The Construct Validity of Schein's Career Anchors Orientation Inventory

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Abstract

Purpose

The purpose of this paper is to test the construct validity of the measurement model of Schein's Career Orientation Inventory (1990) where entrepreneurship and creativity constitute two separate constructs.

Design

A fairly representative sample of 1,847 Israeli working adults completed Schein's Career Anchor Inventory (COI) questionnaire. The data was subjected to confirmatory factor analysis to compare the fit of the proposed nine-construct model to Schein's eight

Findings

The findings demonstrate that a) the proposed nine-construct model of the COI, which distinguishes between Entrepreneurship and Creativity constructs has a better fit than the eight-construct model. b) The nine-construct model has convergent and discriminant validity and unidimensionality.
Value

The study's contributions are threefold: first, it generally supports Schein's Career Anchor Theory, yet, with nine anchors rather than with the original eight; second, it confirms the distinction between entrepreneurship and creativity; and third, it highlights the need to rephrase several existing items, and add new ones.

The suggested changes and the conceptual framework of the nine-anchor model will make the COI a more valid and reliable instrument, both for theory-building, as well as for practical and diagnostic use by career counselors.

Key Words
Career anchors, Career Orientation Inventory, construct validity, confirmatory factor analysis, E. Schein
The Construct Validity of Schein's Career Anchors Orientation Inventory

Introduction
Edgar Schein (1975, 1978, and 1987) suggests that the life experiences that people undergo give them a more accurate and stable “career-self-concept”, a construct which he labels "career anchor". A career anchor has three components: (1) self-perceived talent and abilities; (2) self-perceived motives and needs; and (3) self-perceived concept attitudes and values. The first two are based on actual experience in a work setting, while the third is derived from the individual's reaction to a variety of norms and values encountered in different social and work situations. Schein regards a career anchor as "That one element in a person's self-concept, which he or she will not give up, even in the face of difficult choices" (Schein, 1990:18). Schein (1990) posits that an individual’s future career choices are affected as he matures and his anchor stabilizes.

The names and the description of the anchors appear in Table I.

Insert Table I

Schein claims that each individual has only one true career anchor which emerges after the person has accumulated a meaningful amount of life and work experiences. Schein's main contribution is that his work describes how a stable career identity is formed and distinguishes this process from initial vocational choice (Feldman and Bolino, 1996).
According to Schein, when individuals achieve congruence between their career anchor and their work, they are more likely to attain positive career outcomes, such as job effectiveness, satisfaction and stability. However, because people do not always work in jobs that fit their career anchors, large variations in job outcomes occur in the population. On the whole, however, individuals with congruence will most likely achieve higher career outcomes than those who have failed to attain it.

Individual career anchors can be measured by qualitative or quantitative methodologies. The quantitative measurement is the Career Orientation Inventory. It consists of 40 statements (Table II), five for each of the eight career anchors that Schein posited (Schein, 1990).

Schein and his students performed 14 studies on managers. The largest contained 44 participants (Schein, 1978), and the average sample size was 23 (Schein, 1987). All of these studies used the qualitative procedure to assess the individual's anchor. Those studies, which were based on large samples, relied only on the COI questionnaire described above (e.g., Igbaria and Greenhaus (1991) Yarnell (1998), Marshal and Bonner (2003).

Feldman and Bolino (1996) suggested factor analyses tests of Schein's COI to determine the factor structure which underlines the career anchor typology. Exploratory factor analysis was performed by Nordvik (1991), Igbaria and Greenhaus (1991), Petroni (2000), Marshal and Bonner (2003) and Summer, Yager and Franke (2005). Nordvik (1991) found a four-factor solution. However, as he used an ipsative
scale, his results cannot be directly compared to the studies below. Igbaria and Greenhaus's (1991) study on 464 information technology professionals reveals an 11-factor structure with three anchors: Security, Technical Functional and Challenge, each split into two factors. However, their sample is quite homogeneous and therefore, the findings cannot be generalized to other populations. Petroni (2000) performed a factor analysis on 25 of the 40 items of the COI and found a nine factor solution, with Security anchor splitting into 2 factors: Organizational Security and Geographical Security. However, his sample size (n=151 R&D professionals) was too small for such an analysis. Likewise, Sumner et al (2005) performed a factor analysis of the COI, but their sample size of 66 respondents is inadequate for such an analysis.

