Validation of the entrepreneurialprofessional-leadership career aspirations scale: Evidence from a Turkish professional sample^{*}

S. Arzu Wasti

Sabancı Business School, Sabancı University, İstanbul, Turkey e-mail: awasti@sabanciuniv.edu ORCID: 0000-0001-7809-5925

Elif Selva Oruç

Özyeğin University, Istanbul, Turkey e-mail: elifselvaoruc@gmail.com ORCID: 0009-0004-6843-8866

Abstract

Chan and his colleagues (2012) developed the Entrepreneurial, Professionalism, and Leadership (EPL) career aspirations scale to provide a guide for students to choose their career as well as to assist professionals in their future-oriented career strategies. This study aimed to contribute to the evidence on the generalizability of the EPL scale with data collected from a sample of Turkish working adults (n=107). It also sought to test the predictive role of personality in shaping career aspirations. The results largely supported the validity of the EPL scales in this sample. In addition, while there were no gender differences regarding motivations for a professional or a leadership career, women scored lower in terms of entrepreneurial motivations as well as entrepreneurship efficacy. Regarding personality variables, the most consistent findings were with respect to openness to experience, which was predictive of career efficacy in general as well as extraversion which played an important role in predicting an aspiration for leadership. Finally, honesty-humility was found to be negatively related to leadership motivation, entrepreneurial efficacy, and leadership intent.

Key words: Entrepreneurship, professionalism, leadership, career aspirations, Turkey.

^{*} Submitted/Gelis: 21.09.2023, Accepted/Kabul: 13.12.2023

1. The role of personality and gender in entrepreneurialprofessional-leadership career aspirations

Introduction

The transition from agricultural/industrial economies to knowledge-based, market driven, service economies has brought with it fundamental changes to the notions of careers and career strategies (Lin and Ho, 2020). In particular, replacing the more traditional view of careers as developing in a linear fashion over a long course of time, employees have started to construe their careers as boundaryless (Arthur, 1994) or "protean", that is driven by the person, not the organization (Hall, 1996). Thus, increasingly, the career paths of individuals are evolving in different directions over time. These societal changes, and their subsequent impact on the malleability of careers have underlined the importance for employees to have more self-knowledge and to self-manage their careers (Guthrie et al., 1998). Acknowledging this need, Chan and his colleagues (2012) proposed a threedimensional model of career aspirations drawing on Kanter's (1989) analysis of careers and societal outcomes. Relatedly, they developed the Entrepreneurial, Professionalism, and Leadership (EPL) career aspirations scale to provide a guide for students to choose their career as well as to assist professionals in their futureoriented career strategies. Thus, EPL is a tool that can contribute both to designing and refining academic curricula particularly in business schools in addition to enabling effective human resources planning in companies.

This study aims to contribute to the evidence on the generalizability of the EPL scale with data collected from a sample of Turkish employees. In addition, it also seeks to test the predictive role of personality in shaping career aspirations. A person's personality is a relatively stable precursor of behavior (McCrae and Costa, 1997) and not surprisingly has been shown to predict job and career outcomes (Judge *et al.*, 2008). Finally, we also compare males versus females with respect to their career aspirations. It is well-established that women remain underrepresented in leadership positions in work as well as political life even in Westernized countries (Netchaeva et al., 2022). While it is true that there is systemic bias and discrimination, it is also important to understand whether there are gender differences in aspirations for these roles. One reason put forth for lower gender aspirations regarding leadership careers is gender stereotypes, in particular selfstereotyping whereby individuals self-select into situations, roles, and occupations they perceive to be aligned with gender stereotypes (Rudman and Glick, 2008). Furthermore, it has been shown that women self-stereotype to a greater degree when their gender is made salient (e.g., White and Gardner, 2009). Thus, in the context of a traditionally patriarchal culture like Turkey, women's career aspirations may be particularly aligned with stereotypical gender roles. Therefore, in our quest to validate the EPL scale, we also seek to establish the role of gender and personality, if any regarding career aspirations.

2. The EPL scale

The scale developed by Chan and his colleagues (2012) is based on the premise that the career space can be defined by three main career aspirations: entrepreneurship, professionalism, and leadership (EPL). In addition, they demonstrated that EPL career aspirations (including subscales for motivation, efficacy, and intention) can be measured separately. They further delineated the EPL motivation construct by building on the Motivation to Lead (MTL) scale developed by Chan and Drasgow (2001). Specifically, they proposed each career aspiration to have affective-identity, social normative and calculative or non-calculative motivational bases. The affective-identity basis captures the extent to which one likes a particular career path (E, P, or L) and identifies oneself as an entrepreneur, professional or a leader. The socio-normative basis refers to the extent to which one views a career path (E, P, or L) as a duty and responsibility, and finally, the non-calculative basis reflects one's lack of concern regarding the personal benefits of that career path.

In addition to the motivational bases, Chan and his colleagues (2012) have developed three subscales capturing individuals' entrepreneurship, professionalism, and leadership efficacies, that is their perceptions as their capabilities towards these careers. The authors have argued that both EPL career motivation and career efficacy in turn will predict EPL career intentions, for which they developed three subscales. The EPL scale has been validated across undergraduate and graduate student samples as well as working adult samples by the authors (Chernyshenko *et al.*, 2016). Furthermore, individuals who reported high E or L motivation had boundaryless and protean career attitudes, whereas those who reported P motivation held more traditional career attitudes (Chan *et al.*, 2012).

To the best of our knowledge, the EPL scale has been used in four studies in the Turkish context. In one study, Öner, Onay and Kocakoç (2016) sought to validate the scale with a large sample of university students whose mean age was 22 and had no work experience. The authors reported that they dropped a total of 11 items from the motivational subscales, three items from the intention and six items from the efficacy subscales to obtain satisfactory fit statistics. In another study, Kırpık (2020) compared the career intentions scores of generation Z high school and vocational college students. The psychometric analysis revealed a twofactor structure composed of entrepreneurial versus professional-leadership career intentions. Kırpık (2020) further found male students had higher entrepreneurial intentions compared to female students, but there were no differences regarding their professional-leadership career intentions. In a sample of vocational college students, Yılmaz and Saçkes (2019) conducted exploratory factor analyses on the EPL scales. They used the EPL scales without differentiating between E versus P versus L, but simply summing up the motivation versus efficacy versus intent scales. They did not find any gender differences in this form of the scales. Finally, Kaya *et al.* (2021) administered the EPL scale to a sample of senior students in a public university. While Kaya *et al.* (2021) also did not observe any gender differences in career aspirations, they found engineering and business students to have higher scores compared to social science students.

In this study, we seek to extend the generalizability evidence by testing the scale on a sample of working adults in Turkey. Furthermore, as discussed in greater detail below, as part of our scale validation efforts, we test the influence of personality and gender in predicting career aspirations.

3. Personality and career aspirations

The role of personality in career aspirations has been a topic of great interest as individuals are attracted to roles that match their personality and interests (Zhao et al., 2010). Several studies have confirmed that personality has an influence on leader emergence and leadership efficacy (Judge et al., 2002) as well as on entrepreneurship (Zhao and Seibert, 2006). In these studies, typically the Big 5 model of personality has been considered. The Big 5 personality dimensions can be summarized as follows (Mount et al., 1999): (1) Extraversion (sociable, assertive, talkative); (2) Agreeableness (cooperative, trusting); (3) Conscientiousness (dependable, organized, achievement-oriented); (4) Emotional Stability (calm, secure); (5) Openness to Experience (imaginative, artistically sensitive, intellectual). Meta-analytic studies have revealed the positive effects of extraversion, conscientiousness, and openness to experience on leader emergence and leadership efficacy (Badura et al., 2020; Judge et al., 2002). The rationale of these findings has been explained as follows: Extraverts tend to be energetic, sociable as well as dominant, which are consistent with the view that leaders, compared to non-leaders tend to have higher levels of stamina and to be active and sociable (Kirkpatrick and Locke, 1991; Zhao et al., 2010). Openness is strongly related to divergent thinking and creativity, which are linked to effective leadership (Sosik et al., 1998). Finally, because conscientious individuals tend to have more persistence and goal orientation, they are observed to make better leaders (Kirkpatrick and Locke, 1991). In view of the meta-analytic evidence that these three traits were the strongest predictors of leadership emergence as well as effectiveness and the distal-proximal model of motivation and leadership proposed by Badura *et al.* (2020), we hypothesized that they will be related to leadership efficacy.

Regarding entrepreneurship, building on the extensive research on personality, Zhao et al. (2010) argued that because conscientious individuals have high work goal orientation, perseverance, and work motivation, they would be attracted to and succeed in entrepreneurship. Furthermore, as the defining attributes of entrepreneurship are creativity, change, and innovation, the authors proposed that entrepreneurship would fit individuals who are open to experience. Zhao et al. (2010) also noted that entrepreneurs are typically endurant and optimistic in the face of stress and uncertainty, which are traits describing a person with high emotional stability. Regarding extraversion, because they tend to be outgoing, energetic, optimistic, and seek stimulation, an entrepreneurial career may be more appealing and suitable to extraverts. Finally, Zhao et al. (2010) argued that the too trusting and other-oriented nature of agreeable individuals may not fit an entrepreneurial career, which often necessitates hard bargaining and pursuit of selfinterest. The authors' meta-analytic results supported their expectations and showed that conscientiousness, openness to experience, emotional stability, and extraversion had positive correlations with entrepreneurial intention, while agreeableness had a negative correlation. Emotional stability, conscientiousness and extraversion have also been linked to entrepreneurial self-efficacy (Mei et al., 2017).

