FACTOR ANALYSIS EVALUATION OF SCHEIN'S CAREER ORIENTATIONS INVENTORY IN COLOMBIA

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Abstract. The Career Orientation Inventory model proposed by Edgar Schein is one of the most discussed methods for identifying individuals' career orientations. However, there are several gaps related to its implementation for developing countries using factor analysis and digital open access data. We conducted exploratory and confirmatory factor analysis for a sample of 116 employees of a contact center in Colombia to test whether there were significant differences among career anchors (CAs) and gender, educational attainment, or age. The results show: a different number of factors from those proposed by Schein; variances in security/stability and managerial competence CAs concerning gender and educational attainment; and lifestyle is not the dominating CA in women.

Keywords: career orientation inventory; career anchors; psychometric evaluation; human resources management.

JEL Classification: J24, O15, M12, M54.

Introduction

Current and incoming employees' career paths and orientations should be identified as a strategic task in order strengthens job commitment. The Career Orientation Inventory (COI) model proposed by Edgar Schein is one of the most cited and discussed methods intended to identified individuals' career paths and orientations (Rodrigues et al. 2013). The model has been widely used and refined in diverse contexts and locations (e.g. COI model implementation in human talent acquisition processes (see Donohue and Power 2014, Dumitrescu 2009); health practitioners (see Kaplan et al. 2009); the tourism sector (see Beck and La-Lopa 2001, La-Lopa et al. 2009); or expatriates and migrants (see Cerdin and Le-Pargneux 2010). More than 20 years after Schein's seminal studies, Feldman and Bolino (1996) mentioned that the model has made several contributions, such as it can predict individuals' career path choices, among other remarkable findings. Despite of this, the model also has been widely criticized, providing empirical evidence on the existence of individuals' multiple career paths (Chapman and Brown 2014), mutually exclusive and complementary career paths (Feldman and Bolino 1996, Chapman and Brown 2014) and incompleteness in terms of inclusion of values and motivational domains (Wils et al. 2010, 2014). Furthermore, COI literature lacks of empirical studies using exploratory and confirmatory factor analysis in developing countries and detailed open access data for replicability and further meta-studies (Barclay et al. 2013, Open Science Collaboration 2015).

To address these gaps, in this study, we aim to discuss the results of exploratory and confirmatory factor analysis of the COI based on a sample of 116 employees of a contact center located in Bogotá, Colombia. By achieving this, we conducted the first Schein COI study in Colombia to provide new insights into this model in developing countries; we provided an open access data-driven study; and we addressed the methodological gap indicated by Leong et al. (2014) related to the fewer studies in which exploratory and

confirmatory factor analysis were conducted. After this introduction, we present a literature review. Later, we conduct an exploratory and confirmatory factor analysis. Then, we discuss the results. Finally, we present the conclusions and limitations of the study.

1. Literature review

COI literature is divided into three branches: seminal, mainstream, and critical. The seminal branch consists of the original studies conducted by Schein in the 1970s. The objectives of these studies were twofold: to understand the impact of personal values and career events, and analyze how individuals make career specialty choices based on their career anchors (CAs) on the Massachusetts Institute of Technology (MIT) Sloan School of Management graduates' professional lives (Schein 1974, 1975). Personal values and career events also can be seen as internal and external career orientations (Brent et al. 2013, Igbaria et al. 1991). Internal career orientations define careers as individual perceptions about work or how to create meaning from interactions with others (Blustein and Nourmair 1996, Derr and Laurent 1989). Conversely, external career orientations understand careers objectively as organizational opportunities and limitations selected or discarded by employees according to their experiences and qualifications (Babalola and Bruning 2015). To reach a consensus between internal and external career orientations, the concept of CA emerged. The CA of an individual can be defined as self-perceived talents, abilities, and values, and the sense of motives and needs that govern one's work and personal-related choices, which evolve as one gains work and life experience (Schein 1974, 1975, 1978, 1987, 1990). In his first study, Schein (1974) identified five CAs: (1) managerial competence; (2) technical/functional competence; (3) organizational security; (4) entrepreneurial creativity; and (5) autonomy. In subsequent studies, Schein (1987, 1990) identified three more CAs: (6) service/dedication to a cause; (7) pure challenge; and (8) lifestyle (See Appendix for an extended description of each CA). Two decades after Schein's first study, Feldman and Bolino (1996) concluded that there were five remarkable theoretical contributions: (1) individuals' career identities develop through work and life experience, are not defined at a young age; (2) individuals choose career paths within occupations rather than just occupations (e.g., the managerial competence track in advertising rather than "management" or a pure challenge track in a non-governmental organization rather than "supply-chain"); (3) individuals' career paths in the same vocation might change as much as they would if they were in different industries; (4) individuals' career paths with the same CA might be similar across industries; and (5) CAs can predict career choices.