Marshal and Bonner's study (2003) on a heterogeneous sample of 423 graduate students, in 5 different countries, found a nine-factor structure. The entrepreneurial-creativity anchor is loaded on two separate factors: Creativity (3 items) and entrepreneurial factor (2 items).

Marshal and Bonner's results are the closest to Schein's paradigm with the exception of the entrepreneurial-creativity scale. Their findings indicate a possible semantic difference between entrepreneurship and creativity. Indeed, according to the Oxford Dictionary (2007) entrepreneurship has to do with setting up a business, whereas creativity is the use of imagination or original ideas in order to create something, which in most cases is not meant to be converted into a business. Hisrich and Peters (2002) define entrepreneurship as the process of creating something new of value, by devoting the necessary time and effort, assuming the accompanying financial, psychic and social risk, and receiving the resulting rewards of monetary and
personal satisfaction and independence. Dollinger (1999) defines entrepreneurship as "the creation of an innovative organization. For example, creative artists are often the antithesis of entrepreneurs". ...(p. 4). Contrary to entrepreneurship, the definition of the construct 'creativity' is elusive. Parkhurst (1999) in his review article "Confusion, lack of consensus and the definition of creativity as a construct" does not find a comprehensive and accepted definition. He quotes Torrance (1988) that said that "creativity defies precise definition". Similarly, Ford and Harris (1992) in their article "The elusive definition of creativity" arrive at similar conclusion. Nevertheless, Kao (1989) emphasizes the difference between creativity and entrepreneurship: "The capacity to develop new ideas, concepts, and processes is not the same as the capacity to make things happen, to implement in practical terms" (p. 18). Furthermore, Kao (1991) identified 11 common characteristics of entrepreneurs; creativity is not one of them.

A close examination of the five items which comprise the entrepreneurship – creativity anchor in the COI (Schein, 1990), as presented in table II, reveals that three items (# 5, 13 and 37) have to do with setting up a new business (e.g., # 37 "I dream of starting up and building my own business"). The other two items (# 21 and 29) concern creativity (e.g., "I will feel successful in my career only if I have succeeded in creating or building something that is entirely my own product or idea).

Following Marshal and Bonner's findings (2003) (whose sample most resembles ours in terms of size and heterogeneity), and on the semantic differences described above, we hypothesize the presence of nine career anchors rather than Schein's eight-anchor paradigm.
In order to examine the validity of any measurement model, a confirmatory factor analysis is more appropriate than the exploratory factor analysis used to date. It is surprising that the COI, being widely accepted and used, was not subjected to such tests.

The purpose of this paper is to test the construct validity of the measurement model of the nine-factor structure of Schein's COI (1990).

Method

Data Collection

The data were collected over two semesters in 2003. As part of a course requirement, teams of MBA students at an Israeli institution of higher education were asked to collect data among working adults and test some aspects of career anchor theory. Each team distributed and collected 30-40 questionnaires from among various work associates, acquaintances and family members. The course professors subsequently asked the students for permission to use the data for a research project. Those who agreed anonymously put the questionnaires in the professors' mailboxes.

The sample consists of 2010 questionnaires. Since important data were missing in 163 questionnaires, they were deleted and the final sample consists of 1847 valid questionnaires.

