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Career Adapt-Abilities Scale–Iran Form: Psychometric Properties and Relationships with Career Satisfaction and Entrepreneurial Intentions

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Career Adapt-Abilities Scale–Iran Form: Psychometric Properties and Relationships with Career Satisfaction and Entrepreneurial Intentions

Abstract

This study examined the psychometric properties of a Persian translation of the Career Adapt-Abilities Scale (CAAS–Iran Form) and its relationships with career satisfaction, business opportunity identification, and entrepreneurial intentions. It was hypothesized that career adaptability relates positively to these three outcomes, even when controlling for demographic and employment characteristics. Data were provided by 204 workers from Iran. Results showed that the overall CAAS score and sub-dimension scores (concern, control, curiosity, and confidence) were highly reliable. Moreover, confirmatory factor analyses indicated that the CAAS–Iran Form measures four distinct dimensions that can be combined into a higher-order career adaptability factor. Findings also demonstrated criterion-related validity of the scale with regard to career satisfaction and entrepreneurial intentions. In contrast, overall career adaptability was not significantly related to opportunity identification, while concern related positively, and control related negatively to opportunity identification. Overall, the CAAS–Iran Form has very good psychometric properties and predicts important career outcomes, suggesting that it can be used for career counseling and future research with Persian-speaking workers.

Keywords: career adaptability; CAAS; career adapt-abilities; career satisfaction; entrepreneurship

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1. Introduction and purpose of the study

Research on career adaptability, a core construct in the field of vocational psychology and career construction theory (S. D. Brown & Lent, 2016; Savickas, 1997, 2013; Super & Knasel, 1981), has rapidly increased since the publication of a reliable and well-validated scale to measure the construct (Savickas & Porfeli, 2012). The Career Adapt-Abilities Scale (CAAS) assesses career adaptability as a higher-order construct that consists of four dimensions: concern (i.e., preparing for future career tasks), control (i.e., taking responsibility for career development), curiosity (i.e., exploring possible future selves and career opportunities), and confidence (i.e., believing in one's ability to solve problems and to succeed) (Savickas & Porfeli, 2012). The CAAS has so far been translated into more than a dozen languages, including Chinese (Hou, Leung, Li, Li, & Xu, 2012), Dutch (van Vianen, Klehe, Koen, & Dries, 2012), French (Johnston et al., 2013), Italian (Soresi, Nota, & Ferrari, 2012), and Portuguese (Duarte et al., 2012). Conducting research on career adaptability in different countries is important to enhance cross-cultural generalizability of findings, and to uncover cultural differences with regard to the nomological net of career adaptability (Duarte & Rossier, 2008).

The goal of this article was twofold. First, we aimed to assess the psychometric properties of a Persian translation of the CAAS (the CAAS–Iran Form). We expected that the overall scale and its sub-scales measure career adaptability and its four dimensions reliably and that the sub-scales are statistically distinct yet positively related and, in combination, form a higher-order career adaptability factor. Second, we aimed to examine the criterion-related validity of the CAAS–Iran Form with regard to career satisfaction, business opportunity identification, and entrepreneurial intentions. *Career satisfaction* is an important indicator of subjective career

success that captures workers' cognitive and affective evaluations of their career-related achievements (Ng & Feldman, 2014; Seibert & Kraimer, 2001). The other two outcomes are central constructs in the field of entrepreneurship (Shane & Venkataraman, 2000). *Opportunity identification* refers to a behavioral process in which people recognize, develop, and evaluate opportunities for creating a new and potentially profitable business (Ardichvili, Cardozo, & Ray, 2003; Gaglio & Katz, 2001). Entrepreneurial intentions involve the extent to which people aim or expect to engage in business start-up activities to pursue a career as self-employed in the future (Bird & Jelinek, 1988; Douglas & Shepherd, 2002; Krueger, Reilly, & Carsrud, 2000).

This article is structured as follows. We first briefly provide some relevant information on Iran. Second, we develop our hypotheses regarding the relationships of career adaptability with career satisfaction, opportunity identification, and entrepreneurial intentions. Finally, we describe and discuss the methods and results of an empirical study with 204 workers from Iran.

2. Brief country portrait: Iran

Iran's population, with an estimated 78.5 million people, is the second largest in the Middle East and North Africa (MENA) region after Egypt (World Bank, 2015). Iran is home to multiple ethnic groups, including Persians (51%), Azeris (24%), Gilaki and Mazandarani (8%), Kurds (7%), Arabs (3%), Baluchi (2%), Lurs (2%), and Turkmen (2%) (United Nations Population Fund, 2012). Even if Persian is not their first language, all educated Iranians are fluent in it, as it is the formal language of instruction. Iran's population is well educated, with an overall literacy rate of 85%, and literacy rates of 98.8% and 98.5% for males and females between 15 and 24 years, respectively (UNICEF, 2013). A recent significant political development was the agreement on the "Joint Comprehensive Plan of Action" reached in June 2015 between the P5+1 (i.e., China, France, Germany, Russia, United Kingdom, and United States) and Iran that involves a reduction of Iran's nuclear program and the lifting of economic sanction on Iran by mid-2016.

With GDP estimated at US$ 406 billion in 2014, Iran is the second largest economy in the MENA region after Saudi Arabia (World Bank, 2015). Due to its important geostrategic location and large reserves of natural gas and oil, Iran is not only a regional power, but also plays a significant role internationally for energy security and the world economy (United Nations Population Fund, 2012). According to the Global Entrepreneurship Monitor (2014), Iran is "a regional leader in entrepreneurial self-belief," exceeding the average of its neighbors in the Asian and Oceania regions in terms of perceived entrepreneurial capabilities and early-stage entrepreneurial activity. Consistent with this finding, Iranian universities have introduced entrepreneurship education programs over the past decade (Arasti, Falavarjani, & Imanipour, 2012; Karimi, Biemans, Lans, Chizari, & Mulder, 2014). However, critics argue that strong government regulation, bureaucratic rules, and legal constraints still limit Iran's entrepreneurial potential from fully unfolding (Nawaser, Khaksar, Shaksian, & Jahanshahi, 2011).

3. Development of hypotheses

3.1. Career adaptability and career satisfaction

Career adaptability has been defined as "the readiness to cope with the predictable tasks of preparing for and participating in the work role and with the unpredictable adjustments prompted by changes in work and working conditions" (Savickas, 1997, p. 254). Consistent with previous research on career adaptability and indicators of subjective career success (Chan & Mai, 2015; Zacher, 2014a; Zacher & Griffin, 2015), we propose that career adaptability relates positively to career satisfaction. According to career construction theory, career adaptability is a psychosocial resource and transactional competency that helps workers to successfully manage their daily work demands and to deal effectively with career-related changes and challenges (Savickas, 2013; see also Zacher, 2016). The theory suggests that all four dimensions of career adaptability – concern, control, curiosity, and confidence – should contribute to workers'

favorable work outcomes and career development. When workers perceive themselves as efficient and effective in their work and as successful in their careers, they should also be more likely to evaluate their career achievements positively. We therefore expect that high levels of career adaptability are associated with greater career satisfaction.

Hypothesis 1: Career adaptability relates positively to career satisfaction.

