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# Chaos, Complexity and Leadership 2012

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# Chaos, Complexity and Leadership 2012

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*SB: To my sister Santa Mukherjee and my  
little MAMU Sumadrish*

*SSE: In memory of my parents Mübeccel  
Erçetin and Yusuf Kenan Erçetin*





## Preface

Leadership in all sense has been centre of debates since humankind has its own society. From simple understanding of leadership to complex leadership theories, it is both mystical and scientific issue. Literally, leadership means that “the office or position of leader” and second explanation is “capacity to lead”. It is obvious that perception and definition of leadership have been transformed and kindly evolved.

Unfortunately, the first attempt of describing of leadership in scientific way did not go back to ancient times however, there were lots of epitaph, myths and some poets, which described “leaders of their society in different names such as king, emperor and etc.” More modern times, we have much remarkable books such as *The Prince* of Machiavelli. It was more than description of their leaders; it was also giving analysis of how good leaders (prince) should be. Even *The Prince* can be considered as a handbook of leaders.

Then, we can see books, which also criticized system and leaders especially during French revolution and its age. We can say that, scientific accumulation on leadership started from generally in the beginning of nineteenth century such as types of leadership were emerged. More alternative works have risen up in 40s and 50s. From poets on Rome’s Ceaser to twenty-first century, there are new concepts are quite popular such as global leadership reveal that an intensive and long journey of leadership.

In light of this historical picture of how sources of leadership evolved show us that term of leadership is highly complex, dependent and also interdependent scientifically. In other words, notion of leadership has mutual relationship with history, geography, culture, national identity, psychology, philosophy, politics and list goes on.

This complexity makes its’ field as a unique. Our symposium represents a new feature and dynamical perspective on leadership. We bring chaos and complexity, which are mainly notion of physics and mathematics to field of leadership. It has been studied that the nonlinear tools are very effective to investigate the modern leadership ability and to control the complex/chaotic situations. The subject is much more enhanced with the nonlinear techniques and chaos theory.

Not only physics but also, we shared many distinct, unique and fruitful ideas and workings from almost 20 different countries. That's why, we are glad to represent the book of Chaos, Complexity and Leadership symposium. Through the book, you will read numerous fantastic symposium paper which enlighten "leadership" as a phenomenon.

We are very much grateful to our invited speakers for their superlative lectures.

Finally we would like to thank all the participants, guests and members associated with ICCLS2012, to make the symposium successful.

Ankara, Turkey  
Ankara, Turkey

Şefika Şule Erçetin  
Santo Banerjee

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## Chapter 54

# Turkish Version of the Career Adapt-Abilities Scale (CAAS): The Validity and Reliability Study

Ahmet Akın, Çınar Kaya, Serhat Arslan, Taner Demir, Hakan Sarıçam, and Recep Uysal

### 54.1 Introduction

The theory of career construction conceptualizes human development as the efforts to adapt himself to his environment (Savickas 2005). The adaptation to social life for human being includes all the basics and other roles and shapes our future (Savickas et al. 2009). It is important that people adapt the possible changes in their career life in parallel with the fast developments in recent years. Individuals may have difficulties in transition of their career life and adapt to the new situations (Savickas et al. 2009; Nota et al. 2012). According to Savickas et al. (2009) individuals have to face career transitions and adapt himself to different job roles at different times during their career life. Career transitions require individuals to review their purposes, attitudes, personal features and this makes their career adaptation ability so important (Klehe et al. 2011). In order to draw attention to career adaptation process, Savickas uses the terminology “career adapt ability” (Savickas et al. 2009).

“Career adapt ability” is accepted as the construction including abilities and behaviors required for adaptation of the changes in career life (Youseffi et al. 2011). Dufy (2010) defines “career adapt ability” as the critical skills required for the process of choosing their jobs. Savickas and Porfeli (2012) takes “career adapt ability” as the physiological structure involving personal resources used for handling the challenging job experiences, carrying out the tasks successfully which needs to be succeeded now and later, and adapting career transitions.

Career adapt abilities are the self-regulation skills that individuals use in hard job conditions, job roles which occur developmentally and career transitions

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(Savickas and Porfeli 2012). Those self-regulation skills can be acquired by education and experience (Ford 1994; Sullivan Sheffrin 2003; Savickas and Porfeli 2012). Self-regulation skills are multi-dimensional not one dimensional. The theory of career construction takes these skills as a combined system.

Those career adapt abilities are concern, control, curiosity and confidence. The combination of these four components demonstrate the career adapt abilities of the people (Savickas and Porfeli 2012). Concern is related to being ready for the possible steps in the future. Control is the self-disciplination and having voice in shaping himself. Curiosity makes person think himself in a new and different job roles. Confidence can be explained as the self-sufficiency while exploring and searching (Savickas and Porfeli 2012).

