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Research Article

Development and validation of the Aktan–Akar risk-taking scale

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Abstract

Objective: The aim of this study was to examine the psychometric properties of the Aktan–Akar Risk-Taking Scale, which was developed to assess university students' risk-taking tendencies across different life domains.

Method: Data were collected from 395 university students (18–25 years; $M = 20.57$, $SD = 1.72$). An item pool was generated and refined based on expert and student evaluations. Construct validity was examined via exploratory and confirmatory factor analyses; reliability via Cronbach's alpha. Convergent and divergent validity were evaluated through inter-subscale correlations and associations with the Rathus Assertiveness Scale. Criterion-related validity was assessed through correlations with dispositional self-control, gender role self-concept, and core gender identity. Domain differences and associations with demographic variables were also analyzed.

Results: The EFA revealed a four-factor structure for the Risk-Taking Scale, explaining 38.40% of the variance, with domains of Physical–Safety, Academic–Ethical, Social Media–Entrepreneurial, and Financial–Debt risks. CFA confirmed this model, and subscale alphas ranged from .67 to .72. Correlations among subscales and with assertiveness supported convergent and divergent validity. Lower dispositional self-control was associated with greater risk taking, and risk taking in different domains reflected gender role expectations.

Conclusion: Risk-Taking Scale is a valid and reliable measurement tool for assessing domain-specific risk-taking tendencies among university students. The scale may be used in research and applied settings to examine the psychosocial determinants of risk-taking behaviors and to support preventive intervention efforts.

Keywords: Risk-taking, validity, reliability, dispositional self-control, gender roles

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Introduction

Emerging adulthood is a critical developmental period during which individuals experience rapid and multidimensional changes across biological, cognitive, emotional, and social domains (Christie & Viner, 2005). Spanning approximately the ages of 18 to 25, emerging adulthood is characterized by increased independence from parental figures, ongoing identity exploration, instability in life roles, and heightened sensitivity to social and emotional experiences. During this period, increasing autonomy, identity exploration, the growing importance of peer relationships, and heightened emotional intensity amplify emerging adults' tendencies to explore their environments and test boundaries (Branje, 2022; Scholte & Van Aken, 2020; Soenens et al., 2017). These developmental characteristics render emerging adulthood, similar to adolescence, a particularly sensitive period for the emergence of risk-taking behaviors (Steinberg, 2017).

Risk-taking behavior is defined as the conscious engagement in an action that may potentially lead to negative outcomes, or the intention to engage in such an action (Gençtanırım, 2014). In emerging adulthood, risk-taking may manifest across a wide range of domains, including substance use, violations of traffic and safety rules, academic and ethical misconduct, risky behaviors in digital environments, and impulsive decision-making in social relationships (Huang et al., 2025; Feijóo et al., 2025; Gençtanırım, 2014). Research indicates that such behaviors may lead to physical and psychological problems in the short term and contribute to academic failure, addiction, and mental health problems in the long term (Feijóo et al., 2025; Hair et al., 2009).

The increase in risk-taking behaviors during emerging adulthood is influenced not only by individual characteristics but also by social and cultural factors. Peer pressure, reduced parental monitoring, gender roles, and the widespread use of media and digital platforms are among the key determinants in this process (Bozzini et al., 2020; Ciydem & Bilgin, 2022; Vannucci et al., 2020;

Sasson & Mesch, 2016). In particular, gender norms that expect males to be more courageous, assertive, and open to danger may encourage risk-taking behaviors, whereas risk-taking among women in emerging adulthood may be more limited or manifested in different domains (Ciydem & Bilgin, 2022; Sasson & Mesch, 2016). Nevertheless, there is a clear need for valid and reliable measurement tools to comprehensively assess the domains and extent to which individuals in emerging adulthood engage in risk-taking behaviors (Gençtanırım, 2014).

In the existing literature, a substantial proportion of studies examining risk behaviors in adolescence and emerging adulthood focus on single risk domains (e.g., substance use or traffic behaviors) or measure the frequency of previously exhibited behaviors (Davtalab et al., 2025; Martin-Storey et al., 2025). However, this approach makes it difficult to holistically evaluate emerging adults' general risk-taking tendencies and their risk profiles across different domains. Moreover, the low reported frequency of certain risky behaviors complicates the distinction between whether these behaviors are genuinely avoided or whether opportunities for such behaviors are limited (Jing et al., 2023; de la Torre-Luque et al., 2021). Therefore, the development of scales that assess individuals' intentions to engage in risky behaviors during emerging adulthood and their perceptions of likelihood have emerged as an important need. Previous studies conducted in Türkiye have primarily relied on adaptations of existing risk-taking measures developed in Western contexts, which have largely focused on traditional risk domains such as substance use, traffic behaviors, or general risk propensity (Gençtanırım, 2014; Dinç ve Tez, 2019). These instruments have shown acceptable psychometric properties however their content has been limited in terms of capturing digital risk behaviors and context-specific experiences relevant to emerging adults in Türkiye. Moreover, to our knowledge, no domain-specific risk-taking scale has been developed to systematically assess contemporary digital, academic–ethical, and financial risk domains within this cultural context.