The number of studies examining the relationship between personality and the motivational foundation of career preferences is limited. In one notable exception, Chan *et al.* (2015) examined the relationship between the Big Five factors and the EPL motivation scales and found that individuals high in extraversion, emotional stability, and openness to experience showed higher entrepreneurial and leadership motivation. Their results also revealed that conscientiousness was positively correlated with leadership motivation. Thus, based on the existing evidence the following hypotheses are offered; it should be noted that in this study emotional stability was measured as emotionality (please see Methods for more detail), whereby higher scores are reflective of lack of emotional stability:

Hypothesis 1: There is a positive relationship between conscientiousness, extraversion, openness to experience and a negative relationship between emotionality and a) entrepreneurial motivation, b) entrepreneurial efficacy, and c) entrepreneurial intentions.

Hypothesis 2: There is a positive relationship between conscientiousness, extraversion, openness to experience and a negative relationship between emotionality and a) leadership motivation, b) leadership efficacy, and c) leadership intentions.

Although the study of professionals and professionalism has traditionally been a topic of sociological study (e.g., Hall, 1968; Evetts, 2013), more recently, interest in the attitudinal or ideological aspects of professionalism has been increasing in the field of organizational behavior (e.g., Dumas and Sanchez-Burks, 2015). However, other than Chan and his colleagues (e.g., Li et al., 2014; Chan et al., 2015), there have been limited attempts to explore whether personality is predictive of aspirations for highly specialized, professional work. Chan and his colleagues (2015) argued that professional career aspirations are more likely to be driven by vocational interests rather than personality. In their empirical work, they found conscientiousness and introversion to be weakly related to professional motivation. Li et al. (2014) noted that becoming a professional involves the development of a distinctive competence as well as induction into a wide array of formal and informal norms, a professional ethic. Based on these notions of professionalism, and in view of the variance in the relational or social components of different professional jobs (e.g., doctors versus accountants; Pelt et al., 2017), we focus on conscientiousness and propose the following:

Hypothesis 3: There is a positive relationship between conscientiousness and *a*) professional motivation, *b*) professional efficacy, and *c*) professional intention.

Recently, there has been an interest in understanding the effect of maladaptive personality traits, known as the Dark Triad (Machiavellianism, narcissism, and psychopathy; Paulhus and Williams, 2002) on leadership and entrepreneurship. Narcissism is related to a desire for power (Macenczak et al., 2016) whereas Machiavellian leaders have been found to be manipulative and dishonest (Kennedy et al., 2021). Kennedy and colleagues (2021) have shown a positive effect of Machiavellianism and narcissism on both leadership intention and motivation to lead, specifically affective-identity and social-normative MTL. In contrast, these traits were found to be negatively related to non-calculative MTL, which suggests that individuals with maladaptive personality traits have an instrumental motivation to lead. Drawing on the life history theory which argues that individuals choose behavioral strategies based on their needs to maximize survival (Buss, 2009). Wu et al. (2019) argued that because individuals with a high level of the Dark Triad are typically self-confident, lack fear, disregard authority, and can operate well under dynamic environments, they may find entrepreneurship appealing. In their study with MBA students at a Chinese university, the authors found a positive relationship between the Dark Triad, especially Machiavellianism and entrepreneurial intention and self-efficacy. In contrast, the above listed attributes of professionalism and the extant evidence suggest that the Dark Triad is negatively related to professionalism.

In this study, the influence of maladaptive personality traits was tested by measuring honesty-humility, which has been found to have very strong negative correlations with the Dark Triad, to the extent that it would be expected to capture much of the same variance and predict the same outcomes (Howard and van Zandt, 2020; Lee and Ashton, 2005). Accordingly, the following hypotheses are offered:

Hypothesis 4: There is a negative relationship between honesty-humility and *a*) entrepreneurial motivation, *b*) entrepreneurial efficacy, and *c*) entrepreneurial intention.

Hypothesis 5: There is a negative (positive) relationship between honestyhumility and a) affective-identity and social-normative (non-calculative) leadership motivation, b) leadership efficacy, and c) leadership intention.

Hypothesis 6: There is a positive relationship between honesty-humility and *a*) professional motivation, *b*) professional efficacy, and *c*) professional intention.

4. Gender and career aspirations

Another aim of this study is to examine the gender differences in career aspirations- in particular, their entrepreneurial and leadership aspirations. While the recent meta-analytic study of Badura et al. (2020) has shown no relationship between gender and entrepreneurial intentions, several studies find a direct (Zhao et al., 2005) or moderating effect of gender on entrepreneurial intention (Diaz-Garcia and Jiménez-Moreno, 2010) suggesting that females have lower entrepreneurial intentions than males (Haus et al., 2013). Along the same lines, Gupta et al.'s (2009) on socially constructed gender stereotypes across three countries (US, Turkey, and India) revealed that entrepreneurs were perceived to have predominantly masculine characteristics. Although men and women did not differ in their entrepreneurial intentions, individuals who saw themselves as feminine showed lower entrepreneurial intentions than the ones perceive themselves as masculine. There is reason to expect the above findings to be amplified in contexts such as Turkey. Indeed, several studies have shown that Turkish women have lower entrepreneurial intentions as a result of persistent patriarchal values and associated gender roles, fewer training and education opportunities, lack of role models, insufficient networks, and lack of business experience (e.g., Cetindamar et al., 2012; Maden, 2015).

Regarding leadership, several studies suggest that females have lower leadership intention than males (e.g., Elprana *et al.*, 2015). More recently, Netchaeva *et al.*'s (2022) meta-analysis found that men exhibit higher levels of leadership aspirations than women, and that this difference widens as individuals reach university age and within male-dominated industries. While this evidence comes entirely from the US-based studies, there is little reason to hope for a different result in the Turkish context due to the systemic factors noted above. Therefore, we offer the following hypothesis:

Hypothesis 7: Women compared to men will have lower a) leadership and b) entrepreneurial career aspirations (i.e., motivation, efficacy, and intentions).

5. Methods

5.1. Sample and procedures

The EPL data was collected from 162 students attending part-time MBA programs in two private universities in Istanbul, Turkey. The participants were between the ages of 23 to 41 with an average age of 28.4 (SD=3.29). Half (50.3%) of the sample consisted of females. 65% of the participants had 1-5 years, 31% had 6-10 years, and the remaining 4% had 11-15 years of job experience. Of these, 107 students also provided personality data and the analyses involving personality scores are conducted with this subset.

5.2. Measures

EPL Motivation Scale. The EPL motivation scale measures individual motivations towards being an entrepreneur (9 items), a professional (9 items) or a leader (9 items). Building on Chan and Drasgow's (2001) motivation to lead (MTL) scale. Each subscale consists of items refer to affective-identity, social normative and non-calculative reasons that may play a role in driving a person towards a career orientation (Chan *et al.*, 2012). The affective-identity subscales capture the valences, i.e., the liking associated with being an entrepreneur, a leader or a professional, whereas the social normative subscale measures the sense of duty or responsibility felt regarding the pursuit of three career motivations. The non-calculative subscales refer to the irrelevance of the positive personal gains associated with the pursuit of these career motivations. Using a response scale of (1) strongly disagree to (5) strongly agree, the participants indicate their level of agreement on each statement.

EPL Efficacy Scale. The EPL efficacy scale measures how confident individuals feel in performing EPL-related aptitudes. There are 7 entrepreneurial, 5 professional, and 7 leadership efficacy items and participants use a (1) not at all confident to (5) extremely confident response scale to indicate their level of agreement.

EPL Intent Scale. The EPL Intent scale measures individuals' plans to pursue entrepreneurial (4 items), leadership (3 items) or professional (4 items) career aspirations. Using a scale of (1) strongly agree to (5) strongly disagree, the participants indicate their intentions regarding each orientation.

The EPL scales were translated for this study by two researchers fluent in both Turkish and English by using translation-back translation method (Brislin, 1970). The full set of items in Turkish can be found in the Appendix.

In measuring personality dimensions, the Turkish validation of the 100-items HEXACO scale (Wasti et al., 2008) was used. The six dimensions of the HEXACO scale are conscientiousness, extraversion, openness to experience, agreeableness, emotionality, and honesty-humility. The first three factors are very similar to their Big 5 counterparts: Extraversion is the degree to which a person is talkative, assertive, and gregarious; conscientiousness is the degree to which a person is organized, achievement-oriented, responsible, and thorough; openness to experience is the degree to which an individual is broad-minded, curious, artistically sensitive, and original (Behling, 1998). HEXACO Agreeableness, like its Big Five counterpart captures gentleness without the sentimentality-related aspects of this factor (Thielmann et al., 2020). Conversely, HEXACO Emotionality contains some elements of neuroticism without the anger elements in the Big 5. The sixth dimension, honesty-humility is characterized by sincerity, fairness, modesty versus slyness, greed, hypocrisy, thereby capturing morality and prosociality (Ashton and Lee, 2001). We conducted a CFA with item parcels in view of the number of items (100) to sample size (117) ratio as well as the satisfactory validation evidence the scale has demonstrated cross-culturally across 16 languages (Thielmann *et al.*, 2020). The results indicated an adequate fit ($\chi 2 = 196$, df = 120, p < 0.001, RMSEA = 0.077, SRMR= .074, CFI = 0.911, TLI=.089).

The HEXACO and EPL questionnaires were collected in two separate online sessions. There was an average of 32 days between the two administrations.

