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Schein's Career Anchors: Testing Factorial Validity, Invariance Across Countries, and Relationship With Core Self-Evaluations

Robert Costigan[1], Sait Gurbuz[2], and Unsal Sigri[3]

Abstract

The purposes of this study are to (1) examine the factorial validity of Schein's career anchors orientation inventory (COI), comparing the original eight-factor model with an alternative nine-factor model, (2) examine the cross-cultural invariance of the COI and its factor structure across two countries, (3) investigate whether core self-evaluations (CSE) is associated with career anchors, and (4) determine whether the relationship between CSE and career anchors varies by country. Survey data were collected from 469 participants (230 from the United States and 239 from Turkey). Based on multigroup confirmatory factor analysis, the results indicated that the alternative nine-factor career anchor model of the COI has better factorial validity and configural invariance than Schein's eight-factor model. The findings showed support for the association between CSE and the pure challenge anchor and a moderating effect of culture on the relationship between CSE and two other anchors.

Keywords

career anchors, core self-evaluations, factorial validity, cultural invariance

A career anchor is a self-perceived talent or ability, motive or need, or value or attitude (Schein, 1978, 1990). Schein's (1978, 1990) career anchor theory proposed that most individuals gain a true career anchor that they remain committed over the course of their careers—something that they will not give up due to its importance. A number of anchors may be fulfilled in a particular person's career but only one should be viewed as a dominant, true anchor (Schein, 1990). Schein explained that if a true anchor does not emerge, then it suggests that the person has not attained enough life experience to recognize it.

[1] Department of Management, St. John Fisher College, Rochester, NY, USA
[2] Department of Management, Social Sciences University of Ankara, Ankara, Turkey
[3] Department of Sport Management, Baskent University, Ankara, Turkey

Corresponding Author:
Sait Gurbuz, Department of Management, Social Sciences University of Ankara, Ulus, Ankara, Turkey.
Email: sgurbuz@kho.edu.tr

Table 1. Schein's (1990) Career Anchors.

Anchor	Explanations
1. Technical/functional competence	These individuals commit themselves to highly specialized work; they have a talent, skill, and expertise for a particular kind of work
2. General managerial competence	These individuals commit themselves to becoming a generalist, demonstrating a broad range of talents and competence; knowing a number of functional areas and understanding a particular business and industry is a part of this competence
3. Autonomy	These individuals want to pursue an independent career, free of a particular organization's rules, procedures, and work hours; these individuals have a strong desire to work in their own way because the typical organization's norms are restrictive and unreasonable
4. Security	These individuals have an overriding desire for stability in their careers; they desire predictability so that their future is stable and orderly; feeling safe in their career is a priority
5. Entrepreneurial creativity	These individuals have a strong desire to create new products, services, or new ventures on their own; expressing one's creativity within an existing organization or in a new business venture that leads to success is important for these persons
6. Sense of service	These individuals have an overriding desire to make the world a better place; they have a strong need to serve and help others
7. Pure challenge	These individuals prefer to take on extreme challenges; they want to overcome difficult obstacles, solve highly complex problems, and win against tough odds
8. Lifestyle	These individuals have a strong priority to integrate their own needs, family needs, and career needs; because these three sets of needs change over time, these persons prefer flexibility so that this integration can evolve in an effective manner

The number of career anchors in Schein's theory has expanded from five to eight. The eight career anchors are presented in Table 1.

Schein (1990) posited that a good fit between the individual's true career anchor and their work environment yields positive work outcomes (i.e., effective work performance, high job satisfaction, and greater organizational commitment). The career psychology literature (e.g., Coetzee & Schreuder, 2014; Lofquist & Dawis, 1991) and more specifically the career anchor literature (e.g., Chapman, 2015; Feldman & Bolino, 1996) support Schein's thinking on the benefits of having congruence between the individual's true career anchor and their work.

The purposes of this study are to (1) examine the factorial validity of Schein's career anchors orientation inventory (COI), comparing his original eight-factor model with an alternative nine-factor model, (2) assess the cross-cultural invariance of the COI and its factor structure across two countries, (3) investigate whether the core self-evaluations (CSE) construct is associated with career anchors, and (4) determine whether the relationship between CSE and career anchors varies by country.

Factorial Validity and Cross-Cultural Invariance

Although the COI has been widely used in vocational research to evaluate career preferences, scholars (Danziger, Rachman-Moore, & Valency, 2008; Feldman & Bolino, 1996; Leong, Rosenberg, & Chong, 2014) have noted that more research is needed to assess the psychometric qualities of the COI. There remain questions on the factorial validity of Schein's model. Research attempting to validate his eight-factor model is limited. With the exception of the Danziger et al. (2008) study, no other study has employed confirmatory factor analysis (CFA), which is a more appropriate procedure than exploratory factor analysis (EFA), for assessing the validity of any measurement model (e.g., Jöreskog & Sörbom,

2006). We plan to revisit the factorial validity of his eight-factor model, using a CFA procedure, with samples from two countries: the United States and Turkey.

The U.S. and Turkish cultures have fundamentally different value systems (Hofstede, 1980). Based on Hofstede's (1980) data, U.S. societal values reflect high individualism, relatively high masculinity, low uncertainty avoidance, and low power distance, whereas Turkish societal values reflect high collectivism, lower masculinity, high uncertainty avoidance, and high power distance. Such cultural differences might affect one's interpretation of the items in the Schein COI. Both the United States and Turkey provide a unique opportunity to assess the cross-cultural invariance of the Schein COI in two dissimilar societal contexts.

