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Psychometric Properties of the Turkish Version of the Entrepreneurs' Social Identity Scale

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ABSTRACT

This study aimed to assess the psychometric properties of the Turkish adaptation of the Entrepreneurial Social Identity Scale. The factor structure (confirmatory factor analysis), construct validity (convergent and discriminant validity), and reliability (internal consistency) of the Turkish version were analyzed. Convergent validity was examined in relation to entrepreneurial self-efficacy and entrepreneurial career motivations. Discriminant validity was tested by examining its relationship with locus of control, subjective norm, risk perception, and uncertainty avoidance. A total of 216 startup founders in technoparks participated. Findings indicated acceptable goodness-of-fit indices for the scale's factor structure, supporting its three-factor structure. Confirmatory factor analysis results were as follows: χ 2=254, p<0.01, χ 2/df=2.92, TLI=0.91, CFI=0.92, RMSEA=0.09. Internal consistency within the three-factor structure (.75, .93, .89) was acceptable. In conclusion, there is substantial evidence supporting the psychometric properties of the Entrepreneurial Social Identity Scale.

Keywords: Entrepreneurship, Startup, Entrepreneurial Social Identity Scale, Validity, Reliability, Psychometric Properties, Turkish Version.

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INTRODUCTION

Identity theory is a concept that includes theories that try to explain individuals' identities and behaviors in terms of the identities of societies. The theory assumes that people have internalized meanings tied to each of their identities and that they behave to ensure that others view them in a way consistent with these meanings (Burke & Stets, 2009). Social Identity theory was put forward by Tajfel & Turner (1979) to explain the cognitive processes of individuals and the relationships of individuals between groups. The social psychology theory attempts to explain individuals' behavior toward group relations by referring to themselves. It is a theory that deals with individuals' perception of themselves as group members, their membership in a group, and the relationships regarding the group formation process. Identities contain a cognitive answer to a person's 'who am I' question about themselves. They also include the characteristics, preferences, behaviors, and goals that the individual associates with themselves (Howard, 2000: 369). Here, the answer given by individuals to define themselves to the question 'Who am I?' reflects their identities, while the answer given as 'we and others' (group membership) by defining themselves through classification reflects their social identities (Leaper, 2011).

Identity provides individuals a foundation for interpreting their social situation and behaviors (Sieger et al., 2016). In this sense, it is essential to use social identity to understand and explain entrepreneurial behavior. In recent years, social identity has been used in entrepreneurship research and has developed a growing literature (Franke et al., 2006; Fauchart & Gruber, 2011; Powell & Baker, 2014). In line with this, in the research conducted by Fauchart & Gruber (2011) to understand entrepreneurs' attitudes and behaviors, it was emphasized that entrepreneurial types differentiate based on entrepreneurs' perceptions and attitudes. Sieger et al. (2016) emphasized that starting or creating an enterprise is a social activity; therefore, the entrepreneurial self's social aspects are essential. Leitch & Harrison (2016) also state that entrepreneurs attribute meaning to their behaviors with their perceived identity. Thus, identity is a powerful element guiding entrepreneurial actions since enterprises are social structures established with social aspects aimed at the individual self (Fauchart & Gruber, 2011). Studies in the field of entrepreneurship have

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also found that there is a strong relationship between entrepreneurial identity and behavior (Alsos et al., 2016; Cardon et al., 2009; Estrada-Cruz et al., 2020; Fauchart & Gruber, 2011; Gruber & Mac Millan, 2017; Powell & Baker, 2014). The reason why so much emphasis is placed on identity and group processes is the view that 'one way to understand people is to understand identity' (Jenkins, 2008: 20).

Introducing social identity theory in entrepreneurship research provides a better understanding of the entrepreneur and the entrepreneurship process, as entrepreneurs' social identity perceptions affect their goals, motivation, and attitudes. Therefore, Sieger et al. (2016) developed the Entrepreneurial Social Identity Scale. The researchers conducted a comprehensive study with 9,341 participants from 16 countries (Estonia, Brazil, Hungary, Germany, Italy, Mexico, Malaysia, Poland, Netherlands, Singapore, Russia, Australia, Spain, Canada, the United Kingdom, and the United States) engaged in new firm creation activities. In the first stage, nine structures were created for the three constituent social identity types, and two items were added for each structure. Thus, a pool of 18 items was created. As a result of the scale development study, the 15-item 3-factor identity type was confirmed in line with the relevant analyses. It was revealed that the fit values of the threedimensional scale were at an acceptable level (Factor Loading \geq 0.507; NFI = 0.936, CFI = 0.965, IFI = 0.967, TLI = 0.927, SRMR = 0.044, RMSEA = 0.06, AVE = between 0.57 and 0.73). The convergent validity of the scale was analyzed with the career motivations and entrepreneurial self-efficacy scales, and findings supporting the validity of the scale were obtained. Discriminant validity was supported by examining relationships with variables such as Locus of Control, Subjective Norm, Risk Perception, and Uncertainty Avoidance. Internal consistency values were found to be 0.78 for the Darwinian dimension. 0.82 for the Communitarian dimension, and 0.84 for the Missionary dimension. During the research process, it was observed that the scale was adapted into 16 languages (English, French, Estonian, Danish, German, Dutch, Italian, Spanish, Hebrew, Japanese, Polish, Hungarian, Russian, Portuguese, Slovenian, and Romanian) by Sieger et al. In this sense, it can be said that the scale has achieved comprehensive validity.