6. Results

The factor analyses in this study were conducted using JASP (JASP Team, 2023) and the regression analyses were conducted using IBM SPSS 29. Given the scale has been developed theoretically with items assigned to constructs, the recommended approach for scale validation is to conduct a confirmatory factor analysis (CFA) rather than an exploratory factor analysis (EFA; Lambert and Newman, 2022). However, when CFA results deviate from expectations, EFA is recommended to identify the possible problems (Lambert and Newman, 2022), which are common in cross-cultural research due to the challenges of ensuring equivalence (Schaffer and Riordan, 2003). Heeding semantic these recommendations, we also started with a CFA, which alerted us to the possibility of problematic items. Therefore, we first checked the factor structure of each subscale using EFA. In all EFAs reported below, parallel analysis using Principal Axis Factoring with oblimin rotation was used. Parallel analysis is based on random

data simulation to determine the factors and has been shown to be a more effective method than relying on eigenvalues (e.g., Cokluk Bökeoğlu and Kocak, 2016; Wood et al., 2015). An initial EFA conducted with each subscale yielded a onefactor structure for the entrepreneurial motivation scale that explained only 24.8% of the variance in the data, and also revealed that one item was problematic. This item ("Aile isini devralmak konusunda kuvvetli bir görev anlayısım var [I have a strong sense of duty to take over a family-related business]") assumed the existence of a family business, which very likely did not apply to all participants and therefore was removed from further analysis. The leadership motivation scale yielded two factors (in total explaining 38.5% of the variance in the data), with one factor comprising of items capturing an affective/identity-normative motivation to lead. whereas the second factor reflected a non-calculative motivation to lead. The professional motivation scale also resulted in two factors (in total accounting for 34.4% of the variance in the data); however, the distinction between the two factors was not aligned with the theoretical framing of the motivation scales, i.e., the affective-identity versus social-normative versus non-calculative bases of motivation. However, a closer inspection revealed that one item had a typographical error which somewhat obscured the meaning of the sentence ("Insanların uzmanlığım, veteneğim ve tecrübeme güvenmeleri *olmaları* hosuma gidiyor [the typo is in italics; the original item was 'I like others to depend on me for my highly specialized knowledge, skills and experience']"). Hence, all items were included in the confirmatory factor analyses (reported below) except for this particular item. Finally, the factor analyses conducted with the intent as well as efficacy subscales all yielded single factors as envisioned by the model. For the leadership efficacy subscale, the explained variance was 42.2%, and the corresponding values for the entrepreneurial and professional efficacy subscales were 40.6% and 44.7%, respectively. For the leadership intent subscale, the explained variance was 33%, and the corresponding values for the entrepreneurial and professional intent subscales were 64.9% and 40.3%, respectively. Table 1 presents the descriptive statistics, reliability coefficients and the correlations of the EPL career aspirations scale along with the HEXACO subscales.

	Table 1 Descriptive Statistics, Reliabilities, and Correlations of EPL and HEXACO Scales											
	Variable	No of items		SD	α	1	2	3	4	5	6	7
1.	Gender	n.a.	n.a.	n.a.	n.a.	-						
2.	Age	n.a.	28.4	3.29	n.a.	26**	-					
3.	Entrepreneurial Motivation	8	3.31	.61	.73	28**	15	-				
4.	Professional Motivation	8	3.55	.61	.77	.12	10	16	-			
5.	Leadership Motivation- affective and socio-normative	6	3.93	.51	.70	16	.14	.18	.06	-		
6.	Leadership Motivation- calculative	3	2.97	.85	.77	.14	21*	12	.09	07	-	
7.	Entrepreneurial Efficacy	7	3.35	.68	.82	33**	11	.55**	.00	.33**	05	-
8.	Professional Efficacy	5	3.52	.69	.77	04	.11	05	.30**	.30**	.07	.39**
9.	Leadership Efficacy	7	3.59	.64	.82	12	.17	.18	.11	.60**	07	.56**
10	. Entrepreneurial Intent	4	2.86	.87	.88	17	17	.68**	22*	.05	.06	.44**
11	. Professional Intent	4	3.51	.73	.71	.23*	11	35**	.64**	08	.10	06
12	. Leadership Intent	3	4.05	.63	.53	05	.22*	22*	.15	.45**	.01	.03
13	. Honesty- Humility	16	3.40	.44	.80	00	13	.05	.10	31**	.18	16
14	. Emotionality	16	3.10	.47	.82	.37**	10	16	.15	14	18	21*
15	. Extraversion	16	3.52	.53	.89	.01	12	.01	.05	.35**	.17	.32**
16	. Agreeableness	16	2.89	.54	.83	.02	08	.02	.11	06	.17	.15
17	. Conscientiousness	16	3.71	.43	.76	20*	.08	.09	14	.27**	.17	.06
18	. Openness to Experience	16	3.68	.49	.78	05	.01	.27**	03	.23*	.03	.32**

	Variable	8	9	10	11	12	13	14	15	16	17	18
1.	Gender											
2.	Age											
3.	Entrepreneurial Motivation											
4.	Professional Motivation											
5.	Leadership Motivation- affective and socio- normative											
6.	Leadership Motivation- calculative											
7.	Entrepreneurial Efficacy											
8.	Professional Efficacy	-										
9.	Leadership Efficacy	.55**	-									
10.	Entrepreneurial Intent	12	.13	-								
11.	Professional Intent	.43**	.06	36**	-							
12.	Leadership Intent	.21*	.29**	27**	.15	-						
13.	Honesty- Humility	11	11	.02	.05	34**	-					
14.	Emotionality	05	19*	24*	.22*	.03	05	-				
15.	Extraversion	.15	.32**	01	.02	.20*	06	09	-			
16.	Agreeableness	.14	.13	07	.20*	14	.17	24*	.20*	-		
17.	Conscientiousness	.00	.09	.03	19*	.02	.09	.02	.28**	15	-	
18.	Openness to Experience	.28**	.35**	.20*	03	09	.29**	20*	.29**	.19	.21*	-

Table 1	(cont'd)
---------	----------

Note: N = 107

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

Ideally, a scale validation study, EFA and CFA should be conducted in independent samples (Lambert and Newman, 2022). However, due to resource limitations, we proceeded with the same sample. Yet it should be noted that we conducted the EFA only to identify problematic items which could arise from translation or context-irrelevance issues and not to assess the structure of the data

to subsequently dictate the CFA models. The CFA analysis was informed by the original model proposed by Chan and his colleagues (2012). Nevertheless, as more samples with convergent results would naturally contribute to better validity evidence, the results reported below should be viewed in light of this limitation.

Table 2 reports the results of the confirmatory factor analyses. Table 3 and Table 4 report the factor loadings of EPL intent and efficacy scales respectively; Figures 1 and 2 present the CFA models. As expected, the three-factor solutions for the EPL intent and EPL efficacy scales had much better fit statistics compared to unidimensional models of intent and efficacy. For the EPL intent and efficacy scales, the improvement over the one-factor model was highly significant ($\Delta \chi^2(3) = 97.7$, p < .001) and ($\Delta \chi^2(3) = 206$, p < .001) However, it should be noted that two items in the L intent scale have low loadings, and the overall Cronbach alpha of the scale is below the accepted threshold of. 70. The EPL efficacy scale items have acceptable loadings, but the fit statistics of CFI and TFI are slightly below the .90.

For the EPL motivation scales, in addition to a base-line unidimensional model, a three-factor solution was compared to a nine-factor solution reflecting the affective-identity, social-normative, and non-calculative bases of each motivational orientation. The three-factor solution, which was much better than a unidimensional model was further compared to a four-factor solution as suggested by the exploratory factor analyses as well as a five-factor solution, where E and P motivation were modeled as unidimensional, and L motivation was threedimensional as in the original study by Chan and Drasgow (2001). The inclusion of the four-factor solution was deemed justifiable by reference to the three-factor model of organizational commitment (Meyer and Allen, 1991), which is similarly developed by reference to affective, normative, and calculative bases of social behavior. In this model, affective and normative bases often are empirically indistinguishable as many antecedents create both affect and obligation (Meyer and Parfyonova, 2010). We conjectured that a similar dynamic may be operating with respect to the motivation to lead, for instance, in the case of a role model generating a desire towards a leadership position but also an obligation to similarly lead and guide others. In their meta-analysis, Meyer et al. (2002) further observed that the correlation between the affective and normative commitment was greater in studies conducted outside North America, which raised the question as to whether the difference between desire and obligation may be less distinct in other cultures. Indeed, research suggests that unlike individualist cultures, in collectivist cultures, fulling the wishes of the ingroup increases intrinsic motivation (e.g., Ivengar and Lepper, 1999). Thus, in the Turkish sample, the affective versus normative bases of leadership motivation may not be meaningfully differentiated as the wishes of the ingroup may be internalized to a greater extent and experienced as volitional.

Although the fit statistics reported in Table 2 supported the slight superiority of the nine-factor solution, the nine-factor model was not significantly better than the four-factor model ($\Delta \gamma^2(30) = 41$, p = .09) or five-factor model ($\Delta \gamma^2(26) = 29.8$, p=.28). The five-factor model was slightly better than the four-factor model ($\Delta \chi^2(4)$) = 11.2, p < .05; however, the reliability coefficients of some subscales containing three and at times two items (due to dropped items) were very low. Hence, the tests regarding antecedents of EPL were conducted with the measures resulting from the four-factor structure. Table 5 reports the factor loadings of the items, and Figure 3 presents the CFA model. It should be noted that Chan and his colleagues (2012) have also conducted their validation of the scale with higher-order factors. Nevertheless, the reported regression results should be considered preliminary pending further validation evidence regarding the scale with larger and multiple samples.