The findings of previous studies that have examined the factor structure of Schein's COI are inconclusive. Igbaria, Greenhaus, and Parasuraman (1991) found that the COI consists of 11 factors, 3 of which (security, technical/functional, and challenge anchors), loaded on two factors. Nordvik (1996) found a four-factor solution after using an ipsative response scale for the COI. Due to his use of a less conventional ipsative scale, it would be inappropriate to compare his results with the other studies investigating the factor structure of the COI.

Drawing on data of 423 graduate students from five countries (Western Australia, Malaysia, South Africa, the United States, and the United Kingdom), Marshall and Bonner's (2003) EFA procedure on the entire five-country sample yielded a nine-factor structure. In their study, the entrepreneurial creativity (EC) anchor loaded on two factors: creativity (CRV) and entrepreneurship (ENT). Ramakrishna and Potosky's (2003) study of 163 information technology (IT) professionals revealed a nine-factor solution in which the security anchor loaded on geographic security and organizational stability. In their study of 1,847 Israeli adults, Danziger et al. (2008) conducted CFA and found that a nine-construct measurement model fits their Israeli data better than Schein's eight-construct model. EC split into separate anchors (i.e., ENT and CRV). Their proposed model demonstrated convergent and discriminant validity and unidimensionality.

Using a 25-item version of the COI on a Turkish sample, Erdogmus (2004) discovered an eight-factor structure. His labels for the eight factors are management/challenge competence, technical/functional competence, autonomy, lifestyle integration, organizational stability, innovation, sense of service, and EC. More recently, Leong, Rosenberg, and Chong (2014) employed an EFA in their evaluation of the COI on a U.S. sample of college alumni. Using principal axis factoring extraction, they reported 11 factors with Eigenvalues above 1.00. The career anchors emerging in their EFA are two security factors, two challenge factors, two lifestyle factors, and the remaining five in the Schein model.

A look at the 5 items assessing the EC anchor in Schein's (1990) COI suggests that there may be a semantic difference between ENT and CRV. Three items reflect the setting up of a new business (e.g., "Building my own business is more important to me than achieving a high-level managerial position in someone else's organization."). The remaining 2 items deal only with CRV; there is no mention of a new business venture (e.g., "I am most fulfilled in my career when I have been able to build something that is entirely the result of my own ideas and efforts."). Recent work (i.e., Danziger et al., 2008) empirically confirmed this distinction between ENT and CRV.

Danziger et al. (2008) argued that their CFA findings may not be unique to Israel and may generalize to the U.S. and Western European countries. We plan to investigate this research question, examining the factorial validity of this alternative nine-construct model in the United States and Turkey. Investigating the factorial validity and the cross-cultural invariance of a nine-factor model (i.e., splitting EC into two anchors) in the United States and Turkey compared to Schein's eight-factor model has not been considered in previous research. Addressing this research question should extend the cross-cultural COI literature.

In line with Danziger et al.'s (2008) findings that are based on a CFA procedure, we propose the presence of nine career anchors, reflecting the distinction between ENT and CRV in both the U.S. and

Turkish samples, instead of the eight in Schein's (1990) original paradigm. We more formally hypothesize that:

Hypothesis 1: A nine-factor career anchor model will have better factorial validity and cross-cultural invariance of its factor structure in the United States and Turkey than Schein's (1990) eight-factor model.

Relationship of CSE and Career Anchors

Past research on the Schein career anchor model has mainly focused on the congruence of career anchors to the work environment, along with the corresponding work outcomes that come with this congruence. Although this line of research on career anchor and work-environment fit has produced favorable results, few studies have considered predictors of the Schein model. Our study takes this second vantage point, investigating a promising predictor of career anchor preferences. To identify a dominant, true career anchor, individuals can rely on various resources, such as psychological resources, that can help in this identification process (Coetzee & Schreuder, 2009). One psychological resource is the individual's personality.

To our knowledge, there has only been one empirical study that has formally investigated personality predictors of Schein's career anchor preferences. In that study, Nordvik (1996, p. 263) concluded that "the Myers-Briggs variables were not distinctly related to the career anchor variables." Notwithstanding Nordvik's findings, we will attempt to add to the literature, assessing whether a broad, latent, higher order personality trait (i.e., CSE) predicts career anchor preferences in two cultures. A trait such as CSE could be a signal for what an individual's dominant career anchor should ideally be.

Another resource necessary for finding a true career anchor is time. Schein's (1990) theory suggests 5–10 years of meaningful work experiences before one can discover their true career anchor. Discerning whether a personality trait like CSE can be used early on, without the five-to-ten years interval in one's early adult years, to predict their true anchor might expedite the career search process.

CSE is a broad psychological construct composed of four lower order traits: self-esteem, generalized self-efficacy, locus of control, and emotional stability (Judge, Erez, Bono, & Thoresen, 2003; Judge & Kammeyer-Mueller, 2011). Self-esteem is a self-judgment of one's overall worth; generalized self-efficacy is one's belief in their capability to be successful performers; locus of control is the degree to which one believes that they can control the outcomes in their lives; and emotional stability is the tendency to be worry free. The four components reflect a "fundamental appraisal of one's worthiness, effectiveness, and capability as a person" (Judge et al., 2003, p. 304).