The scale has quantitatively demonstrated that it can be divided into three dimensions: Darwinian, Communitarian, and Missionary, and included those who were not included in these groups in the hybrid entrepreneur group. It has explained that entrepreneurs

are separated according to their cognitive aspects in these three dimensions and are grouped into three groups. The characteristics of the three dimensions separated according to entrepreneurs' identity perception are explained below.

Darwinian identity: Entrepreneurs with a Darwinian identity perception consider their interests when establishing a company (Sieger et al., 2016: 546). It refers to entrepreneurs who manage profit-oriented enterprise processes within the framework of competitive conditions in the sector in which they operate. Entrepreneurs with this identity perception are motivated by their economic interests, see their competitors as a frame of reference, and evaluate themselves according to their professionalism (Fauchart & Gruber, 2011). Like classic entrepreneurs, these entrepreneurs focus mainly on establishing strong and profitable companies for economic benefit. An example of this type of entrepreneurship from Türkiye is 'Getir' (www.getir.com).

Communitarian identity: Entrepreneurs with a social identity perception care for the people around them when establishing a company. Such entrepreneurs want to support the social community they feel they belong to. They see society as the primary social reference when establishing companies to provide products and services that communities (groups) need (Sieger et al., 2016). The social benefit comes first, while material processes remain in the background. It continues its activities to benefit society in the social entrepreneurship type. The 'İçimizdeki Hazine' (www.icimdekihazine.com) (Otsimo) startup can be an example of this type of entrepreneurship. It is a platform designed for children with autism, Down Syndrome, and special education needs. It offers educational games free of charge to children with autism and Down Syndrome.

Missionary identity: Entrepreneurs with a Missionary identity perception start enterprise for a better and more prosperous world. They want to increase the welfare of societies and support them by solving their problems. They see society as the primary reference in the social field (Sieger et al., 2016). They act responsibly to maintain their political vision and desire to build a better world (Fauchart & Gruber, 2011). The 'İhtiyaç Haritası' startup can exemplify entrepreneurship with this sense of identity (www.ihtiyacharitasi.org). İhtiyaçlar Haritası was supported by the United Nations Development Program (UNDP). The mentioned startup aims to unite individuals who want to support needy people or animals on a common platform. The needs and supporters of many cities are shown on a map. In this way, supporters can quickly

help many people in need. Additionally, thanks to this platform, companies, non-governmental organizations, and volunteers can meet.

Considering the global popularity of the scale and its potential use in Turkey, it has yet to be adapted to Turkish. In 2023, 3.784 million entrepreneurial activities were recorded in the industrial and service sectors in Turkey (Turkish Statistical Institute, data.tuik.gov.tr), with technology startups receiving \$1.74 billion in investments in 2022 and \$901 million in 2023 (StartupCentrum.com). Additionally, according to the Global Startup Ecosystem Index 2024 (www.startupblink.com), Turkey ranks 40th. In this context, it is important to elucidate the social identity perceptions and cognitive processes of entrepreneurs in Turkey, which has significant potential.

Despite the Entrepreneurs' Social Identity Scale being internationally validated and widely used in various cultural contexts, there is a notable gap in its application within Turkey. Existing studies on entrepreneurship in Turkey generally focus on economic, institutional, and individual factors (Akarsu & Döven, 2022), but there is limited research examining the social identity of entrepreneurs. This gap hinders a comprehensive understanding of the entrepreneurial landscape in Turkey, as social identity can significantly influence entrepreneurial motivations, behaviors, and success. By adapting and validating this scale for the Turkish context, this study aims to fill this gap and contribute to a more holistic understanding of Turkish entrepreneurship.

In other words, the purpose of this study is to adapt the Entrepreneurs' Social Identity Scale, developed by Sieger, Gruber, Fauchart, and Zellweger (2016), to the Turkish context. This adaptation aims to provide a reliable and valid tool for measuring the social identity of entrepreneurs within Turkey and to offer deeper insights into how social identity influences entrepreneurial behaviors and outcomes in the Turkish entrepreneurial ecosystem.

In order to test the validity and reliability of the Entrepreneurs' Social Identity Scale Turkish form, it must meet certain expectations. The variables and expectations used by Sieger et al. (2016) in developing the scale should be met similarly in the Turkish adaptation study. As the first method to test the scale's validity, the factor structure is expected to be three-dimensional, similar to the original scale, and the fit indices in Confirmatory Factor Analysis (CFA) will be acceptable. The second method is to analyze convergent validity for construct validity. Therefore, a significant relationship is expected

between our identity types, career motivations, and entrepreneurial self-efficacy scale. In other words, career choice reasons will differ among identity types because career motivations reveal what motivates individuals to become entrepreneurs. For example, among career motivations, the desire to gain power and money is higher concerning Darwinian among entrepreneurs' social identity types. Entrepreneurs with a Darwinian social identity focus on gaining competitive advantage and dominating the industry. Communitarian and Missionary social identities, on the other hand, tend to be much less concerned about power because they want to support society or help make the world a better place. Their general feature is that they create enterprises that are beneficial to a social group (Communitarian) or society in general (Missionary) (Fauchart & Gruber, 2011).