Fit Indices fro	om Confirn	natory F	actor A	nalysis of	EPL Sc	Fit Indices from Confirmatory Factor Analysis of EPL Scales (N=162)											
Model	χ2	df	CFI	χ2/df	TLI	RMSEA	SRMR										
EPL Intent																	
1-factor model	179	44	.76	4.07	.70	.14	.11										
3-factors model	81.3	41	.93	1.98	.90	.08	.07										
EPL Efficacy																	
1-factor model	499	152	.70	3,28	.66	.12	.09										
3-factors model	293	149	.87	1.97	.86	.08	.08										
EPL Motivation																	
1-factor model	842	275	.30	3.06	.24	.11	.13										
3-factors model	545	272	.67	2.00	.63	.08	.09										
4-factors model	412	269	.82	1.53	.80	.06	.08										
5-factors model	400.78	265	.83	1.51	.81	.06	.08										
9-factors model	371	239	.84	1.55	.80	.06	.07										

		ſ	Table 2				
dices from	Confirm	natory F	actor Ai	nalysis of	EPL Sc	ales (N=16	52)
		đf	CEI	$\gamma 2/df$	TII	DMCEA	CD.

	Standardized I	Standardized Factor Loadings for EPL Intent Scales										
Factor	Indicator	Item	Estimate	Std. Error	р							
E Intent	entr_intent1	I have a viable business idea and intend to start my own business soon after graduation.	0.761	0.065	< .001							
	entr_intent2	I am definitely going to be an entrepreneur after my studies and am prepared to do anything to achieve that goal.	0.798	0.065	< .001							
	entr_intent3	I will start my business in the next 5 years.	0.91	0.064	< .001							
	entr_intent4	I will start my business in the next 10 years.	0.776	0.073	< .001							
P Intent	prof_intent1	I would much prefer a career as a specialized expert or professional in a large and stable organization.	0.723	0.086	< .001							
	prof_intent2	I see myself continuously furthering or advancing in my specialization and professional/technical expertise throughout my working life.	0.483	0.077	<.001							
	prof_intent3	My main career goal is to be a technical expert, specialist or professional in my field of study.	0.664	0.106	< .001							
	prof_intent4r	I definitely don't see myself working as a professional or a technical expert after graduation.	0.478	0.084	< .001							
L Intent	lead_intent1	I plan to become a leader or manager in the near future.	0.298	0.069	0.006							
	lead_intent2	My main career goal is to rise up the ranks as a leader or manager in charge of others in an organization.	0.957	0.242	< .001							
_	lead_intent3r	I do not see myself as a leader or manager in charge of others in my future working life.	0.257	0.078	0.026							

 Table 3

 Standardized Factor Loadings for EPL Intent Scales

Factor	Indicator		Estimate	Std.	р
				Error	
E Efficacy	entr_effic1	Come up with ideas for products and services that may be needed in a market	0.732	0.065	< .001
	entr_effic2	Plan a business (including market analysis, pricing, financing/costs, marketing/sales)	0.534	0.073	< .001
	entr_effic5	Build a network of contacts or partners who will support my business	0.705	0.075	< .001
	entr_effic7	Manage the financial assets and performance of a company or firm	0.514	0.081	<.001
	entr_effic6	Start a firm and keep it growing	0.781	0.072	< .001
	entr_effic3	Identify opportunities to start-up viable businesses	0.644	0.067	< .001
	entr_effic4	Design an effective campaign for marketing a new product or service	0.617	0.081	< .001
P Efficacy	prof_effic1	Become one of the best experts or professionals in my field of specialization	0.741	0.066	< .001
	prof_effic2	Constantly keep up with the advancing knowledge and skills in my area of expertise, specialization, or profession	0.781	0.058	< .001
	prof_effic3	Teach or share with others my knowledge, experience, and expertise in my chosen area of work specialization	0.599	0.071	< .001
	prof_effic5	Conduct research to further advance knowledge in my area of expertise, specialization, or profession	0.498	0.092	< .001
	prof_effic4	Write research papers/books and make presentations at professional meetings	0.759	0.064	< .001
L Efficacy	lead_effic1	Create and/or build a vision that will inspire others	0.697	0.069	< .001
	lead_effic2	Align and rally people towards a common goal	0.71	0.06	< .001
	lead_effic5	Motivate others working with me to do more than they dreamed they could do	0.702	0.063	< .001
	lead_effic7	Take charge of decisions needed for a group or or organization	0.66	0.081	< .001
	lead_effic6	Plan, direct, organize and prepare others as to what they need to do	0.494	0.08	< .001
	lead_effic3	Use rewards and punishments to get people to work harder	0.645	0.06	< .001
	lead_effic4	Develop and train future leaders for an organization	0.587	0.064	< .001

 Table 4

 Standardized Factor Loadings for EPL Efficacy Scales

	Indicator		Estimate	Std. Error	р
E Motivation	entr_motiv1	The easiest and fastest way to make lots of money is to start my own business.	0.341	0.095	< .001
	entr_motiv8	I like thinking of ways to create new products and services for the market.	0.535	0.077	< .001
	entr_motiv9	I am the kind of person who constantly has ideas about making money.	0.54	0.096	< .001
	entr_motiv2	I feel I ought to live up to my parents' expectations to work in an entrepreneurial business environment.	0.305	0.082	< .001
	entr_motiv3	The rewards and satisfactions of starting and running a business far outweigh the risks and sacrifices needed.	0.505	0.08	< .001
	entr_motiv6	This country needs more entrepreneurs and I feel obliged to "give it a go".	0.553	0.087	< .001
	entr_motiv5	Ever since I was a kid, I have dreamed about opening my own business.	0.666	0.095	< .001
	entr_motiv4	I see working for myself as the best way to escape the rigidity and routines of organizations.	0.494	0.092	< .001
P Motivation	prof_motiv1	I am the kind of person who strives to be highly specialized in my field of study.	0.707	0.086	< .001
	prof_motiv2	If I stick to becoming a professional in my field of study, I am guaranteed to make a good living.	0.501	0.084	< .001
	prof_motiv7	I like to be highly specialized and experienced in a specific area of expertise.	0.545	0.07	< .001
	prof_motiv8	My parents hope that I will be a highly skilled professional in my chosen area of expertise.	0.458	0.078	< .001

 Table 5

 Standardized Factor Loadings for EPL Motivation Scales

Table 5 (cont'd)

Table 5 (cont	u)				
	prof_motiv3	It is a privilege and honor for me to excel in my chosen area of study.	0.67	0.069	< .001
	prof_motiv6	Being a highly specialized professional in my chosen field will assure me of a steady income.	0.537	0.073	< .001
	prof_motiv5r	I doubt that becoming a skilled professional in my field would result in sizable monetary or social status gains.	0.362	0.097	< .001
	prof_motiv4	The best way to increase my country's competitiveness is for people like me to become highly skilled professionals in my field of study.	0.581	0.085	< .001
L Affective- Normative	lead_motiv2r	I am definitely more of a follower by nature, so I am happy to pass leadership responsibilities to others.	0.542	0.069	< .001
	lead_motiv7	I have always enjoyed leading others and have assumed leadership roles whenever I could.	0.751	0.068	< .001
	lead_motiv5	I agree to lead whenever asked or nominated by the other group members.	0.365	0.06	< .001
	lead_motiv9	I feel that I have a duty to lead others if I am asked.	0.319	0.071	< .001
	lead_motiv1	If I am nominated to be in charge of a project or a group, I feel it is an honor and privilege to accept such a role.	0.487	0.052	< .001
	lead_motiv8	I am the kind of person who likes influencing and managing people more than doing anything else.	0.703	0.08	< .001
L Non- Calculative	lead_motiv6	I don't expect to get any privileges if I agree to lead or be responsible for a project.	0.699	0.085	< .001
	lead_motiv4r	I am only interested in leading a group if there are clear advantages for me.	0.638	0.08	< .001
	lead_motiv3	If I agree to lead a group, I would never expect any advantages or special benefits.	0.851	0.088	< .001

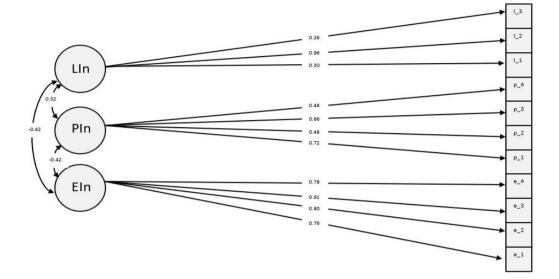
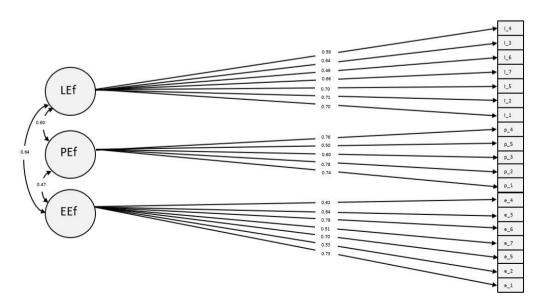


Figure 1 Factor Model for EPL Intention Scales

Figure 2 Factor Model for EPL Efficacy Scales



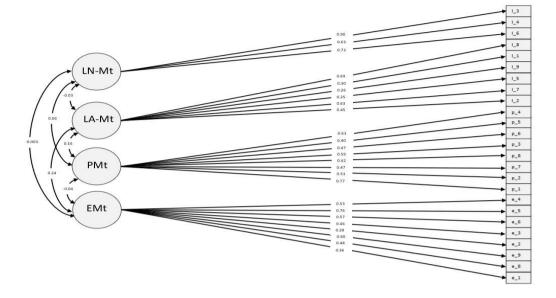


Figure 3 Factor Model for EPL Motivation Scales

The influence of gender and personality on career aspirations was tested using separate hierarchical multiple regression analyses for each career subscale. In the first step, age (as a control variable) and gender as a binary variable (male=0, female=1) were entered in the first step for all analyses. The six personality variables were entered in the second step.