Judge and Kammeyer-Mueller (2011) speculated that the CSE construct is also related to career success. Having a positive CSE should translate into more progress in reaching one's career goals. Research has demonstrated that individuals with low CSE tend to have difficulties making career decisions (Di Fabio, Palazzeschi, & Bar-on, 2012). Poor CSE is related to a lack of readiness, a lack of information, and inconsistent information when it comes to career decision-making, eventually translating into poor career choices.

Investigations of the relationship between CSE and satisfaction have been conducted in two international locations. Piccolo, Judge, Takahashi, Watanabe, and Locke (2005) found that CSE was strongly associated with the job satisfaction, life satisfaction, and happiness of 271 Japanese salespersons. Likewise, Stumpp, Muck, Hulsheger, Judge, and Maier's (2010) German study found that the higher order CSE trait accounted for unique, incremental job satisfaction and life satisfaction variance, above the main effects of multiple lower order traits (e.g., Big Five and the four lower order CSE traits). In these German samples, CSE accounted for 3–4% of the employee's objective career success (i.e., income and number of promotions), after controlling for demographic variables. In sum, the link

between CSE and measures of job satisfaction, career satisfaction, and career success seems supported in other countries.

Prior research has not considered the relationship between CSE and Schein's career anchors. The present study addresses this research question with an examination of CSE's association with three Schein anchors. One career anchor that theoretically relates to the CSE construct is pure challenge. Judge and Kammeyer-Mueller (2011) pointed out that persons with a higher CSE score tend to capitalize on resources that are available to them and can overcome obstacles to achieve their goals. Judge and Hurst (2007) stated that individuals with a strong CSE seek out complex jobs that provide them with more challenge, whereas those with a lower CSE score are less ambitious and avoid challenging jobs that present difficult obstacles.

In sum, higher scoring CSE individuals may be more likely to seek out pure challenge in their careers while lower scoring CSE persons may want to avoid jobs with a lot of challenge. Based on this thinking and the previously cited research such as Judge and Hurst (2007), we more formally propose that:

Hypothesis 2: CSE will be positively associated with the pure challenge career anchor across the two cultures (United States and Turkey).

Does CSE predict career anchors better in some cultures than others? In line with Hofstede's (1980) findings, the stark difference in key societal values provides a proper context to assess whether Turkey and United States are operating as a cultural moderator of the proposed CSE-COI relationships in the present study. We will now discuss how the cross-cultural literature supports our two moderation hypotheses.

Collectivism and high uncertainty avoidance are negatively associated with internal locus of control and risk taking; and high locus of control and willingness to take risks are related to ENT (Mueller & Thomas, 2001). Considering that a locus-of-control personality is one component of CSE, it seems less likely that collectivists would prefer an enterprising career anchor due to their inclination to have an external locus of control. Likewise, individuals in a high uncertainty avoidance culture would be less inclined toward risk taking. In each case, it seems that the relationship between CSE and the preference for an enterprising career anchor will be less strong in the collectivistic and high uncertainty avoidance cultures than in individualistic and lower uncertainty avoidance societies. In a study involving 42 countries, Wennberg, Pathak, and Autio (2013) discovered that the individual's self-efficacy, a lower order trait that underlies CSE, is more highly correlated with entrepreneurial entry in low institutional collectivist (i.e., individualistic) cultures than in high institutional collectivist cultures.

Based on Danziger et al.'s (2008) empirical results supporting the split of EC into two anchors (i.e., ENT and CRV), we considered only the three ENT COI items to test Hypothesis 3. Grounded in the reasoning above and on Wennberg et al.'s (2013) empirical finding in particular, we propose that:

Hypothesis 3: The association between CSE and the ENT career anchor is expected to be stronger in an individualistic and lower uncertainty avoidance society (the United States) than in a collectivistic and higher uncertainty avoidance society (Turkey).

One career anchor that was highly prized in the Erdogmus (2004) Turkish study is service. The present study extends Erdogmus' findings into the realm of the association of the Turkish worker's CSE and their sense-of-service anchor. Aycan and Fikret-Paşa (2003) reported that Turkish university students' career decisions are based more on intrinsically satisfying work than on their collectivist roots (e.g., pressure from family and friends). Therefore, the influence of Hofstede's (1980) feminine value (i.e., quality of one's life in terms of intrinsically satisfying work) may trump collectivism (i.e., the influence of family and friends) when it comes to Turkish persons preferring service-related career choices. In more masculine societies such as the United States, the promise of materialistic gains may

have a bearing on its younger persons' career decisions. An inclination toward service may be less prominent in more masculine cultures.

Vigoda-Gadot and Grimland (2008) suggested that the relationship between personal values on career choices and altruistic behavior may be moderated by culture. In turn, the association between a trait such as CSE and service to others may be moderated by the masculinity–femininity societal value. Just as we proposed that strong CSE will be predictive of a preference for the entrepreneurial anchor in the U.S. sample, we also think that strong CSE will foster a Turkish worker's preference to be of service in this less masculine society. Without strong CSE, taking on such a lofty Turkish service ideal may be less likely. We propose that:

Hypothesis 4: The association between CSE and the service career anchor is expected to be stronger in a less masculine culture (Turkey) than in a more masculine culture (United States).

