CrossMark

The career exploration outcome expectations scale- Turkish: Adaptation and validation

Serkan V. Sari[1] · Fatih Camadan[1]

Abstract

This study was conducted to investigate the validity evidence of an adapted scale that was originally developed in a different culture to assess middle school students' career exploration outcome expectations. The adaptation and validation process included five steps: (a) translation (b) confirmatory factor analysis, (c) measurement invariance studies, (d) calculation of Pearson correlation coefficient between the adapted scale scores and relevant scale scores and (e) calculation of internal consistency. The study sample included 944 middle school students. It was concluded that there is enough evidence to claim that the adapted scale has sufficient language, construct, and concurrent validity. There was also sufficient evidence to claim strong measurement invariance by gender. The internal consistency coefficient of the scale was acceptable (alpha = 0.79). The theoretical and managerial implications of the study were discussed in detail.

Keywords Career exploration · Outcome expectations · Adaptation · Validation

Introduction

In recent years, the social cognitive career theory and framework has significantly contributed to the research of career specialists into the choices, interests, and performances of individuals in their careers. Self-efficacy and outcome expectations are the prominent parts of this framework. In Turkey and in the world literature there are some research about measurement tools to assess career self-efficacy (Betz et al. 2005, 1996; Betz and Luzzo 1996; Robbins 1985; Solberg et al. 1994). However, there is a limited number of measurement tools on the concept of outcome expectations (Fouad and Guillen 2006; Işık 2010; Oliveira et al. 2016; Swanson and Gore 2000), which are important variables expected to have an effect on self-efficacy beliefs (Bandura 1997). In particular, this paucity of information becomes even more apparent when assessing individuals of different ages. Measurement tools that are created to assess career outcome expectations are

usually meant for late adolescence (e.g. Stumpf et al. 1983) or adults (e.g. McWhirter et al. 2000), rather than childhood.

In Turkey, students make a career decision in high school or in the first year of university. Instruments that are developed or adapted to assess cognitive career mechanisms are usually meant for high school students or first-year university students, that is, individuals in late adolescence or teenagers (e.g. Bozgeyikli 2004) or the young (e.g. Solberg et al. 1994; adapt. by Sarı 2014). In addition, it has been noted that career exploration outcome expectations are likely to change during adolescence (Niles and Harris-Bowlsbey 2013; Patton and Porfeli 2007; Taveira and Moreno 2003). This result indicates that there is a paucity of information on career development in childhood period. The present study helps to overcome this worldwide gap through the Career Exploration Outcome Expectations Scale (CEOES), which was developed by Oliveira et al. (2016) and adapted into Turkish. In the present study, we aimed to fulfill the need for an instrument in Turkey.

Outcome expectations are the predicted results of behavior (Betz and Voyten 1997). According to the social cognitive mechanism, people develop prior beliefs in accordance with their experiences and observations about the possible consequences of their behavior (Bandura 1986). They select individuals as role models from whose skills they can learn to be successful in life (Desharnais et al. 1986). Outcome expectations in people who think that their behavior will yield the

✉ Serkan V. Sari
serkan.sari@erdogan.edu.tr

Fatih Camadan
fatih.camadan@erdogan.edu.tr

[1] Department of Psychological Counseling and Guidance, Recep Tayyip Erdogan University, Rize, Turkey

expected result allow the behavior to continue (Lent et al. 2008). When applied to careers, outcome expectations mainly focus on career decision-making (Betz and Voyten 1997; Fouad et al. 1997). However, career decision-making outcome expectations in childhood may not be developmentally appropriate (Oliveira et al. 2016). While teenagers and adults are expected to make career decisions, this is not the case for children. Individuals have more realistic perceptions of career decision-making during adolescence and adulthood because they are aware of their interests and skills (Duffy and Lent 2008). Teenagers can determine the relationships between career options and predict which roles they may have, and they can further investigate these options. Children, however, can dream or think about their future, but can also observe key-figures, obtain competence feedback and experiment activities at home, school and community contexts, which afford them the possibility to learn more about themselves, the working world and multiple life roles and occupations. Children are in the process of career exploration, but not career decision-making (Oliveira et al. 2016). Career exploration is a main process in the development of children's career cognition and learning (Patton and Porfeli 2007). Considering the developmental dimension mentioned above, within a study involving children, it is more accurate and more important that career exploration outcome expectations be studied instead of career decision-making outcome expectations.

Career Exploration Outcome Expectations

Students in middle school are expected to continue the career development goals that were started in elementary school as a reflection of self- knowledge, educational and career exploration, and career planning (Zunker 2002). Career exploration outcome expectations are defined as the perceived likelihood of achieving career progress outcomes by performing an exploratory behavior by Oliveira et al. (2016). Individuals in childhood display career exploration behavior, such as collecting occupational information, determining their career objectives, and developing professional interests at school, at home, or in their social life (Niles and Harris-Bowlsbey 2013). They may experience careers consciously or unconsciously, and they may test themselves, their present-day experiences, and the roles that they may undertake in terms of work life (Patton and Porfeli 2007; Taveira and Moreno 2003). Thus, these experiences contribute to their outcome expectations (Chou and Lee 2013). Children have hypothetical-deductive reasoning during this period. The emergence of children's career exploratory outcome expectations is assumed to have its roots in hypothetical-deductive reasoning (Oliveira et al. 2016). Middle school students employ hypothetical deductive reasoning to deduce information. These skills allow children to imagine themselves in the business world and make more effort in the process of career exploration (e.g. Patton and

Porfeli 2007). The child dreams about the profession with this way of thinking. He / she evaluates the suitability of the self. Imagination A valuable skill for children at the same time in choosing a career. The source of self-efficacy is one of the cognitive mechanisms that is used to explain the nature of the beliefs in career exploration outcome expectations. It is expected that there exists a reciprocal correlation between career exploration outcome expectations and self-efficacy. This is due to significant relationships between career efficacy and outcome expectations as well as a significant relationship between outcome expectations and self-efficacy (Betz and Voyten 1997). In brief, career outcome expectations and career exploration were found to be related to self-efficacy (e.g., Betz and Voyten 1997; Lent 2013). This result has been supported by Oliveira et al. (2016).

