Investigation of Psychometric Properties of Career Adaptability Scale

Ali Eryılmaz

Assoc. Prof. Dr. Faculty of Education in Eskişehir Osmangazi Universty
erali76@hotmail.com

Ahmet Kara

Research Asistant. Faculty of Education in Eskişehir Osmangazi Universty
ahmetkara9126@gmail.com

Abstract

Work-place and work-life is one of the most important domains that individuals survive. Thus, it is important that individuals should love their jobs and be productive. At this point, some studies which increase career adaptability are needed. The aim of the present study is to develop and investigate the "Career Adaptability Scale". This study carried out 270 (162 of them female and 108 of them male) primary, secondary and high school teachers who work in Eskişehir. To investigate the psychometric properties of the scale, explatory and confirmatory factor analysis, some reliability and validity analysis were conducted. According to results, the scale of Career Adaptability which has two sub-dimensions that are named "Career Exploration" and "Career Planning" has significant and important psychometric properties. Thus, it may be concluded that it is valid and reliable instrument. Some studies may be carried out in the future with the help of this instrument.

Keywords: Career, adaptability, teacher, exploration, planning

Introduction

One of the areas where people spent most of their lives is their work life. Individuals are been in work life not only in order to generate income to sustain their lives; but also to perform themselves by improving their interests and abilities. Changing conditions affect individuals' adaptation to work life; in other words, affect their career adaptability. Making studies about increasing individuals' career adaptability, can offer both individual and social contributions. At this point, in this study, it is focused on developing the scale of Career Adaptability and examining the psychometric properties.

In career counselling, it is focused on the individuals' career choice. However, as the career development of individuals' last a lifetime, career counseling study should not be just related to the career choice (Super, 1980). At this point, a step beyond the studies can be considered as career adaptability. In the literature, there are lots of career adaptability definitions. At this point, we need to look at the operational definition of career adaptability. For example Stumpf, Colarell and Hartman (1983), indicate that there are two important dimensions of the concept of adaptability of career as including career exploration and career planning. It is focused on the individuals' interests, abilities, personality traits, needs, values and collecting information about the environment in the process of career exploration (Gore & Hitch, 2005; Vondracek & Porfeli, 2011). Rottinghaus, Day and Borgen (2005) consider career adaptability as the individuals' capacity to cope with future changes, coping with new levels of job responsibilities, to deal with unpredictable changes in career perceptions. Creed, Fallon and Hood (2009) state that the adaptability of career as is a function of the individuals' self-regulation; includes the individuals' career and discovering himself, making career planning and decision. Duffy (2010) describes the adaptability of a career with dimensions such as control and social support, having a positive outlook. From another perspective for career adaptability, career structure theory has been conceptualized in the context of four important dimensions. These dimensions are expressed as interest, control, curiosity and confidence (Savickas, 2005). After defining career adaptability, it can be focus on the measurement of career adaptability.

In the literature, there are various measuring tools for measuring the career adaptability. One of these is the Career Futures Inventory (Rottinghaus, Day & Borgen, 2005). This scale is four-dimensional. The dimensions of the scale are expressed in the form

of control, confidence, optimism and self-awareness. Rottinghaus, Buelow, Matyj and Schneider (2012) have revised this scale. Other scale is Career Adapt-Abilities Inventory (Savickas & Porfeli, 2012). The scale consists of 24 items. The scale is four-dimensional. These dimensions are; interest, control, confidence and curiosity. Another scale is Development of the Career Exploration Survey (Stumpf, 1983). This scale consists of two dimensions as exploration of the environment and self. In addition to all these, it is seen that adaptation studies of scale such as measured as a sub- dimension of career adaptability in Turkish culture (Kalafat, 2012). However, there has not been any scale development study about career adaptability in Turkish culture.