The mainstream branch consists of studies conducted to refine the COI model and address the sample limitations of the seminal studies. To ensure a close relationship with participants, Schein (1974) decided the following: (1) not to include foreign students, students who were going to be drafted, students who wanted to enter the military, and potential PhD students; and (2) to interview a small sample of 44 graduate students of MIT Sloan School of Management, applying qualitative methodologies (i.e., semi-structured interviews). These two methodology considerations were viewed as flaws by later career theory scholars because of the relatively small size of the sample, its homogeneity (Feldman and Bolino 1996), and the unidimensional methodological approach (Nordvik 1996). Consequently, numerous researchers have reproduced the COI using larger, heterogenic samples for diverse geographical contexts, industries, and subjects regarding the following: (1) career and job satisfaction (Danziger and Valency 2006, Guan et al. 2014); (2) career trajectories, decisions, and mobility (Chapman and Brown 2014, Gubler et al. 2015, McDonald et al. 2005, Miranda et al. 2011, Tremblay et al. 2014); (3) human talent acquisition (Donohue and Power 2014, Dumitrescu 2009); (4) retention and turnover decisions (Chang et al. 2011, 2012); (5) health practitioners (Kaplan et al. 2009); (6) the tourism sector (Beck and La-Lopa 2001, La-Lopa et al. 2009); (7) undergraduate students' career orientation (D'Silva and Hamid 2014, Luo and Zhang 2011); (8) expatriates and migrants (Cerdin and Le-Pargneux 2010); and (9) the effects of sexual identity and preferences on career experiences and decisions (Kaplan 2014). Among these studies, Danziger et al. (2008: 17) claimed to have published the first rigorous construct measurement model of Schein's COI by means of confirmatory factor analysis applied to a sample of 1,847 Israeli working adults who completed the COI questionnaire. Danziger et al. (2008) supported the validity of Schein's CA theory; although, they confirmed a distinction between entrepreneurship and creativity, which were considered to be two separate CAs, as Marshall and Bonner predicted in 2003 (Marshall and Bonner 2003). Consequently, the COI should have nine CAs instead of eight. Moreover, Danziger et al. stated that these findings were not population specific and could be generalized to Western societies (Danziger et al. 2008: 17). Similarly, by means of confirmatory factor analysis applied to a sample of 238 working adults in Greece, Mihail (2008) drew a similar conclusion to Danziger et al. (2008): despite the emergence of a "new" career orientation, namely "boundaryless" (Arthur 1994) or "protean" (Hall and Mirvis 1995), the primary source for shaping a career's path was the individual's CA. Nevertheless, these two Western society-focused studies were not unambiguous. Mihail (2008) argued than personal and work characteristics, such as gender, age, and work experience do not have an effect on a

respondent's career path. By contrast, Danziger and Valency (2006), by means of cross tabulation and a chi-square significance test applied to the same sample they used in 2008, concluded that the percentage of women with lifestyle as their dominant CA was almost twice that of men. In fact, significant differences between women and men's CAs were found, with two exceptions: technical/functional competence and security. These results do not provide evidence of the generalizations of Danziger's et al. (2008) results in so-called Western societies. Similar discussions were addressed in studies conducted in developing countries. In the Nigerian context, Ituma and Simpson (2007), by means of a grounded theory (n = 30) and factor analysis approach (n = 336), maintained the following: (1) a high unemployment rate and wage variation led to a new career emergence: being marketable; (2) in addition to being marketable, security was the dominant CA; (3) there was no evidence of the existence of a service/dedication to a cause CA; and (4) COI confirmatory analyses work better in terms of five out of six CAs identified (i.e., being stable, being balanced, being challenged, being free, and being in charge). In the Iranian context, Alavi et al. (2012) presented evidence that supported the existence of the "being marketable" value, which belongs to the technical/functional competence. Additionally, another CA was identified: project oriented. These results highlighted the significance of in-context studies for understanding differences across neglected regions in COI literature, such as Nigeria, Iran and, in the case of this study, Colombia.