Children observe the behavior of others in the process of career exploration, considering their psychophysiological reactions and outside encouragements (e.g., verbal encouragement). Outcome and self-efficacy expectations regulate children's career exploration behavior (Porfeli et al. 2008, 2012; Oliveira et al. 2016; Taveira and Moreno 2003). Oliveira et al. (2016) state that children are likely to approach tasks they feel confident to achieve, leading to development of related interests and goals. On the other hand, negative outcomes and failure expectations make children prone to avoid them (Bandura 1986; Lent et al. 2008). Thus, career exploration outcome expectations and self-efficacy expectations can encourage further exploration and strengthen an emerging sense of self to facilitate occupational preferences (Lent et al. 2008; Patton and Porfeli 2007).

The Assessment of Career Exploration Outcome Expectations

In the literature, social cognitive career mechanisms are usually assessed through a Likert-type scale. Career exploration outcome expectations are divided into "career outcome expectations" and "career exploration behavior" (Oliveira et al. 2016). Firstly, to assess career exploration, two measurement tools were found to be outstanding among others. Career outcome expectations are assessed through the Career Decision-Making Expectation Scale (CDMOES) (Betz and Voyten 1997) and the Middle School Self-Efficacy Scale (MSSE) (Fouad et al. 1997). CDMOES has two sub-dimensions, including career outcome expectations and education outcome expectations. MSSE has two sub-dimensions, Career Decision-Making and Academic Skills, which indirectly measure career exploration behavior (Oliveira et al. 2016). Secondly, to assess career exploration behavior, we located two measurement tools that are outstanding among others. The Career Exploration Survey (CES; Stumpf et al. 1983) may be particularly informative for career exploration outcome expectations. CES assesses the beliefs of adolescents

and adults in exploratory behavior using a five-point Likert type scale. The Career Exploration Scale (Tracey et al. 2006) and the Occupational Exploration Scale (Noack et al. 2010) measure the career explorations of middle school students.

These instruments provide information on format, response scale, dimensionality, and validity for the CEOES. The scales indicate that the self-report format can be used for middle school children. A Likert scale with four or five categories is appropriate for assessing the middle schoolers' social cognitive mechanism (Lent and Brown 2006). It is thought that it can be used in measuring career exploration outcome expectations in the same way.

There are several scales to assess social cognitive mechanisms in the Turkish language. The Science Teaching Self-Efficacy Belief Scale adapted by Tekkaya et al. (2002) has a sub-dimension called Science Teaching Outcome Expectations. It is a 5-point Likert scale. Social outcome expectations were assessed by Akin and Akkaya (2015) as a sub-dimension of the Social Self-Efficacy and Social Outcome Expectations Scale. This is also a 5-point Likert scale. Both scales are used for university students. Although there are many career concepts based on self-efficacy, such as career decision-making self-efficacy (Bozgeyikli 2004), career decision-making self-efficacy expectations (Işık 2010), career exploration self-efficacy for university students (Sarı 2014), and career exploration self-efficacy for children (Bacanlı 2006), only one Career Outcome Expectations Scale (COES) has been adapted into Turkish. Işık (2010) introduced the COES into Turkish. It has one dimension and is constructed with 4-point Likert scale questions. This measurement tool was designed for adults. However, as it was noted earlier, career exploration outcome expectations are different for children compared to those for adults. Individuals in childhood could experience career consciously or unconsciously and test themselves, their present-day experiences, and the roles that they may undertake in terms of work life (Patton and Porfeli 2007; Taveira and Moreno 2003). The items included in Işık's (2010) measurement tool did not target children; hence, it is not adequate to fulfill the gap in the literature. To our knowledge and literature search, a measurement tool to identify such expectations does not exist for Turkish culture. Consequently, a scale is required to evaluate career outcome expectations in children in Turkey. Even though there is no finding on the difference between gender and outcome expectations in the scales examined above, it is argued that there might be a gender difference in career exploration behavior (Noack et al. 2010). When career exploration expectations are focused, it is found that there is a significant relationship between gender, career efficacy, and outcome expectations (e.g. Betz and Voyten 1997; Ferry et al. 2000; Fouad et al. 1997) The present study analyzes the difference between career exploration outcome expectations and gender in Turkey based on the limited results in the literature.

Purpose of the Present Study

In this study, the Career Exploration Outcome Expectations Scale–Turkish (CEOES-T) was adapted to Turkish in terms of Social Cognitive Career Theory. The importance of adaptation, children's career development in Turkey, just as in the world, within the concept of self-efficacy in this age group has not been studied enough. This is considered an important gap in the explanation of children's career development. The original form of the scale was undertaken in Portugal as an attempt to address European–Portuguese calls to promote career development throughout the school years in preparation for the challenging and changing world of work (Oliveira et al. 2016). The scale was devised to evaluate the career exploration outcome expectations of middle school students. To comply with the original, the scale was adapted to Turkish middle school students. We constructed the following hypotheses to be investigated:

> Hypothesis 1: There is evidence for the validity of CEOES-T.
> Hypothesis 2: There is evidence for the reliability of CEOES-T.
> Hypothesis 3: There is evidence for the measurement invariance of CEOES-T across gender.