There are positive results of career adaptability and negative results of career inconsistency. Individuals finding jobs and be productive in their jobs is increasing on the rate of increase in career adaptability (Savickas, 2005). On the other hand, the rate of individuals' being unemployment is increasing when the mismatch increase and individuals show some psychological symptoms (Rottinghaus, Day & Borgen, 2005; Vondracek & Porfeli, 2011). In addition to these, career adaptability is a psycho-social structure which is affected by culture (Savickas, 2012). For all these reasons there is a need for culture-specific assessment tools to measure the career adaptability for increasing individuals' productivity, make them to like their job and to support them on behalf of the acquisition of realistic career planning. In this context, this study aims to investigate to develop a measurement tool which can measure "Career Adaptability"

Method

This study was carried out in cross-sectional survey method. In the study, how the psychometric properties of "Career Adaptability Scale" were investigated. In this regard it has been applied to various reliability and validity analysis. In the study, individuals were selected by purposive sampling method.

Study Group

This study consists of the primary school (90), secondary school (90) and high school (90) teachers who work in Eskişehir; total 270 teachers (162 women and 108 men) between 23-48 years (avg.35.01). The distribution of teachers according to branches are 48 (Turkish teachers), 63 (Class teacher), 24 (Counselor), 50 (Science and Technology teachers), 46 (Elementary School Mathematics teacher), 39 (English teacher).

Process of Preparing of the Item Structures

In the preparation process that will be in the developed scale, first career adaptability issue has been examined. For this the item statements used in the study of the scales examined (Rottinghaus, 2012; Duffy, 2010; Zikic & Klehe, 2006; Savickas & Porfeli, 2012; Stumpf, 1983). As a second method, the interview method has been benefited from. In this direction qualitative interviews were conducted with 15 people consisting of teachers and college students for the preparation of item structure. In the meeting, individuals were asked in the form of three open-ended questions: "What do you think about the adaptability of career? What does it mean for you - Career Adaptability? and What do you think about increasing career adaptability?" On the basis of sentence content analysis technique was applied to the questions. The application results showed that the sentences collected in two dimensions.

Statements that were obtained were transformed into scale items. In this way 17 items have been found. Except the researcher, 3 experts (2 of them are working on Guidance and Counseling, and 1 of them is working on Measurement and Evaluation) analyzed the 17 items that brought into scale pre-trial form in terms of form. Whether indicator of inheritance or not and they made the necessary corrections. Ultimately, that has been decided to take place 14 item's in trial form of the scale's.

Data Collection Tool Used in Validity of Career Adaptability Scale

This study was carried out in the context of career adaptability. At this point, It takes place in the empirical study that it is a decisive factor that adaptability of career individuals create a successful and happy career in the future in the literature (Zacher, 2014; Koen, Klehe & Vianen, 2012). Based on these studies Career Future Scale has been used in order to determine the criterion validity of the scale.

Career Future Scale: This scale consists of 25 items and was developed by Rottinghaus, Day and Borgen (2005). In order to examine the psychometric properties of the scale Kalafat (2012) has made studies such as internal consistency, item and factor analysis, correlation criterion validity. The reliability of the scale was made by internal consistency and test-retest method. The internal consistency coefficient of 0.88 and test-retest value was found to be 0.87. Construct validity of the scale was examined by confirmatory factor analysis. According to the results of confirmatory factor analysis, it was concluded that scale gives good harmony values. Ultimately, it has concluded that the scale is reliable and valid.

Results

Factor Structure of the Developed Scale

Exploratory Factor Analysis Results: To examine the factor structure of the Career Adaptability Scale's; factor analysis was conducted based on the Principal Component Analysis' on the data obtained from the teachers. At this point it has been examined Kaiser-Meyer-Olkin (KMO) coefficient and the value of Bartlett's test of Sphericity. Accordingly, it was found the KMO value of 0.87 (p<.01) and Bartlett's test of Sphericity Chi- Square value 724,134 (p<.01). Both results showed that the data has a sufficient sample size for exploratory factor analysis. In the light of the findings, based on the idea of the sub-dimensions of the Scale may be associated with each other, exploratory factor analysis was conducted with the method of Direct Oblique.