On the other hand, a higher level of relationship between creativity motivation and missionary identity is expected. Missionaries aspire to engage in organizational innovation processes and enhance them; thus, their motivation to become entrepreneurs is rooted in their desire to apply their creativity (Sieger et al., 2016). The motivation to benefit society and relatives is also expected to be related to the Missionary and Communitarian identity types, as they have their own characteristics. The Entrepreneurial Self-Efficacy scale was also used for convergent validity. A significant relationship with the scale is expected since entrepreneurial self-efficacy expresses individuals' perceptions of their entrepreneurial skills and abilities (McGee et al., 2009; Zhao et al., 2005).

For discriminant validity, Sieger et al. (2016) also found either non-significant or significantly low relationships between the scale and the variables they used for discriminant validity, such as Levenson Locus of Control (Levenson, 1973), subjective norm (Liñán & Chen, 2009), risk perception (Pennings & Wansink, 2004), and avoidance of uncertainty (Hofstede, 2001). Likewise, the Turkish adaptation study expects no relationship with these variables. Thus, the fact that expected similar conditions are met mainly with the developed scale indicates that the scale's psychometric properties are satisfactory.

To adapt the entrepreneur's social identity scale to Turkish, reliability analysis (Cronbach's alphas), factor validity (CFAs), and construct validity (convergent and discriminant validity) were tested. In order to test the convergent and discriminant validity of the entrepreneurs' social identity scale, the Levenson control scale (Levenson, 1973), subjective norm (Liñán & Chen, 2009), risk perception (Pennings & Wansink, 2004),

uncertainty avoidance (Hofstede, 2001), entrepreneurial self-efficacy (De Noble et al., 1999) and entrepreneurial career intentions (Sezer, 2013) scales were used.

Sieger et al. (2016), who developed the scale, employed the variables used for convergent and discriminant validity to test the adapted scale's validity. In this context, a positive relationship was expected with the social identities of entre preneurs scale using Turk is had a ptationsof the scales for convergent validity. To test convergent validity, relationships between entrepreneurial career intentions dimensions and entrepreneurial social identities (according to the three identity types) were expected. For example, entrepreneurs with a Darwinian identity perception engage in entrepreneurship to make money and gain status. On the other hand, an entrepreneur with a missionary identity perception has become an entrepreneur with the career intention of benefiting society. However, the entrepreneurial selfefficacy and social identity scales are expected to be related because they contain success goal beliefs (Sieger et al., 2016).

For discriminant validity, low correlation is expected with the locus of control, subjective norm, risk perception, uncertainty avoidance, and social identities of entrepreneurs. Previous studies have revealed that locus of control based on others and chance and other subjective norms, risk perception, and uncertainty avoidance have a low or no relationship between entrepreneurs (Sieger et al., 2016).

Finally, the fit index between the factor structures of the adapted entrepreneurial social identity scale and the factor structures of the original scale was expected to be at an acceptable level. Thus, the developed scale meets the expected conditions to a large extent, and the scale's psychometric properties are satisfactory.

INSTRUMENTS

Entrepreneurs' Social Identity Scale developed by Sieger et al. (2016) consists of three dimensions: Darwinian ("e.g., I will create my firm in order... to advance my career in the business world"), Communitarian ("e.g., I will create my firm in order...to solve a specific problem for a group of people that I strongly identify with (e.g., friends, colleagues, club, community)"), and Missionary ("e.g., As a firm founder, it will be very important to me...to be a highly responsible citizen of our world"), and 5 items in each dimension. The scale is a 7-point Likert type ranging from 1 = 'Strongly Disagree' to 7 = 'Strongly Agree', and participants were asked to indicate the extent to which they agreed with

the items. The translation process of the scale into Turkish was planned from this study.

During the scale adaptation process, initial contact was made with the researchers who developed the Entrepreneurs' Social Identity Scale via email to request the necessary permissions for adapting the scale. Upon receiving the required permissions, the scale text was independently translated into Turkish by a translator, two university English instructors, and a professor. These four separate Turkish translations were then evaluated by a group of academics and consolidated into a single format.

The consolidated format was presented to 30 different individuals to assess its cultural and linguistic compatibility with Turkish. Participants were asked to review the phrases and provide feedback, rather than to respond to the scale itself. Based on the feedback received, any unclear words and sentence structures were revised. The revised scale was then presented to a different group of individuals, and after incorporating the necessary revisions, the final Turkish version was established. With the elimination of any ambiguities, the back-translation phase commenced.

For the back-translation process, the final Turkish version was independently translated back into English by an English instructor and an academic. After completing the English translation, approval for the English version of the scale was sought from the original developers via email.