Method

Participants

Our population of interest was middle school students in the city of Rize. We obtained the name and school information of all middle-schoolers from the city's school district personnel. We reached 1000 students using convenience sampling (Cohen et al. 2013), then contacted school principals and selected students for their consent. All these steps met university research ethics board standards. Also necessary permits were obtained from the children's families and teachers. The participants consisted of 944 students selected from different middle school types in Rize in Turkey. The middle school period in Turkey when the students are more free individuals than the primitive and take the most important steps in shaping the future. The middle school lasts 4 years. At the end of the fourth year, an examination is entered and the high school type is determined. Our participants have been trying to create almost every class type. The average age of the participants was 15.81 (SD = 1.08) years in the 12 to 16 age range. According to their grades, 467 (49.5%) of the participants were boys, and 477 (50.5%) were girls. 187 (19.8%) were from the first grade of middle school, 199 (21.1%) were from second grade, 271 (28.7%) were from third grade, and 287 (30.4%) were from fourth grade.

Procedure

The permissions required to adapt the scale into Turkish were taken from the author, Maria do Ce'u Taveira, of the original scale via e-mail. Subsequently, the permissions were taken from the directorate of national education in Rize to collect data from the schools. The evidence for language validity was investigated first. Then, construct validity was examined through factor analyses and measurement invariance studies. The reliability of the scores obtained by the scale was determined by the Cronbach alpha coefficient. Concurrent validity was examined as criterion-related validity evidence. During the data collection process, CEOES-T was applied to 1000 students in the pre-determined schools during the class by the researcher himself. It took approximately 15 min to answer CEOES-T. Answers from 56 students were excluded from the study due to missing information during data collection which would impact data analyses.

Instruments

A demographic information form, the CEOES-T, and the Career Decision-Making Self-Efficacy Scale were used in the study. The permits for the measuring instruments used in this research were taken from the relevant authors.

Demographic Information Form

This was developed by the researcher. The data on the ages, gender, and grades of the participants were collected.

The Career Exploration Outcome Expectations Scale- Turkish (CEOES-T)

Within the scope of this study, the CEOES adapted into Turkish was developed to measure the career exploration outcome expectations of individuals in childhood by Oliveira et al. (2016). The reliability and validity studies reported by Oliveira et al. (2016) were fulfilled on a sample consisting of 446 fifth grade students. The scale is a 4-point Likert type (1 = very low probability to 4 = very high probability). It is proven that the scale consisting of 15 questions is unidimensional, the scores obtained from the scale are reliable, and the scale has a high concurrent validity. Examples of the items from the scale are as follows: "*Asking questions about the world of work at home, school, and my friends will help me learn more about careers*" and "*Talking with my friends about the future will help me make better plans*". Unidimensional CEOES items clustered together with high scores indicate a high level of career exploration outcome expectation.

Career Decision-Making Self-Efficacy Scale (CDMSE)

The scale was developed by Bozgeyikli (2004) to determine career decision-making self-efficacy. Career Decision-Making Self-Efficacy is measured through three dimensions using 27 items in total, including Evaluating Individual and Professional Features Accurately (EIPFA) (11 items), Collecting Occupational Information (COI) (8 items) and Making a Realistic Plan (MRP) (8 items). The scale is a 5-point Likert- type (1 = I don't trust myself at all- 5 = I totally trust myself) that can be applied either individually or in groups. Exploratory factor analysis (Bozgeyikli 2004) is applied to the data that are obtained to determine the construct validity of the scale ($n = 180$). The results of the analysis indicated a 3-factor construct. The first factor, EIPFA explains 30.91% of the total variance; the second factor, COI, explains 5.64%; and the final factor, MRP, explains 4.99%. The load factor values of the scale range from 0.44 to 0.7. The stability coefficients calculated through the test-retest method were 0.79 for EIPFA, 0.72 for COI, 0.68 for MRP, and 0.78 for the whole scale. Cronbach alpha internal consistency coefficients, an indication of internal consistency of the scale, were found to be 0.89 for EIPFA, 0.87 for COI, 0.81 for MRP, and 0.92 for the whole scale. Examples of the items from the scale are as follows: "*determine what you are interested in*" and "*Choosing a profession appropriate to your interests and abilities*". The increase in the scores obtained from the scale indicates that the level of career decision-making self-efficacy is higher. For our sample, we conducted confirmatory factor analyses and calculated the Cronbach's alpha for CDMSE.

Analyses

There are three main steps when investigating the language validity in a scale adaptation process: (a) the translation process by English and Turkish language experts, (b) the process of the pilot study fulfilled through bilingual students (Turkish–English) in the department of foreign languages, and (c) the process of the examination of the data obtained from the pilot study by the language experts, making the necessary changes and reconducting the pilot study unless no further change is required (Sousa and Rojjanasrirat 2011). Confirmatory factor analysis was employed to determine the construct validity of the CEOES-T. The ability of the adaptive scale to measure the examined structure similarly without a gender-based difference, that is, the status of the gender-based measurement invariance, is tested in the scope of factor analysis conducted with the categorical data. To assess the concurrent validity of the scale, the correlation coefficient between the CEOES-T and CDMSE is examined. Reliability values are evaluated through the Cronbach alpha internal consistency coefficient.

Results

Validity Evidence for CEOES-T

We evaluated the translated scale's content validity based on expert judgement. A total of five counselors provided their opinion on each item whether its content is appropriate. We concluded that all 15 items had a potential to represent the domain under study.

Language Validity

In examining the validity of specific steps that were followed (Cohen et al. 2013). Initially, the CEOES-T, developed by Oliveira et al. (2016) was translated into Turkish as the CEOES-T by five academicians, who are specialists in their fields and are proficient in the English language. The Turkish forms were back translated into English by three different academics, who are experts in their field and then compared with the original forms. The Turkish forms were finalized by revising the unclear items. Subsequently, a pilot study was carried out by applying the Turkish version and the original form separately to the 50 students in the department of foreign languages simultaneously. After the pilot study, the correlation between the Turkish form and the original form was found to be $r = 0.91$ ($p < 0.001$), and the Turkish form was finalized.