Table 1

Career Adaptability Scale Structure Matrix (n=270)

	Factors	
Items	Career Exploration	Career Planning
M1	,767	
M2	,762	
M3	,760	
M4	,732	
M5	,672	
M6	,568	
M7		,798
M8		,792
M9		,599
M10		,582
Percent of variance explained	%43.71	12.16
Cumulated explained variance	%43.71	%55.87

According to the results of exploratory factor analysis, a two-dimensional scale obtained which the total variance explained % 55.87. Scale has been named as "Career Adaptability Scale" In the first sub-dimension of scale, it took place expressions such as "I chose the profession appropriate to my ability", "I can easily adapt to changes in my

professional plans". Both; expression of contents and in accordance with the literature, the first dimension of the scale is named as "Career Exploration"

In the second sub-dimension of the scale, it took place expressions such as "I've done career planning related to my profession." I've chosen institutions where I'll work related to my profession." Both; expression of contents and in accordance with the literature, the second dimension of the scale is named as "Career Planning"

Confirmatory Factor Analysis Results: The Confirmatory factor analysis of Career Adaptability Scale's was also carried out. The results of the analysis performed by Lisrel program is shown in Figure 1. When Figure 1 is examined, it was found that two-dimensional scale's, the value of RMSEA is 0.071; degree of freedom is 34 and Chi-Square is 70.75. Chi-Square value divided into degrees of freedom and a result of, value of 2.08 was obtained (70.75/34=2.08). Career Adaptability Scale's goodness of fit values depending on the Confirmatory factor analysis are; NFI, 0.95; NNFI, 0.97; CFI, 0.98; IF, 0.98; GFI, 0.94, and also the value of AGFI is 0.90. These values are obtained as analysis results; shows that scale has goodness of fit value (Kline, 2005).
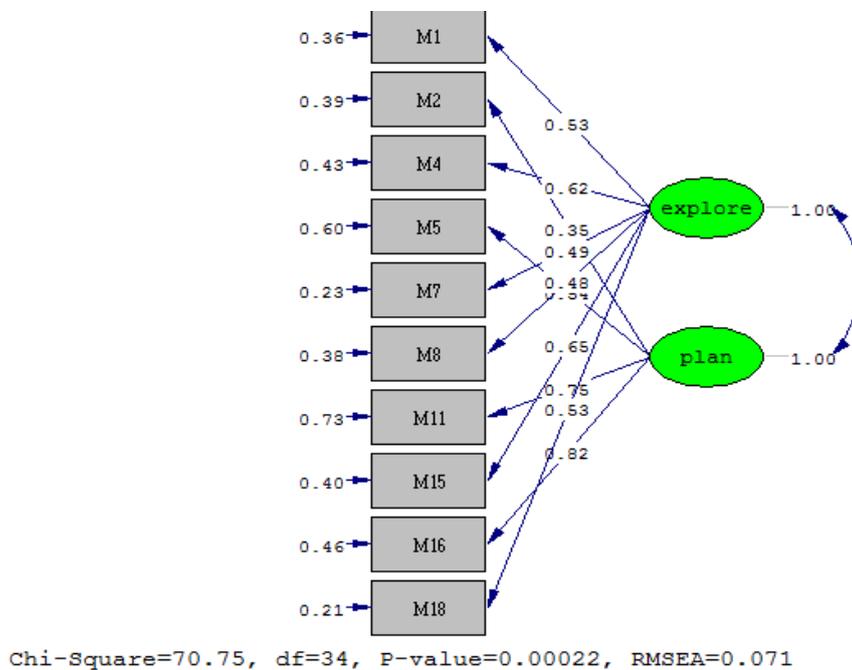

Figure1. *Results of confirmatory factor analysis*

Findings on the Reliability of Career Adaptability Scale

In the context of reliability studies of Career Adaptability Scale, on the data obtained from 270 participants, scale's internal consistency coefficients is calculated and the scale was applied to 20 participants with an interval of two weeks. These participants consist of teachers who serve in various branches, consisting of 10 men and 10 women, aged 25-43. The obtained results are presented in Table 2. When Table 2 is examined, it is seen that the scale is at a satisfactory level of reliability

Table 2
Results of Reliability Analysis

Dimensions	Item Number	α	rtt
Career Exploration	6	.84	.89**
Career Planning	4	.71	.88**
Full Scale	10	.85	

**p<.01, rtt: Test re-test Pearson Correlation value

The Career Adaptability Scale's Criterion Validity Findings

Criterion validity of the Career Adaptability Scale's was examined by Career Future Scale. Pearson correlation method was examined. The results are given in Table 3.