The critical branch consists of studies conducted to discuss the current validity of the original COI proposal considering present-day unforeseen work dynamics (Rodrigues et al. 2013). Feldman and Bolino (1996) proposed an alternative conceptualization of Schein's CA typology through three contributions. First, they proposed three dimensions of CAs that determine their impact on success and effectiveness: (1) CAs focused on the type of work individuals do day in, day out, or talent-based (i.e., managerial competence, technical/functional competence, and entrepreneurial

creativity); (2) CAs grounded in individuals' needs and motives, or needs-based (i.e., organizational security, autonomy, and lifestyle); and (3) CAs grounded in a person's attitudes and values, or value-based (i.e., service/dedication to a cause and pure challenge). Second, they argued that is possible for an individual to have multiple CAs – which Schein (1974, 1990) argued in his seminal studies as an exception – for at least three reasons: (1) Schein's COI includes CAs that do not only address career events (e.g., an individual could have both technical/functional and organizational security despite the former belonging to the talent-based dimension and the latter to the needs-based dimension); (2) individuals could experience ambivalence caused by two or more equally attractive objectives; or (3) o one career path seems any more desirable than any other. Third, based on the study conducted by Nordvik (1996), Feldman and Bolino (1996) proposed that some CAs attract each other, such as organizational security, service/dedication to a cause, and lifestyle; and some CAs exclude each other, such as entrepreneurial creativity and security, or pure challenge and lifestyle (Figure 1).

Considering these future research proposals, Chapman and Brown (2014) provided empirical support to Feldman and Bolino (1996) statements. By means of indices of mutual presence applied to a sample of 1,361 multinational company employees, they concluded that 40% of the participants had multiple CAs and only 12.9% had only one. Feldman and Bolino (1996) predictions were also supported: lifestyle, organizational security, and service/dedication to a cause were complementary CAs, whereas entrepreneurial creativity and security were exclusive. However, the octagonal complementary/exclusion model proposed by Feldman and Bolino (1996) proved to be too limiting because some CAs' relationships were misrepresented and others were not represented at all (Barclay et al. 2013, Chapman and Brown 2014, Roger 2006). To address this theoretical gap, Wils et al. (2010, 2014), by means of Guttman–Lingoes smallest space analysis applied to a sample of 880 engineers, proposed an original model for the COI based on Schwartz's universal values structure (UVS) (Schwartz and Boehnke 2004) called the career value structure (CVS). The UVS is a circular model intersected by two axes distributed to four quadrants and divided into 10 motivational domains. The horizontal axis opposes "openness to change" and "conservation." The vertical axis opposes "self-transcendence" and "self-enhancement." The 10 motivational domains are universalism and benevolence (i.e., self-transcendence quadrant); tradition, conformity, and security (i.e., conservation quadrant); power and achievement (i.e., self-enhancement quadrant); hedonism, stimulation, and self-direction (i.e., openness to change quadrant). Following this approach, the CVS is a circular model based on the correspondence between the four quadrants, 10 aforementioned motivational domains, and Schein's CAs, as follows: technical/functional
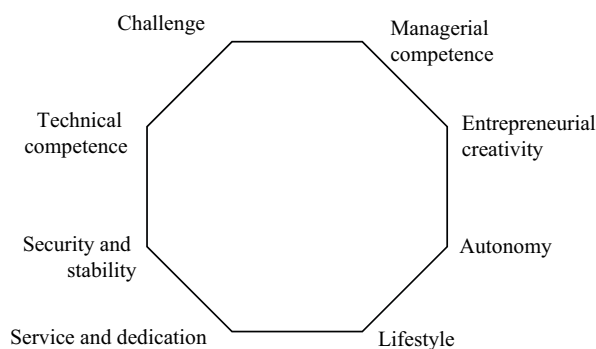