The Turkish version (Kıral, 2012) of the 24-item *The Locus of Control Scale* was used to evaluate the locus of control of entrepreneurs (Levenson, 1973). The scale encompasses three types of locus of control: internal locus of control ("e.g., Whether or not I get to be a leader depends mostly on my ability"), control by powerful others ("e.g., My life is chiefly controlled by powerful others"), and control by chance forces ("e.g., When I get what I want, it's usually because I'm lucky"). The scale is a 7-point Likert type ranging from 1 = 'Strongly Disagree' to 7 = 'Strongly Agree'. Participants were instructed to respond to each item based on how well they described themselves. Score averages were taken according to focus types, and high scores represent focus type. Cronbach's α of the three dimensions in this scale are .75, .93, and .89, respectively.

The Turkish version (Ören & Bickes, 2011) of the 5-item *Risk Perception Scale* (Hisrich & Peters, 2002) was used to measure the risk perception of entrepreneurs. The scale was used as a one-dimensional (e.g., when I am afraid, I

deal with the fear.) and uses a 7-point Likert type format, ranging from 1 = 'Strongly Disagree' to 7 = 'Strongly Agree'. The average of the items in the scale shows the risk perceptions of entrepreneurs. Cronbach's α value is .66.

The Uncertainty Avoidance Dimension is one of the cultural dimensions developed by Hofstede (2001). The dimension that reflects the cultural values of societies and allows evaluation has been widely used in the field of entrepreneurship (Mueller, 2004; Swierczek & Ha, 2003). The Turkish version (Saylık, 2019) was used to measure the uncertainty avoidance of entrepreneurs with a single dimension consisting of 5 items (e.g. It is important to follow the instructions and procedures strictly). The scale was used on a 7-point Likert scale ranging from 1 = 'Strongly Disagree' to 7 = 'Strongly Agree'. Cronbach's α value is .90.

Liñán & Chen (2009) developed a four-dimensional scale (personal attitude, subjective norm, perceived behavioral control, and entrepreneurial intention) to measure entrepreneurial intention, drawing upon the theory of planned behavior. Subjective norm dimension was used for discriminant validity in our research. The Turkish version (Kalkan, 2011) of the three-item subjective norm dimension (e.g., My circle of friends approves of my decision to start a new job) was used. The scale was used on a 7-point Likert scale ranging from 1 = 'Strongly Disagree' to 7 = 'Strongly Agree'. Participants were instructed to respond to each item based on how well they described themselves. Score averages were taken based on the answers given, and high scores represent the subjective norm. In the study, Cronbach's α value was determined as .81.

The Turkish version (Naktiyok et al., 2010) of the 35-item Entrepreneurial Self-efficacy Scale (De Noble et al., 1999) was used to evaluate the self-efficacy of entrepreneurs. The scale consists of six dimensions, including developing new product and market opportunities ("e.g., I can discover new ways to improve existing products"), coping with unexpected challenges ("e.g., I can tolerate unexpected changes in business conditions"), developing critical human resources ("e.g., I can identify and build management teams"), defining core purpose ("e.g., I can convince other to join with me in pursuit of my vision"), building an innovative environment ("e.g., I can create a working environment that encourages people to try out something new"), and initiating investor relationships ("e.g., I can identify potential sources of funding for investment"). The scale is a 7-point Likert type ranging from 1 = 'Strongly Disagree' to 7 = 'Strongly Agree'. Participants were instructed to respond to each item based

on how well they described themselves. Score averages of the entrepreneurial self-efficacy scale were taken and high scores represent high entrepreneurial self-efficacy. Cronbach's α value of the scale was calculated as .95.

The Turkish version of the 44-item Entrepreneurship Career Intention Scale (Sezer, 2013) was used to evaluate the reasons why entrepreneurs chose their careers. The scale consists of 12 dimensions, namely, desire for status, desire for independence, desire for earnings, desire to own one's own business, desire to succeed, obligation, being useful to relatives and society, personal history, continuous learning, development and innovation, desire for power, self-confidence and risk appetite, active business life and close relationships. In the study, the dimensions of desire for status, desire for earnings, and being useful to relatives and society were used for convergent validity. The scale is a 7-point Likert type ranging from 1 = 'Strongly Disagree' to 7 = 'Strongly Agree'. The average scores for each dimension were calculated, and high scores represent the reasons why they chose an entrepreneurial career. Cronbach's α value of the dimensions was calculated as desire for status .95, desire for earnings .78, and being useful to relatives and society .75.

Materials and methods

Participants and Procedures

Pilot Study

For the pilot study, the population consists of undergraduate students enrolled in entrepreneurship courses at the Faculties of Economics and Administrative Sciences and the Business Faculties of Sakarya University, Aydın Adnan Menderes University, and Süleyman Demirel University in Turkey. These universities were chosen due to the higher number of students taking entrepreneurship courses in these faculties and time and cost constraints. Participants were selected using convenience and purposive sampling methods, focusing on students taking entrepreneurship courses who have indicated a positive response to entrepreneurial plans.

The rationale for selecting students enrolled in entrepreneurship courses is to ensure the pilot study sample closely represents the broader population of potential entrepreneurs. By focusing on students who are engaged in entrepreneurship education and have entrepreneurial aspirations post-graduation, we aim to gather data from individuals whose goals and motivations closely mirror those of actual entrepreneurs. This approach is intended to maximize the relevance and

applicability of the adaptation analysis before collecting data from the broader population of established entrepreneurs.