Method

Sampling Procedure

A total of 478 individuals voluntarily participated in our study. Missing data and listwise deletion in subsequent analyses reduced the final sample to 469 (230 from the United States and 239 from Turkey). Using Little's missing completely at random (MCAR) test (1988), we concluded that the missing data were missing completely at random ($p > .05$); hence, it is considered unbiased. The U.S. participants were recruited through a Northeastern college's alumni database, part-time MBA program, and personal connections with business faculty. They were mostly full-time employees. The average age of the U.S. sample is 31.52 ($SD = 8.61$). Forty-seven percent of the U.S. sample is female. The 239 Turkish participants were mostly a full-time working population. Turkish participants were recruited through an MBA program, personal connections with business faculty, and an Ankara industrial database. The average age is 33.92 ($SD = 9.30$) for the Turkish sample. Twenty-two percent of the Turkish sample is female. *The Europa World Year Book* (2012) indicated that over 70% of the Turkish workforce were male in the mid-2000s. The high participation rate of Turkish males (i.e., 78%) in our study does not dramatically differ from the gender composition in the Turkish workforce. The participants in this study anonymously completed their CSE and COI items and returned their responses in person or online. The estimated response rates for the U.S. and Turkish participants are 50% and 60%, respectively.

Measures

Core self-evaluations. The psychometric qualities of the CSE construct were assessed with four U.S. samples of managers, employees, and students in Judge, Erez, Bono, and Thoresen's (2003) validation study. Their findings showed that the 12-item CSE scale had sufficient internal consistency and test–retest reliability, a unitary factor structure, and strong predictive and incremental validity (i.e., predicting job satisfaction and performance). To our knowledge, the cross-cultural validity of the CSE construct has yet to be established. We incorporated this CSE scale with a 5-point Likert response anchors ranging from 1 (*strongly disagree*) to 5 (*strongly agree*) in this study. Sample items include "I am confident I get the success I deserve in life" and "Overall, I am satisfied with myself." We computed a mean rating for this CSE scale (6 items were reverse scored) for subsequent analyses. Coefficient α of this scale is .81 for the U.S. sample and .72 for the Turkish sample.

Career anchors. Schein's (1990) COI scale consisted of 40 items with a 6-point Likert-type scale ranging from 1 (*never true for me*) to 6 (*always true for me*). A sample item is "I dream of having a career

that will allow me the freedom to do a job my own way and on my own schedule." Five items were used to operationalize each career anchor. In line with our study's first hypothesis that predicts support for a nine-anchor model, we divided the EC anchor to form two new anchors: ENT and CRV. Three items formed the ENT anchor: "I am always on the lookout for ideas that would permit me to start my own enterprise," "Building my own business is more important to me than achieving a high-level managerial position in someone else's organization," and "I dream of starting up and building my own business." Two items formed the CRV anchor: "I am most fulfilled in my career when I have been able to build something that is entirely the result of my own ideas and effort" and "I will feel successful in my career only if I have succeeded in creating or building something that is entirely my own product idea." Coefficient α for each career anchor scale across the U.S. and Turkish samples is reported in Table 2. Demographic items (e.g., gender, age, and number of years worked full time) are also included in the survey.

We followed Brislin's (1986) forward–backward procedures for the translation of Schein's COI and CSE into the Turkish language. Specifically, the third author provided the translation. Afterward, each item was back translated into English by a second expert, fluent in both English and Turkish.

Data Analysis

We tested the COI's factorial validity and cross-cultural invariance using multigroup CFA procedure (IBM AMOS 23; Arbuckle, 2014). Although many approaches have been proposed for this procedure, tests of measurement equivalence in cross-cultural research typically follow a three-step series of nested constraints that are placed on parameters across samples (e.g., Grouzet et al., 2005; Steenkamp & Baumgartner, 1998). Data were analyzed using the maximum likelihood Robust estimation method. Because a fit index cannot assess every aspect of goodness of fit, multiple measures of goodness of fit were used in CFA to evaluate and determine the best model fit for the data (Hoyle & Panter, 1995). A series of hierarchical regression procedures were used to test Hypotheses 2, 3, and 4.

Results

Factorial Validity and Cross-Cultural Invariance

Based on the multigroup CFA procedure, we report the various fit indices for model comparison in Table 3: chi-square (χ^2), comparative fit index (CFI), the root mean square error of approximation (RMSEA), and the Satorra–Bentler χ^2 scaled difference test (Bentler, 1995). First, we tested the configural invariance of the original eight-factor model. As shown in Table 3, the model did not present good fit indices, $\chi^2/df = 4.35$, RMSEA = .09, CFI = .78. We then tested the configural invariance of the nine-factor model across U.S. and Turkish samples. As shown in Table 3, the nine-factor model presented good fit indices ($\chi^2/df = 2.94$, RMSEA = .06, CFI = .91). All items yielded a significant loading on their corresponding factors in both countries, indicating that the factorial structure of the nine-factor model is equivalent in the two countries. After testing for configural invariance, the factor pattern coefficients were constrained to be equal to test for metric invariance. We ran the χ^2 difference test and looked at the differences in the fit indices between the constrained model and the unconstrained model. A significant change in χ^2 statistic ($\Delta\chi^2$ (41) = 189, $p < .01$) and lower RMSEA and CFI indices were considered evidence for the lack of metric invariance for the nine-factor model. The nine-factor COI scale has partial measurement invariance (Byrne, Shavelson, & Muthen, 1989; Steenkamp & Baumgartner, 1998). In sum, the nine-factor career anchor model

Table 2. Means, Standard Deviations, and Intercorrelations Among the Study Variables.