Fig. 1. Factor structure underlying career anchors (source: Feldman and Bolino 1996: 106)

competence and service/dedication to a cause are located in the self-transcendence quadrant; lifestyle and organizational security are located in the conservation quadrant; managerial competence and identity are located in the self-enhancement quadrant; and pure challenge, entrepreneurial creativity, and autonomy are located in the openness to change quadrant. Wils et al. (2010, 2014) concluded that several CAs are complementary (e.g., creativity and challenge), whereas others are conflictual (e.g., challenge and security). Conversely, the axis's correlation analysis indicates that each quadrant is negatively correlated with the others. As a result, CVS flexibility allows for rigorous and consistent CA data analysis with a broader conceptual framework, such as the UVS to represent accurately the interaction between CAs and motivational domains (Figure 2).

Considering these findings, this study has the following aims: to conduct the first Schein COI study in Colombia to provide new insights into this model in developing countries; to provide an open access data-driven study, and hence, address the evidence gap identified by Barclay et al. (2013), for which they found that only seven out of 90 studies contained the detailed information required (e.g. correlation matrix between the CAs); and to address the methodological gap indicated by Leong et al. (2014) that is related to the fewer studies in which exploratory and confirmatory factor analysis were conducted.

2. Methodology

2.1. Sample and questionnaire

This study was conducted in a contact center located in Bogotá, Colombia. The data were collected using an online survey from August to November 2015 with the approval of the senior management committee and the IT department. The questionnaire that was used and translated into Spanish was the same as was used by Danziger et al. (2008) (Appendix). The questionnaire assessed eight CAs: (1) functional/technical competence; (2) managerial competence; (3) autonomy/independence; (4) security/stability; (5) entrepreneurship/creativity; (6) service/dedication; (7) pure challenge; and (8) lifestyle. A 1 to 4 Likert scale was used (1 = totally disagree; 4 = totally agree). The authors and the senior management committee, both considered valuable to understand the career orientation of the call center agents, due two reasons: (1) higher withdrawal rate; and (2) heterogeneity in terms of educational attainment and previous work experience. A random sample of call center agents was considered. A total of 116 call center agents agreed to participate voluntarily in the study. All 116 call center agents fulfilled the questionnaires. Table 1 presents the gender, age, and educational attainment for the sample.[1]
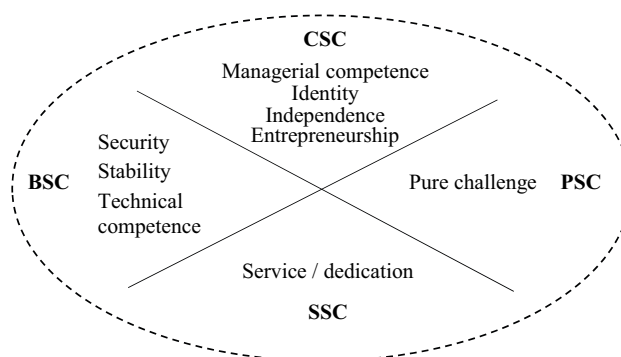
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[1] The survey data are available online in Spanish. Permanent link: https://goo.gl/Cm2QaY .

Fig. 2. Career anchors and value career structure quadrants (source: Wils et al. 2014: 828)

Note: careerist self-concept (CSC); protean self-concept (PSC); social self-concept (SSC); and bureaucratic self-concept (BSC).

Table 1. Gender, age, and educational attainment for the sample

Sample size	
n	116
Gender	
Men	70.7%
Women	29.3%
Age	
18–25	69%
26–35	16.4%
36–45	4.3%
45–55	2.6%
N/A	7.8%
Educational attainment	
ISCED* level 2 y 3: lower and upper secondary	38.8%
ISCED level 4: post-secondary non-tertiary education	37.1%
ISCED level 5: short-cycle tertiary education	12.1%
ISCED level 6: bachelor's or equivalent	12.1%

Note: International Standard Classification of Education (source: authors).