The survey form containing the scales was sent to the undergraduate students online. It was emphasized that participation in the survey was voluntary. After completing the survey, the surveys that took an entrepreneurship course, answered yes to the entrepreneurship plan, and were thought to be completed properly were taken into consideration. As a result, data was collected from 200 participants who took an entrepreneurship course, 68 participants who did not have any plans for entrepreneurship in the future were excluded. Ultimately, 132 surveys were used in the relevant analysis. The data collected within the scope of the pilot study was analyzed for reliability for internal consistency and factor analysis for validity. As a result of the analyses, after evaluating the psychometric properties, it was observed that the data were appropriate and it was decided to collect data in the final version of the scale in the population of the research.

Participants: 57% of the undergraduate students were male, while 43% were female. In terms of class standing, 83% were in their final year (fourth year), with the remaining 17% being in the third year. The average age was 65% in the 24-27 age range, and 35% in the 20-23 age range.

STUDY

For the adaptation analyses of the scale, a survey was prepared that included the pre-translated scales, the scale to be adapted, and an informed consent form for voluntary participation provided to the participants. The study population consists of startup founders operating in the technoparks of Izmir Dokuz Eylul University and Istanbul Yildiz Technical University in Turkey. These technoparks were chosen because they are among the largest in Turkey in terms of the number of startups, providing easier access to the startup founders.

Participants for the study were determined using snowball and convenience sampling methods, as time and cost constraints play a significant role in reaching technological entrepreneurs. The surveys were collected both face-to-face and online from startups operating in the technoparks between March and May 2022. A total of 238 surveys were completed, with incomplete and careless responses removed, resulting in 216 surveys being subjected to the relevant analysis.

Participants: Among the startup founders, 84% (181) were male, and the average age was 36. In terms of education levels, 0.5% (1 founder) had completed primary school, 2.3% (5 founders) had completed high school, 48.6% (105 founders) had a bachelor's degree, 31.9% (69 founders) had a master's degree, and 16.7% (36 founders) had a doctoral degree.

Figure 1 illustrates the overall process of the adaptation study. Initially, after obtaining permission for the scale to be adapted, it was translated by four different translators. The translated formats were then evaluated to consolidate them into a single format. This consolidated format was subsequently presented to 30 different individuals to assess its cultural and linguistic compatibility with Turkish.

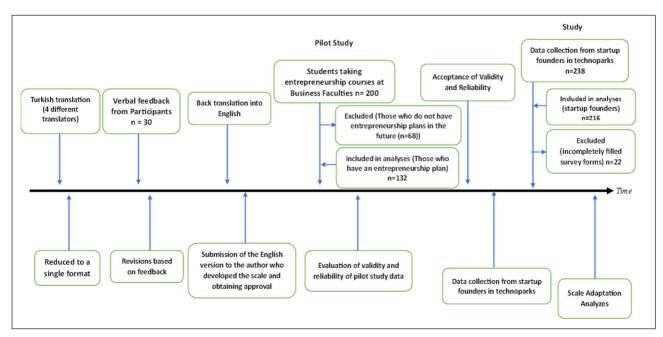


Figure 1: Flow-chart of procedures.

Table 1: EFA item loadings with three dominants

		Pilot Study			Study	
Item	DAR	COM	MIS	DAR	COM	MIS
DAR1	0.325			0.600		
DAR2	0.841			0.757		
DAR3	0.720			0.824		
DAR4	0.916			0.805		
DAR5	0.920			0.659		
COM1		0.774			0.943	
COM2		0.865			0.945	
COM3		0.673			0.899	
COM4		0.848			0.883	
COM5		0.750			0.775	
MIS1			0.650			0.811
MIS2			0.715			0.886
MIS3			0.671			0.942
MIS4			0.603			0.734
MIS5			0.776			0.771
	Total Varian	ce Explained: % 6	4.65	Total Varia	nce Explained	% 69.93

DAR: Darwinian; COM: Communitarian; MIS: Missionary

Based on the feedback received ambiguous words and sentence structures were revised. The revised scale was then presented to a different group of individuals, and after incorporating the necessary revisions, the final Turkish version was established. In the next phase, the scale was back-translated into English using the back-translation technique and sent to the original author for approval. Upon receiving approval, the scale's structure was examined through a pilot study. Following the confirmation of the scale's validity and reliability in the pilot study, data were collected from startup founders operating in technoparks. The findings from the collected and analyzed data are presented in the following section.

FINDINGS

For pilot study and study, the exploratory factor analysis (EFA) of the Entrepreneurial Social Identity Scale is presented in the table. According to EFA results of pilot study, determined that the scale has three dimensions, similar to the original. Cronbach's α value of the scale was calculated as Darwinian .88, Communitarian .87, Missionary .83. Analyzes for pilot study show that the scale is reliable. According to the results, it was decided to collect data from startup founders operating in Technoparks (Study). In the following process, the internal consistency, convergent, and discriminant validity of the scale were tested with the data taken from the sample.