Variables	United States												Turkey	
	M	*SD*	1	2	3	4	5	6	7	8	9	10	*M*	*SD*
1. TF	3.88	0.71	**(.48)**	.209**	.379**	.192**	.574**	.573**	.480**	.084	.476**	.299**	4.45	0.68
2. GM	3.13	0.89	.348**	**(.72)**	.419**	.343**	.336**	.295**	.236**	.318**	.263**	.086	3.75	0.83
3. AU	3.75	0.88	.395**	.349**	**(.76)**	.028	.432**	.425**	.419**	.433**	.522**	.100	4.01	0.84
4. SE	3.91	0.86	.248**	.139*	−.087	**(.73)**	.118	.043	.310**	.101	.122	−.045	3.94	0.85
5. SV	3.82	0.96	.280**	.150*	.337**	−0.10	**(.80)**	.658**	.394**	.183**	.458**	.311**	4.61	0.72
6. CH	3.97	0.91	.456**	.329**	.485**	−.126	.372**	**(.80)**	.272**	.167**	.515**	.338**	4.51	0.78
7. LS	4.39	0.94	.274**	−.113	.250**	.348**	.288**	.012	**(.79)**	.223**	.268**	.069	4.29	0.75
8. ENT	3.28	1.49	.214**	.294**	.539**	−.141*	.267**	.313**	.095	**(.76)**	.330**	−.103	3.33	1.20
9. CRV	3.60	1.17	.366**	.387**	.533**	−.011	.215**	.474**	.004	.543**	**(.74)**	.158*	4.26	1.04
10. CSE	3.82	0.52	.097	.091	.171**	−.101	.004	.157*	.003	.177**	.143*	**(.76)**	3.64	0.45

Note. $N = 469$. Reliability coefficients for the combined sample are bolded and appear in parentheses along the diagonal. The U.S. correlations appear below the bolded diagonal and the Turkish correlations appear above the bolded diagonal. TF = technical/functional; GM = general management; AU = autonomy independence; SE = security and stability; SV = service/dedication; CH = pure challenge; LS = lifestyle; ENT = entrepreneurial; CRV = creativity; CSE = core self-evaluations..

*$p < .05$. **$p < .01$.

Table 3. Model Comparison for Measurement Invariance.

Model Description[a]	χ^2	*df*	χ^2/df	RMSEA	CFI
Nine-factor model[b]					
Full configural invariance	**4,144.285**	**1,408**	**2.94**	**.06**	**.91**
Full metric invariance	4,333.716	1,449	2.99	.08	.89
Eight-factor model[c]					
Full configural invariance	6,192.513	1,422	4.35	.09	.78
Full metric invariance	6,337.581	1,438	4.40	.09	.77

Note. $N = 469$. CFI = comparative fit index; RMSEA = root mean square error of approximation. *df* = degree freedom.
[a]Rows with data in boldface show the supported invariance models. [b]Nine-factor model: Entrepreneurial creativity is divided in two new anchors: entrepreneurship and creativity. [c]Schein's original eight factor.
*$p < .001$.

has better factorial validity and cross-cultural invariance than Schein's eight-factor model. Hypothesis 1 is supported.

Relationship of CSE to Career Anchors

Hypothesis 2 proposed that CSE will be positively associated with the pure challenge career anchor across the two cultures. Descriptive statistics and intercorrelations among CSE, career-anchor variables are shown for the United States and Turkey in Table 2. A look at this table indicates that the relationship of CSE to pure challenge is significant in each sample; the correlation across the two samples is also significant ($r = .17$, $p < .01$). To test Hypothesis 2 more formally, we conducted a hierarchical regression procedure. This procedure consisted of two steps. In the first step, two control variables were entered. These control variables are: a dummy-coded gender variable (0 = *female* and 1 = *male*) and age. Because the two samples differed on the percentage of females, we controlled for gender. Although the mean age of the participants in the two samples is equivalent, we controlled for the participant's age because it can affect when one discovers their true career anchor. The CSE variable was then entered in Step 2. The dependent variable in this analysis is the combined 5-item ratings of the pure challenge career anchor. The control variables in Step 1 accounted for significant variance ($\Delta R^2 = .07$, $p < .001$). Our Step 2 results indicate that the CSE variable accounted for incremental variance over and above the two control variables ($\Delta R^2 = .029$, $p < .01$). These results provide support for Hypothesis 2.

Hypothesis 3 proposed that the association between CSE and the ENT career anchor will be stronger in an individualistic, low uncertainty avoidance culture (United States) than in the collectivistic culture, high uncertainty avoidance culture (Turkey). The correlation between CSE and the ENT anchor in the U.S. sample is .18 ($p < .01$), whereas the correlation in the Turkish sample is $-.10$ ($p = .11$). To more formally test this hypothesis, we again conducted a hierarchical regression procedure. This procedure consisted of three steps. In the first step, the same two control variables (i.e., gender dummy variable and age) were entered. The CSE variable and a dummy-coded country variable (0 = *United States* and 1 = *Turkey*) were entered in Step 2, and the CSE × Dummy-Coded Country Variable interaction was entered in Step 3. The dependent variable in this analysis is the combined 3-item ratings of the ENT career anchor. Prior to the regression analysis, the CSE variable was centered. As shown in Table 4, our Step 3 regression results indicate that the interaction (CSE × Country Variable) is significant ($\Delta R^2 = .019$, $p < .01$). To better illustrate the moderating effect of the country variable on the ENT anchor, we graphed the interaction effects following the procedures set forth by Cohen and Cohen (1983). We then tested the simple slopes of the graphed interactions to identify if they are significantly different from zero. The slope in Figure 1A is significantly steeper for

Table 4. Hierarchical Regression Results for Moderating Effect of Culture on CSE and Career Anchors Relationships.