Table 6 presents the results for the regressions predicting EPL motivations. Although we made no prediction regarding age, it was negatively related to entrepreneurial motivations (b = -.038, $\beta = -.236$, t = -2.39, p < .05). Gender was also negatively related to entrepreneurial motivations (b = -.349, $\beta = -.302$, t = -3.06, p < .01) in that women were less likely to express interest or enthusiasm towards entrepreneurship. The model was no longer significant after the addition of the personality variables in the second step; however, entrepreneurial motivations were positively predicted by openness to experience (b = .358, $\beta = .309$, t = 2.93, p < .01).

While no demographic variable predicted any kind of motivation towards leadership, different personality variables were observed to predict different motivations towards leadership. The results revealed that higher levels of extraversion (b = .202, $\beta = .219$, t = 2.27, p < .05), higher levels of openness to experience (b = .229, $\beta = .234$ t = 2.42, p < .05) but lower levels of honesty-humility (b = -.415, $\beta = -.380$, t = -4.09, p < .001) were related to higher levels of

affective/social-normative leadership motivations. Higher levels of conscientiousness (b = .471, $\beta = .244$, t = 2.33, p < .05) and lower levels of emotionality (b = -.453, $\beta = -.262$, t = -2.47, p < .05) predicted non-calculative motivation to lead. Finally, neither demographic nor personality variables predicted motivation towards a professional career.

			Tabl	e 6					
Hi	erarchical	Regress	sion Re	sults for	r EPL Mo	otivations			
Variable	Entrepre	eneurial	neurial Profession		Leadership		Leade	rship	
	Motiv	ation	Motiv	vation	Motivation		Motiv	ation	
					(Affective/		(No	on-	
					Identity- Social-		calcul	ative)	
					norm	ative)			
	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	
Demographics		.109**		.024		.032		.044	
Age	- 236*		065		.104		195		
Gender	- 302**		.125		-120		.041		
Personality		.090		.060		.295***		.156*	
Openness to	.309**		045		.234*		153		
Experience									
Agreeableness	045		.070		065		.102		
Conscientiousness	.056		170		.160		.244*		
Extraversion	100		.102		.219*		.108		
Emotionality	051		.180		077		262*		
Honesty- Humility	075		.107		380**		.172		

Note: Standardized regression coefficients are reported. Gender: 0 = Male. 1 = Female. *p < .05; ** p < .01; *** p < .001.

The regression results for EPL efficacy, which are presented in Table 7, reveal that women report lower levels of entrepreneurial efficacy compared to men (b = -.471, $\beta = -.311$, t = -3.14, p < .01). No other gender differences are observed regarding efficacy. Across the board, openness to experience positively predicted career efficacy. In other words, the higher the openness to experience, the higher was entrepreneurial efficacy (b = .466, $\beta = .346$, t = 3.65, p < .001), professional efficacy (b = .451, $\beta = .325$, t = 2.99, p < .01) and leadership efficacy (b = .427, $\beta = .322$, t = 3.31, p < .01). In addition, extraversion predict both higher entrepreneurial efficacy (b = .258, $\beta = .203$, t = 2.14, p < .05) and higher leadership efficacy (b = .275, $\beta = .227$, t = 2.26, p < .05). Finally, lower levels of honesty-humility were also associated with higher entrepreneurial efficacy (b = .410, $\beta = .273$, t = -2.98, p < .01).

Hier	Hierarchical Regression Results for EPL Efficacies									
Variable	Entrep	oreneurial	Profe	ssional	Leadership Efficacy					
	Eff	Efficacy		Efficacy						
	β	ΔR^2	β	ΔR^2	β	ΔR^2				
Demographics		.103**		.013		.032				
Age	196		.109		.169					
Gender	311**		015		029					
Personality		.245***		.132*		.238***				
Openness to	.346***		.325**		.332**					
Experience										
Agreeableness	.064		.108		.040					
Conscientiousness	042		078		006					
Extraversion	.203*		.044		.227*					
Emotionality	035		.069		091					
Honesty- Humility	273**		200		183					

 Table 7

 Hierarchical Regression Results for EPL Efficacies

Note: Standardized regression coefficients are reported. Gender: 0 = Male. 1 = Female. * p < .05; ** p < .01; *** p < .001.

Finally, Table 8 which summarizes the regression results of EPL intent reveals that age may also be an important factor in determining a person's readiness to pursue a particular career path. It appears that the older one gets, the less eager they are to pursue an entrepreneurial career (b = -.050, $\beta = -.215$, t = -2.11, p < .05). On the other hand, age positively predicts an intention to pursue a leadership career (b = .037, $\beta = .218$, t = 2.14, p < .05), suggesting that individuals may be associating this path with more experience in life. While no gender differences are observed with respect to an intention to pursue a professional career (b = .342, $\beta = .251$, t = 2.49, p < .05).

Regarding personality differences, individuals who are higher in openness to experience (b = .394, $\beta = .231$, t = 2.17, p < .05) and lower in emotionality (b = .450, $\beta = -.253$, t = -2.35, p < .05) express greater readiness to pursue an entrepreneurial path. In contrast, leadership intentions are predicted by greater extraversion (b = .340, $\beta = .293$, t = 2.84, p < .01) and lower honesty-humility (b = .344, $\beta = .250$, t = -2.52, p < .05).

Hierarchical Regression Results for EPL Intentions									
Variable	-	reneurial	Professi	onal Intent	Leader	ship Intent			
	-	tent $A D^2$	0	$\rho \qquad \Lambda p^2$		ΔR^2			
Democratica	β	ΔR^2	β	ΔR^2	β				
Demographics		.056		.070*		.051			
Age	215*		041		.218*				
Gender	170		.251*		022				
Personality		.121*		.081		.182**			
Openness to Experience	.231*		.004		073				
Agreeableness	188		.199		135				
Conscientiousness	.018		147		064				
Extraversion	079		.027		.293**				
Emotionality	253*		.214		.068				
Honesty- Humility	055		.025		250*				

Table 8
Hierarchical Regression Results for EPL Intentions

Note: Standardized regression coefficients are reported. Gender: 0 = Male. 1 = Female. * p < .05; ** p < .01; *** p < .001.

Taken together, the results which indicate that openness to experience predicts both entrepreneurial efficacy as well as intent, and extraversion predicts entrepreneurial efficacy partially support Hypothesis 1. Hypothesis 2, which offered conscientiousness, emotionality, extraversion, and openness to experience to predict leadership aspirations was largely supported as extraversion was found to predict affective/identity-social normative leadership motivation, leadership efficacy, and leadership intent; openness to experience was related to both affective/identity-social normative leadership motivations and leadership efficacy. Low emotionality was also found to predict non-calculative leadership motivations. In contrast, Hypothesis 3 which proposed conscientiousness to be the main predictor of professional career aspirations was rejected as only openness to experience predicted professional efficacy.

Regarding honesty-humility, Hypothesis 4 was partially supported as lower levels of honest-humility were predictive of higher entrepreneurial efficacy. Hypothesis 5 was largely supported as lower levels of honest-humility were associated with higher levels of affective/identity-social normative leadership motivations as well as higher levels of leadership intents. In contrast, Hypothesis 6 was rejected as honesty-humility did not predict professional aspirations.

Finally, while no gender differences were observed with respect to leadership aspirations, women were less likely to have entrepreneurial motivations as well as efficacies. However, they were more likely to have professional career intentions. These results partially support Hypothesis 7.

7. Discussion

Understanding career aspirations is important as they affect an individual's career strategies. To this end, this study sought to validate the EPL scale in the Turkish context. Although the motivation to lead subscale has been used considerably (see Badura *et al.*, 2020 for a meta-analysis), the entirety of the EPL scale has been used less, not only in terms of different countries but also in terms of being mostly administered to student samples. Thus, this study sought to test the generalizability of the EPL in a working sample in the Turkish context. Although two items of the motivation subscales were problematic in this administration, and the relatively small sample used for the CFA may have compromised the quality of the evidence, the results largely supported the validity of the EPL scales and suggest that it can be a useful tool for HR professionals as well as working adults as they contemplate career choices and opportunities.

In addition to testing the psychometric properties of the translated scales, this study also sought to explore gender differences in career aspirations as part of the validation process. The findings point to the possibility that women may be risk averse in their career choices. While there were no gender differences regarding motivations for a professional or a leadership career, women scored lower in terms of entrepreneurial motivations. Their low motivation may in fact be explained by their significantly lower score on entrepreneurship efficacy. Along the same lines, although women did not differ in terms of their entrepreneurship or leadership career intentions, they were significantly more likely to indicate professional career intentions, which presumably represents a more secure, stable path. Moreover, a professional career may be perceived to afford better work-life balance, a concern that females may be troubled about to a greater extent (Netchaeva *et al.*, 2022).