Exploratory factor analysis was conducted on study to retest the construct validity of the scale. The analysis results confirmed the three-dimensional structure of the social identity scale and the explained variance value was determined as 69.93% (Table 1). According to the results of the analysis of the responses received from the participants (study), the internal consistency values of the scales (max 0.93 - min 0.66) are shown in parentheses in Table 2. Confirmatory factor analysis was applied to test the factor structure of the entrepreneurs' social identity scale. The analysis results indicate that in the scale consisting of three dimensions, the goodnessof-fit statistics are as follows: $\chi 2=254$, p < 0.001, $\chi 2/$ df=2.92, TLI (Tucker-Lewis index) =.91, CFI (Comparative Fit Index) = .92, RMSEA (Root Mean Square Error of Approximation) = .09, which demonstrates good model fit. Factor loadings (in terms of standardized regression weights) vary between .35 and .92 (The 1st item of the Darwinian dimension, "I will establish my own company to improve my career in the business world," has a value of .35, and other factor loadings are between .64 and .92). Descriptive statistics and internal consistency values of the variables in the study were calculated (Table 2). The correlation analysis for convergent and discriminant validity is also presented in Table 2.

Table 2: Descriptive statistics, internal consistency and correlation analysis findings

	W	SD	1	2	3	4	5	9	7	8	6	10	11	12	13	15	16	17
1. Entrepreneurs' Social Identity Scale	5.45	1.01	(68.)															
2. Darwinian	6.46	0.72	**84.	(.75)														
3. Communitarian	4.52	1.78	*98.	.17*	(:93)													
4. Missionary	5.38	1.40	.83**	*15.	.51**	(68.)												
5.Locus of Control	3.78	0.64	*4	.02	.18	.07	(.75)											
6. Internal locus of control	4.90	0.80	.22**	.23**	1.	.22**	.53**	(.71)										
7. Control by chance forces	2.79	1.11	08	19**	90:	15*	**89.	08	(92')									
8. Control by powerful others	3.12	1.05	.12	04	.18**	90.	.79**	.07	13.	(.73)								
9. Uncertainty avoidance	5.22	1.27	.31	.23**	.22**	29**	.22**	**61.	.01	.22**	(06:)							
10. Risk Perception	4.44	1.24	.18*	05	.13	.26**	*	00.	00:	.27**	1.	(99.)						
11. Subjective Norm	5.66	1.32	90.	.15*	.04	.01	.07	80.	.12	06	60:	17*	(.81)					
12. Entrepreneurial self- efficacy	5.91	0.72	.38**	.35**	.19**	.39**	04	.26**	29**	60:-	.29**	.34**	.24**	(36)				
13. Desire for status	4.55	1.56	.18*	.13*	.12	.17*	.27**	.15*	.15*	.24**	.19**	.27**	80.	.17*	(98.)			
15. Desire for earnings	5.51	1.30	07	.12	01	19**	.13	60:	.10	90.	08	12	.12	80:	.27**	(.78)		
16. Being useful to relatives and society	4.74	1.47	.27**	.02	.20**	.33**	.20**	*11.	.07	*21.	.20**	.25**	08	*21.	.32**	.05	(.75)	
development and innovation	6.34	0.85	.24**	60.	.16*	.27**	.03	80.	05	.03	.22**	.25**	.03	.31**	60:	09	.32**	(62.)

N: 216, ** p < 0.01, * p < 0.05, M: Mean, SD: Standard Deviation, Values in parentheses indicate Cronbach Alpha reliability coefficient

In Table 2, the convergent validity (the extent to which the scale is related to other measurements designed to assess similar constructs) and discriminant validity (the extent to which the scale does not correlate significantly with different measurements) were examined to assess the construct validity (Hinkin, 2005, 1995). Therefore, the study investigated whether the dimensions of the social identity scale (Darwinian, Communitarian, and Missionary, each consisting of 5 items) were related to the existing scales as specified. Table 2 shows that in line with the original scale, profit motive showed a non-significant but positive relationship (p>0.05, .12) with profit-focused Darwinian identity. In contrast, a negative relationship was observed with Missionary (p <0.01, -.19) and Communitarian (p>0.05, -.01) identities. Status desire was found to have a low relationship with Darwinian (p< 0.05, .13) and Missionary (.17*) identities. The dimension of continuous learning and innovation showed a positive relationship with Missionary (p < 0.01, .27) and Communitarian (p< 0.05, .16) identities, except for Darwinian. In the dimension of benefiting their families and society, Communitarian (p <0.01, .20) and Missionary (p <0.01, .33) identities were found to have a positive and significant relationship in line with their definitions. Although correlation values below 0.3 are small, they are sufficient to ensure convergent validity (Tang et al., 2012). Additionally, the entrepreneurial selfefficacy scale was found to have a higher relationship (p < 0.01, .38) with the social identities of entrepreneurs. The relationship between the Entrepreneurial Social Identity Scale and entrepreneurial self-efficacy indicates a higher level of convergent validity.