Sample characteristics: Respondents included 899 males and 947 females (48.7 percent and 51.3 percent, respectively). This resembles the gender distribution in the total Israeli population (Israeli Central Bureau of Statistics, 2000). The average age of the respondents was 42.5 years (s. d. 8.16) and the median age was between 39-40.
Two-thirds of the sample has a higher education. Forty-nine of the respondents (2.6 percent) have a doctoral degree; 436 (24.0 percent) have a second degree (M.A, M.Sc. or MBA); and 725 (39.0 percent) have a B.A or B.Sc. The rest, 579 (31.3 percent) do not have an academic degree. Overall, there are no significant gender differences in the proportion of men and women with academic degree. However, there are significantly more men than women with a bachelor degree (p=.003); more women than men with a masters degree (p=.001); and more men than women with a Ph.D. degree (p=.018). Fifty-eight individuals (3.1 percent) did not answer this question. According to the Israel Central Bureau of Statistics (1995), 34.9 percent of the population, age 25-64, has obtained a higher education, compared to the 66.5 percent in the sample of this study.

Among the respondents, 1,623 were salaried employees (88 percent), and 192 were self-employed (10.5 percent). Thirty-two individuals (1.5 percent) did not answer the questionnaire. According to the Central Bureau of Statistics (1995), 84.5 percent of the Israeli work force consists of salaried employees (80.2 percent of the males and 90.2 percent of the females in the labor force) while 10 percent are self-employed. These figures resemble the US data of about 13.6 percent self-employed in the labor force (U.S. Census Bureau News, 2005).

Overall, the sample is relatively more educated than the Israeli population. This can be attributed to the fact that the MBA students sampled their own social and work environments. However, the distribution of gender and type of employment, i.e., salaried vs. self-employed, resembles the distribution of the total population.
Measures

All respondents were requested to report on a six point Likert scale (1= low agreement, 6= high agreement) the extent of their agreement with Schein's 40-item COI (1990) translated into Hebrew. The Hebrew version is widely used by Israeli career-counselors and placement companies to assess career anchors of candidates.

Seven anchor constructs comply with Schein's typology (1990). Each is reflected by five indicators (items): the Technical/Functional Competence (TF) construct; General Management Competence (GM); Autonomy/Independence (AU); Security/Stability (SE); Service/Dedication (SV); Pure Challenge (CH) and Lifestyle (LS). However, the Entrepreneurial-Creativity construct (EC) is divided into two distinct ones: Entrepreneurship (E) and Creativity (C): Three indicators reflect the Entrepreneurship construct, whereas two indicators reflect the Creativity construct. Each of the constructs is expected to be unidimensional. The list of the indicators (items) is presented in Table II.

Methodology

To test the construct validity of the proposed measurement model of career anchors with the nine constructs, we employed confirmatory factor analysis using EQS software (Bentler, 1995). The initial measurement model was subjected to confirmatory factor analysis (CFA) to assure convergent and discriminant validity and unidimensionality (Jöreskog and Sörbom, 1989). We purified the measurement scales by reviewing each construct that emerged from our analysis and, as a result, deleted one indicator reflecting the TF construct (#25 Table II), as it has low loading on its construct (.23). Thus, the final proposed measurement model is based on the 39 items described in Table II. The overall fit of the proposed model is assessed and
compared to the model suggested by Schein. The comparison is evaluated according to the Satorra-Bentler chi-square scaled difference test (Bentler, 1995) and the three fit indices: the robust normed fit index (NFI); the robust comparative fit index (CFI); and the SRMSR index (standardized root mean-squares of the residuals) suggested by Bentler (1980) and Hu and Bentler (1995). Moreover, the proposed model is evaluated according to the following criteria: convergent validity, discriminant validity and unidimensionality. Convergent validity is assessed by examining the loadings of the indicators and the reliability (Cronbach alpha), and the discriminant validity is assessed by the methods suggested by Anderson and Gerbing (1988) and Jöreskog (1971). The unidimensionality is evaluated by the three fit indices and by the examination, based on Lagrange multiplier tests (Bentler, 1995), of the correlated errors among the indicators.