Regarding personality variables, the most consistent findings were with respect to openness to experience, which was predictive of career efficacy in general as well as extraversion which played an important role in predicting an aspiration for leadership. While extraversion has been shown to be highly predictive of leadership emergence, its influence on leadership effectiveness is weaker (Judge *et al.*, 2002). In other words, effective leadership takes more than being assertive and talkative; yet our results did not reveal any significant correlation between conscientiousness or agreeableness and career aspirations.

Finally, in view of the importance of ethical leadership (Den Hartog, 2015), it is troubling that honesty-humility is negatively related to leadership motivation, entrepreneurial efficacy, and leadership intent. The HEXACO dimensions each are in effect composite scores of four sub-facets (Lee and Ashton, 2004). The honestyhumility facet is composed of the sub-facets of sincerity (tendency to be genuine in interpersonal relations), fairness (tendency to avoid fraud), greed avoidance (tendency to be uninterested in possessing lavish wealth, luxury, and signs of high social status), and modesty (tendency to unassuming). A post hoc correlation analysis of these sub-facets and career aspirations revealed that higher scores on greed avoidance were negatively related to affective/identity-social normative motivation to lead, entrepreneurial efficacy, and leadership intentions. In other words, a quest for status and wealth seems to drive individuals' career aspirations regarding entrepreneurship and leadership. In addition, lower levels of modesty were also negatively related to affective/identity-social normative leadership motivations and leadership intentions, which are in line with the arguments on narcissism and the quest for power. On a more positive note, higher scores on fairness were related to a non-calculative motivation to lead as well as leadership efficacy.

8. Practical implications and future directions

As the EPL scale is a diagnostic tool that can be fruitfully used in real life settings, it is important to discuss the practical implications of the research findings. In view that entrepreneurs are vital to a vibrant economy and that many nations strive to provide a supporting environment to this end (Chua and Bedford, 2015), the relatively low entrepreneurial intent scores observed in this sample overall, particularly for women cannot be underemphasized. Several studies which have identified a gender difference in entrepreneurship in Turkey (e.g., Cetindamar *et al.*, 2012; Maden, 2013) have attributed this difference to the prevailing patriarchal culture as well as difficulties arising from lower levels of social capital, training, mentorship, and experience. That the present sample largely consisted of women less susceptible to these barriers render its findings more compelling. Regarding leadership, the results underline the importance of creating environments that promote ethical leadership and enable individuals with higher levels of cognitive moral development to rise to leadership roles (Den Hartog, 2015).

Taken together these observations point to various responsibilities that fall upon educational institutions and current organizational leaders. Regarding the concern around female entrepreneurship, Bourne and Özbilgin (2008) identify the importance of promoting exposure to varied experiences and contexts for tackling gendered perceptions of professions. To this end, universities can design courses or internships that explicitly target learning experiences in different contexts. Organizations can design career trajectories that purposefully diversify work experiences. With respect to awareness and endorsement of ethical leadership, caution should be exercised towards cultures and situations that encourage individuals low on honesty-humility to aspire to leadership. Self-efficacy, which is an antecedent to motivation, develops through role models (Bandura *et al.*, 2001). Both in universities as well as organizations individuals who serve the collective rather than oneself, who act fairly and honestly should be identified, acknowledged, and rewarded. Given that such individuals are unlikely to self-promote, it is up to current leaders to make concerted efforts to this end.

9. Limitations

The findings of this study must be interpreted in the light of certain limitations. Firstly, the sample is not generalizable to Turkey as it consists of working professionals living in a large metropolis and pursuing MBA degrees. In the empirical analysis, demographic information such as marital or parental status, or job-related information as to the respondents' industries or whether they are continuing a family business were not measured. In particular, we argue that the entrepreneurship career aspiration scales can be differentially interpreted by respondents who have a family business versus those who are considering entrepreneurship for the first time. This is also supported by the relatively low variance explained by the entrepreneurship motivation scale, which has items alluding to family expectations or family businesses. A more comprehensive analysis would also benefit from including firm characteristics data such as whether the respondents are working in multinational companies or local firms, as these firms may differ in their gender-related opportunities or HR policies. Furthermore, career choices are determined by several factors beyond gender and personality, such as socioeconomic status, ability, extrafamilial relationships (Wang and Wanberg, 2017). While the extant literature did not allow making distinctions between career motivation, efficacy and intent based on personality traits, it is very likely that factors such as socioeconomic status or social capital would allow proposing differential relationships between career motivation versus efficacy or Thus, future research should adopt a more holistic approach in intention. understanding career management.

Another limitation of this study is the number of samples used in the factor analyses. As the scales were theoretically developed and validated, our initial intention was to conduct a CFA only. However, the initial CFA suggested a few problematic items, which led us to check the scales using EFAs first. While separate samples for the EFA and CFA would have been ideal (Lambert and Newman, 2022), our EFA only identified two problematic items to be dropped. In any case, with the other limitations of our study including the relatively small sample size, we can only consider this analysis to be preliminary and hope that other researchers can replicate and extend these pilot findings.

Appendix

EPL Motivation Scale

- entr_motiv1 Çok para kazanmanın en kolay ve en hızlı yolu kendi işimi kurmaktır.
- prof_motiv1 Eğitim aldığı alanda uzmanlaşma amacı güden bir insanım.
- **lead_motiv1**. Bir projenin ya da grubun sorumlusu olmak üzere aday gösterilirsem, bu rolü kabul etmenin bir onur ve ayrıcalık olacağını hissederim.
- entr_motiv2. Ailemin, girişimci bir iş ortamında çalışma konusundaki beklentilerini karşılamam gerektiğini hissederim.
- prof_motiv2. Eğitim aldığım alanda profesyonel hayata atılırsam, iyi para kazanmak garantili olur.
- **lead_motiv2**. Daha ziyade takipçi bir yapım olduğundan liderlik sorumluluğunu başkalarına devretmekten mutluluk duyarım. (R)
- entr_motiv3. Bir işi kurmanın ve yönetmenin ödül ve memnuniyeti, işi kurmak ve yönetmek için gereken riskler ve özveri karşısında ağır basar.
- prof_motiv3. Seçtiğim eğitim alanında başarılı olmak benim için bir ayrıcalık ve onurdur.
- **lead_motiv3**. Bir grubun liderliğini yapmayı kabul edersem, herhangi bir avantaj veya özel fayda beklentim olmaz.
- entr_motiv4. Kendim için çalışmayı kurumların katı ve rutin ortamından uzaklaşmanın en iyi yolu olarak görüyorum.
- prof_motiv4. Ülkemin rekabet gücünü artırmanın en iyi yolu, benim gibi insanların eğitim aldıkları alanda çok yetenekli hale gelmesidir.
- lead_motiv4. Bir gruba liderlik edeceksem bunun bana net avantajlar sağlaması gerekir. (R)
- entr_motiv5. Çocukluğumdan beri kendi işimi kurmayı hayal ederim.
- prof_motiv5. Alanımda yetenekli bir profesyonel olmanın maddi veya toplumsal statü açısından hatırı sayılır bir geri dönüşü olacağı konusunda emin değilim. (R)
- **lead_motiv5**. Grubun diğer üyeleri istediği veya beni aday gösterdiği takdirde liderlik yapmayı kabul ederim.
- entr_motiv6. Bu ülkenin daha fazla girişimciye ihtiyacı var ve ben kendimi buna "bir şans vermek" zorunda hissediyorum.
- prof_motiv6. Seçtiğim alanda uzman bir profesyonel olmak bana istikrarlı bir gelir temin edecek.

- **lead_motiv6**. Bir projeyi yönettiğimde ya da projeden sorumlu olduğumda herhangi bir ayrıcalık beklemem.
- entr_motiv7. Aile işini devralmak konusunda kuvvetli bir görev anlayışım var.
- prof_motiv7. Belirli bir uzmanlık alanında kalifiye ve deneyimli olmak istiyorum.
- **lead_motiv7**. Başkalarını yönetmekten her zaman zevk aldım ve mümkün olan her durumda liderlik görevi üstlendim.
- entr_motiv8. Piyasa için yeni ürün ve hizmetler yaratmanın yollarını düşünmeyi severim.
- prof_motiv8. Ailem, seçtiğim uzmanlık alanında çok yetenekli bir profesyonel olacağımı ümit ediyor.
- lead_motiv8. En çok sevdiği şey insanları ikna etmek ve yönetmek olan insanlardanım.
- entr_motiv9. Para kazanmakla ilgili sürekli fikirleri olan insanlardanım.
- prof_motiv9. İnsanların uzmanlığım, yeteneğim ve tecrübeme güvenmeleri hoşuma gidiyor.
- lead_motiv9. Benden istendiği takdirde başkalarını yönetmek gibi bir görevim olduğunu hissediyorum.
- Note. (R) indicates that the item is reverse-coded.
- Items 4, 5, 8 of the Entrepreneurship scale reflect the affective-identity bases; 2, 6, 7 reflect the socio-normative bases; 1, 3, 9 reflect the calculative bases of motivation.
- Items 1, 7, 9 of the Professionalism scale reflect the affective-identity bases; 3, 4, 8 reflect the socio-normative bases; 2, 5, 6 reflect the calculative bases of motivation.
- Items 2, 7, 8 of the Leadership scale reflect the affective-identity bases; 1, 5, 9 reflect the socio-normative bases; 3, 4, 6 reflect the calculative bases of motivation.