Confirmatory Factor Analysis (CFA)

With regard to the construct validity of the scale, CFA was conducted using the R program (R Core Team 2016) and the lavaan package (Rosseel 2012) to determine whether the factor structure in the original was verified for the Turkish version. The categorical structure of the variables due to Likert-scale was considered in the analysis. In addition, the fifth category was combined with the fourth category because it was only marked seven times. A similar approach appears in its original form (Oliveira et al. 2016). As a result of the analysis, the modification indexes were examined, and it was determined that some items of the scale (item 1 – item 2, item 10 – item 11, item 12 - item 14) should be modified and allowed to be correlated. After the modifications, the goodness of fit values of the model that was devised in accordance with the structure of the scale were found as follows: the chi-squared (χ^2) = 346.9 with df = 87; the Tucker-Lewis Index (TLI) = 0.92; the comparative fit index (CFI) = 0.93; the root mean square error of approximation (RMSEA) = 0.05; and the standardized root mean residual (SRMR) = 0.05. Values smaller than .06 for RMSEA, smaller than .08 for SRMR, and larger than .95 for CFI and TLI were regarded as adequate model fit (Hu and Bentler 1999; Kline 2011). Based on these results, it was concluded that the structure of all the items of the original scale was confirmed in the Turkish version. The standardized factor loadings for the scale structure were calculated using M*plus* 7.4 (Muthén and Muthén 2015) and were presented in Fig. 1.

Concurrent Validity

In the scope of the study, the CDMSE was thought to measure similar properties to those of the CEOES-T. The results of the correlation analysis are presented in Table 1.

Table 1 shows a moderately and positively significant correlation between the CDMSE and the CEOES-T ($r = 0.46$, $p < 0.001$). Based on this result, it was concluded that the correlation between CEOES-T and CDMSE scores is strong enough to provide evidence for concurrent validity (Tippmann 2015).
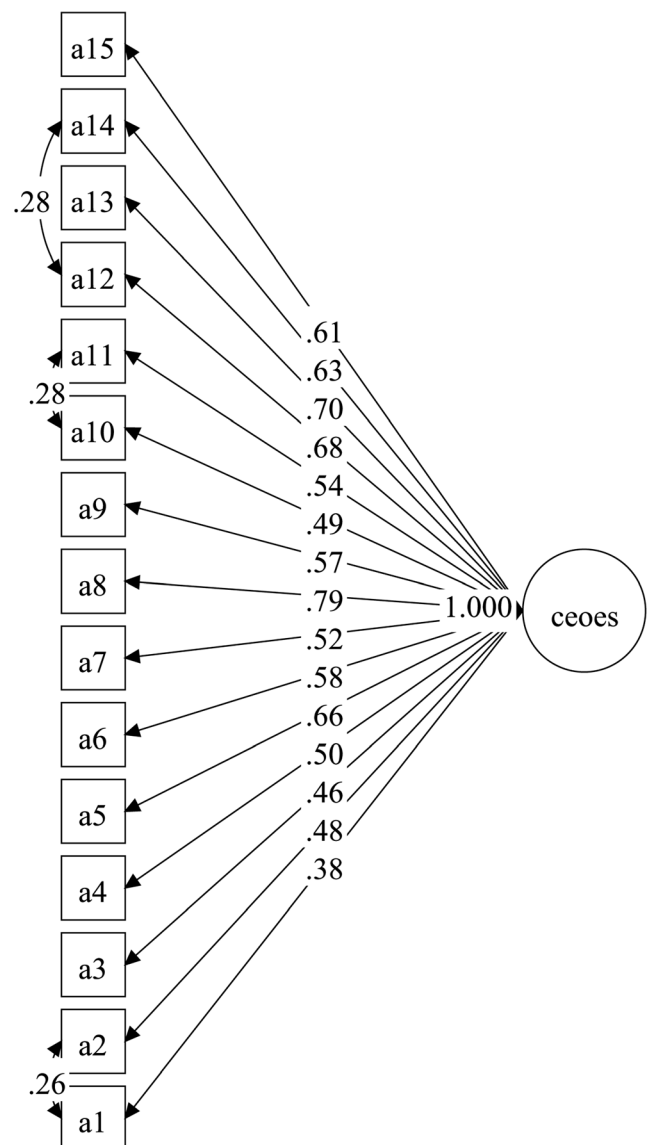

Fig. 1 The standardized factor loadings

Table 1 Pearson correlation coefficient for CEOES-T and CDMSE

	Mean	SD	CEOES	CDMSE
CEOES-T	3.06	.43	1	0.47[**]
CDMSE	3.83	.43		1

[**] $p < 0.001$

Measurement Invariance by Gender

The measurement model was tested for gender invariance. This phase was fulfilled following the steps recommended by Millsap and Yun-Tein (2004). We used the semTools Contributors (2016) and the Satorra and Bentler (2010) chi-square difference test. The findings are shown in Table 2. Weak invariance ($\Delta\chi2$, $p = 0.33$) on the basis of the chi-squared difference test and strong invariance (ΔCFI = 0.01) on the basis of CFI were found (Wu et al. 2007). In accordance with these results, it may be said that gender-based differences that will be detected using the scores obtained from the measurement tool are not caused by any defect in the measurement tool (Wu et al. 2007). In the present study, the differences between the levels of career exploration outcome expectations of individuals are also examined in terms of gender. The scores of boys' career exploration outcome expectations (mean = 3.13) were found to be significantly higher than those of girls (mean = 2.99). The results are shown in Table 3.