Results

Overall Model Fit

Table III summarizes the results of our CFA for the measurement model with the nine constructs and that of Schein's eight constructs. The table presents the Satorra-Bentler chi-square scaled and the chi-square difference test between the nine- and the eight- construct model (Bentler, 1995). The significant difference ($\chi^2=845.05$, df=8, $p<.0001$) indicates that the measurement model with the nine constructs fits the data significantly better than that with the eight constructs. In addition, the three descriptive fit indices -- the NFI, CFI, and the SRMSR -- indicate that the measurement model of the nine constructs fits the data better than the eight-construct model. Both, the NFI (.836 vs. 802) and the CFI (.859 vs. 824), presented in Table III, have higher values for the nine- than for the eight-construct model. The SRMSR
The index is lower for the nine-construct model than for the eight-construct model (.063 vs. 0.78). The fit values NFI and CFI for the model with the nine constructs are slightly below the acceptable fit level of 0.90 (Bentler, 1980; Hu and Bentler, 1995). However, the value of the SRMSR index obtained for the nine-construct model is .063 which fits the criteria recommended by Hu and Bentler (1995). Therefore, we can conclude that the proposed nine-construct model is close to a good fit and fits the data better than Schein's eight-construct model.

Insert Table III

The following analysis suggests that the main reason for not reaching the acceptable level of the NFI and CFI is due to the wording of several items of Schein's Career Orientation Inventory. The results of the LaGrange multiplier tests (Bentler, 1995) show correlated errors among a number of items. Each of the following items #4, 22, 26, 27, 32 and 39 (Table II) are ipsative, i.e., a high agreement with the statement means a high score on one anchor and a low score on another. For example, item #4 "Security and stability are more important to me than freedom and autonomy". Statistically, the ipsative items are expressed as a positive loading on one anchor and a negative loading on the other. Therefore, the data was subjected to an additional CFA based on the nine-construct model, allowing positive and negative loading on the above six items (i.e., #4: positive loading on SE and negative loading on AU; #22: positive on SE and negative on GM; # 26: positive on GM and negative on TF; # 27: positive on AU and negative SE; # 32: positive on LS and negative on GM; # 39: positive on CH and negative on GM). Table IV shows that the nine constructs with the negative loading improve significantly ($\chi^2=557.19$, df=6, p<.0001) the fit of the model. The fit value NFI is increased from .836 to .859; the fit value CFI is increased from .859 to .883; and the SRMSR value is decreased from .063 to .054.
These results demonstrate that the model with the negative loadings fits the data significantly better than the model without the negative loadings.

Insert Table IV

**Convergent Validity**

The overall fit of the measurement model, as expressed by the fit indices, supports the convergent validity of each construct. Table II provides standardized factor loadings. Of the 39 loadings of the indicators for the nine-construct model, thirty-four are above 0.5; four range between .4 and .5; and one has the value of .39. Each indicator loads significantly on its respective construct (p < .0001), suggesting that the measurement scale for each construct demonstrates high convergent validity (Anderson and Gerbing, 1988). As shown in Table II, the Cronbach alpha scores range from .601 to .887. TF and C obtained Cronbach alpha scores less than .70 (.601 and .680, respectively). In light of the small number of items measuring these constructs, four and two items, respectively, this is an acceptable result (Cortina, 1993).

**Discriminant Validity**

The overall fit of the measurement model, as expressed by the fit indices, supports the discriminant validity of each construct. To further assess the discriminant validity, the estimated inter-factor correlations were examined and the confidence intervals for the estimates of the inter-factor correlations were calculated (Anderson and Gerbing, 1988). The methodology examines whether the confidence interval for the estimated correlations in the measurement model does or does not include the value of 1.0. Such a correlation between two constructs means that there is no discrimination between the two. Table V provides estimates of the correlations and their standard errors. The size of the estimates of the correlations between the
factors ranges from -.320 to .727. Since none of the confidence intervals, for the estimated correlations in the measurement model, contained the value of 1.0 (p<0.001), we concluded that the constructs possess discriminant validity.