3.2. Career adaptability and opportunity identification

The identification of novel and promising business opportunities is a key concept in entrepreneurship research (Shane & Venkataraman, 2000). Entering entrepreneurship by recognizing, developing, and evaluating business opportunities can be conceived as an adaptive form of vocational behavior that involves active self-regulation and interactions with a complex environment (Tolentino, Sedoglavich, Lu, Garcia, & Restubog, 2014). Numerous studies have investigated individual factors that may predict opportunity identification, including human capital, entrepreneurial experience, and active search for information (Ardichvili et al., 2003; Gielnik, Krämer, Kappel, & Frese, 2014; Ucbasaran, Westhead, & Wright, 2008). Regarding career adaptability, Savickas and Porfeli (2012) argued, based on career construction theory, that relevant resources and competencies can be accumulated over time and can benefit from education, training, and work experience. Drawing on these lines of research, we propose that career adaptability relates positively to opportunity identification because it is linked to human capital development, a proactive approach to problems, alertness about future opportunities, and effective processing of information about the self and the environment (Fugate, Kinicki, & Ashforth, 2004; Tolentino, Garcia, et al., 2014).

Hypothesis 2: Career adaptability relates positively to opportunity identification.

3.3. Career adaptability and entrepreneurial intentions

Entrepreneurial intentions are an important individual outcome in the context of career

development (Obschonka, Silbereisen, & Schmitt-Rodermund, 2010). Previous research showed that career adaptability, as well as closely related concepts such as personal control beliefs, self-efficacy, and proactive personality, are essential psychosocial resources in the entrepreneurial career context and positively predict entrepreneurial intentions (Crant, 1996; Obschonka et al., 2010; Tolentino, Sedoglavich, et al., 2014; Zhao, Seibert, & Hills, 2005). Moreover, research has shown that adaptability can be a driver of intentions for positive career changes, such as entering entrepreneurship (A. Brown, Bimrose, Barnes, & Hughes, 2012; Drennan, Kennedy, & Renfrow, 2005; Van Gelderen et al., 2008). For instance, Pruett, Shinnar, Toney, Llopis, and Fox (2009) argued that "starting and owning a business typically is riskier and more demanding than paid employment, and we should expect that an entrepreneurial livelihood would attract, and indeed depend on, individuals with a well-developed sense of confidence, energy, and adaptability" (p. 576). We therefore expect that career adaptability relates positively to entrepreneurial intentions.

Hypothesis 3: Career adaptability relates positively to entrepreneurial intentions.

4. Method

4.1. Participants

Participants in this study were 204 workers from various jobs and organizations in Iran. Of the participants, 143 (70.1%) were male and 60 (29.4%) were female (one person did not indicate his/her gender). Workers' ages ranged from 22 to 63 years, with a mean age of 36.88 years (*SD* = 8.55; three participants did not indicate their age). In term of highest educational level attained, four participants (2%) indicated a high school diploma or technical qualification, 20 (9.8%) held an undergraduate degree, and 179 (87.7%) held a graduate university degree (one person did not indicate their educational level). Job tenure ranged from a few months to 42 years, with a mean job tenure of 8.92 years (*SD* = 8.07; 10 missing values). Most participants were salaried employees (146; 71.6%); 53 (26%) participants were self-employed (five missing

values). In terms of industry sector, most participants worked in education (26.5%), banking/finance/insurance (17.6%), engineering (14.7%), manufacturing (10.2), and health (5.9%); some worked in IT, telecommunication, mining/energy production, retail, and utilities. Most participants lived in the cities, Ardabil (36.8%), Tabriz (22.1%), and Tehran (17.2%).

4.2. Procedure

This study was approved by the Behavioral and Social Sciences Ethical Review Committee of the first author's institution. Subsequently, participants were recruited for a cross-sectional online survey study using three strategies. First, we sent an e-mail invitation to all workers in the database of the Ardabil Industrial Management Institute. Second, we invited participants of a conference on new challenges in management and business held in Ardabil to participate in the study. Finally, we advertised the study to Iranian workers on LinkedIn. In total, the survey link was clicked on 493 times; 263 individuals actually started the survey after reading an information sheet and indicating their informed consent to participate; and 204 workers completed the survey and provided data on most or all of the study variables.

4.3. Measures

All items, scale answer options, and instructions were translated from English into Persian by a Persian native speaker fluent in English. Materials were also back-translated to further improve the translations (Brislin, 1970).

4.3.1. Career adaptability

We used a Persian translation of the reliable and well-validated 24-item CAAS (Savickas & Porfeli, 2012) in this study. The Persian items of the CAAS–Iran Form are shown in Table 1 (all other Persian items are available from the authors upon request). Participants first read the following instructions (in Persian; see the note below Table 1 for the translated version): "Different people use different strengths to build their careers. No one is good at everything, each

of us emphasizes some strengths more than others. Please rate how strongly you have developed each of the following abilities" (Savickas & Porfeli, 2012). The four career adaptability dimensions are measured with six items each. Example items are "Thinking about what my future will be like" (concern), "Making decisions by myself" (control), "Exploring my surroundings" (curiosity), and "Performing tasks efficiently" (confidence) (Savickas & Porfeli, 2012). Participants provided their ratings on 5-point scales ranging from 1 (*not strong*) to 5 (*strongest*); see the note below Table 1 for the Persian scale answer options. Cronbach's alpha for the overall scale was .95, and alphas for the sub-scales were .87 (concern), .88 (control), .90 (curiosity), and .90 (confidence).

4.3.2. Career satisfaction

Career satisfaction was measured with a five-item scale by Greenhaus, Parasuraman, and Wormley (1990), which was translated into Persian. The original scale by Greenhaus and colleagues (1990) is highly reliable, was initially developed for use with a sample of workers similar to our current sample, and is frequently used in recent research on career adaptability as an indicator of subjective career success (e.g., Chan, Mai, Kuok, & Kong, 2016; Guan, Zhou, Ye, Jiang, & Zhou, 2015; Zacher, 2014a). An example item is "I am satisfied with the success I have achieved in my career." Participants responded to the items on 5-point scales ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Alpha for the scale was .90.

4.3.3. Opportunity identification

We measured opportunity identification as the number of opportunities identified by participants within the last six months (cf. Shepherd & DeTienne, 2005). To this end, we adapted three questions from Ucbasaran, Westhead, and Wright (2009; see also Ucbasaran et al., 2008) and Gielnik et al. (2014) and translated them into Persian. Ucbasaran et al. (2009) provided evidence for the content validity of their measurement approach by asking entrepreneurship

researchers and practitioners to evaluate their questionnaire. Moreover, they showed that their opportunity identification measure correlated positively with information search as well as managerial and entrepreneurial capabilities in a sample of entrepreneurs. The questions were: "How many opportunities for creating a new business have you identified ("spotted") within the last 6 months?"; "Out of all those opportunities, how many were in your opinion promising for creating a new and profitable business?"; and "How many opportunities for creating a new business have you pursued, that is committed time and resources to, within the last 6 months?" Participants provided numbers as responses. Consistent with recommendations by Ucbasaran et al. (2009) and Gielnik et al. (2014) for dealing with extreme responses, we approximated a normal distribution by sorting participants' responses into five broader categories (0 = *no opportunities*, 1 = *one opportunity*, 2 = *two to four opportunities*, 3 = *five to eight opportunities*, 4 = *nine or more opportunities*). Note that for the first and second questions, only one worker indicated more than 10 opportunities. We combined scores on the recoded items into an overall score (alpha = .72).