Reliability Analyses of CEOES-T

Cronbach's alpha, also known as internal consistency coefficient was calculated to determine the reliability of CEOES-T. Cronbach's alpha for the scale was found 0.79. There is evidence to claim that the reliability of the scale is at an acceptable level (Kline 2011).

Validity and Reliability Evidence for CDMSE

Our CFA for CDMSE resulted in model-data fit values of $\chi^2/df = 3.58$, TLI = .88, CFI = .89, RMSEA = 0.05, and SRMR = 0.04. We considered these values as indicators of good fit (Hu and Bentler 1999; Kline 2011). The Cronbach alpha values were found as follows: for evaluating individual and professional features accurately the value was .83, for collecting

Table 2 CEOES-T measurement invariance fit values

	SD	$\chi2$	$\Delta\chi2$	ΔDF	p value	CFI	RMSEA
Structural	174	342.69				.93	.05
Weak	188	371.10	15.67	14	.33	.93	.05
Strong	217	426.32	54.49	29	.00	.92	.05
Strict	218	541.40	13.78	1	.00	.89	.06

Table 3 T test for CEOES-T on gender

|	Gender	N	Mean	Std. Deviation	t	p
CEOES-T	Boys	467	2.99	.43	−5.02	0.000[*]
	Girls	477	3.13	.42		

[*] $p < 0.05$

occupational information the value was .78, for making a realistic plan the value was .74, and for the entire scale the value was .92. We concluded that CDMSE, a previously validated scale, provided validity and reliability evidence for our sample (Figs. 2 and 3).

Discussion and Implications

This study aimed to evaluate the beliefs of individuals in childhood in career exploration outcome expectations from a new perspective. For this purpose, the adaptation process was carried out on the psychometric structure of the CEOES-T. The first finding of the study was related to the factor structure of the scale. Confirmatory factor analysis revealed that a single factor structure was defensible. The original form of the scale (Oliveira et al. 2016) also supported a single factor structure. Similarly, career outcome expectations (Cupani et al. 2010; Tracey et al. 2006) based on career exploration outcome expectations and career exploration measurements in middle school students (Noack et al. 2010; Tracey et al. 2006) also converged to single factor solution. With regard to the literature in Turkey, as mentioned before, Career Outcome Expectations Scale (COES) developed by Işık (2010) is the only scale that integrates the concepts of career field and outcome expectations. This scale also has one dimension. These results support the single-dimension structure of the CEOES-T. Furthermore, in confirmatory factor analysis, the modification indexes were examined and it was determined that some items of the scale (item 1 – item 2, item 10 - item 11, item 12 – item 14) should be modified. We believe that the reason for the modification of item 1 and item 2 is because students in Turkey mainly identify occupations and collect occupational information with their teachers in school and with their parents at home. In particular, Turkish literature suggests that parents (Özyürek and Atıcı 2002; Sarıkaya and Khorshid 2009) and teachers (Ekinci 2017; Özyürek and Atıcı 2002; Tunç et al. 2010) have an effective role in career decision-making. The modification of items 10 and 11 is needed because both items are about individuals observing other people in the process of identifying occupations and shaping their future. This modification is also theoretically meaningful as middle school children are still in the process of identifying occupations and shaping their interests and skills accordingly (Niles and Harris-Bowlsbey 2013) and they often use such techniques

Fig. 2 Histogram graphs related to variables
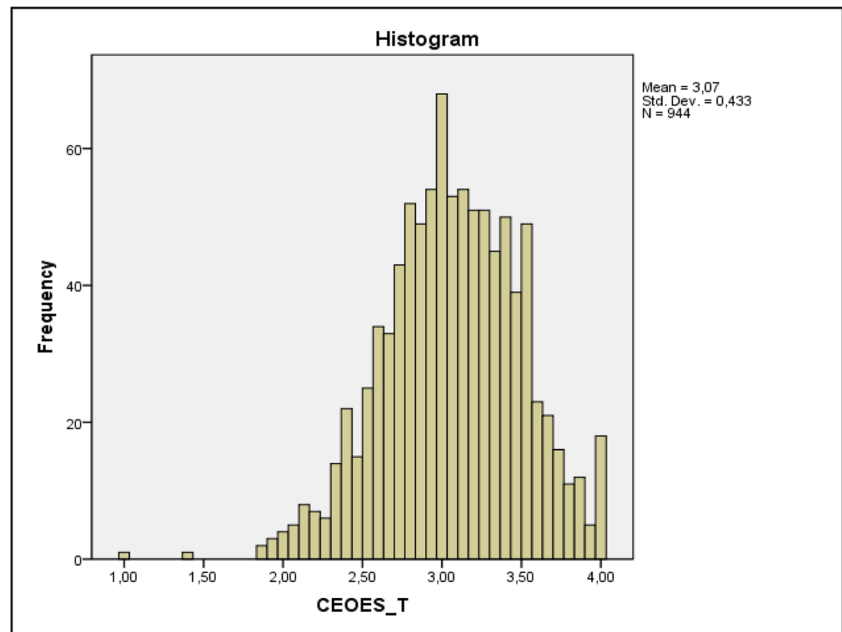
as observing and asking questions (Super 1980). The modification for items 12 and 14 might be needed because both items involve individuals' willingness to serve the public, which reflects explorative behavior. It was understood that activities inside and outside the school are perceived similarly by Turkish students, which was theoretically acceptable. The researchers state that individuals in childhood perform career exploration behavior inside and outside the school (Niles and Harris-Bowlsbey 2013; Porfeli et al. 2012; Zunker 2002). Children learn about occupations by observing at school and outside school where they perform exploration behavior due to their career development process. According to the second finding regarding the validity of the scale, it is determined that there exists a significant correlation between the CDMSE and the CEOES-T that is thought to measure similar properties in theory. This correlation theoretically shows the evidence of Bandura's statement (1986) that "self-efficacy and outcome expectations affect each other". Moreover, there are studies on the correlation between self-efficacy and outcome expectations (Betz and Voyten 1997; Godding and Glasgow 1985; Lent et al. 2008), in which findings support the hypothesis (1) that the CEOES-T is expected to be a valid measurement tool.