2.2. Rotated component matrix

The 39-item questionnaire yielded .69 on the Kaiser–Meyer–Olkin measure of sampling adequacy (MSA). An MSA above .60 justifies conducting factor analysis and suggests adequate common variance among the items (Kaiser 1970). Using principal axis factoring extraction, we identified 12 factors with eigenvalues above one that explained 67% of the variance. We analyzed items weights for each factor in the rotated component matrix. We analyzed the correlation matrix to observe the association between items and their statistical significance. We found that functional/technical competence and lifestyle items loaded in six out

of the 12 factors. We observed that items related to functional/technical competence and lifestyle had a low statistical association between them, with no statistical significance in most cases. Therefore, we decided to eliminate the functional/technical and lifestyle CAs from the analysis. For the remaining CAs, the degree of association between items and their level of significance was analyzed.

Thus, we performed a new factor analysis for six factors. We also calculated Cronbach's reliabilities to evaluate the internal reliability of each anchor. The 18 items yielded .674 on Kaiser–Meyer–Olkin measure of MSA. Using principal axis factoring extraction, we identified six factors with eigenvalues above one. These six factors accounted for 69% of the variance. As shown by our results in Table 2, items mc2, mc3, and mc4 loaded into the managerial competence (MAC) factor, with weights ranging from 0.61 to 0.86. Items auto1, auto2, and auto3 loaded into the autonomy (AUT) factor, with weights ranging from 0.572 to 0,872. Items sec3, sec4, and sec5 loaded into the security (SEC) factor, with weights ranging from 0.80 to 0.83. The entrepreneurship (ENT) factor weights were between 0.79 and 0.87. Items serv1, serv2, and serv4 loaded into the service (SER) factor, with weights ranging from 0.53 to 0.82. Finally, items chal2, chal4, and chal5 loaded into the challenge (CHA) factor, with loadings ranging from 0.70 to 0.84.

Table 2. Rotated component matrix

	Components					
	SEC	ENT	CHAL	SER	AUT	MAC
mac2						.618
mac3						.861
mac4						.711
aut1					.713	
aut2					.872	
aut3					.572	
sec3	.822					
sec4	.805					
sec5	.830					
ent1		.799				
ent2		.821				
ent3		.879				
ser1				.821		
ser2				.747		
ser4				.538		
cha2			.702			
cha4			.840			
cha5			.802			

Note: Principal axis factoring with varimax rotation. Factors had eigenvalues of above 1.00. Items sorted by size of loadings (source: authors).

2.3. Reliability assessment

We assessed the reliability of the items' internal consistency in relation to the construct. A way to calculate this is using a composite reliability coefficient. According to Hair et al. (2014), a composite reliability coefficient should be 0.70 or higher. Using Cronbach scores, the composite reliability was within the limits defined by Hair et al. (2014): managerial competence (0.78), autonomy/independence (0.77), security/stability (0.86), entrepreneurship/creativity (0.87), pure challenge (0.83), and service/dedication (0.75).

2.4. CA differences between means by gender

We tested whether there were significant differences in CAs by gender by calculating the differences between means. There were significant differences in security/stability between males and females. There were no significant differences in the other CAs (Table 3).

Table 3. ANOVA: CAs by gender (source: authors)

		Sum of squares	DF	Mean squares	F	Sig.
MAC * gender	Between groups	.430	1	.430	1.719	.192
	Within groups	28.496	114	.250		
	Total	28.926	115			
AUT * gender	Between groups	.014	1	.014	.054	.817
	Within groups	29.223	114	.256		
	Total	29.237	115			
SEC * gender	Between groups	1.419	1	1.419	7.321	.008
	Within groups	22.100	114	.194		
	Total	23.519	115			
ENT * gender	Between groups	.003	1	.003	.012	.913
	Within groups	30.919	114	.271		
	Total	30.922	115			
SER * gender	Between groups	.253	1	.253	1.191	.277
	Within groups	24.212	114	.212		
	Total	24.464	115			
CHA* gender	Between groups	.529	1	.529	1.764	.187
	Within groups	34.186	114	.300		
	Total	34.714	115			

An analysis of the CAs by gender results show that women scored higher than men in security/stability (Table 4).