4.3.5. Entrepreneurial intentions

Entrepreneurial intentions were measured using four items that were adapted from Krueger et al. (2000) and Souitaris, Zerbinati, and Al-Laham (2007) and translated into Persian. Souitaris and colleagues (2007) showed that their entrepreneurial intentions measure was reliable and, in support of construct validity, correlated positively with attitudes, subjective norms, and perceived behavioral control regarding self-employment (cf. Ajzen, 1991) in a sample of science and engineering students participating in an entrepreneurship course. The items (and 7-point scale answer options) were: "Do you intend to engage in activities to start a new business in the next six months?" (1 = *not at all* to 7 = *absolutely*), "In the next six months, I will take actions to start a new business" (1 = *not at all true* to 7 = *absolutely true*), "How likely is it that you will pursue

a career as self-employed?" (1 = *very unlikely* to 7 = *absolutely likely*), and "Estimate the probability you'll start your own business in the next three years" (1 = *not at all probable* to 7 = *absolutely probable*). Alpha for the scale was 89.

4.3.4. Demographic and employment characteristics

Participants indicated their age (in years); gender (1 = *male*, 2 = *female*); highest level of education (ranging from 1 = *high school degree* to 5 = *postgraduate university degree*); job tenure (in years); employment status (1 = *self-employed*, 2 = *salaried employee*); and whether they have ever been involved in the start-up of a new business (entrepreneurial experience; 1 = *no*, 2 = *yes*). We controlled for these demographic and employment characteristics because they have been shown in previous research to relate to career adaptability and career satisfaction as well as opportunity identification and entrepreneurial intentions (Gielnik et al., 2014; Shane, 2000; Zacher, 2014a; Zhao et al., 2005).

4.4. Statistical analyses

We first conducted confirmatory factor analyses using the MPlus software (Muthén & Muthén, 1998-2012) to examine the factor structure of the CAAS–Iran Form. Second, we used SPSS (IBM Corp, 2013) to inspect descriptive statistics, correlations, and Cronbach's alpha reliability estimates of the study variables. Finally, we used multiple linear regression analyses in SPSS to test our hypotheses. We also used SPSS to impute missing data in some of the study variables using the recommended expectation-maximization (EM) estimation method (Schafer & Graham, 2002). On average, there were 1.82% (*SD* = 2.29; range 0-7.8%) missing values in the study variables. Little's (1988) chi-square test showed that these values were missing completely at random ($\chi 2[df = 130] = 144.11$, $p = .188$), indicating that imputation of missing data using the EM estimation method was appropriate.

5. Results

5.1. Results of confirmatory factor analysis

Table 1 shows the mean, standard deviations, and factor loadings of the 24 items of the CAAS–Iran Form. We first conducted a confirmatory factor analysis in which the items loaded on their respective career adaptability dimension (concern, control, curiosity, or confidence). The dimension factors, in turn, loaded on a higher-order career adaptability factor. As shown in Table 1, all items except for one had factor loadings of .55 or higher. Because item 6 ("Concerned about my career") had a factor loading of .21 we decided to exclude it from subsequent analyses. It may be that participants interpreted the verbatim Persian translation of the word "concerned" in a negative (i.e., worried) instead of a positive emotional way (i.e., interested, involved; cf. Savickas & Porfeli, 2012). Related to this issue, research has shown that feelings of general and career-related anxiety may relate positively to career exploration (Vignoli, 2015).

The average of the factor loadings of the remaining 23 items was .76 (*SD* = .08). The four career adaptability dimensions had loadings of .80 or higher on the higher-order career adaptability factor (see Table 1). The fit indices for the four factor model (with a higher-order career adaptability factor) with all items (including item 6) was acceptable ($\chi^2[248] = 573.57$, $p < .001$; CFI = .899; TLI = .887; RMSEA = .080). The fit indices did not change substantially when item 6 was excluded ($\chi^2[226] = 540.83$, $p < .001$; CFI = .902; TLI = .890; RMSEA = .083). A 1-factor model, with all 24 career adaptability items loading on a single factor, fit the data significantly worse ($\chi^2[230] = 918.90$, $p < .001$; CFI = .785; TLI = .763; RMSEA = .121; $\Delta\chi^2[4] = 378.07$, $p < .001$). Overall, consistent with previous international research (Savickas & Porfeli, 2012), these results provide support for the hypothesized factor structure of the CAAS–Iran Form.

5.2. Descriptive statistics and correlations

Table 2 shows the descriptive statistics, correlations and, where available, Cronbach's

alphas of the study variables. As already described in the Measures section, alphas for overall career adaptability and its dimensions were excellent (i.e., between .87 and .95; see Table 2). The four career adaptability dimensions were positively inter-correlated (*r*s between .59 and .74, *p*s < .001). Job tenure related positively to overall career adaptability, control, and curiosity (*r*s = .16, *p*s between .020 and .025). Moreover, entrepreneurial experience related positively to career adaptability ($r = .21$, $p = .002$), concern ($r = .22$, $p = .002$), control ($r = .25$, $p < .001$), and curiosity ($r = .17$, $p = .017$). With regard to the outcome variables, career adaptability and all four of its dimensions related positively to career satisfaction (*r*s between .36 and .45, *p*s < .001). The findings provide preliminary support for Hypothesis 1. In contrast, Table 2 shows that only concern related positively to opportunity identification ($r = .19$, $p = .007$). Finally, career adaptability and all of its dimensions related positively to entrepreneurial intentions (*r*s between .15 and .30, *p*s between < .001 and .038). These findings provide preliminary support for Hypothesis 3.

5.3. Test of hypotheses

Table 3 shows the results of six regression analyses predicting career satisfaction, opportunity identification, and entrepreneurial intentions. In addition to the demographic and employment characteristics, we controlled for opportunity identification and entrepreneurial intentions when predicting career satisfaction, and for career satisfaction when predicting opportunity identification and entrepreneurial intentions. The rationale for this was that participants who are less satisfied with their careers may be more likely to engage in the search for promising business opportunities and to develop entrepreneurial intentions, and vice versa (Carless & Bernath, 2007; Lee, Wong, Der Foo, & Leung, 2011). Models 1, 3, and 5 include overall career adaptability as a predictor, and Models 2, 4, and 6 include the four career adaptability dimensions as predictors (see Table 3).