Insert Table V

We also performed a complementary assessment of discriminant validity by performing a chi-square difference test on the values obtained for the unconstrained (i.e. a model where the factor correlations are not constrained to unity) and constrained models (Jöreskog, 1971). A significantly lower chi-square value obtained from the unconstrained model compared to the constrained model indicates that the factors are not perfectly correlated, and that discriminant validity is achieved with respect to the nine constructs (Bagozzi and Phillips, 1982). The two absolute highest correlations between the estimated factors are between TF and CH (estimated correlation =.727), and between CH and C (estimated correlation=.667). Two constrained models were performed where the correlation between each of the two pairs was constrained to unity. The results, as presented in Table VI, show that the two chi-square differences between the paired differences of the constrained and the unconstrained models (for $\rho_{TF,CH} = 1$: $\chi^2 = 374.35$, df=8; for $\rho_{C,CH} = 1$: $\chi^2 = 450.75$, df=8) are significant at p<0.0001. These significant differences which were found between the constrained and unconstrained model, for the pairs with highest correlations, imply that we will obtain significant differences for all other pairs which have lower correlations. This indicates that the constructs are not perfectly correlated and while they do measure something in common, each construct measures something uniquely its own.

Insert Table VI

Unidimensionality
The fit of the measurement model, as expressed by the fit indices, indicates that each factor is unidimensional. The Lagrange multiplier tests (Bentler, 1995) reveal correlated errors of the items within each factor. However, since there is no theoretical explanation for these correlations, we conclude that the constructs are unidimensional. We suggest that the correlated errors that were found are probably due to the wording of the items (described earlier in the results section), and not to the misspecification of the theoretical constructs.

Overall, these results show that the proposed nine-construct measurement model almost reaches the acceptable level of fit and is more appropriate than Schein's eight-construct model. The findings show that the nine-construct model has convergent and discriminant validity, and unidimensionality.

Conclusions and further research

Marshal and Bonner's (2003) exploratory factor analysis suggested a nine-factor solution to the COI. The Entrepreneurial - Creativity anchor was split into two anchors: an entrepreneurial anchor and a creativity anchor. A close look at the items and the literature (Hisrich and Peters, 2002; Dollinger, 1999; Kao (1991) regarding entrepreneurship and creativity highlights the difference between these two constructs.

The present study tests the nine-construct measurement model of Schein's Career Orientation Inventory and finds that it fits the data better than his eight-construct model. Furthermore, the study demonstrates that the proposed model has convergent and discriminant validity, and unidimensionality.
Nevertheless, the proposed nine-construct model only approaches the acceptable level of fit. This could be due to the wording of some of the items, which causes correlated errors. As described in the results section, some of the items are ipsative and cause correlated errors (i.e., #17 "Becoming a senior functional manager in my area of expertise is more attractive to me than becoming a general manager"). We showed that allowing positive and negative loadings improves the level of fit of the model. Moreover, several items start with "I would rather leave the organization than...". This wording may be creating artificial commonality among the items and contributing to the correlated error.

The present study is the first rigorous test of the construct validity of Schein's Career Orientation Inventory. Its contributions are threefold: first, it supports Schein's Career Anchor Theory, but with nine anchors rather than with the original eight; second, it confirms the distinction between entrepreneurship and creativity; and third, it highlights the need to rephrase several existing items, and add new ones. The suggested changes and the conceptual framework of nine-anchor model will make the COI a more valid and reliable instrument, both for theory building, as well as for practical and diagnostic use by career counselors.

We would like to emphasize that the present investigation is limited to the original Schein's forty items COI. However, some researchers raised the possibility that there might be anchors which are not included in the COI. Baruch (2004) suggests additional anchors for the 21st century, such as employability, and spiritual purpose, while Suutari and Taka (2004) suggest the addition of an Internationalism anchor,
which may characterize internationally oriented managers. This direction should be explored by future studies.
References


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Yarnell, J. (1998) "Career Anchors: Results of an Organisational Study in the UK", 