In response to these limitations, although the international literature includes measurement instruments that assess risk-taking behaviors in a domain-specific manner, most of these scales have been developed for adult samples and do not fully align with the developmental characteristics of emerging adulthood, which represents a transitional period between adolescence and adulthood, nor with specific cultural contexts (Cardenas Fujita et al., 2025; Fino et al., 2021; Witte, 1996). In today's rapidly digitalizing world, social media, online interactions, and digital risks have become major risk domains for individuals in emerging adulthood; however, these domains are insufficiently represented in existing scales (Cardenas Fujita et al., 2025; Fino et al., 2021; Gençtanırım, 2014). Furthermore, items developed independently of cultural context may fail to adequately reflect the daily life experiences and risks encountered by emerging adults in Türkiye (Cardenas Fujita et al., 2025). In the present study, the scale was structured based on theoretical approaches that conceptualize risk-taking behaviors from a domain-specific perspective (e.g., ethical, financial, health/safety, recreational, and social risks). From a theoretical perspective, treating risk-taking as a multidimensional construct is supported by evidence showing that individuals may display high risk propensity in certain domains while remaining risk-averse in others. Different risk domains involve distinct motivational processes, perceived costs and benefits, social norms, and anticipated consequences. For example, physical and safety risks are often driven by sensation seeking and perceived invulnerability, whereas academic–ethical risks are more closely related to moral reasoning and normative control. Similarly, financial and debt-related risks reflect economic decision-making under uncertainty, while social media–related risks are embedded in social approval, identity presentation, and rapidly changing digital norms. Accordingly, conceptualizing these domains as separate but related dimensions provides a theoretically coherent framework for assessing risk-taking tendencies during emerging adulthood. While building upon the frameworks provided by existing scales, the study aimed to generate original items that reflect behavior patterns aligned with emerging adults' contemporary life practices and cultural context.

In this regard, developing a culturally sensitive and psychometrically robust measurement instrument that can comprehensively assess risk-taking tendencies during emerging adulthood across multiple domains-such as physical, social, academic, digital, and financial-is of considerable importance. Such a scale would provide a functional tool for researchers, school psychological counselors, and mental health professionals to identify risk-taking behaviors in emerging adulthood, develop preventive intervention programs, and define risk groups. Accordingly, the aim of this study is to develop the Aktan–Akar Risk-Taking Scale as a valid and reliable instrument for measuring individuals in emerging adulthood's tendencies to engage in risk-taking behaviors. Throughout the scale development process, a multidimensional structure was targeted by taking into account the developmental characteristics of emerging adulthood and contemporary risk domains within the Turkish context.

Methods

Design

This study employed a methodological research design.

Participants

A sample of 519 undergraduate students participated in the study. Participants were included in the study if they were between 18 and 25 years of age, were enrolled as undergraduate university students at the time of data collection, provided informed consent, had sufficient proficiency in Turkish to complete the questionnaires, and reported no diagnosis of a mental disorder based on self-report.

Data screening revealed that 48 (9.25%) participants did not respond to any items, 30 (5.78%) participants failed the attention checks,

and 46 (7.32%) participants were older than 25. These participants were excluded from the data set. The remaining 395 participants were predominantly women (n = 351, 88.86%; men n = 42, 10.63%; Table 1). Participants' ages ranged between 18 and 25 (M = 20.57, SD = 1.72). Participants' major was predominantly psychology (n = 385, 87.30%). Most of the participants were unemployed (n = 370, 93.67%), and only 18.38% (n = 68) reported looking for a job. Most participants reported having spent most of their life in a metropolitan city (n = 151, 38.23%) or a city (n = 184, 46.58%).

Most participants reported belonging to a middle socioeconomic status group and indicated that their families' purchasing power was high enough to meet some extra expenses. Furthermore, participants' feeling of economic security, assessed with a single item, was 3.66 (SD = 1.35) on a 6-point scale ranging from 1 (Not at all secure) to 6 (Very secure). Most participants' mothers were primary school graduates and fathers were high school graduates, indicating that fathers were more educated than mothers. Finally, most participants' mothers were homemakers.