According to Hypothesis 1, career adaptability relates positively to career satisfaction. As shown in Table 3 (Model 1), career adaptability positively predicted career satisfaction (β = .47, p < .001). Thus, Hypothesis 1 was supported. Of the career adaptability dimensions, only concern significantly predicted career satisfaction (Model 2: β = .25, p = .011). As the four career adaptability dimensions were highly positively correlated (rs between .59 and .74, ps < .001; see Table 2), unstandardized regression coefficients may be associated with large standard errors due to the potential problem of multicollinearity (Cohen, Cohen, West, & Aiken, 2003). We therefore inspected the variance inflation factors (VIFs). These factors estimate the extent to which the standard error of a regression coefficient for a given predictor is inflated due to correlations of the predictor with other predictors in the analysis (Allison, 2012). The square root of VIF indicates the extent to which the standard error of a regression coefficient increases relative to the situation of completely uncorrelated predictors (Cohen et al., 2003). Rules of thumb range from VIFs of as low as 4 or more to as high as 10 or more as indicating serious multicollinearity for the predictor variable (Cohen et al., 2003; O'Brien, 2007). In our Model 2, VIFs for the four career adaptability dimensions ranged from 2.38 for concern to 3.17 for control (in comparison, overall career adaptability in Model 1 had a VIF of only 1.12). This suggests that multicollinearity was not a serious concern, but that standard errors were somewhat inflated (approximately between 1.5- and 1.8-fold). Thus, we recommend that the results for the four career adaptability dimensions are interpreted with caution. Overall, the two models with career adaptability and career adaptability dimensions explained 24% and 26% of the variance in career satisfaction, respectively.

Hypothesis 2 states that career adaptability relates positively to opportunity identification. Table 3 (Model 3) shows that career adaptability did not significantly predict opportunity identification (β = -.05, p = .553), and therefore Hypothesis 2 was not supported. Interestingly, as shown in Model 4, concern positively predicted opportunity identification (β = .30, p = .002),

whereas control negatively predicted opportunity identification (β = -.28, p = .015), suggesting that these countervailing effects may have led to the zero effect of overall career adaptability. The VIFs in this analysis ranged from 2.28 for concern to 3.12 for control, again not indicating serious problems with multicollinearity according to common rules of thumb, but somewhat inflated standard errors. We therefore recommend that the findings for the four career adaptability dimensions are interpreted with some caution. Models 3 and 4 explained 16% and 22% of the variance in opportunity identification, respectively.

Finally, according to Hypothesis 3, career adaptability relates positively to entrepreneurial intentions. This hypothesis was supported, as career adaptability positively predicted entrepreneurial intentions (β = .21, p = .003; see Table 3, Model 5). Of the career adaptability dimensions, only concern significantly predicted entrepreneurial intentions (Model 6: β = .30, p = .001). Again, results of Model 6 should be interpreted with some caution, as the VIFs for the career adaptability dimensions again ranged from 2.28 for concern to 3.12 for control, indicating slightly inflated standard errors due to multicollinearity. Overall, Model 5 and 6 explained 30% and 33% of the variance in entrepreneurial intentions, respectively.

6. Discussion

6.1. Summary and interpretation of findings

The aims of this study were to examine the psychometric properties of a Persian translation of the CAAS and to establish its criterion-related validity with regard to the outcomes of career satisfaction, opportunity identification, and entrepreneurial intentions. Overall, consistent with other international validation studies (Savickas & Porfeli, 2012), the findings showed that the CAAS–Iran Form has very good psychometric properties and predicts important career-related outcomes. Thus, the scale can be used for career counseling and future research with Persian-speaking workers. In the following, we summarize and interpret our key findings in

the context of relevant theory and previous empirical research.

First, we were able to demonstrate that the CAAS–Iran Form assesses the four distinct dimensions of career adaptability in a highly reliable way and that the four dimensions, in combination, form a higher-order factor. We had to exclude one item (item 6: "Concerned about my career") from the concern sub-scale due to a low factor loading; the other items had adequate loadings on their hypothesized factors (i.e., 20 out of 24 items had loadings equal to or higher than .70; see Table 1). Previous international validation studies showed similar results. For instance, Porfeli and Savickas (2012) found that item 6 had the lowest factor loading (.43) of all 24 CAAS items in a sample from the United States. Consistently, Teixeira, Bardagi, Lassance, Magalhães, and Duarte (2012) and Duarte et al. (2012) found factor loadings of .42 and .34 for item 6 in samples from Brazil and Portugal respectively. In contrast, the item achieved satisfactory factor loadings (i.e., greater than .70) in samples from, for instance, Taiwan (Tien, Wang, Chu, & Huang, 2012) and Lithuania (Urbanaviciute, Kairys, Pociute, & Liniauskaite, 2014). As already noted in the Results section, one possible explanation for the low loading of item 6 may be that our participants interpreted the word "concerned" in a negative (i.e., worried) instead of a positive emotional way (i.e., interested, involved; cf. Savickas & Porfeli, 2012). An alternative explanation may be that the item does not fit the Iranian context. Future research could take a culture-sensitive approach to better understand this particular item in different cultural contexts (cf. Einarsdóttir, Vilhjálmsdóttir, Smáradóttir, & Kjartansdóttir, 2015).

Second, consistent with our hypotheses, we found that overall career adaptability assessed with the CAAS–Iran Form positively predicted career satisfaction and entrepreneurial intentions, even when controlling for demographic and employment characteristics and the respective other outcomes. These findings are consistent with previous research based on career construction theory that found positive relationships of career adaptability with indicators of subjective career

success (Zacher, 2014a) and entrepreneurial intentions (Tolentino, Sedoglavich, et al., 2014). We further found that of the four career adaptability dimensions, only concern positively predicted career satisfaction and entrepreneurial intentions in the regression analyses. These findings are interesting, given that all four career adaptability dimensions had positive bivariate correlations with career satisfaction and entrepreneurial intentions. Consistently, Zacher (2014a) also found that concern had the strongest effect on career satisfaction (followed by confidence). In the only study on career adaptability and entrepreneurial intentions, Tolentino, Sedoglavich, and colleagues (2014) did not report the separate effects of the four career adaptability dimensions. As already noted in the Results section, the findings for the highly correlated career adaptability dimensions have to be interpreted with some caution as their standard errors were somewhat, but not strongly, inflated due to multicollinearity. We recommend that in future research, scholars should report the effects of overall career adaptability as well as the effects of the four career adaptability dimensions; with regard to the latter, the issue of multicollinearity should be addressed.

Contrary to expectations, we did not find a significant relationship between overall career adaptability and opportunity identification. However, we found countervailing effects of concern (positive) and control (negative) on opportunity identification. While the positive effect of the future-oriented concern dimension on opportunity identification is consistent with our hypothesis (for the association between future time perspective and entrepreneurship, see also Gielnik, Zacher, & Frese, 2012), the negative effect of control on opportunity identification requires further theorizing and empirical investigation. A possible explanation may be that control-related behaviors such as taking responsibility for one's actions and "doing the right thing" lead to a stronger commitment of employees to their current work tasks and careers (see Zacher, Ambiel, & Porto Noronha, 2015, for the link between career adaptability and career entrenchment),

whereas these behaviors prevent employees from identifying novel business opportunities and from investigating alternative career paths. Future research should investigate the mediators that operate in the relationships between career adaptability, its dimensions, and entrepreneurial outcomes.