	Entrepreneurial Anchor			Service Anchor		
Variables	*B*	R^2	ΔR^2	β	R^2	ΔR^2
Step 1 controls						
Gender	.321*	.026**	.026**	.301*	.033**	.033**
Age	−.021			.006		
Step 2						
CSE	.159	.030**	.003	.218**	.191***	.163***
Country	.050			.800***		
Step 3						
CSE × Country	−.777**	.049***	.019**	.474**	.207***	.015**

Note. $N = 469$. *B* represents the unstandardized regression coefficients. CSE = core self-evaluations.
*$p < .05$. **$p < .01$. ***$p < .001$.

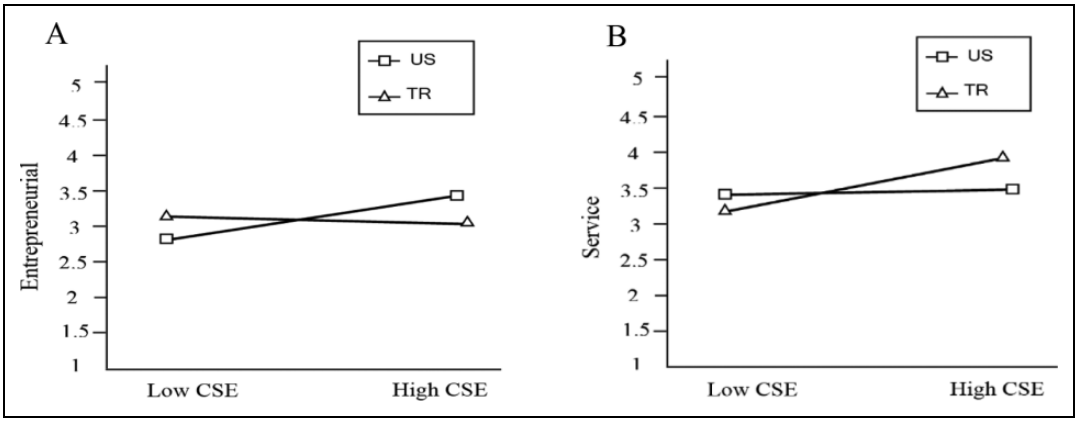

Figure 1. A, Two-way interaction effect of country on core self-evaluation (CSE)-entrepreneurship relationship. B, Two-way interaction effect of country on CSE-service relationship.

U.S. participants ($\beta = .183$, $p < .01$) than for Turkey ($\beta = -.103$, $p > .05$). Taken altogether, these findings show support for Hypothesis 3.

Hypothesis 4 proposed that the association between CSE and the sense-of-service career anchor will be stronger in a less masculine society (Turkey) than in a more masculine society (United States). The correlation between CSE and this service anchor in the U.S. sample is .00 ($p = .96$), whereas the correlation in the Turkish sample is .31 ($p < .01$). To formally test this hypothesis, we again conducted a hierarchical regression procedure. In the first step, the same two control variables were entered. The CSE variable and dummy-coded country variable were entered in Step 2, and the CSE × Dummy-Coded Country Variable interaction was entered in Step 3. As shown in Table 4, our Step 3 regression results indicate that the two-way interaction (CSE × Country Variable) is significant ($\Delta R^2 = .015$, $p < .01$). To better illustrate the moderating effect of the country variable on the service anchor, we graphed the interaction effects following the same procedures above. The slope in Figure 1B is significantly steeper for Turkish participants ($\beta = .266$, $p < .001$) than the United States ($\beta = .006$, $p > .05$). These findings show support for Hypothesis 4.

Discussion

Based on multigroup CFA, the present study revealed that the nine-factor career anchor model of Schein's COI had better factorial validity and cross-cultural invariance compared to Schein's early eight-factor model. Specifically, the CFA results on the nine-factor model revealed configural invariance across the U.S. and Turkish samples. This finding agreed with Danziger et al. (2008) nine-factor solution that suggested the EC anchor splits into separate anchors (i.e., ENT and CRV). One clear implication of our results is that Danziger et al.'s (2008) Israeli findings are generalizable across two distinct cultures (United States and Turkey).

Our study attempted to add to the CSE and career anchor literatures, assessing the extent to which these constructs are related across cultures. To begin, our findings suggest that the strength of these relationships (shown in Table 2) is relatively weak. As hypothesized, CSE predicted the pure challenge anchor across cultures; this association appeared to be particularly strong in our Turkish sample ($r = .34$). This finding extended Judge and Hurst's (2007) research into the realm of the challenge that positive CSE individuals prefer in their career choices. Namely, Judge and Hurst reported that positive CSE individuals seek out complex jobs that provide them with more challenge, whereas low CSE persons are less ambitious, avoiding challenging jobs that present difficult obstacles. Understanding why the Turkish CSE-challenge correlation is strong and the U.S. correlation is weaker is a possible area for future research.