When a career transition, a job-related obligation or a challenging job occurs; (a) Person feels concern about his career future, (b) Person needs control about his future, (c) Person curiosity about the possible scenario or situations, (d) Person feels confidence about being follower of his situation. The rise of career adapt abilities is the main purpose of career education and counseling (Savickas and Porfeli 2012).

The researches in 13 different countries demonstrate that career adapt ability scales measure what it purposes to measure and it can be accepted as a reliable study (Savickas and Porfeli 2012). In the studies which search career adapt abilities and different variable relations; it is found that there is no considerable connection between career adapt ability and general ability (Van Vianen et al. 2012); there is positive intermediate relationship between career adapt ability and taking work responsibility (Rossier et al. 2012); there is a high positive relationship between career adapt ability and vocational identity (Savickas and Porfeli 2012); there is a high positive relationship between career adapt ability and loyalty to job and being open to new experiences (Teixeira et al. 2012); there is a high positive relationship between career adapt ability and motivation, negative intermediate relationship between career adapt ability and concern (Pouyaud et al. 2012); unemployed people have higher subdimensions of concern, curiosity and control (Duarte et al. 2012; Djaló 2012); negative relationship between career adapt ability and perceived barriers, positive relationship between career adapt ability and wideness of interest and live satisfaction (Soresi et al. 2012).

Career adaptability was assessed using Savickas and Porfeli's (2012) Career Adapt Abilities Scale (CAAS). The 24-item five-point Likert scale (1 = not strong-5 = strongest) is composed of four subscales (concern, control, curiosity and confidence) which make up the over-arching construct of career adaptability that are confirmed by factor analysis carried on data collected from 13 countries. The results of confirmatory factor analysis indicated that the four-dimensional Career Adapt Ability model (confidence, control, curiosity, and concern) model was well fit ( $\chi^2 = 4,987.1$ ,  $df = 248$   $p = 0.00$ ,  $RMSEA = .050$ ,  $CFI = .93$ ). The internal consistency reliability coefficients were .83, .74, .79, .85 for concern, control, curiosity, and confidence scales respectively and .94 for the total scale. The aim of this research is to translate the Career adaptability Scale to Turkish and to examine its psychometric properties.

The Career Adapt Abilities Scale, as an instrument devised for assessing the psychological dimension of career adapt, which has sufficient psychometric properties, is presented to the attention of researchers and practitioners in Turkey for utilization in evaluation and research activities in various areas like management, vocational guidance and leadership.

## **54.2 Method**

### **54.2.1 Participants**

Participants were 320 (146 female and 174 male) teachers who were employed in different schools in Istanbul and Kocaeli, Turkey. The departments of these teachers were psychological counseling and guidance (n = 25), science education (n = 23), pre-school education (n = 67), computer and instruction technology education (n = 24), primary education (n = 125) and Turkish language education (n = 56) and the mean age of the participants was 30.3.

### **54.2.2 Procedure**

Primarily translation of the CAA into Turkish was based on the recommendations of Savickas and Porfeli (2012). As the first step two specialists who were a native Turkish speaker fluent in English translated English version into Turkish. Discrepancies in initial translations were addressed with the assistance of a third independent translator. The Turkish version of the CAA was then translated back into English by two English-speaking language specialists who were blinded to the original scale and the objective of the study. The differences between translated versions were evaluated and a satisfactory compliance with the original scale was achieved by consensus of the translators. The completed Turkish version was evaluated for cultural appropriateness by three academicians from department of English Language and Literature, controversial items were determined and necessary modifications were done. The updated version was reevaluated by the original group of expert reviewers, to finalize the Turkish version used in this study.

After that a study of language equivalence was executed and then the validity and reliability analyses of the scale were examined. In this study confirmatory factor analysis (CFA) was executed to confirm the original scale's structure in Turkish culture. Also concurrent validity, internal consistency reliability, the item-total correlations and the differences between mean scores of upper 27 % and lower 27 % groups were examined. Data were analyzed using LISREL 8.54 and SPSS 17.0 package programs.

### 54.3 Results

#### 54.3.1 Construct Validity

The results of confirmatory factor analysis indicated that the model was well fit ( $\chi^2 = 504.48$ ,  $df = 240$ ,  $RMSEA = .059$ ,  $NNFI = .92$ ,  $CFI = .93$ ,  $IFI = .93$ , and  $SRMR = .049$ ). Factor loadings and path diagram of Turkish version of CAAS are presented in Fig. 54.1.