6.2. Strengths, limitations, and future research

This study has a number of strengths. First, we used a translated version of the widely-used CAAS and investigated career adaptability in a unique cultural context. Iran is a powerful economy with considerable potential for entrepreneurship given its strong education system and widespread entrepreneurial self-beliefs among its citizens (Global Entrepreneurship Monitor, 2014). Once the international sanctions are lifted, it is expected that the Iranian economy will further liberalize and become more integrated with the global economy. Thus, conducting research on career development in Iran is timely and important. Second, we investigated career adaptability not only in relation to the established criterion of career satisfaction, but also as predictor of opportunity identification and entrepreneurial intentions. Although the latter are important developmental outcomes (Ardichvili et al., 2003; Obschonka et al., 2010), they have hardly received attention in the literature on career adaptability (see Tolentino, Sedoglavich, et al., 2014, for an exception). Finally, our findings are largely consistent with previous international research using the CAAS (Savickas & Porfeli, 2012), suggesting that the CAAS–Iran Form can be used for career counseling and future career research in the Iranian context.

We also acknowledge that this study has a number of limitations. First, because the study design was cross-sectional no causal conclusions can be drawn. For instance, it remains unknown whether career adaptability influenced career satisfaction, opportunity identification, and entrepreneurial intentions, or whether the effects are (also) in the opposite direction. Future longitudinal and experimental research is needed to explore reverse and reciprocal relationships

between career adaptability and subjective career success and important entrepreneurship constructs (for existing examples of such designs, see Guan et al., 2013; Negru-Subtirica, Pop, & Crocetti, 2015; Ohme & Zacher, 2015; Zacher, 2014b). Second, our sampling strategies focused on highly educated workers from Iran; the vast majority of participants held postgraduate degrees. Thus, future research is needed to demonstrate the generalizability of our findings to less well-educated groups of workers. Third, we slightly modified the measures of opportunity identification and entrepreneurial intentions taken from previous studies to better fit the context of our study, which may have influenced their reliability and validity in a negative way. However, the moderate and positive relationship between these measures and their positive associations with entrepreneurial experience provide some evidence for the construct validity of our measures. Finally, future research is needed on the mediating and moderating factors that can explain, and further improve our understanding of, the links between career adaptability, career satisfaction, and entrepreneurial outcomes. For instance, researchers could examine what workers with high career adaptability actually do (i.e., what behaviors they engage in) on a daily basis to enhance these career-related outcomes (Zacher, 2015).

6.3. Practical implications

As career adaptability is a core construct in vocational psychology and career construction theory (S. D. Brown & Lent, 2016; Savickas, 2013), our findings have implications for career counseling and entrepreneurship education. First, career counselors in Iran can use the reliable and validated Persian translation of the CAAS to assess the extent to which their clients are preparing for future career tasks, take responsibility for their career development, explore possible future selves and career opportunities, and believe in their ability to solve problems and to succeed in their careers (Savickas & Porfeli, 2012). Moreover, based on this assessment, they can help their clients to further develop their career adaptability resources to obtain beneficial

career outcomes. Second, entrepreneurship educators could integrate knowledge and skills related to career adaptability into their curriculums. Entrepreneurship education is growing in Iran (Arasti et al., 2012; Karimi et al., 2014) and internationally, and quasi-experimental research has been shown that entrepreneurship education is effective in terms of attitude and behavior change (Rauch & Hulsink, 2015).

7. Conclusions

This study showed that a Persian translation of the widely used CAAS, the CAAS–Iran Form, has good psychometric properties and positively predicts important career-related outcomes. Specifically, the measure is highly reliable and allows distinguishing between the four career adaptability dimensions which, in turn, can be combined into a higher-order career adaptability factor. Moreover, the study demonstrated criterion-related validity of the scale, such that overall career adaptability and the concern sub-scale positively predicted career satisfaction and entrepreneurial intentions. While overall career adaptability was not significantly associated with opportunity identification, concern related positively and control related negatively to opportunity identification. Overall, we conclude that the CAAS–Iran Form can be used for career counseling and future research on career adaptability with Persian-speaking workers.

References

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes, 50*, 179-211. doi: 10.1016/0749-5978(91)90020-T

Allison, P. (2012). When can you safely ignore multicollinearity? Retrieved 03 December, 2015, from http://statisticalhorizons.com/multicollinearity

Arasti, Z., Falavarjani, M. K., & Imanipour, N. (2012). A study of teaching methods in entrepreneurship education for graduate students. *Higher Education Studies, 2*, 2-10. doi: 10.5539/hes.v2n1p2

Ardichvili, A., Cardozo, R., & Ray, S. (2003). A theory of entrepreneurial opportunity identification and development. *Journal of Business Venturing, 18*, 105-123. doi: 10.1016/S0883-9026(01)00068-4

Bird, B., & Jelinek, M. (1988). The operation of entrepreneurial intentions. *Entrepreneurship Theory and Practice, 13*, 21-29.

Brislin, R. W. (1970). Back-translation for cross-cultural research. *Journal of Cross-Cultural Psychology, 1*, 185-216. doi: 10.1177/135910457000100301

Brown, A., Bimrose, J., Barnes, S.-A., & Hughes, D. (2012). The role of career adaptabilities for mid-career changers. *Journal of Vocational Behavior, 80*, 754-761. doi: 10.1016/j.jvb.2012.01.003

Brown, S. D., & Lent, R. W. (2016). Vocational psychology: Agency, equity, and well-being. *Annual Review of Psychology, 67*, 27.21-27.25. doi: 10.1146/annurev-psych-122414-033237

Carless, S. A., & Bernath, L. (2007). Antecedents of intent to change careers among psychologists. *Journal of Career Development, 33*, 183-200. doi: 10.1177/0894845306296646

Chan, S. H. J., & Mai, X. (2015). The relation of career adaptability to satisfaction and turnover intentions. *Journal of Vocational Behavior, 89*, 130-139. doi: 10.1016/j.jvb.2015.05.005

Chan, S. H. J., Mai, X., Kuok, O. M. K., & Kong, S. H. (2016). The influence of satisfaction and promotability on the relation between career adaptability and turnover intentions. *Journal of Vocational Behavior, 92*, 167-175. doi: 10.1016/j.jvb.2015.12.003

Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences* (3rd ed.). Mahwah, NJ: Erlbaum.

Crant, J. M. (1996). The proactive personality scale as a predictor of entrepreneurial intentions. *Journal of Small Business Management, 34*, 42-49.

Douglas, E. J., & Shepherd, D. A. (2002). Self-employment as a career choice: Attitudes, entrepreneurial intentions, and utility maximization. *Entrepreneurship Theory and Practice, 26*, 81-90.

Drennan, J., Kennedy, J., & Renfrow, P. (2005). Impact of childhood experiences on the development of entrepreneurial intentions. *The International Journal of Entrepreneurship and Innovation, 6*, 231-238. doi: 10.5367/000000005775179801

Duarte, M. E., & Rossier, J. (2008). Testing and assessment in an international context: Cross- and multi-cultural issues. In J. Athanasou & R. Van Esbroeck (Eds.), *International handbook of career guidance* (pp. 489-510). Dordrecht, the Netherlands: Springer Science.