Table 3
Relationship of Career Adaptability Scale with Career Future Scale

	1	2	3	4
1. Total Point of Career Adaptability	1	.89**	.80**	.66**
2. Career Exploration		1	.55**	.58**
3. Career Planning			1	.54**
4. Career Future Scale				1

**p<.01;

When Table 3 is examined, it is observed that the developed scale seems to give moderate and positive relations in terms of relations with Career Future Scale with the size of career exploration; and at the same way with the size of career planning moderate and positive relations. Overall the results are examined, it is seen that adequate evidence of reliability and validity of the developed scale is reached. These results indicate that the developed scale is reliable and valid.

With regard to the scoring of the scale in line with the findings of the literature and statistical findings, while increasing scores on the scale increased the adaptability of career; scores from the scale decreases, the adaptability of career is reduced. Because, in the literature

it is stated that the rise in individuals' career adaptability; individuals' career adaptability level will increase in case of an increase in career exploration and career planning (Koen, Klehe & Vianen, 2012; Savickas, 2005; Zikic & Klehe, 2006; Millar & Shevlin, 2003; Gould, 1979). In this way, the total score of the scale can be calculated and after that studies can be carried out.

Discussion

In this study, it is aimed to investigate the psychometric properties of the Career Adaptability Scale. According to the results of the analysis carried out for this purpose, it was concluded that two-dimensional psychometric properties of the Career Adaptability Scale is at a satisfactory level and the developed scale could be used in the later studies. In this section, findings were discussed in the context of literature.

Firstly, there are various scales that measure individuals' career adaptability in the international literature. In addition to all these, it seems that in Turkish culture there is not a scale that directly measures the career adaptability. Career adaptability is a psycho-social structure affected by culture (Savickas, 2013). At this point, that being the scale developed in this study is a tool that measures the career adaptability directly; also the study of scale is not adaptation but it is development study, thus these are important contribution to the literature of this study.

The scale developed in this study has shown a two-dimensional structure. This structure is in line with the definition career adaptability situated in the literature. For example Savickas (2013) career adaptability is multidimensional and psycho-social structure that includes individuals' attitudes, competencies and behaviours towards harmony to the working life.

One of the dimensions of the scale developed in this study is named as "career exploration". Under making such naming is literature information and items in the scale. In the literature on career adaptability, it focuses on individuals' discover themselves and their environment by collecting information about themselves (Rottinghaus Day & Borgen, 2005; Stumpf, Colarell & Hartman, 1983). Individuals, thus questioning their career options and they make a healthy decision (Klehe, Zikic, Vianen & Pater, 2011). As a result, it is observed that the scale's "career exploration" dimension developed in this study is consistent with the findings of the literature.

One of the dimensions of the scale developed in this study is named as "career planning". Under making such nomenclature is literature informations and items in scale. In the literature on career adaptability, it is stated that individuals' planning their future careers, identifying career goals for the future and performing these are important (Gould, 1979; Rottinghaus, Day & Borgen, 2005; Savickas & Porfeli, 2012; Stumpf, Colarell & Hartman, 1983). In other words, it is stated that individuals who make career planning have higher career adaptability compared to those individuals who do not make career planning. At this point, it is observed that the scale's "career planning" dimension developed in this study is consistent with the findings of the literature.

In this study, benefiting from Savickas and Porfeli models (2012), items related with career confidence were also placed in developed scale trial form. However as a result of statistical analysis it was observed that these items have no functions. Thus, this study seems to support two-dimensional models of Stumpf, Colarelli ve Hartman's (1983). At this point, it can be said that this two-dimensional model is closer to Turkish culture. Making intercultural studies about it can contribute to the literature in the following process.

The career adaptability scale was developed by working through the teachers in this study. At this point, examination of the psychometric properties of the scale developed on different members of the profession can contribute to the literature. In later studies examining the relationships between different variables with developed scale may reveal important information and findings.

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