EPL Efficacy Scale

- entr_effic1. Pazarda ihtiyaç duyulabilecek ürün ya da hizmet fikirleri bulma
- prof_effic1. Uzmanlık alanımdaki en iyi bilirkişi veya profesyonellerden biri olmak
- lead_effic1. Diğerlerine ilham verecek bir vizyon yaratmak ve/veya inşa etmek
- entr_effic2. İş planı yapmak (pazar analizi, ücretlendirme, maliyet/masraflar, pazarlama/satış dahil)
- prof_effic2. Uzmanlık veya meslek alanımda gelişen bilgi ve beceri konularını takip etmek ve onlara ayak uydurmak
- lead_effic2. İnsanların ortak bir hedef doğrultusunda ilerlemelerini sağlamak
- entr_effic3. İşimi destekleyecek kişi veya ortaklardan oluşan bir ağ/network kurmak
- prof_effic3. Seçtiğim uzmanlık alanı ile ilgili bilgimi, tecrübemi ve ekspertizimi başkalarına öğretmek veya paylaşmak
- **lead_effic3**. Birlikte çalıştığım insanları hayal ettiklerinden daha fazlasını yapabilecekleri konusunda motive etmek

- entr_effic4. Bir şirketin veya firmanın mali varlıklarını ve performansını yönetmek
- prof_effic4. Ekspertiz, uzmanlık veya profesyonel bilgimi artırmak için araştırma yapmak
- **lead_effic4**. Bir grupta veya kurumda verilmesi gereken kararlar konusunda sorumluluk almak
- entr_effic5. İş kurmak ve işi büyütmek
- prof_effic5. Makale/kitap yazmak ve profesyonel toplantılarda sunum yapmak
- **lead_effic5**. Ne yapmaları gerektiği konusunda başkaları için planlama yapmak, bu kişileri yönlendirmek, organize etmek ve hazırlamak
- entr_effic6. Tutacak işler kurma fırsatlarını tanımlamak
- lead_effic6. İnsanları daha iyi çalıştırmak üzere ödül ve ceza yöntemleri kullanmak
- entr_effic7. Yeni bir ürünü ya da hizmeti pazarlamak üzere etkili bir kampanya tasarlamak
- lead_effic7. Bir kurum için geleceğin liderlerini eğitmek ve geliştirmek

EPL Intentions Scale

- entr_intent1. Uygulanabilir bir iş fikrim var ve mezuniyetten hemen sonra kendi işimi kurmayı düşünüyorum.
- prof_intent1. Büyük ve istikrarlı bir kurumda, alanında uzman veya profesyonel yetkili olarak kariyer yapmayı tercih ederim.
- lead_intent1. Yakın gelecekte bir lider ya da yönetici olmayı planlıyorum.
- entr_intent2. Mezun olduktan sonra kesinlikle bir girişimci olacağım ve bu hedefe ulaşmak için her şeyi yapmaya hazırım.
- prof_intent2. Çalışma hayatım boyunca uzmanlık alanımda kendimi geliştirmeyi veya profesyonel/teknik bilgimi artırmayı düşünüyorum.
- **lead_intent2**. Esas kariyer hedefim, bir kurumda başka insanların idaresinden sorumlu bir lider veya yönetici olmaktır.
- prof_intent3 Kariyer hedefim okuduğum alanda bir teknik eksper, uzman ya da profesyonel olmaktır.
- **lead_intent3**. Gelecekteki iş yaşamımda kendimi başkalarından sorumlu bir lider ya da yönetici olarak görmüyorum. (R)
- prof_intent4. Mezun olduktan sonra profesyonel veya teknik bir uzman olarak çalıştığımı düşünemiyorum. (R)
- entr_intent3. 5 yıl içinde kendi işimi kuracağım.
- entr_intent4. 10 yıl içinde kendi işimi kuracağım.
- Note. (R) indicates that the item is reverse-coded.

References

- ARTHUR, M. B. (1994), "The boundaryless career: A new perspective for organizational inquiry", Journal of Organizational Behavior, 295-306.
- ASHTON, M. C., and LEE, K. (2001), "A theoretical basis for the major dimensions of personality", *European Journal of Personality*, 15(5), 327-353.
- BADURA, K. L., GRIJALVA, E., GALVIN, B. M., OWENS, B. P., and JOSEPH, D. L. (2020), "Motivation to Lead: A Meta-Analysis and Distal-Proximal Model of Motivation and Leadership", *Journal of Applied Psychology*, 105(4), 331-354.
- BANDURA, A., BARBARANELLI, C., CAPRARA, G. V., and PASTORELLI, C. (2001), "Selfefficacy beliefs as shapers of children's aspirations and career trajectories", *Child Development*, 72(1), 187-206.
- BEHLING, O. (1998), "Employee selection: Will intelligence and conscientiousness do the job?", Academy of Management Perspectives, 12(1), 77-86.
- BRISLIN, R. W. (1970), "Back-translation for cross-cultural research", *Journal of Cross-Cultural Psychology*, 1(3), 185-216.
- BOURNE, D. and ÖZBİLGİN, M. F. (2008), "Strategies for combating gendered perceptions of careers", *Career Development International*, 13(4), 320-332.
- BUSS, D. (2009), "How can evolutionary psychology successfully explain personality and individual differences?" *Perspectives in Psychological Science*, 4(4), 359-366.
- CETINDAMAR, D, GUPTA, V.K., KARADENIZ, E.E. and EGRICAN, N. (2012), "What numbers tell: the impact of human, family, and financial capital on women and men's entry to entrepreneurship in Turkey", *Entrepreneurship and Regional Development*, 24(1/2), 29-51.
- CHAN, K. Y., and DRASGOW, F. (2001), "Toward a theory of individual differences and leadership: understanding the motivation to lead", *Journal of Applied Psychology*, 86(3), 481-498.
- CHAN, K. Y., HO, M. H., CHERNYSHENKO, O. S., BEDFORD, O., UY, M. A., GOMULYA, D., and PHAN, W. M. (2012), "Entrepreneurship, professionalism, leadership: A framework and measure for understanding boundaryless careers", *Journal of Vocational Behavior*, 81(1), 73-88.
- CHAN, K. Y., UY, M. A., CHERNYSHENKO, O. S., HO, M. H., and SAM, Y. L. (2015), "Personality and entrepreneurial, professional and leadership motivations", *Personality and Individual Differences*, 77, 161-166.
- CHERNYSHENKO, O. S., HO, M. H., CHAN, K. Y., YU, T. Y., and UY, M. A. (2016), "Measuring developmental readiness: EPL efficacy, career and development motivation", Presentation at Australian and New Zealand Academy of Management, Brisbane, Australia, 6th–9th December 2016.
- CHUA, S. and BEDFORD, O. (2016). "A qualitative exploration of fear of failure and entrepreneurial intent in Singapore", *Journal of Career Development*, 43(4), 319-334.
- ÇOKLUK BÖKEOĞLU, Ö. and KOÇAK, D. (2016), "Using Horn's parallel analysis method in exploratory factor analysis for determining the number of factors", *Educational Sciences: Theory & Practice*, 16 (2), 537-551.
- DEN HARTOG, D. (2015), "Ethical leadership", Annual Review of Organizational Psychology and Organizational Behavior, 2, 409-434.
- DÍAZ-GARCÍA, M. C., and JIMÉNEZ-MORENO, J. (2010), "Entrepreneurial intention: the role of gender", *International Entrepreneurship and Management Journal*, 6, 261-283.

- DUMAS, T. L., and SANCHEZ-BURKS, J. (2015), "The professional, the personal, and the ideal worker: Pressures and objectives shaping the boundary between life domains", *The Academy of Management Annals*, 9(1), 803-843.
- ELPRANA, G., FELFE, J., STIEHL, S., and GATZKA, M. (2015), "Exploring the sex difference in affective motivation to lead", *Journal of Personnel Psychology*, 14(3), 142-152.
- EVETTS, J. (2013), "Professionalism: Value and ideology", Current Sociology, 61(5-6), 778-796.
- GUPTA, V. K., TURBAN, D. B., WASTI, S. A., and SIKDAR, A. (2009), "The role of gender stereotypes in perceptions of entrepreneurs and intentions to become an entrepreneur", Entrepreneurship theory and practice, 33(2), 397-417.
- GUTHRIE, J. P., COATE, C. J., and SCHWOERER, C. E. (1998), "Career management strategies: the role of personality", Journal of Managerial Psychology, 13(5/6), 371-386.
- HALL, D. T. (1996), "Protean careers of the 21st century", Academy of Management Perspectives, 10(4), 8-16.
- HALL, R. H. (1968), "Professionalization and bureaucratization", *American Sociological Review*, 33(1), 92-104.
- HAUS, I., STEINMETZ, H., ISIDOR, R., and KABST, R. (2013), "Gender effects on entrepreneurial intention: a meta-analytical structural equation model", *International Journal of Gender and Entrepreneurship*, 5(2), 130-156.
- HOWARD, M. C., and VAN ZANDT, E. C. (2020), "The discriminant validity of honesty-humility: A meta-analysis of the HEXACO, Big Five, and Dark Triad", *Journal of Research in Personality*, 87, 1-14.
- IYENGAR, S. S., and LEPPER, M. R. (1999), "Rethinking the value of choice: A cultural perspective on intrinsic motivation", *Journal of Personality and Social Psychology*, 76, 349-366.
- JASP Team (2023). JASP (Version 0.18.1)[Computer software].. Retrieved from https:// https://jasp-stats.org/
- JUDGE, T. A., BONO, J. E., ILIES, R., and GERHARDT, M. W. (2002), "Personality and Leadership: A Qualitative and Quantitative Review", *Journal of Applied Psychology*, 87(4), 765-780.
- JUDGE, T., KLINGER, R., SIMON, L., and YANG, I. W. (2008), "The contributions of personality to organizational behavior and psychology: Findings, criticisms, and future research directions", *Social and Personality Psychology Compass*, 2(5), 1982-2000.
- KAYA PEKSOY, S., SAHİN, S., DEMIRHAN, I., and KAPLAN, S. (2021), "Evaluation of the perceptions of professionality, entrepreneurship and leadership of senior students at a bachelor's degree: an example of a state university", *Journal of Süleyman Demirel University Institute of Social Sciences*, 40, 98-119.
- KENNEDY, J. C., CHAN, K. Y., HO, M. H., UY, M. A., and CHERNYSHENKO, O. S. (2021), "Motivation to lead as mediator of relations between the dark triad, big five, and leadership intention", *Frontiers in Psychology*, 12, 1-12.
- KIRPIK, G. (2020), "Entrepreneurship, Professionalism and Leadership Intention of Generation Z: The Case of Kahta", *SEISENSE Journal of Management*, 3(2), 58-72.
- KIRKPATRICK, S. A. and LOCKE, E. D. (1991). "Leadership: Do traits matter?", Academy of Management Executive, 5, 48-60.
- LAMBERT, L. S., and NEWMAN, D. A. (2022). "Construct development and validation in three practical steps: Recommendations for reviewers, editors, and authors", Organizational Research Methods, 26(4), 574-607
- LEE, K., and ASHTON, M. C. (2004), "Psychometric Properties of the HEXACO Personality Inventory", *Multivariate Behavioral Research*, 39(2), 329-358.