Duarte, M. E., Soares, M. C., Fraga, S., Rafael, M., Lima, M. R., Paredes, I., . . . Djalo, A. (2012). Career Adapt-Abilities Scale–Portugal Form: Psychometric properties and relationships to employment status. *Journal of Vocational Behavior, 80*, 725-729. doi: 10.1016/j.jvb.2012.01.019

Einarsdóttir, S., Vilhjálmsdóttir, G., Smáradóttir, S. B., & Kjartansdóttir, G. B. (2015). A culture-sensitive approach in the development of the Career Adapt-Abilities Scale in Iceland: Theoretical and operational considerations. *Journal of Vocational Behavior, 89*, 172-181. doi: 10.1016/j.jvb.2015.06.006

Fugate, M., Kinicki, A. J., & Ashforth, B. E. (2004). Employability: A psychosocial construct, its dimensions, and applications. *Journal of Vocational Behavior, 65*, 14-38. doi: 10.1016/j.jvb.2003.10.005

Gaglio, C. M., & Katz, J. A. (2001). The psychological basis of opportunity identification: Entrepreneurial alertness. *Journal of Small Business Economics, 16*, 95-111. doi: 10.1023/A:1011132102464

Gielnik, M. M., Krämer, A.-C., Kappel, B., & Frese, M. (2014). Antecedents of business opportunity identification and innovation: Investigating the interplay of information processing and information acquisition. *Applied Psychology: An International Review, 63*, 344-381. doi: 10.1111/j.1464-0597.2012.00528.x

Gielnik, M. M., Zacher, H., & Frese, M. (2012). Focus on opportunities as a mediator between business owners' age and venture growth. *Journal of Business Venturing, 27*, 127-142. doi: 10.1016/j.jbusvent.2010.05.002

Global Entrepreneurship Monitor (2014). Iran Retrieved 02 December, 2015, from http://www.gemconsortium.org/country-profile/71

Greenhaus, J. H., Parasuraman, S., & Wormley, W. M. (1990). Effects of race on organizational experiences, job performance evaluations, and career outcomes. *Academy of Management Journal, 33*, 64–86. doi: 10.2307/256352

Guan, Y., Deng, H., Sun, J., Wang, Y., Cai, Z., Ye, L., . . . Li, Y. (2013). Career adaptability, job search self-efficacy and outcomes: A three-wave investigation among Chinese university graduates. *Journal of Vocational Behavior, 83*, 561-570. doi: 10.1016/j.jvb.2013.09.003

Guan, Y., Zhou, W., Ye, L., Jiang, P., & Zhou, Y. (2015). Perceived organizational career management and career adaptability as predictors of success and turnover intention among Chinese employees. *Journal of Vocational Behavior, 88*, 230-237. doi: 10.1016/j.jvb.2015.04.002

Hou, Z.-J., Leung, S. A., Li, X., Li, X., & Xu, H. (2012). Career Adapt-Abilities Scale—China Form: Construction and initial validation. *Journal of Vocational Behavior, 80*, 686-691. doi: 10.1016/j.jvb.2012.01.006

IBM Corp. (2013). *IBM SPSS Statistics for Windows, Version 22.0*. Armonk, NY: IBM Corp.

Johnston, C. S., Broonen, J.-P., Stauffer, S., Hamtiaux, A., Pouyaud, J., Zecca, G., . . . Rossier, J. (2013). Validation of an adapted French form of the Career Adapt-Abilities Scale in four Francophone countries. *Journal of Vocational Behavior, 83*, 1-10. doi: 10.1016/j.jvb.2013.02.002

Karimi, S., Biemans, H. J., Lans, T., Chizari, M., & Mulder, M. (2014). The impact of entrepreneurship education: A study of Iranian students' entrepreneurial intentions and opportunity identification. *Journal of Small Business Management*. doi: 10.1111/jsbm.12137

Krueger, N. F., Reilly, M. D., & Carsrud, A. L. (2000). Competing models of entrepreneurial intentions. *Journal of Business Venturing, 15*, 411-432. doi: 10.1016/S0883-9026(98)00033-0

Lee, L., Wong, P. K., Der Foo, M., & Leung, A. (2011). Entrepreneurial intentions: The influence of organizational and individual factors. *Journal of Business Venturing, 26*, 124-136. doi: 10.1016/j.jbusvent.2009.04.003

Muthén, L. K., & Muthén, B. O. (1998-2012). *Mplus Version 7*. Los Angeles, CA: Muthén & Muthén.

Nawaser, K., Khaksar, S. M. S., Shaksian, F., & Jahanshahi, A. A. (2011). Motivational and legal barriers of entrepreneurship development. *International Journal of Business and Management, 6*, 112-118. doi: 10.5539/ijbm.v6n11p112

Negru-Subtirica, O., Pop, E. I., & Crocetti, E. (2015). Developmental trajectories and reciprocal associations between career adaptability and vocational identity: A three-wave longitudinal study with adolescents. *Journal of Vocational Behavior, 88,* 131-142. doi: 10.1016/j.jvb.2015.03.004

Ng, T. W. H., & Feldman, D. C. (2014). Subjective career success: A meta-analytic review. *Journal of Vocational Behavior, 85*, 169-179. doi: 10.1016/j.jvb.2014.06.001

O'Brien, R. M. (2007). A caution regarding rules of thumb for variance inflation factors. *Quality & Quantity, 41*, 673-690. doi: 10.1007/s11135-006-9018-6

Obschonka, M., Silbereisen, R. K., & Schmitt-Rodermund, E. (2010). Entrepreneurial intention as developmental outcome. *Journal of Vocational Behavior, 77*, 63-72. doi: 10.1016/j.jvb.2010.02.008

Ohme, M., & Zacher, H. (2015). Job performance ratings: The relative importance of mental ability, conscientiousness, and career adaptability. *Journal of Vocational Behavior, 87,* 161-170. doi: 10.1016/j.jvb.2015.01.003

Porfeli, E. J., & Savickas, M. L. (2012). Career Adapt-Abilities Scale-USA Form: Psychometric properties and relation to vocational identity. *Journal of Vocational Behavior, 80*, 748-753. doi: 10.1016/j.jvb.2012.01.009

Pruett, M., Shinnar, R., Toney, B., Llopis, F., & Fox, J. (2009). Explaining entrepreneurial intentions of university students: A cross-cultural study. *International Journal of Entrepreneurial Behavior & Research, 15*, 571-594. doi: 10.1108/13552550910995443

Rauch, A., & Hulsink, W. (2015). Putting entrepreneurship education where the intention to act lies: An investigation into the impact of entrepreneurship education on entrepreneurial

behavior. *Academy of Management Learning & Education, 14*, 187-204. doi: 10.5465/amle.2012.0293

Savickas, M. L. (1997). Career adaptability: An integrative construct for life-span, life-space theory. *Career Development Quarterly, 45*, 247-259. doi: 10.1002/j.2161-0045.1997.tb00469.x

Savickas, M. L. (2013). Career construction theory and practice. In R. W. Lent & S. D. Brown (Eds.), *Career development and counselling: Putting theory and research into work* (2nd ed., pp. 147-183). Hoboken, NJ: Wiley.