The correlation between the locus of control variable and the entrepreneurs' social identity scale was examined to evaluate the discriminant validity of the scale. While the relationship of internal locus of control with Darwinian (p < 0.01, .23) and Missionary (p < 0.01, .22) identity types was observed, its relationship with the Communitarian identity type was not determined. In control by powerful others variable, while there was no relationship between the Darwinian and Missionary identity types, a significant relationship was found with the Communitarian (p <0.01, .18) identity type. Due to the characteristic of the Communitarian identity type, there is a relationship that creates initiative towards the people around it. In the control by-chance forces, relationships are at a negative level. A low relationship was found between the uncertainty avoidance dimension and three identity types. At the same time, the risk perception variable had no relationship with the Darwinian and Communitarian identity types; a positive relationship was found with the Missionary identity type (p<0.01, .26). The dimension of subjective norm shows a positive and low relationship with the Darwinian identity type (p < 0.05, .15), while no relationship is found with the Communitarian and Missionary identity types. Sieger and colleagues (2016) have stated that the low level of relationship is acceptable for discriminant validity.

DISCUSSION AND CONCLUSION

Supporting findings were obtained that the entrepreneurs' social identity scale is reliable and valid. The internal consistencies of the scales used in the study are satisfactory and reasonable (with the lowest α value among variables being .66). It was observed that the CFA fit values and factor loadings of the Social Identity Scale adapted to Turkish were at reasonable levels. The relationship between the scales used according to the characteristics of the entrepreneurs' identity types was expected to have convergent validity. For example, while a positive relationship exists between the Darwinian identity, which creates an enterprise to make money, and the desire for profit, a negative and meaningless relationship is found with the Communitarian identity, which starts an enterprise to benefit the environment. On the other hand, a negative relationship (p<0.01, -.19) was detected between the Missionary identity, which initiates enterprises to make the world a better place, and the desire for profit. Again, while there was no relationship with Darwinian identity in the dimension of being helpful to relatives and society, a positive and significant relationship was found in line with the definitions of Communitarian and Missionary identities.

In summary, different levels of relationships were found between entrepreneurial career intentions according to the identity types of entrepreneurs. This situation provides convergent validity consistent with the study conducted by Sieger et al. (2016) on developing the entrepreneurs' social identity scale. Another variable used for convergent validity, the entrepreneurial self-efficacy scale, was found to have a strong relationship with the social identities of entrepreneurs. Since self-efficacy for entrepreneurs refers to perceptions of their abilities, it was expected to show a consistent correlation with the scale. As a result, the values revealed in the convergent validity correlation analysis were similar to previous studies' findings (Brändle et al., 2018; Sieger et al., 2016) and supported convergent validity.

According to the correlation analysis findings, discriminant validity was supported. It was used to evaluate whether the locus of control is empirically

different and whether it varies with identity types. No relationship was expected between the Social Identity scale of entrepreneurs and their locus of control dimensions, control by powerful others, and control by chance forces. As a result of the analysis, there was a relationship with the internal locus of control, which is characteristic of entrepreneurs, in three dimensions. In contrast, there was a negative or insignificant relationship between the dimensions of control by powerful others and control by chance forces in Darwinian and Missionary entrepreneurs. In contrast, a significantly positive but low relationship was found with the Communitarian identity. This is because Communitarian entrepreneurs carry out entrepreneurial activities by taking the people or groups of people around them as a reference, and a relationship is likely to arise.

The other variable, subjective norm, refers to the individual's perceptions of the pressures in his environment to exhibit or not to exhibit a behavior. In this context, correlation was expected to be low in the structure of identity types, as in the original scale. According to the results, similar to the findings of the original scale, while Subjective norm was not significantly related to Communitarian and Missionary identities, a significant and positive relationship was found with Darwinian identity. Because Sieger et al. (2016) stated, they have internalized what it means to be the founder of a business.

Although the risk perception variable is related to entrepreneurship, it has been stated that there is no relationship with identity evaluations (Sieger et al., 2016). According to the findings of the correlation analysis, a positive significant relationship was found in Missionary identity, unlike the results of the original scale. The level of this relationship is below 0.3 (values below 0.3 are considered low relationships), so it is considered acceptable for discriminant validity (Ratner, 2009).

Finally, the uncertainty avoidance variable was used to support discriminant validity. According to the correlation results of the original scale, a significant and positive but low relationship was found between uncertainty avoidance and entrepreneurs' social identity types with Darwinian, Communitarian, and Missionary identity types. The reason why there is a relationship is due to the cultural structure of the society. According to Hofstede's cultural analysis, Türkiye has the highest uncertainty avoidance dimension (Insights, 2020). Since this relationship value is low, it can be considered sufficient to support discriminant validity.

This adaptation study, which has acceptable levels of validity and reliability, will make several important contributions to the field of entrepreneurship research in Turkey:

By providing a culturally adapted and validated Entrepreneurs' Social Identity Scale, this study offers a robust tool for researchers to accurately measure the social identity of Turkish entrepreneurs. This will enable more precise and relevant data collection and analysis in future studies.

The adapted scale will help uncover the social identity perceptions and cognitive processes of Turkish entrepreneurs, which are crucial for understanding their motivations, behaviors, and success. This, in turn, will contribute to a more holistic understanding of the Turkish entrepreneurial ecosystem.

Insights gained from this study can inform policymakers and support organizations in designing targeted interventions and support programs that align with the social identities and needs of entrepreneurs. This can enhance the effectiveness of initiatives aimed at fostering entrepreneurship in Turkey.

Additionally, the successful adaptation of the scale will contribute to the broader literature on cross-cultural validation of psychological and behavioral scales. It will demonstrate the applicability of the Entrepreneurs' Social Identity Scale in a non-Western context, supporting its use in diverse cultural settings.