Table 4. Differences between means by gender (source: authors)

Gender		MAC	AUT	SEC	ENT	SER	CHA
Male	Mean	25.118	27.118	30.588	33.176	33.294	33.118
	SD	.48789	.41543	.41313	.45956	.38418	.40659
Female	Mean	23.780	26.878	33.018	33.293	32.268	31.634
	SD	.50480	.53895	.45089	.54376	.48865	.59556
Total	Mean	24.172	26.948	32.306	33.259	32.569	32.069
	SD	.50152	.50422	.45223	.51855	.46123	.54942

Table 5. ANOVA: CAs by educational attainment (source: authors)

		Sum of squares	DF	Mean squares	F	Sig.
MAC * academic level	Between groups	2.789	3	.930	3.983	.010
	Within groups	26.137	112	.233		
	Total	28.926	115			
AUT * academic level	Between groups	.187	3	.062	.240	.868
	Within groups	29.050	112	.259		
	Total	29.237	115			
SEC * academic level	Between groups	.928	3	.309	1.534	.210
	Within groups	22.590	112	.202		
	Total	23.519	115			
ENT * academic level	Between groups	.233	3	.078	.284	.837
	Within groups	30.689	112	.274		
	Total	30.922	115			
SER * academic level	Between groups	.287	3	.096	.443	.723
	Within groups	24.177	112	.216		
	Total	24.464	115			
CHA* academic level	Between groups	.247	3	.082	.267	.849
	Within groups	34.468	112	.308		
	Total	34.714	115			

2.5. CA differences between means by educational attainment

We analyzed whether there were significant differences among CAs based on educational attainment. The results show that there were significant differences in managerial competence (Table 5).

The results for analyzing CAs by educational attainment show that people with a higher attainment degree scored higher than other academic levels (Table 6).

2.6. CA differences between means by age

Finally, we analyzed whether there were significant differences in CAs based on age (Tables 7–8). The results show that there are no significant differences.

Table 6. Differences between means by educational attainment (source: authors)

Academic Level		MAC	AUT	SEC	ENT	SER	CHA
ISCED level 2 y 3: lower and upper secondary	Mean	24.933	27.067	33.000	33.600	31.956	31.689
	SD	.49836	.57303	.45415	.48166	.41667	.59384
ISCED level 4: post-secondary non-tertiary education	Mean	22.558	26.698	31.919	32.977	33.023	32.000
	SD	.49824	.46982	.44933	.47081	.47684	.47006
ISCED level 5: short-cycle tertiary education	Mean	27.286	27.857	33.214	33.857	32.714	32.429
	SD	.45477	.39586	.42095	.60492	.48107	.52141
ISCED level 6: bachelor's or equivalent	Mean	23.571	26.429	30.357	32.429	33.000	33.143
	SD	.40137	.50340	.45844	.70243	.55331	.68709
Total	Mean	24.172	26.948	32.306	33.259	32.569	32.069
	SD	.50152	.50422	.45223	.51855	.46123	.54942

Table 7. ANOVA: CAs by age (source: authors)

		Sum of squares	DF	Mean squares	F	Sig.
MAC* age groups	Between groups	1.019	3	.340	1.277	.286
	Within groups	27.407	103	.266		
	Total	28.426	106			
AUT* age groups	Between groups	1.672	3	.557	2.305	.081
	Within groups	24.910	103	.242		
	Total	26.582	106			
SEC * age groups	Between groups	.122	3	.041	.187	.905
	Within groups	22.341	103	.217		
	Total	22.463	106			
ENT * age groups	Between groups	.658	3	.219	.822	.485
	Within groups	27.484	103	.267		
	Total	28.142	106			
SER * age groups	Between groups	.075	3	.025	.114	.952
	Within groups	22.714	103	.221		
	Total	22.789	106			
CHA * age groups	Between groups	.398	3	.133	.407	.748
	Within groups	33.532	103	.326		
	Total	33.930	106			