Savickas, M. L., & Porfeli, E. J. (2012). Career Adapt-Abilities Scale: Construction, reliability, and measurement equivalence across 13 countries. *Journal of Vocational Behavior, 80*, 661-673. doi: 10.1016/j.jvb.2012.01.011

Schafer, J., & Graham, J. (2002). Missing data: Our view of the state of the art. *Psychological Methods, 7*, 147-177. doi: 10.1037/1082-989X.7.2.147

Seibert, S., & Kraimer, M. (2001). The five-factor model of personality and career success. *Journal of Vocational Behavior, 58*, 1-21. doi: 10.1006/jvbe.2000.1757

Shane, S. (2000). Prior knowledge and the discovery of entrepreneurial opportunities. *Organization Science, 11*, 448-469. doi: 10.1287/orsc.11.4.448.14602

Shane, S., & Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. *Academy of Management Review, 25*, 217-226. doi: 10.5465/AMR.2000.2791611

Shepherd, D. A., & DeTienne, D. R. (2005). Prior knowledge, potential financial reward, and opportunity identification. *Entrepreneurship Theory and Practice, 29*, 91-112.

Soresi, S., Nota, L., & Ferrari, L. (2012). Career Adapt-Abilities Scale-Italian Form: Psychometric properties and relationships to breadth of interests, quality of life, and perceived barriers. *Journal of Vocational Behavior, 80*, 705-711. doi: 10.1016/j.jvb.2012.01.020

Souitaris, V., Zerbinati, S., & Al-Laham, A. (2007). Do entrepreneurship programmes raise entrepreneurial intention of science and engineering students? The effect of learning, inspiration and resources. *Journal of Business Venturing, 22*, 566-591. doi: 10.1016/j.jbusvent.2006.05.002

Super, D. E., & Knasel, E. G. (1981). Career development in adulthood: Some theoretical problems and a possible solution. *British Journal of Guidance & Counselling, 9*, 194-201. doi: 10.1080/03069888108258214

Tien, H.-L. S., Wang, Y.-C., Chu, H.-C., & Huang, T.-L. (2012). Career Adapt-Abilities Scale—Taiwan Form: Psychometric properties and construct validity. *Journal of Vocational Behavior, 80*, 744-747.

Tolentino, L. R., Garcia, P. R. J. M., Lu, V. N., Restubog, S. L. D., Bordia, P., & Plewa, C. (2014). Career adaptation: The relation of adaptability to goal orientation, proactive personality, and career optimism. *Journal of Vocational Behavior, 84*, 39-84. doi: 10.1016/j.jvb.2013.11.004

Tolentino, L. R., Sedoglavich, V., Lu, V. N., Garcia, P. R. J. M., & Restubog, S. L. D. (2014). The role of career adaptability in predicting entrepreneurial intentions: A moderated mediation model. *Journal of Vocational Behavior, 85*, 403-412. doi: 10.1016/j.jvb.2014.09.002

Ucbasaran, D., Westhead, P., & Wright, M. (2008). Opportunity identification and pursuit: Does an entrepreneur's human capital matter? *Small Business Economics, 30*, 153-173. doi: 10.1007/s11187-006-9020-3

Ucbasaran, D., Westhead, P., & Wright, M. (2009). The extent and nature of opportunity identification by experienced entrepreneurs. *Journal of Business Venturing, 24*, 99-115. doi: 10.1016/j.jbusvent.2008.01.008

UNICEF (2013). Islamic Republic of Iran Retrieved December, 02, from http://www.unicef.org/infobycountry/iran_statistics.html

United Nations Population Fund (2012). Country profile Iran. Retrieved 02 December, 2015, from http://iran.unfpa.org/Country%20Profile.asp

Urbanaviciute, I., Kairys, A., Pociute, B., & Liniauskaite, A. (2014). Career adaptability in Lithuania: A test of psychometric properties and a theoretical model. *Journal of Vocational Behavior, 85*, 433-442. doi: 10.1016/j.jvb.2014.09.005

Van Gelderen, M., Brand, M., van Praag, M., Bodewes, W., Poutsma, E., & Van Gils, A. (2008). Explaining entrepreneurial intentions by means of the theory of planned behaviour. *Career Development International, 13*, 538-559. doi: 10.1108/13620430810901688

van Vianen, A. E. M., Klehe, U.-C., Koen, J., & Dries, N. (2012). Career adapt-abilities scale—Netherlands form: Psychometric properties and relationships to ability, personality, and regulatory focus. *Journal of Vocational Behavior, 80*, 716-724. doi: 10.1016/j.jvb.2012.01.002

Vignoli, E. (2015). Career indecision and career exploration among older French adolescents: The specific role of general trait anxiety and future school and career anxiety. *Journal of Vocational Behavior, 89*, 182-191. doi: 10.1016/j.jvb.2015.06.005

World Bank (2015). Iran. Retrieved 02 December, 2015, from http://www.worldbank.org/en/country/iran/overview

Zacher, H. (2014a). Career adaptability predicts subjective career success above and beyond personality traits and core self-evaluations. *Journal of Vocational Behavior, 84*, 21-30. doi: 10.1016/j.jvb.2013.10.002

Zacher, H. (2014b). Individual difference predictors of change in career adaptability over time. *Journal of Vocational Behavior, 84*, 188-198. doi: 10.1016/j.jvb.2014.01.001

Zacher, H. (2015). Daily manifestations of career adaptability: Relationships with job and career outcomes. *Journal of Vocational Behavior, 91*, 76-86. doi: 10.1016/j.jvb.2015.09.003

Zacher, H. (2016). Within-person relationships between daily individual and job characteristics and daily manifestations of career adaptability. *Journal of Vocational Behavior, 92*, 105-115. doi: 10.1016/j.jvb.2015.11.013

Zacher, H., Ambiel, R. A. M., & Porto Noronha, A. P. (2015). Career adaptability and career entrenchment. *Journal of Vocational Behavior, 88*, 164-173. doi: 10.1016/j.jvb.2015.03.006

Zacher, H., & Griffin, B. (2015). Older workers' age as a moderator of the relationship between career adaptability and job satisfaction. *Work, Aging and Retirement, 1*, 227-236. doi: 10.1093/workar/wau009

Zhao, H., Seibert, S. E., & Hills, G. E. (2005). The mediating role of self-efficacy in the development of entrepreneurial intentions. *Journal of Applied Psychology, 90*, 1265-1272. doi: 10.1037/0021-9010.90.6.1265

Table 1

Career Adapt-Abilities Scale (CAAS)–Iran Form: Items, Descriptive Statistics, and Standardized Factor Loadings