- LEE, K., and ASHTON, M. C. (2005), "Psychopathy, Machiavellianism, and Narcissism in the Five-Factor Model and the HEXACO model of personality structure", *Personality and Individual Differences*, 38(7), 1571-1582.
- LI, Y., CHAN, K. Y., CHERNYSHENKO, O., and LOW, K. Y. (2014), "Professional career aspiration and professionalism among university students: A challenge of professional development in the 21st century", 28th International Congress of Applied Psychology (ICAP), Paris, France.
- LIN, J., and HO, M. H. R. (2020). "Latent Difference Score Analysis—Stability and Change in Entrepreneurship-Professionalism-Leadership Aspirations", in Entrepreneurship– Professionalism–Leadership: A Multidimensional Framework for Human Capital and Career Development in the 21st Century, Eds. M. H. R. Ho, J. C. Kennedy, M. A. Uy and K. Y. Chan, Springer, Singapore. pp. 79-97.
- MACENCZAK, L. A., CAMPBELL, S., HENLEY, A. B., and CAMPBELL, W. K. (2016), "Direct and interactive effects of narcissism and power on overconfidence", *Personality and Individual Differences*, 91, 113-122.
- MADEN, C. (2015), "A gendered lens on entrepreneurship: women in entrepreneurship in Turkey", *Gender in Management: An International Journal*, 30(4), 312-331.
- MCCRAE, R., and COSTA JR, P. (1997), "Personality trait structure as a human universal", American Psychologist, 52(5), 509-516.
- MEI, H., MA, Z., JIAO, S., CHEN, X., LV, X., and ZHAN, Z. (2017), "The sustainable personality in entrepreneurship: the relationship between big six personality, entrepreneurial self-efficacy, and entrepreneurial intention in the Chinese context", *Sustainability*, 9(9), 1649.
- MEYER, J. P., and PARFYONOVA, N. M. (2010), "Normative commitment in the workplace: A theoretical analysis and re-conceptualization", *Human Resource Management Review*, 20(4), 283-294.
- MEYER, J.P., STANLY, D. J., HERSCOVITCH, L., and TOPOLNYTSKY, L. (2002), "Affective, continuance, and normative commitment to the organization: A meta-analysis of antecedents, correlates, and consequences", *Journal of Vocational Behavior*, 61, 20-52.
- MEYER, J. P., and ALLEN, N. J. (1991), "A three-component conceptualization of organizational commitment", *Human Resource Management Review*, 1(1), 61-89.
- ONER, M., ONAY, M., and KOCAKOC, I. D. (2016), "Measuring Entrepreneurship, Professionalism and Leadership Career Aspiration of Students in Career Planning", *Journal of Management and Economics*, 23(3), 623-638.
- PAULHUS, D. L., and WILLIAMS, K. M. (2002), "The dark triad of personality: Narcissism, Machiavellianism, and psychopathy", *Journal of Research in Personality*, 36(6), 556-563.
- PELT, D. H., VAN DER LINDEN, D., DUNKEL, C. S., and BORN, M. P. (2017), "The general factor of personality and job performance: Revisiting previous meta-analyses", *International Journal of Selection and Assessment*, 25(4), 333-346.
- RUDMAN, L. A., and GLICK, P. (2001), "Prescriptive gender stereotypes and backlash toward agentic women", *Journal of Social Issues*, 57(4), 743-762.
- SCHAFFER, B. S., and RIORDAN, C. M. (2003). "A review of cross-cultural methodologies for organizational research: A best-practices approach", *Organizational Research Methods*, 6(2), 169-215.
- SOSIK, J. J., KAHAI, S. S., and AVOLIO, B. J. (1998). "Transformational leadership and dimensions of creativity: Motivating idea generation in computer-mediated groups. *Creativity Research Journal*, 11, 111-121.

- THIELMANN, I., AKRAMI, N., BABAROVIĆ, T., BELLOCH, A., BERGH, R., CHIRUMBOLO, A., . . . and LEE, K. (2020), "The HEXACO–100 across 16 languages: A large-scale test of measurement invariance", *Journal of Personality Assessment*, 102(5), 714-726.
- WANG, M. and WANBERG, C. R. (2017), "100 years of applied psychology research on individual careers: From career management to retirement", *Journal of Applied Psychology*, 546-563.
- WASTI, S. A., LEE, K., ASHTON, M. C., and SOMER, O. (2008), "Six Turkish personality factors and the HEXACO model of personality structure", *Journal of Cross-Cultural Psychology*, 39(6), 665-684.
- WHITE, J. B., and GARDNER, W. L. (2009), "Think women, think warm: Stereotype content activation in women with a salient gender identity, using a modified Stroop task", Sex roles, 60, 247-260.
- WOOD, N. D., GNONHOSOU, D. C., and BOWLING, J. (2015), "Combining parallel and Exploratory Factor Analysis in identifying relationship scales in secondary data", *Marriage and Family Review*, 51(5), 385-395.
- WU, W., WANG, H., ZHENG, C., and WU, Y. J. (2019), "Effect of narcissism, psychopathy, and Machiavellianism on entrepreneurial intention—the mediating of entrepreneurial selfefficacy", *Frontiers in Psychology*, 10, 1-14.
- YILMAZ, U., and SACKES, M. (2019), "Examining Entrepreneurship, Professionalism and Leadership Aspirations in Career Planning of Students That Have Taken Entrepreneurship Course: The Case of Bigadiç Vocational School", *Proceedings & Abstracts Book*, 90-102.
- ZHAO, H., and SEIBERT, S. E. (2006), "The Big Five personality dimensions and entrepreneurial status: A meta-analytical review", *Journal of Applied Psychology*, 91(2), 259-271.
- ZHAO, H., SEIBERT, S. E., and LUMPKIN, G.T. (2010), "The relationship of personality to entrepreneurial intentions and performance", *Journal of Management*, *36*(2), 381-404.

Özet

Girişimcilik, profesyonellik, liderlik kariyer hedefleri ölçeğinin geçerlik çalışması: Türk çalışan örnekleminden bulgular

Chan ve meslektaşları (2012) hem öğrencilere kariyerlerini seçmelerinde yol göstermek hem de profesyonellere kariyer stratejilerinde yardımcı olmak için Girişimcilik, Profesyonellik ve Liderlik (EPL) kariyer hedefleri ölçeğini geliştirmişlerdir. Bu çalışma, EPL ölçeğinin geçerliğine ilişkin bulgulara Türk çalışanlardan (n=107) oluşan bir örneklemle katkıda bulunmayı amaçlamıştır. Ek olarak, kişiliğin kariyer hedeflerini şekillendirmedeki rolü test edilmiştir. Sonuçlar EPL ölçeklerinin geçerliliğini büyük ölçüde desteklemiştir. Profesyonel veya liderlik kariyerlerine yönelik motivasyonlarda cinsiyet farklılığı bulunmazken, kadınların girişimcilik motivasyonları ve girişimcilik özyeterliği erkeklerden daha düşük çıkmıştır. Kişilik değişkenleriyle ilgili olarak en tutarlı bulgular, genel olarak kariyer özyeterliliğinin yordayıcısı olan deneyime açıklık ve liderlik kariyer hedeflerini yordamada önemli bir rol oynayan dışadönüklükte görülmüştür. Son olarak dürüstlük-alçakgönüllülük boyutunun liderlik motivasyonu, girişimcilik etkinliği ve liderlik niyeti ile negatif ilişkilisi olduğu bulunmuştur.

Anahtar kelimeler: Girişimcilik, profesyonellik, liderlik, kariyer hedefleri, Türkiye.