Table 8. Differences between means by age (source: authors)

Age groups		MAC	AUT	SEC	ENT	SER	CHA
18–25 years	Mean	24.200	27.375	32.219	33.475	32.650	32.450
	SD	.51862	.46833	.47065	.52843	.50091	.57012
26–35 years	Mean	25.368	26.632	32.500	32.105	33.263	31.474
	SD	.46213	.63614	.46398	.50979	.36031	.56898
36–45 years	Mean	23.200	24.400	32.000	34.000	33.200	30.000
	SD	.50200	.26077	.48088	.37417	.36332	.56569
46–55 years	Mean	19.333	20.667	34.167	36.667	33.333	32.667
	SD	.80829	.11547	.14434	.30551	.11547	.61101
Total	Mean	24.224	26.916	32.313	33.346	32.804	32.168
	SD	.51785	.50078	.46034	.51526	.46367	.56577

3. Results analysis

The results show that the factorial structure that best fits the data was six factors. Functional/technical and lifestyle CAs were excluded. Although this factorial structure was different from Schein's (1975), other studies support this divergence. For instance, Igbaria et al. (1991) identified a COI of 11 factors, Ituma and Simpson (2007) five factors, and Marshall and Bonner (2003) and Danziger et al. (2008) of nine factors. As mentioned, Ituma's and Simpson (2007) study is one of the very first conducted on developing countries. They argued that the meanings attached to career and its trajectories will be context dependent; thus socio-cultural and economic conditions should be considered. In the Colombian context, the turnover rate was estimated in 37% for employees without tertiary education (75.9% of the sample) (López 2009). Furthermore, in the call center where this study was conducted the turnover rate before three months is 10%–12%, 2%–6% above the global average in share services industries (Deloitte 2015). These local labor market conditions seems not to encourage strengthening functional/technical or lifestyle CA's, where *being marketable* could be a new and relevant CA identified in developing countries (Duque et al. 2017).

Mihail (2008) argued that personal and work characteristics have no effect on career orientation. Additionally, Danziger and Valency (2006) claimed that lifestyle was the dominant CA in women. Our results do not maintain consistency with these findings for the overall model. There are significant differences in security/stability and managerial competence CAs regarding gender and educational attainment, and women scored higher than men in security/stability CA. A socio-economic factor associated with this could be the struggle of women in the Colombian labor market. The unemployment rate of women in Colombia is above the Latin-America average (International Labour Organization [ILO] 2016) and they are 47% more likely to be unemployed due to productive configurations in cities and educational attainment required to pursuit a professional job (Duque et al. 2017) which put under pressure to women to have a preference for security/stability CA.

Conclusions

Identifying the employees CA's of any given organization, has the potential effect of increasing job commitment as one of the most powerful intangible assets for increasing performance and productivity. The COI proposed by Schein is one of the most cited and discussed methods intended to identify individuals' career orientations. Through a quantitative appraisal, the COI applied in the Colombian context demonstrated several differences compared with those previously established in the literature regarding the following: (1) the number of factors (i.e., six CAs compared

with the eight originally proposed by Schein); (2) variances in security/stability and managerial competence CAs concerning gender and educational attainment; and (3) lifestyle is not the dominating CA in women. This study presents two main limitations: (1) although previous literature supports the sample size, it is always desirable to study a wide range and heterogeneous sample in terms of geographic location, culture, socio-economic status, education attainment, and economic sector (public, private and NGO); and (2) the results are based on questionnaires fulfilled once, they are not based on longitudinal evidence. Further research should consider: (1) wide sample heterogeneity, not only among industries but also geographical and socio-economic contexts; (2) estimate the direct effect/impact of the labor market on the individuals CA's; (3) use of quantitative methods to increase their limited existence; (4) longitudinal studies including subjects tracking and monitoring; and (5) data available as digital open access resources to contribute to replicability and transparency.

Contribution

The authors contributed equally.

Disclosure statements

The authors do not have any conflict of interest.

