https://psycnet.apa.org/doi/10.1037/a0033446

Lent, R. W., Brown, S. D., & Hackett, G. (1994). Toward a unifying social cognitive theory of career and academic interest, choice, and performance. *Journal of Vocational Behavior, 45*(1), 79–122. http://dx.doi.org/10.1006/jvbe.1994.1027

Lent, R. W., Ezeofor, I., Morrison, M. A., Penn, L. T., & Ireland, G. W. (2016). Applying the social cognitive model of career self-management to career exploration and decision-making. *Journal of Vocational Behavior, 93,* 47–57. https://doi.org/101016/j.jvb.2015.12.007

Lent, R. W., Ireland, G. W., Penn, L. T., Morris, T. R., & Sappington, R. (2017). Sources of self-efficacy and outcome expectations for career exploration and decision-making: A test of the social cognitive model of career self-management. *Journal of Vocational Behavior, 99,* 107–117. https://doi.org/101016/j.jvb.2017.01.002

Lent, R. W., Morris, T. R., Penn, L. T., & Ireland, G. W. (2019). Social–cognitive predictors of career exploration and decision-making: Longitudinal test of the career self-management model. *Journal of Counseling Psychology, 66*(2), 184–194. https://doi.org/10.1037/cou0000307

Lent, R. W., Wang, R. J., Morris, T. R., Ireland, G. W., & Penn, L. T. (2019). Viewing the Career Indecision Profile within a theoretical context: Application of the social cognitive career self-management model. *Journal of Counseling Psychology, 66*(6), 690–700. https://doi.org/10.1037/cou0000367

Levin, N., Lipshits-Braziler, Y., & Gati, I. (2024). Patterns of career decision-making difficulties in 16 countries: A person-centered investigation. *Journal of Counseling Psychology, 71*(1), 34–47. https://doi.org/10.1037/cou0000704

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

Morris, T. R., & Lent, R. W. (2023). Revisiting the bottleneck hypothesis: The role of sexual identity development in the career exploration and decision-making of sexual minority college students. *Journal of Vocational Behavior, 141,* 103838. https://doi.org/10.1016/j.jvb.2022.103838

Öztemel, K. (2012). Relationships between career indecision career decision making self-efficacy and locus of control. *Gazi Üniversitesi Gazi Eğitim Fakültesi Dergisi, 32*(2), 459–477.

Öztemel, K. (2013). Testing the validity of the emotional and personality-related career decision-making difficulties questionnaire in Turkish culture. *Journal of Career Development, 40*(5), 390–407. https://doi.org/10.1177/0894845312468060

Özyürek, R. (2002). Liseli öğrenciler için matematik yetkinlik beklentisi bilgilendirici kaynaklar ölçeğinin geliştirilmesi: Ön çalışma. *Kuram ve Uygulamada Eğitim Yönetimi, 32,* 502–531.

Özyürek, R. (2005). Informative sources of math-related self-efficacy expectations and their relationship with math-related self-efficacy, interest, and preference. *International Journal of Psychology, 40*(3), 145–156. https://doi.org/10.1080/00207590444000249

Özyürek, R. (2010). Matematik Yetkinlik Beklentisi Bilgilendirici Kaynaklar Ölçeği'nin geçerlik ve güvenirlik çalışmaları. *Kuram ve Uygulamada Eğitim Bilimleri Dergisi, 10*(1), 419–447.

Penn, L. T., & Lent, R. W. (2019). The joint roles of career decision self-efficacy and personality traits in the prediction of career decidedness and decisional difficulty. *Journal of Career Assessment, 27*(3), 457–470. https://doi.org/10.1177/1069072718758296

Super, D. E., Savickas. M. L., & Super, C. M. (1996). The life-span, life-space approach to careers. In D. Brown, L. Brooks, & Associate (Eds.), *Career choice and development: Applying contemporary theories to practice* (3rd ed., pp. 121–178). Jossey-Bass.

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

Ulaş, Ö., & Kızıldağ, S. (2018). Kariyer engelleri ölçeği'nin (KEÖ) geliştirilmesi. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi, 34*(1), 182-196.

Worthington, R. L., & Whittaker, T. A. (2006). Scale development research. *The Counseling Psychologist, 34*(6), 806–838. https://doi.org/101177/0011000006288127

Zhou, Y., & Xu, G. (2022). Career Exploration and Decision-Making Learning Experiences (CEDLE) Scales: Validation among Chinese vocational college students. *Journal of Career Development, 49*(4), 846–861. https://doi.org/10.1177/0894845321998004

Author Contributions

The authors have agreed on the order of authorship, which reflects our relative contributions to the research.

Conflict of Interest
The authors have declared no conflict of interest in this study.

Funding
The authors did not receive any funding for this article from any institution.