1 [http://www.askoxford.com/dictionaries/?view=uk](http://www.askoxford.com/dictionaries/?view=uk); accessed Dec. 28th, 2006
<table>
<thead>
<tr>
<th>Table I - Schein's typology of career anchors¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Technical/Functional Competence: Primarily excited by the content of the work itself; prefers advancement only in his/her technical or functional area of competence; generally disdains and fears general management as too political.</td>
</tr>
<tr>
<td>2. General Managerial Competence: Primarily excited by the opportunity to analyze and solve problems under conditions of incomplete information and uncertainty; likes harnessing people together to achieve common goals; stimulated (rather than exhausted) by crisis situations.</td>
</tr>
<tr>
<td>3. Autonomy/independence: Primarily motivated to seek work situations which are maximally free to organizational constraints; wants to set own schedule and own pace of work; is willing to trade-off opportunities for promotion to have more freedom.</td>
</tr>
<tr>
<td>4. Security/Stability: Primarily motivated by job security and long-term attachment to one organization; willing to conform and to be fully socialized into an organization's values and norms; tends to dislike travel and relocation.</td>
</tr>
<tr>
<td>5. Entrepreneurial Creativity: Primarily motivated by the need to build or create something that is entirely their own project; easily bored and likes to move from project to project; more interested in initiating new enterprises than in managing established ones.</td>
</tr>
<tr>
<td>6. Service/Dedication to a cause: Primarily motivated to improve the world in some fashion; wants to align work activities with personal values about helping society; more concerned with finding jobs which meet their values than their skills.</td>
</tr>
<tr>
<td>7. Pure Challenge: Primarily motivated to overcome major obstacles, solve almost unsolvable problems, or to win out over extremely tough opponents; define their careers in terms of daily combat or competition in which winning is everything; very single-minded and intolerant of those without comparable aspirations.</td>
</tr>
<tr>
<td>8. Lifestyle: Primarily motivated to balance career with lifestyle; highly concerned with such issues as paternity/maternity leaves, day-care options, etc.; looks for organizations that have strong pro-family values and programs.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Item # in COI</th>
<th>Scale</th>
<th>α</th>
<th>Factor loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Technical/Functional Competence (TF)</td>
<td>.601</td>
<td>.474</td>
</tr>
<tr>
<td>2</td>
<td>I dream of being so good at what I do that my expert advice will be sought continuously.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>2. I will feel successful in my career only if I can develop my technical or functional skills to a very high level of competence.</td>
<td>.641</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>3. Becoming a senior functional manager in my area of expertise is more attractive to me than becoming a general manager.</td>
<td>.392</td>
<td></td>
</tr>
<tr>
<td>25*</td>
<td>4. I would rather leave my organization than accept a rotational assignment that would take me out of my area of expertise.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>5. I am most fulfilled in my work when I have been able to use my special skills and talents.</td>
<td>.725</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>GM</td>
<td>.795</td>
<td>.412</td>
</tr>
<tr>
<td>1</td>
<td>1. I am most fulfilled in my work when I have been able to integrate and manage the efforts of others.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>2. I dream of being in charge of a complex organization and making decisions that affect many people.</td>
<td>.581</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>3. I will feel successful in my career only if I become a general manager in some organization.</td>
<td>.829</td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>4. Becoming a general manager is more attractive to me than becoming a senior functional manager in my current area of expertise.</td>
<td>.825</td>
<td></td>
</tr>
<tr>
<td>34</td>
<td>5. I would rather leave my organization than accept a job that would take me away from the general managerial track.</td>
<td>.676</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>AU</td>
<td>.723</td>
<td>.522</td>
</tr>
<tr>
<td>1</td>
<td>1. I dream of having a career that will allow me the freedom to do a job my own way and on my schedule.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>2. I am most fulfilled in my work when I am completely free to define my own tasks, schedules, and procedures.</td>
<td>.571</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>3. I will feel successful in my career only if I achieve complete autonomy and freedom.</td>
<td>.663</td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>4. The chance to do a job my own way, free of rules and constraints is more important to me than security.</td>
<td>.649</td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>5. I would rather leave my organization than accept a job that would reduce my autonomy and freedom.</td>
<td>.543</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>SE</td>
<td>.821</td>
<td>.662</td>
</tr>
<tr>
<td>12</td>
<td>1. Security and stability are more important to me than freedom and autonomy.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>2. I am most fulfilled in my work when I am completely free to define my own tasks, schedules, and procedures.</td>
<td>.519</td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>3. I seek jobs in organizations that will give me a sense of security and stability</td>
<td>.822</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>4. I am most fulfilled in my work when I feel that I have complete financial</td>
<td>.696</td>
<td></td>
</tr>
</tbody>
</table>
5. I dream of having a career that will allow me to feel a sense of security and stability.  