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APPENDIX

Questionnaire: anchors, definition, and items on the questionnaire (source: Danziger et al. 2008: 9–10). The table has been edited

Anchor	Definition	Items on the questionnaire
Functional/ technical competence	Primarily excited by the content of the work itself; prefers advancement only in his/her technical or functiona l area of competence; generally disdains and fears general management as too political.	I dream of being so good at what I do that my expert advice will be sought continuously.
		I will feel successful in my career only if I can develop my technical or functional skills to a very high level of competence.
		Becoming a senior functional manager in my area of expertise is more attractive to me than becoming a general manager.
		I would rather leave my organization than accept a rotational assignment that would take me out of my area of expertise.
		I am most fulfilled in my work when I am able to use my special skills and talents.
Managerial competence	Primarily excited by the opportunity to analyze and solve problems under conditions of incomplete information and uncertainty; likes harnessing the efforts of people to achieve common goals; stimulated (rather than exhausted) by crisis situations.	I am most fulfilled in my work when I have been able to integrate and manage the efforts of others.
		I dream of being in charge of a complex organization and making decisions that affect many people.
		I will feel successful in my career only if I become a general manager in some organization.
		Becoming a general manager is more attractive to me than becoming a senior functional manager in my current area of expertise.
		I would rather leave my organization than accept a job that would take me away from the general managerial track.
Autonomy/ independence	Primarily motivated to seek work situations that are maximally free of organizational constraints; wants to set own schedule and own pace of work; is willing to trade-off opportunities for promotion to have more freedom.	I dream of having a career that will allow me the freedom to do a job my own way and according to my own schedule.
		I am most fulfilled in my work when I am completely free to define my own tasks, schedules, and procedures.
		I will feel successful in my career only if I achieve complete autonomy and freedom.
		The chance to do a job my own way, free of rules and constraints, is more important to me than security.
		I would rather leave my organization than accept a job that would reduce my autonomy and freedom.
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.	Security and stability are more important to me than freedom and autonomy.
		I am most fulfilled in my work when I am completely free to define my own tasks, schedules, and procedures.
		I seek jobs in organizations that will give me a sense of security and stability.
		I am most fulfilled in my work when I feel that I have complete financial and employment security.
		I dream of having a career that will allow me to feel a sense of security and stability.
Entrepreneurship/ creativity	Primarily motivated by the need to build or create something that is entirely his/her own project; easily bored and likes to move from project to project; more interested in initiating new enterprises than managing established ones.	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.
		I dream of starting up and building my own business.
		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.
		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.

End of the table

Anchor	Definition	Items on the questionnaire
Service/ dedication	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 that meet his/her values than skills.	I will feel successful in my career only if I have a feeling of having made a real contribution to the welfare of society.
		I am most fulfilled in my career when I have been able to use my talents in the service of others.
		Using my skills to make the world a better place to live and work in is more important to me than achieving a high-level managerial position.
		I dream of having a career that makes a real contribution to humanity and society.
		I would rather leave my organization than accept an assignment that would undermine my ability to be of service to others.
Pure challenge	Primarily motivated to overcome major obstacles, solve almost unsolvable problems, or win out over extremely tough opponents; defines his/her career in terms of daily combat or competition in which winning is everything; very single-minded and intolerant of those without comparable aspirations.	I dream of a career in which I can solve problems or win out in situations that are extremely challenging.
		I will feel successful in my career only if I face and overcome very difficult challenges.
		I have been most fulfilled in my career when I have solved seemingly unsolvable problems or won out over seemingly impossible odds.
		I seek out work opportunities that strongly challenge my problem-solving and/or competitive skills.
		Working on problems that are almost unsolvable is more important to me than achieving a high-level managerial position.
Lifestyle	Primarily motivated to balance career with lifestyle; highly concerned with issues such as paternity/maternity leave and day-care options; looks for organizations that have strong pro-family values and programs.	I would rather leave my organization than be placed in a job that would compromise my ability to pursue personal and family concerns.
		I dream of a career that will permit me to integrate my personal, family, and work needs.
		I feel successful in my life only if I have been able to balance my personal, family, and career requirements.
		Balancing the demands of personal and professional life is more important to me than achieving a high-level managerial position.
		I would rather leave my organization than accept a job that would take me away from the general managerial track.

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