By addressing these aspects, the adaptation study will significantly enrich the academic and practical understanding of entrepreneurship in Turkey, providing valuable insights for researchers, practitioners, and policymakers.

Limitations and Future Research

The number of samples in the study constitutes the limitation of the research. The sample size can be increased more comprehensively in future studies. Additionally, using the scale in future research will strengthen its validity in Türkiye. In the study, data was collected from the founders of startups operating in technoparks. Within the scope of the research, data can be collected from different types of entrepreneurs (e.g., classical entrepreneurs, social entrepreneurship, startups, scale-ups, etc.).

Additionally, examining the financial situations of entrepreneurs according to their identity types will contribute to understanding entrepreneurs. In addition, entrepreneurs' identity types and cognitive processes can be examined. For example, the well-being levels of identity types can be investigated.

Furthermore, the data collected using the adapted scale can be used for comparative studies between Turkish entrepreneurs and those from other cultural contexts. This will enrich the global discourse on entrepreneurial identity and behavior by providing empirical evidence from Turkey.

As a result, the social identity scale, adapted to 16 languages, has been adapted to Turkish for the first time in this study and brought to the literature. Thus, it is expected to contribute to studies in the field of entrepreneurship in Türkiye and increase the number of entrepreneurship research. It is expected to contribute to understanding entrepreneurs in Türkiye, which has a developing economy of 80 million. The Turkish adaptation study obtained broadly similar results to the original scale. Therefore, their convergent and discriminant validity and factor structures are highly satisfactory. For this reason, the psychometric properties of the study are at a level that can be applied to the Turkish sample.

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APPENDIX

	Girişimcilerin Sosyal Kimlik Ölçeği							
DAR1	İş dünyasında kariyerimi geliştirmek için kendi firmamı kurdum/kuracağım.	1	2	3	4	5	6	7
DAR2	Bir firma kurucusu olarak, firmamı doğru yönetim uygulamaları temelinde yönetmek benim için çok önemlidir.	1	2	3	4	5	6	7
DAR3	Bir firma kurucusu olarak, işimin finansal beklentilerini derinlemesine analiz etmek benim için çok önemlidir.	1	2	3	4	5	6	7
DAR4	Firmamı yönetirken, firmamın rekabet ortamında başarabileceği hususlara yakından odaklanmak benim için çok önemlidir.	1	2	3	4	5	6	7
DAR5	Firmamı yönetirken, güçlü bir rekabet avantajı oluşturmak ve rakiplerime göre daha yüksek performans sergilemek benim için çok önemlidir.	1	2	3	4	5	6	7
COM1	Firmamı, güçlü bir şekilde özdeşleştiğim bir grup insanın (örneğin arkadaşlarım, meslektaşlarım, üye olduğum kulüpler/dernekler/topluluklar) belirli bir sorununu çözmek üzere kuracağım.	1	2	3	4	5	6	7
COM2	Firmamı, güçlü bir şekilde özdeşleştiğim bir grup insanın faaliyetlerini şekillendirmede proaktif bir rol oynamak için kuracağım.	1	2	3	4	5	6	7
COM3	Bir firma kurucusu olarak, güçlü bir şekilde özdeşleştiğim bir grup insana (örneğin arkadaşlarım, meslektaşlarım, üye olduğum kulüpler/dernekler/topluluklar) faydalı olacak bir ürün/hizmet sunmak benim için çok önemlidir.	1	2	3	4	5	6	7
COM4	Firmamı yönetirken, güçlü bir şekilde özdeşleştiğim bir grup insana (örneğin arkadaşlarım, meslektaşlarım, üye olduğum kulüpler/dernekler/topluluklar) yakından odaklanmak benim için çok önemlidir.	1	2	3	4	5	6	7
COM5	Firmamı yönetirken, güçlü bir şekilde özdeşleştiğim bir grup insanı (örneğin arkadaşlarım, meslektaşlarım, üye olduğum kulüpler/dernekler/topluluklar) desteklemek ve geliştirmek benim için çok önemlidir.	1	2	3	4	5	6	7
MIS1	Dünyanın işleyişini değiştirmede proaktif bir rol oynamak için kendi firmamı kuracağım.	1	2	3	4	5	6	7
MIS2	Bir firma kurucusu olarak, son derece sorumlu bir dünya vatandaşı olmak benim için çok önemlidir.	1	2	3	4	5	6	7
MIS3	Bir firma kurucusu olarak, dünyanın daha iyi bir yer haline gelmesine katkı sağlamak benim için çok önemlidir.	1	2	3	4	5	6	7
MIS4	Firmamı yönetirken, firmamın toplumun geneli için neler başarabileceğine yakından odaklanmak benim için çok önemlidir.	1	2	3	4	5	6	7
MIS5	Firmamı yönetirken, önemsediğimiz toplumsal sorunları (sosyal adalet, çevresel koruma gibi) diğer firmaların da önemsemesi gerektiği konusunda onları ikna etmek benim için önemlidir.	1	2	3	4	5	6	7

7'li Likert, 1: Kesinlikle Katılmıyorum- 7: Kesinlikle Katılıyorum