E  
1. I am always on the lookout for ideas that would permit me to start my own enterprise.  
2. Building my own business is more important to me than achieving a high-level managerial position in someone else's organization.  
3. I dream of starting up and building my own business.  

C  
1. 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.  
2. I will feel successful in my career only if I have succeeded in my creating or building something that is entirely my own product or idea.  

SV  
1. I will feel successful in my career only if I have a feeling of having made a real contribution to the welfare of society.  
2. I am most fulfilled in my career when I have been able to use my talents in the service of others.  
3. Using my skills to make the world a better place to live and work is more important to me than achieving a high-level managerial position.  
4. I dream of having a career that makes a real contribution to humanity and society.  
5. I would rather leave my organization than accept an assignment that would undermine my ability to be of service to others.  

CH  
1. I dream of a career in which I can solve problems or win out in situations that are extremely challenging.  
2. I will feel successful in my career only if I face and overcome very difficult challenges.  
3. I have been most fulfilled in my career when I have solved seemingly unsolvable problems or won out over seemingly impossible odds.  
4. I seek out work opportunities that strongly challenge my problem solving and/or competitive skills.  
5. Working on problems that are almost unsolvable is more important to me than achieving a high level managerial position.  

LS  
1. I would rather leave my organization than to be put into a job that would compromise my ability to pursue personal and family concerns  
2. I dream of a career that will permit me to integrate my personal, family, and work needs.  
3. I feel successful in my life only if I have been able to balance my personal, family, and career requirements.  
4. Balancing the demands of personal and professional life is more important to me than achieving a high level managerial position.  
5. I would rather leave my organization than accept a job that would take me away from the general managerial track.  

* this item was omitted due to a low loading on all the factors  
a All factor loadings are significant at the p<0.0001, n=1800
Table III- Comparing the fit indices for the eight factors model and the nine factors model.\textsuperscript{a}

<table>
<thead>
<tr>
<th></th>
<th>s-b $\chi^2$</th>
<th>df</th>
<th>SRMSR</th>
<th>CFI\textsuperscript{b}</th>
<th>NFI\textsuperscript{b}</th>
<th>Model Comparisons $\chi^2$</th>
<th>df</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nine factors</td>
<td>4000.46</td>
<td>666</td>
<td>.063</td>
<td>.859</td>
<td>.836</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Schein's Eight factors</td>
<td>4848.51</td>
<td>674</td>
<td>.078</td>
<td>.824</td>
<td>.802</td>
<td>848.05*</td>
<td>8</td>
</tr>
</tbody>
</table>

\textsuperscript{a} without item 25, which is the only item with unacceptable loading (.23).
\textsuperscript{b} Robust index, using Satorra-Bentler scaled $\chi^2$. The calculations of NFI were based on the tested and independent model chi-squares (Bentler, 1995).
* $p<.0001$ (N=1800, using list-wise deletion).
Table IV - Comparing the fit indices for the nine factors model with and without negative loadings.

<table>
<thead>
<tr>
<th>Model</th>
<th>s-b ( \chi^2 )</th>
<th>df</th>
<th>SRMSR</th>
<th>CFI(^a)</th>
<th>NFI(^a)</th>
<th>Model comparisons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nine factors</td>
<td>4000.46</td>
<td>666</td>
<td>.063</td>
<td>.859</td>
<td>.836</td>
<td></td>
</tr>
<tr>
<td>Nine factors with negative loadings</td>
<td>3443.27</td>
<td>660</td>
<td>.054</td>
<td>.883</td>
<td>.859</td>
<td>557.19*</td>
</tr>
</tbody>
</table>

\(^a\) without item 25, which is the only item with unacceptable loading (.23).