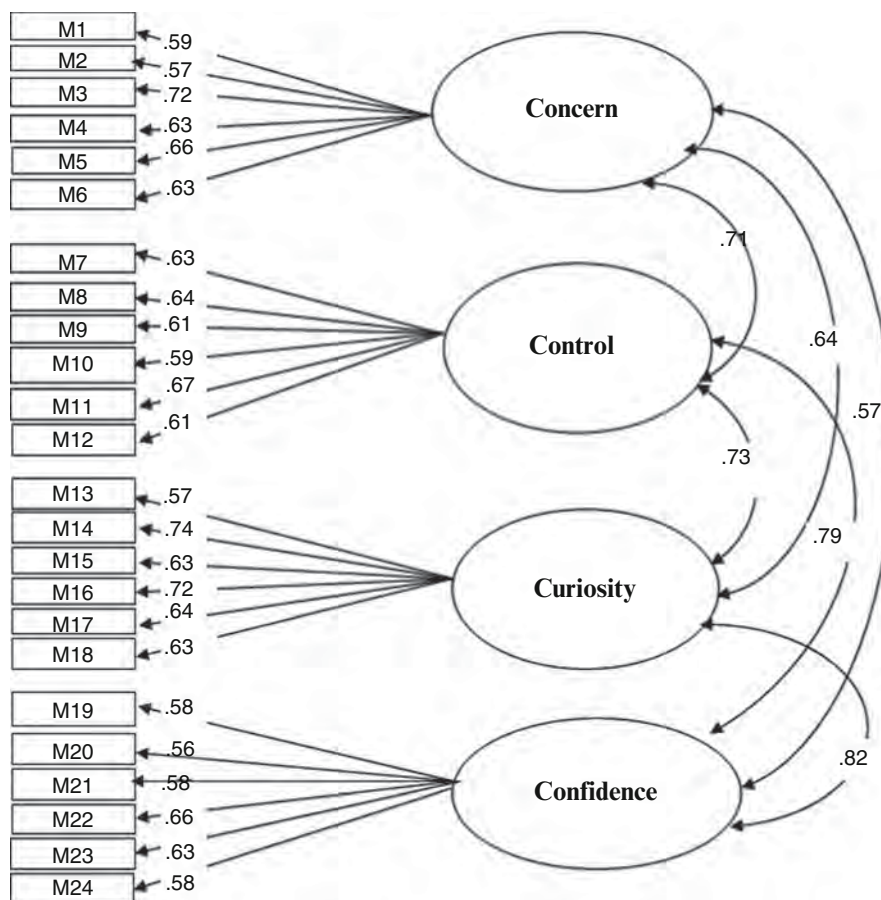


Fig. 54.1 Factor loadings and path diagram for the CAAS

**Table 54.1** The CAAS item-total correlation, *t*-test results differences between each item's means of upper 27 % and lower 27 % group

Items	Corrected item-total correlation	Upper 27 % lower 27 % group t	Items	Corrected item-total correlation	Upper 27 % lower 27 % group t
1.	.57	5.78***	13.	.56	2.87*
2.	.59	4.10**	14.	.60	2.73*
3.	.64	3.65**	15.	.55	2.13*
4.	.64	2.21	16.	.42	4.40**
5.	.62	2.54	17.	.60	7.98***
6.	.61	2.12	18.	.66	3.65**
7.	.60	3.20	19.	.57	4.95**
8.	.59	4.18**	20.	.57	2.31*
9.	.58	3.19**	21.	.54	3.88**
10.	.51	-4.70***	22.	.67	3.41**
11.	.63	3.77**	23.	.60	4.74***
12.	.60	2.11*	24.	.65	3.07**

\*\*\*( $p < .001$ ); \*\*( $p < .01$ ); \*( $p < .05$ )

### 54.3.2 Reliability

For reliability of the Turkish version of the CAAS internal consistency coefficient was calculated. The Cronbach's Alpha internal consistency of the scale was as .82 for concern sub-scale, .84 for control sub-scale, .86 for curiosity sub-scale, .85 for confidence sub-scale, .93 for whole scale. The corrected item-total correlations of CAAS ranged from .42 to .67. The *t*-test results differences between each item's means of upper 27 % and lower 27 % points were significant ( $p < .05$ ). The item analysis result and descriptive statistics are presented in Table 54.1.

## 54.4 Discussion

The purpose of this study was to adapt the CAAS into Turkish and examine its psychometric properties. Confirmatory factor analysis demonstrated that the factor structure was harmonized with the factor structure of the original scale. Thus, it can be said that the structural model of the CAAS which consists of four factors was well fit to the Turkish culture (Bentler and Bonett 1980; Hu and Bentler 1999; Schermelleh-Engel and Moosbrugger 2003). The internal consistency reliability coefficients of the scale were high (Büyüköztürk 2010; Kline 2000). Considering that item total correlations having a value of .30 and higher and significant test results differences between each item's means of upper 27 % and lower 27 % are

generally considered to be adequate in terms of distinguishing between the traits to be measured for construing item total correlation, it is possible to state that item total correlations and *t*-test result regarding the scales are adequate (Büyüköztürk 2010). Overall findings demonstrated that this scale had high validity and reliability scores and that it may be used as a valid and reliable instrument in order to measure the career adapt abilities outcome among low-income job-seeking clients. Nevertheless, further studies that will use CAAS are important for its measurement effectiveness.

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