The results also indicated that CSE does relate to two other COI anchors differently in the two cultures. CSE relates to the entrepreneurial career anchor in the United States but not in Turkey, and it strongly correlates with the service career anchor in Turkey but not the United States. The spirit that underlies these two anchors has a unique yet prominent place in their respective cultures. The entrepreneurial spirit spurred by a strong CSE may be more likely to occur in the individualistic, lower uncertainty avoidance U.S. culture, whereas the spirit of service encouraged by a strong CSE may be uniquely linked to a less masculine society such as Turkey.

Implications for Research

Danziger et al. (2008) and the present study are the only research efforts to employ the CFA procedure to validate the Schein COI. Prior career anchor research has mostly used EFA which has recognized shortcomings (e.g., Jöreskog & Sörbom, 2006). The assumption of measurement invariance or invariance demonstrated with EFA is a critical oversight on the part of researchers, which could compromise the credibility of such findings. It is possible that individuals from dissimilar cultures might interpret COI survey items differently. For example, a COI item such as "I have been most fulfilled in my career when I have solved seemingly unsolvable problems or won out over seemingly impossible odds" could be perceived differently in a high versus low uncertainty avoidance culture or even an individualist versus collectivist culture. To alleviate these concerns, multigroup CFA provides a simultaneous test of both factorial validity and measurement invariance across the two countries.

If, indeed, a nine career anchor inventory is now called for, then revising the COI scales to better reflect this nine-factor structure appears necessary. A rather obvious beginning is to develop 3 more CRV items and 2 additional ENT items for a revised nine-anchor COI scale. Prior research can then be reexamined with a more up-to-date operationalization of the COI. In a similar vein, the low-coefficient α for the technical/functional competence anchor is concerning. Both samples experienced difficulty in providing consistent responses to this 5-item scale (i.e., coefficient $\alpha = .42$ for the U.S. sample and .54 for the Turkish sample). The eclectic language (e.g., "special skills and talents," "expertise," "expert advice," and "technical or functional skills") could be more confusing to the 21st-century respondent than it was for the respondents completing the scale in the 1980s.

Schein's research provided insight into how a stable career concept develops (Barclay, Chapman, & Brown, 2013). His notion that a dominant career anchor stabilizes around the age of 30 suggests the importance of a longitudinal design to study such a process relative to more recent findings. Ramakrishna and Potosky (2003), for example, demonstrated that individuals can have more than one true or dominant career anchor. Coetzee and Schreuder's (2014) review provided evidence (e.g., Igbaria, Greenhaus, & Parasuraman, 1991) for people having "primary, secondary, and even tertiary career anchors" (p. 142). Rodriques, Guest, and Budjanovcanin's (2013) contention that dominant anchors will change with passage into new career stages. They also wondered whether today's highly mobile labor market conditions could even upset the relevance of a true or dominant career anchor. Including unexplored variables, such as Rodriques et al.'s (2013) family pressures, early career aspirations, and institutional forces, in a longitudinal design can help determine whether these factors influence the individual's choice of dominant career anchors at different points in time.

In sum, a longitudinal study could address Rodriques et al.'s, Ramakrishna and Potosky's (2003), and Coetzee and Schreuder's (2014) research questions and also clarify "whether career anchors are stable, as Schein suggested, or whether they are contextual to individuals' life situations" (Chapman, 2015, p. 517). Chapman (2015) added that "no longitudinal studies have been performed" (p. 517) on Schein's model. Though daunting, following individuals over time may be more telling of the formation of one's anchors.

In light of our study's results, it may be prudent for scholars to revisit career anchor studies such as Barclay et al. (2013). They employed CFA to compare four models for fit for mutual consistency between career anchors. Utilizing data from improved COI scales (i.e., revised technical/functional competence anchor, ENT, and CRV scales) and then retesting Barclay et al.'s hypotheses on the relationship of mutually inconsistent career anchor pairs and their fit seems to be justified.

Implications for Practice

Career anchors "act as the lens by means of which individuals interpret and negotiate their career experiences, cope with and adapt to career transitions in an attempt to optimize the person-environment fit harmonics" (Coetzee & Schreuder, 2014, p. 149). Self-insights and discussions with career counselors on an individual's career anchor profile remain powerful strategies for cultivating job satisfaction and retention (Coetzee & Schreuder, 2014). Lofquist and Dawis' (1991) person–environment correspondence counseling might also be employed to strengthen the fit between the individual's true career anchor and the environment's characteristics. If there is discorrespondence between a true career anchor and work context, the client and counselor could identify ways of modifying the work environment or find an alternative work environment that better fits the individual's true anchor.

The split of the EC anchor fits nicely with the push for more entrepreneurism and increased CRV in more developed (United States) and developing (Turkey) economies. Configuring COI anchors along these lines helps U.S. and Turkish workers determine how well their career anchor preferences align with two mega priorities (i.e., ENT and CRV) in post–Great Recession economies.

Effective career counseling depends, in part, on the availability and use of psychometrically sound career guidance instruments. Our results suggest that the improved factorial validity and cross-cultural invariance of the COI emanating from the split of the EC anchor might increase the occupational fit of persons with a creative orientation and an entrepreneurial orientation. In a similar way, the upgrade of the items in the technical/functional competence scale might enhance the fit for those persons with this as their true anchor. The use of a more valid COI instrument could translate into better COI counseling in the United States and Turkey, with few concerns for item misinterpretation.