\(^b\) Robust index, using Satorra-Bentler scaled \( \chi^2 \). The calculations of NFI were based on the tested and independent model chi-squares.

\(^*\)p<.0001 (N=1800, using list-wise deletion).
Table V- Estimated correlations between the nine factors of career anchors.\(^a\)

<table>
<thead>
<tr>
<th></th>
<th>GM</th>
<th>AU</th>
<th>SE</th>
<th>SV</th>
<th>CH</th>
<th>LS</th>
<th>E</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>TF 1</td>
<td>-.039</td>
<td>.357***</td>
<td>.156***</td>
<td>.347***</td>
<td>.727***</td>
<td>.211***</td>
<td>.026</td>
<td>.471***</td>
</tr>
<tr>
<td></td>
<td>(.032)</td>
<td>(.035)</td>
<td>(.032)</td>
<td>(.029)</td>
<td>(.023)</td>
<td>(.034)</td>
<td>(.029)</td>
<td>(.031)</td>
</tr>
<tr>
<td>GM 2</td>
<td>.417***</td>
<td>-.123***</td>
<td>-.042</td>
<td>.294***</td>
<td>-.320***</td>
<td>.420***</td>
<td>.424***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(.026)</td>
<td>(.029)</td>
<td>(.029)</td>
<td>(.026)</td>
<td>(.028)</td>
<td>(.025)</td>
<td>(.027)</td>
<td></td>
</tr>
<tr>
<td>AU</td>
<td>-.206***</td>
<td>.167***</td>
<td>.457***</td>
<td>.124**</td>
<td>.434***</td>
<td>.588***</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(.038)</td>
<td>(.031)</td>
<td>(.026)</td>
<td>(.033)</td>
<td>(.024)</td>
<td>(.030)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SE</td>
<td>.238***</td>
<td>-.076*</td>
<td>.449***</td>
<td>-.186***</td>
<td>-.045</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(.029)</td>
<td>(.030)</td>
<td>(.029)</td>
<td>(.028)</td>
<td>(.034)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SV</td>
<td></td>
<td>.369***</td>
<td>.323***</td>
<td>.089*</td>
<td>.378***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(.028)</td>
<td>(.030)</td>
<td>(.029)</td>
<td>(.031)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CH</td>
<td></td>
<td></td>
<td>-.018</td>
<td>.148***</td>
<td>.667***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(.032)</td>
<td>(.028)</td>
<td>(.032)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LS</td>
<td></td>
<td></td>
<td>-.051</td>
<td>.036</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(.028)</td>
<td>(.034)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.498***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(.025)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(^a\) values in parentheses are the standard errors, n=1800 (using list-wise deletion).

\* p<0.01; ** p<0.001; *** p<0.0001
Table VI- Comparing the fit indices and the paired chi-square difference test between the constrained and unconstrained models. 

<table>
<thead>
<tr>
<th>Model Comparisons</th>
<th>s-b $\chi^2$</th>
<th>df</th>
<th>SRMSR</th>
<th>CFI</th>
<th>NFI</th>
<th>$\chi^2$</th>
<th>df</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nine factors: no correlations constrained</td>
<td>4000.46</td>
<td>666</td>
<td>.063</td>
<td>.859</td>
<td>.836</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eight factors: $\rho_{TF,CH} = 1$</td>
<td>4374.81</td>
<td>674</td>
<td>.067</td>
<td>.844</td>
<td>.821</td>
<td>374.35*</td>
<td>8</td>
</tr>
<tr>
<td>Eight factors: $\rho_{C,CH} = 1$</td>
<td>4451.21</td>
<td>674</td>
<td>.068</td>
<td>.841</td>
<td>.818</td>
<td>450.75*</td>
<td>8</td>
</tr>
</tbody>
</table>

*a* without item 25, which is the only item with unacceptable loading (.23).

*b* Robust index, using Satorra-Bentler scaled $\chi^2$. the calculation of NFI were based on the tested and independent model chi-squares (Bentler, 1995).

*p<.0001 (N=1800, using list-wise deletion).*