Construct		Item (first-order indicators)[a]	Persian translation	Mean	*SD*	Factor Loading
Concern	1.	Thinking about what my future will be like.	1- فکر در مورد این که آینده من چگونه خواهد بود.	3.32	1.05	.68
	2.	Realizing that today's choices shape my future.	2- مراسم تن این که انتخاب های امروز آینده شکل می دهد.	3.75	1.04	.83
	3.	Preparing for the future.	3- آماده شدن برای آینده.	3.40	1.09	.86
	4.	Becoming aware of the educational and career choices that I must make.	4- کاهی از گزینه های تحصیلی و شغلی که باید انتخاب کنم.	3.50	1.10	.71
	5.	Planning how to achieve my goals.	5- برنامه ریزی برای دستیابی به اهداف.	3.27	1.24	.70
	6.	Concerned about my career.[b]	6- نگرانی و دل مشغولی در مورد زندگی حرفه ایم.	3.23	1.18	.21
Control	7.	Keeping upbeat.	7- همیشه خوش بین بودن.	2.88	1.27	.55
	8.	Making decisions by myself.	8- تصمیم گیری توسط خودم.	3.58	1.13	.80
	9.	Taking responsibility for my actions.	9- به عهده گرفتن مسئولیت اعمال و رفتار خودم.	3.93	1.00	.73
	10.	Sticking up for my beliefs.	10- پایبند بودن به باورها و عقایدم.	3.78	1.02	.78
	11.	Counting on myself.	11- حساب کردن روی خودم.	3.89	1.07	.82
	12.	Doing what's right for me.	12- انجام آنچه که برایم درست است.	3.78	1.02	.81
Curiosity	13.	Exploring my	13- بررسی محیط اطرافم.	3.41	1.01	.69

		surroundings.			
	14.	Looking for opportunities to grow as a person.	14- توجه به فرصت ها برای رشد به عنوان یک فرد.	3.40	1.09	.77
	15.	Investigating options before making a choice.	15- بررسی گزینه ها قبل از اتخاذ تصمیم.	3.53	1.03	.83
	16.	Observing different ways of doing things.	16- مشاهده و توجه به روش های مختلف انجام کارها.	3.48	1.01	.84
	17.	Probing deeply into questions I have.	17- بررسی و کاوش عمیق سوالاتی که دارم.	3.34	1.05	.78
	18.	Becoming curious about new opportunities.	18- کنجکاوی در مورد فرصت های جدید.	3.50	1.13	.78
Confidence	19.	Performing tasks efficiently.	19- انجام موثر و کارآمد امور.	3.70	1.00	.71
	20.	Taking care to do things well.	20- مراقبت به انجام خوب و درست کارها.	3.91	0.92	.70
	21.	Learning new skills.	21- یادگیری مهارت های جدید.	3.75	1.02	.70
	22.	Working up to my ability.	22- کار با حداکثر توان.	3.96	1.09	.75
	23.	Overcoming obstacles.	23- غلبه بر موانع.	3.66	1.12	.86
	24.	Solving problems.	24- حل مشکلات.	3.64	1.08	.86

Construct		Item (second-order indicators)	Mean	*SD*	Factor Loadin
Career adaptability	1.	Concern	3.45	0.89	.80
	2.	Control	3.64	0.86	.93
	3.	Curiosity	3.44	0.86	.90
	4.	Confidence	3.77	0.84	.87

Note. $N = 204$; all loadings, except for item 6, are significant at $p < .001$. [a]The English items are from Savickas and Porfeli (2012). [b]Item excluded from subsequent analyses. Fit indices (with all items included): $\chi^2(248) = 573.57$, $p < .001$; CFI = .899; TLI = .887; RMSEA = .080. Fit indices

(with item 6 excluded): $\chi^2(226) = 540.83$, $p < .001$; CFI = .902; TLI = .890; RMSEA = .083. The Persian instruction was as follows:

افراد مختلف از نقاط قوت مختلفی برای پیشبرد حرفه شان استفاده می کنند. هیچکس در همه موارد خوب نیست و هر کدام از ما، روی برخی نقاط قوت مان اتکا می کنیم. لطفا مشخص کنید که تا چه میزان قابلیت های زیر را در خود ارتقاء داده اید.

The scale answer options were: 1 = ,(gnorts ton) یـ ست ذ ـ ی قـ وی 2 = ,(gnorts tahwemos) تا حدودی قـ ویـ

3 = s) وی قـtrong), 4 = dna ,(gnorts yrev) یـ ار قـ وی سـ بـ 5 = .(tsegnorts) ترـ یـ ن قـ ویـ

Table 2

Descriptive Statistics and Correlations

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Career adaptability	3.58	0.76	(.95)													
2. Concern	3.45	0.89	.83**	(.87)												
3. Control	3.64	0.86	.90**	.69**	(.88)											
4. Curiosity	3.44	0.86	.90**	.69**	.74**	(.90)										
5. Confidence	3.77	0.84	.87**	.59**	.72**	.73**	(.90)									
6. Age	36.90	8.55	.11	.10	.09	.12	.10	—								
7. Gender	1.30	0.46	-.12	-.11	-.08	-.14	-.10	-.33**	—							
8. Educational level	4.85	0.45	-.04	.01	-.03	-.04	-.06	.22**	-.03	—						
9. Job tenure	8.75	7.97	.16*	.13	.16*	.16*	.13	.66**	-.17*	.16*	—					
10. Employment status	1.73	0.44	-.04	-.03	-.06	-.03	-.01	.28**	.01	.17*	.12	—				
11. Entrepreneurial experience	1.56	0.49	.21**	.22**	.25**	.17*	.12	.23**	-.20**	.04	.17*	-.14*	—			
12. Career satisfaction	3.39	0.88	.45**	.42**	.41**	.36**	.38**	.18*	-.05	.03	.14*	.06	.09	(.90)		
13. Opportunity identification	1.36	0.73	.06	.19**	.01	.06	-.04	-.03	-.01	.02	.01	-.20**	.35**	.06	(.72)	
14. Entrepreneurial intentions	4.89	1.79	.24**	.30**	.20**	.19**	.15*	.01	-.06	.10	.02	-.19**	.48**	-.01	.48**	(.89)

Note. N = 204. For gender, 1 = male, 2 = female. For employment status, 1 = self-employed, 2 = salaried. For entrepreneurial experience, 1 = no, 2 = yes. Reliability estimates (α), where available, are shown in parentheses along the diagonal.

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

Table 3

Results of Regression Analyses Predicting Career Satisfaction, Opportunity Identification, and Entrepreneurial Intentions

	Career satisfaction		Opportunity identification		Entrepreneurial intentions	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Age	.16	.16	-.09	-.10	-.07	-.07
Gender	.04	.03	.04	.05	.03	.04
Educational level	.03	.02	.04	.03	.13*	.12
Job tenure	-.04	-.04	.03	.04	-.03	-.02
Employment status	.03	.02	-.14*	-.15*	-.11	-.11
Entrepreneurial experience	.01	.00	.36**	.35**	.45**	.45**
Career satisfaction	—	—	.07	.06	-.12	-.13
Opportunity identification	.13	.12	—	—	—	—
Entrepreneurial intentions	-.18*	-.19*	—	—	—	—
Career adaptability	.47**	—	-.05	—	.21**	—
Concern		.25*		.30**		.30**
Control		.20		-.28*		-.10
Curiosity		-.03		.08		.01
Confidence		.13		-.14		.05
R^2	.24	.26	.16	.22	.30	.33
F	6.89**	5.47**	4.57**	5.04**	10.30**	8.43**

Note. N = 204. Standardized regression coefficients (β) are shown.

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

Highlights

- We examined the psychometric properties and criterion-related validity of the Career-Adapt Abilities Scale–Iran Form.
- Results showed that the scale measures career adaptability and its four dimensions in a reliable way.
- Career adaptability and its concern dimension related positively to career satisfaction and entrepreneurial intentions.
- Concern related positively, and control related negatively, to business opportunity identification.
- The Persian translation of the Career-Adapt Abilities Scale can be used for career counseling and research.