Fig. 3 Histogram graphs related to variables
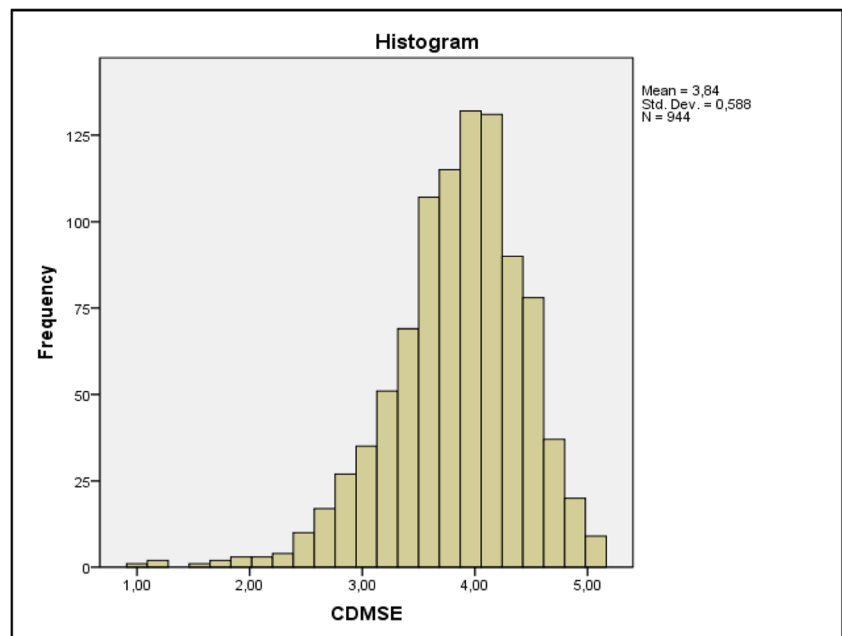
When the findings about the reliability of the scale are examined, the results of the present study have an acceptable Cronbach's alpha value of 0.79. In the scales that are used in the international literature, the reliability value range changes between 0.72 and 0.92 (Kenny et al. 2003; McWhirter et al. 2000; Metheny et al. 2008; Rasheed et al. 2005). The reliability value of career outcome expectations is calculated as 0.87 in the career scale used in Turkish literature (Işık 2010). These results indicate that CEOES-T is in the range of acceptable reliability values at the national and international level. Thus, hypothesis 2 is supported.

Finally, it was hypothesized that the scale can be used for both boys and girls. According to the findings, it was concluded that CEOES-T has measurement invariance across gender. These findings support the hypothesis 3. Further, when gender-based differences were examined; it was found that the levels of the male students' career exploration expectations are higher than those of the females. In the literature, there are complex results on gender-based career outcome expectations. Several researchers have pointed out that there exists a significant difference between gender-based outcome expectations (Hazari et al. 2010; Noack et al. 2010; Oliveira et al. 2016). However, other studies could not confirm a significant difference (Betz and Voyten 1997; Gushue 2006; Işık 2010).

Finally, in the context of Turkey, to make a brief assessment tools that measure is targeted career development for more than adolescents. However, as mentioned in the context of literature, children's career development is different. Turkey has a limited number of research in this regard. Children are in the process of recognizing and using their interests, abilities and skills during this period. Turkish children are not adequately supported in school by school counseling services. At this point, the prominence of CEOES-T emerges. The scarcity of the measuring tool also negatively affects the development of intervention programs. Career interventions are already inadequate. This research is thought to fill these gaps.

Implications

Theoretical Implications

The present study has new and important implications in the context of social cognitive career theory. It is important that career development in childhood is different from that of adolescence and adulthood. In this period, individuals perform exploration behavior at school, at home, and in social life. The adaptation study and the original study by Oliveira et al. (2016) emphasize that the number of psychometric instruments that measure such behavior is limited. Therefore, the measurement of career outcome expectations seems to be important for individuals in childhood as well as adolescents and adults. It is thus considered that a significant milestone in human career development will be achieved.

Managerial Implications

The CEOES-T can be used to analyze career development in childhood by career psychologists in Turkey. The scale can be applied to both individuals and groups. Career psychologists, inspired by the items of the scale, can plan indoor/outdoor activities and assignments that will be able to support individuals' efforts to identify their selves and their environment for their clients in the process of career exploration. Moreover, children with low levels of career exploration outcome expectation can be determined through screening studies, and psycho-educational intervention programs based on the Social Cognitive Career Theory that will improve expectation levels can be developed.

Compliance with Ethical Standards All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. Informed consent was obtained from all individual participants included in the study.

Conflict of Interest Serkan V. Sari declares that there is no conflict of interest and Fatih Camadan declares that there is no conflict of interest.

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

References

Akin, A., & Akkaya, O. (2015). The validity and reliability study for the Turkish version of the social efficacy and social outcome expectations scale. *Bartin University Journal of Faculty of Education, 4*(1), 204–213. https://doi.org/10.14686/BUEFAD.2015111025.

Bacanlı, F. (2006). Career search self-efficacy scale: Validity and reliability studies. *Educational Sciences: Theory & Practice, 6*(2), 301–330.

Bandura, A. (1986). The explanatory and predictive scope of self-efficacy theory. *Journal of Social and Clinical Psychology, 4*(3), 359–373. https://doi.org/10.1521/jscp.1986.4.3.359.

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

Betz, N. E., & Luzzo, D. A. (1996). Career assessment and the career decision-making self efficacy scale. *Journal of Career Assessment, 4*(4), 413–428. https://doi.org/10.1177/106907279600400405.