A final implication relates to the search for predictors of the entrepreneurism anchor in the United States, the service anchor in Turkey, and the challenge anchor in both countries. Employing a predictor such as CSE for ENT may provide some help to new venture creation in a country like the United

States. Similarly, CSE appears to be an effective predictor of the service anchor in our Turkish sample ($r = .31$, $p < .01$), suggesting that this higher order trait could be valuable in deploying service-minded persons in the right job and the right firm. Utilizing a predictor such as CSE may be helpful to clients gaining self-insights and to guidance counselors directing high scoring CSE types toward the appropriate career anchors.

Limitations and Future Research

One limitation of the present study is that we cannot pinpoint the exact cultural dimension(s) that is accounting for the two country interactions. Whether individualism/collectivism, masculinity/femininity, uncertainty avoidance, or perhaps even power distance is the underlying cultural variable responsible for these significant interactions can only be determined with the inclusion of more countries that vary on Hofstede's (1980) dimensions in a future study. A related weakness is whether our findings are generalizable beyond Turkey and the United States. Future research might consider replicating our research in other locations.

Although the nine-factor COI scale had configural invariance across the U.S. and Turkish sample, we did not confirm metric and scalar invariance. As some scholars have argued, full measurement invariance is rare and is unlikely when testing forms of invariance beyond configural invariance (Horn, 1991; Steenkamp & Baumgartner, 1998). For many constructs and, in particular, when testing invariance across a variety of samples, it may be that only partial measurement invariance exists (Byrne et al., 1989; Steenkamp & Baumgartner, 1998). Follow-up modification indices did not help the misspecified CFA become a good representation of our study's data. Identifying what the major sources of variance on the COI is another area for future research. Such a study might reexamine metric and scalar invariance of the COI with larger cross-cultural samples and psychometrically sound scales that better assess individual's technical/functional competence, CRV, and ENT anchors.

Another limitation may be the makeup of our samples. Many of our study's participants came from a business context, perhaps rendering a bias in how this select business sample responded to the COI items. Chapman (2015) and Coetzee and Schreuder (2014) countered by saying that past studies have reported a broad range of career anchors surfacing within each occupation and industry. Multiple career anchors can, for example, appear in the marketing occupation (Chapman, 2015). The marketing research job fits the profile of the technical/functional competence anchor; the brand manager job fits the general managerial competence anchor; new product development fits the ENT anchor; and outside sales fit the autonomy anchor. Considering these arguments, perhaps our sampling strategy is less concerning than previously thought.

Conclusion

This investigation is one of a few cross-cultural studies of Schein's COI. Our results suggest that Schein's seminal work is in need of modification. Instead of eight anchors, our data show that his theory may be more supportable in the United States and Turkey with a nine-factor career anchor model (i.e., splitting EC into two separate anchors). After employing a multigroup CFA, the nine-factor career anchor model demonstrated cross-cultural invariance (i.e., configural invariance) in two dissimilar contexts. We also found support for the association between CSE and the pure challenge anchor and a moderating effect of culture on the relationship between CSE and two anchors (i.e., ENT and sense of service).

Authors' Note

The first two authors contributed equally to this article.

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Author Biographies

Robert Costigan received his PhD in applied psychology from the University of Missouri–St. Louis. He is currently a professor of management, teaching graduate and undergraduate human resource management and organizational behaviour at St. John Fisher College. His research interests include workplace trust in cross-cultural settings, business education, recruitment, and performance appraisal. His research has appeared in the *Academy of Management Learning & Education*, *Journal of World Business*, *Journal of Management Education*, *Journal of Business and Psychology*, *Canadian Journal of Administrative Sciences*, and *Journal of Education for Business.* Bob is an avid hiker and walker in his new Colorado surroundings.

Sait Gurbuz received his PhD in HRM from Istanbul University. He is currently an associate professor of management and chair of defence management at Social Sciences University of Ankara in Ankara. Dr. Gurbuz teaches HRM, OB, and research methods courses graduate and undergraduate programs. His research interests are in the field of OB and HRM with a particular focus on organizational citizenship, organizational commitment, cultural intelligence, performance appraisal, strategic HRM, and generations. His research findings have been published in various journals such as *Military Psychology*, *Leadership & Organization Development Journal*, *International Journal of Human Resource Management, Economic and Industrial Democracy*, *International Journal of Selection and Assessment*, and *Management Decision.* For recreation, Gurbuz enjoys spending time with his wife and two children, jogging, skiing, and staying current on contemporary events.

Unsal Sigri (PhD in management) is a professor of management at the Baskent University–Ankara, in Turkey. He got his PhD degree from Marmara University, Istanbul, and did his postdoctoral studies in Bittner School of Business, St. John Fisher College, Rochester, NY. He also worked as a visiting professor in the Azerbaijan Military Academy, Baku, Azerbaijan, in 2001 and as a research scholar at St. John Fisher College, Rochester, NY, in 2010. Sigri is a recipient of a research grant for postdocs from the Scientific and Technological Research Council of Turkey (TUBITAK) in 2010. He teaches and is doing research on management, organizational behavior, leadership, group dynamics, social psychology, organization development and change, cross-cultural management, conflict management, negotiation, and military sociology. He has been working in different international academic projects within Research Committee 01 "Armed Forces and Conflict Resolution" of the International Sociological Association and ERGOMAS—European Research Group on Military Studies. Prof. Sigri enjoys travelling and outdoor activities.