Betz, N. E., & Voyten, 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.

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., Hammond, M. S., & Multon, K. D. (2005). Reliability and validity of five-level response continua for the career decision self-efficacy scale. *Journal of Career Assessment, 13*(2), 131–149. https://doi.org/10.1177/1069072704273123.

Bozgeyikli, H. (2004). Development of career decision-making self-efficacy scale. *Journal of Institute of Social Sciences, 11*, 221–234.

Chou, M. J., & Lee, H. C. (2013). The differences and stability of children's career expectations. *American Journal of Applied Sciences, 10*(6), 615–623. https://doi.org/10.3844/ajassp.2013.615.623.

Cohen, L., Manion, L., & Morrison, K. (2013). *Research methods in education* (5th ed.). New York, London: Routledge Falmer.

Cupani, M., Minzi, M. C., Perez, R., & Pautassi, R. M. (2010). An assessment of a social cognitive model of academic performance in mathematics in Argentinean middle school students. *Learning and Individual Differences, 20*(6), 659–663. https://doi.org/10.1016/j.lindif.2010.03.006.

Desharnais, R., Bouillon, J., & Godin, G. (1986). Self-efficacy and outcome expectations as determinants of exercise adherence. *Psychological Reports, 59*(3), 1155–1159. https://doi.org/10.2466/pr0.1986.59.3.1155.

Duffy, R. D., & Lent, R. W. (2008). Relation of religious support to career decision self-efficacy in college students. *Journal of Career Assessment, 16*(3), 360–369. https://doi.org/10.1177/1069072708317382.

Ekinci, N. (2017). Pre-service teachers' motivational factors affecting their teaching profession and field choices. *Elementary Education Online, 16*(2), 394–405.

Ferry, T. R., Fouad, N. A., & Smith, P. L. (2000). The role of family context in a social cognitive model for career-related choice behavior: A math and science perspective. *Journal of Vocational Behavior, 57*(3), 348–364. https://doi.org/10.1006/jvbe.1999.1743.

Fouad, N. A., & Guillen, A. (2006). Outcome expectations: Looking to the past and potential future. *Journal of Career Assessment, 14*(1), 130–142. https://doi.org/10.1177/1069072705281370.

Fouad, N. A., Smith, P. L., & Enochs, L. (1997). Reliability and validity evidence for the middle school self-efficacy scale. *Measurement and Evaluation in Counseling and Development, 30*(1), 17–31.

Godding, P. R., & Glasgow, R. E. (1985). Self-efficacy and outcome expectations as predictors of controlled smoking status. *Cognitive Therapy and Research, 9*(5), 583–590.

Gushue, G. V. (2006). The relationship of ethnic identity, career decision-making self-efficacy and outcome expectations among Latino/a high school students. *Journal of Vocational Behavior, 68*(1), 85–95. https://doi.org/10.1016/j.jvb.2005.03.002.

Hazari, Z., Sonnert, G., Sadler, P. M., & Shanahan, M. C. (2010). Connecting high school physics experiences, outcome expectations, physics identity, and physics career choice: A gender study. *Journal of Research in Science Teaching, 47*(8), 978–1003. https://doi.org/10.1002/tea.20363.

Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling, 6*, 1–55. https://doi.org/10.1080/10705519909540118.

Işık, E. (2010). *Effects of a social cognitive career theory-based group intervention on career decision self efficacy and vocational outcome expectations among undergraduate students.* Doctoral Thesis. Cukurova University, Turkey.

Kenny, M. E., Blustein, D. L., Chaves, A., Grossman, J. M., & Gallagher, L. A. (2003). The role of perceived barriers and relational support in the educational and vocational lives of urban high school students. *Journal of Counseling Psychology, 50*(2), 142–155. https://doi.org/10.1037/0022-0167.50.2.142.

Kline, R. B. (2011). *Principles and practice of structural equation modeling.* New York: The Guilford Press.

Lent, R. W. (2013). Career-life preparedness: Revisiting career planning and adjustment in the new workplace. *The Career Development Quarterly, 61*(1), 2–14.

Lent, R. W., & Brown, S. D. (2006). On conceptualizing and assessing social cognitive constructs in career research: A measurement guide. *Journal of Career Assessment, 14*(1), 12–35. https://doi.org/10.1177/1069072705281364.

Lent, R. W., Sheu, H. B., Singley, D., Schmidt, J. A., Schmidt, L. C., & Gloster, C. S. (2008). Longitudinal relations of self-efficacy to outcome expectations, interests, and major choice goals in engineering students. *Journal of Vocational Behavior, 73*(2), 328–335. https://doi.org/10.1016/j.jvb.2008.07.005.

McWhirter, E. H., Crothers, M., & Rasheed, S. (2000). The effects of high school career education on social–cognitive variables. *Journal of Counseling Psychology, 47*(3), 330–341. https://doi.org/10.1037/0022-0167.47.3.330.

Metheny, J., McWhirter, E. H., & O'Neil, M. E. (2008). Measuring perceived teacher support and its influence on adolescent career development. *Journal of Career Assessment, 16*(2), 218–237. https://doi.org/10.1177/1069072707313198.

Millsap, R. E., & Yun-Tein, J. (2004). Assessing factorial invariance in ordered-categorical measures. *Multivariate Behavioral Research, 39*, 479–515.

Muthén, L. K., & Muthén, B. O. (1998-2015). *Mplus user's guide* (7th ed.). Los Angeles: Muthén & Muthén.

Niles, S. P., & Harris-Bowlsbey, J. E. (2013). *Career development interventions in the 21st century* (4th edn). Boston: Pearson Education Limited.

Noack, P., Kracke, B., Gniewosz, B., & Dietrich, J. (2010). Parental and school effects on students' occupational exploration: A longitudinal and multilevel analysis. *Journal of Vocational Behavior, 77*(1), 50–57. https://doi.org/10.1016/j.jvb.2010.02.006.

Oliveira, Í. M., Taveira, M. D. C., Cadime, I., & Porfeli, E. J. (2016). Psychometric properties of a career exploratory outcome expectations measure. *Journal of Career Assessment, 24*(2), 380–396.

Özyürek, R., & Atıcı, M. K. (2002). Determining sources which are effective in university students' career decision making. *Turkish Psychological Counseling and Guidance Journal, 2*(17), 33–42.

Patton, W. A., & Porfeli, E. J. (2007). Career exploration for children and adolescents. In V. Skorikov & W. A. Patton (Eds.), *Career development in childhood and adolescence.* Rotterdam: Sense Publishers.

Porfeli, E. J., Wang, C., & Hartung, P. J. (2008). Family transmission of work affectivity and experiences to children. *Journal of Vocational Behavior, 73*(2), 278–286. https://doi.org/10.1016/j.jvb.2008.06.001.

Porfeli, E. J., Lee, B., & Weigold, I. K. (2012). A multidimensional measure of work valences. *Journal of Vocational Behavior, 80*(2), 340–350. https://doi.org/10.1016/j.jvb.2011.09.004.

R Core Team. (2016). *R: A language and environment for statistical computing.* Vieanna: R Foundation for Statistical Computing.

Rasheed, A. S., McWhirter, E. H., & Chronister, K. M. (2005). Self-efficacy and vocational outcome expectations for adolescents of lower socioeconomic status: A pilot study. *Journal of Career Assessment, 13*(1), 40–58. https://doi.org/10.1177/1069072704270273.

Robbins, S. B. (1985). Validity estimates for the career decision-making self-efficacy scale. *Measurement and Evaluation in Counseling and Development, 18*(2), 64–71.

Rosseel, Y. (2012). lavaan: An R package for structural equation modeling. *Journal of Statistical Software, 48*, 1–36. http://lavaan.ugent.be/. Accessed 21 Apr 2017.

Sarı, S.V. (2014). *The effect of social-cognitive learning theory based group intervention on the students' career search self efficacy.* Doctoral Thesis. Karadeniz Technical University, Turkey.

Sarıkaya, T., & Khorshid, L. (2009). Examining the factors affecting the selection of the university students: The choice of the profession of university students. *Journal of Turkish Educational Sciences, 7*(2), 393–423.

Satorra, A., & Bentler, P. M. (2010). Ensuring postiveness of the scaled difference chi-square test statistic. *Psychometrika, 75*(2), 243–248.

semTools Contributors (2016). semTools: Useful tools for structural equation modeling. *R package version 0.4-14*. Retrieved http://cran.r-project.org/package=semTools.

Solberg, V. S., Good, G. E., Nord, D., Holm, C., Hohner, R., Zima, N., Heffernan, M., & Malen, A. (1994). Assessing career search expectations: Development and validation of the career search efficacy scale. *Journal of Career Assessment, 2*(2), 111–123. https://doi.org/10.1177/106907279400200202.

Sousa, V. D., & Rojjanasrirat, W. (2011). Translation, adaptation and validation of instruments or scales for use in cross-cultural health care research: A clear and user-friendly guideline. *Journal of Evaluation in Clinical Practice, 17*(2), 268–274. https://doi.org/10.1111/j.1365-2753.2010.01434.x.

Stumpf, C. A., Colarelli, S. M., & Hartman, K. (1983). Development of the Career Exploration Survey (CES). *Journal of Vocational Behavior, 22*(2), 191–226. https://doi.org/10.1016/0001-8791(83)90028-3.

Super, D. E. (1980). A life-span, life-space approach to career development. *Journal of Vocational Behavior, 16*(3), 282–298. https://doi.org/10.1016/0001-8791(80)90056-1.

Swanson, J. L., & Gore, P. A. (2000). Advances in vocational psychology theory and research. In S. D. Brown & R. W. Lent (Eds.), *Handbook of counseling psychology* (3rd ed., pp. 233–269). Hoboken: Wiley.

Taveira, M. D. C., & Moreno, M. L. R. (2003). Guidance theory and practice: The status of career exploration. *British Journal of Guidance and Counselling, 31*(2), 189–208. https://doi.org/10.1080/0306988031000102360.

Tekkaya, C., Çakıroglu, J., & Özkan, Ö. (2002). *Turkish preservice science teachers' understanding of science, self efficacy beliefs and attitudes toward science teaching*. New Orleans: NARST 2002 (National Association for Research in Science Teaching).

Tippmann, S. (2015). Programming tools: Adventures with R: A guide to the popular, free statistics and visualization software that gives scientists control of their own data analysis. *Nature, 7532*, 109.

Tracey, T. J., Lent, R. W., Brown, S. D., Soresi, S., & Nota, L. (2006). Adherence to RIASEC structure in relation to career exploration and parenting style: Longitudinal and idiothetic considerations. *Journal of Vocational Behavior, 69*, 248–261. https://doi.org/10.1016/j.jvb.2006.02.001.

Tunç, G. Ç., Akansel, N., & Özdemir, A. (2010). Factors affecting career choices of nursing and health officer program students. *Maltepe University Nursing Science and Art Review, 3*(1), 24–31.

Wu, A. D., Li, Z., & Zumbo, B. D. (2007). Decoding the meaning of factorial invariance and updating the practice of multi-group confirmatory factor analysis: A demonstration with TIMSS data. *Practical Assessment, Research and Evaluation, 12*(3), 1–26.

Zunker, V.G. (2002). *Career counseling: Applied concepts of life planning*. Wadsworth Group, Brooks, Cole.