Table 1. Demographics					
	n	%		n	%
Gender			**Department**		
Women	351	88,86	Psychology	348	88,10
Men	42	10,63	Sociology	24	6,08
Unidentified	2	0,51	Other	23	5,82
Work Status			**Place where you have spent most of your life**		
Yes, I work in a full-time job.	4	1,01	Metropolis (e.g., Istanbul, Ankara)	151	38,23
Yes, I work in a part-time job.	17	4,30	City	184	46,58
No, but I would like to work.	68	17,22	Town	31	7,85
No, I am not working.	302	76,46	Village	28	7,09
Other (please specify)	4	1,01			
SES			**Family Purchasing Power**		
Low	19	4,81	Our income does not meet our basic needs	5	1,27
Lower-middle	54	13,67	It only covers our basic needs	56	14,18
Middle	235	59,49	We can cover our basic needs and some additional expenses	262	66,33
Upper-middle	82	20,76	We are financially very comfortable	72	18,23
High	5	1,27			
	Mother		**Father**		
Education	n	%	n	%	
No formal education	30	7,59	5	1,27	
Primary school graduate	141	35,70	74	18,73	
Middle school graduate	72	18,23	73	18,48	
High school graduate	89	22,53	143	36,20	
Vocational school/ University graduate	56	14,18	92	23,29	
Master's or PhD graduate	7	1,77	8	2,03	

Table 1. Demographics (continue)	Mother		Father	
Occupation				
Unskilled worker (e.g. construction/ agricultural/temporary worker)	14	3,54	12,15	48
Skilled worker (e.g. master, journeyman)	13	3,29	9,11	36
Public or private sector employee (e.g., teacher, office staff)	48	12,15	14,43	57
Public or private sector manager (e.g., director, supervisor)	7	1,77	6,33	25
Self-employed/tradesperson/professional (e.g., shop owner, pharmacist, lawyer)	12	3,04	24,56	97
Businesswoman	7	1,77	4,56	18
Unemployed – seeking work	1	0,25	2,28	9
Retired	17	4,30	25,82	102
Homemaker	276	69,87		

The final analytic sample of 395 undergraduates was adequate for both the exploratory and confirmatory factor analyses. For the initial EFA, the participant-to-item ratio was approximately 11:1 (395 participants, 35 items), exceeding commonly cited rules of thumb that recommend at least 5–10 participants per indicator and a minimum N of about 200–300 for stable factor solutions (Fabrigar et al., 1999; Kyriazos, 2018; MacCallum et al., 1999). For the CFA, the 17-item four-factor model (57 free parameters) was also estimated with an adequate sample: Monte Carlo studies suggest that for models of this complexity with moderate factor loadings, sample sizes between roughly 200 and 400 generally yield acceptable power, low parameter bias, and proper solutions (Wolf et al., 2013). Because the total sample size was not sufficient to allow for adequately powered and stable EFA and CFA solutions in two independent subsamples, both analyses were conducted on the same sample.

Measurements

Risky behaviors scale: The scale was developed in the present study. At the beginning of item generation, university undergraduate students were asked to describe risky behaviors in which an undergraduate might engage. The items were then reorganized by the author to reduce duplicates, and 43 items were selected for the scale. The items mainly reflected DOSPERT's subdomains of Ethical Risk Taking, Financial Risk Taking, Health/Safety Risk Taking, Recreational Risk Taking, and Social Risk Taking (Dinç ve Tez, 2019). Eight experts in psychology and psychological counseling and 12 psychology undergraduates rated the items in terms of how risky the behavior depicted in each item was on a 7-point scale (1 = not at all; 7 = extremely). The panelists were also asked to provide suggestions for improving the items.

Inter-rater agreement was examined using a two-way mixed-effects model with the average-measures intraclass correlation coefficient (ICC). The average-measures ICC was .84 (95% CI [.72, .93]), indicating good agreement among experts. One-sample t tests revealed that experts and undergraduates were similar in their riskiness ratings (all $ts < 1.60$, $p > .10$, Cohen's $ds < 0.727$), except for the item about riding without a helmet. Undergraduates ($M = 4.83$, $SD = 1.64$) tended to rate this behavior as less risky than experts ($M = 6.00$, $SD = 0.93$, $t(18) = 1.82$, $p = .09$, Cohen's $d = 0.829$). For the final version of the scale, eight items were dropped because they were not rated as risky. Some of the remaining 35 items were revised in wording as suggested by the raters. Four filler items (e.g., "37. Treating a friend

you like to lunch.") were also added to the scale to reduce response bias but were not included in the analyses. Participants were asked to rate how likely they would be to engage in the behaviors described in the items on a 7-point scale (1 = Not at all likely; 7 = Very likely). Psychometric properties of the scales are presented in the Results section.

Dispositional self-control scale (DSC): The DSC was developed by Ein-Gar and Sagiv (2014) to measure individuals' tendency to overcome two kinds of temptations corresponding to Doing Wrong (DW) and Not Doing Right (NDR). DW refers to impulsive actions undertaken to reach short-term gratification that compromise long-term goals. NDR is about delaying or avoiding the actions necessary to accomplish preset goals. The scale comprises four subscales measuring yielding to or overriding the two temptations, i.e., Yielding to Doing Wrong (YDW), Overriding Doing Wrong (ODW), Yielding to Not Doing Right (YNDR), and Overriding Not Doing Right (ONDR). The scale items were rated on a 5-point scale ranging from 1 (Strongly disagree) to 5 (Strongly agree). The scale was adapted to Turkish by Akar (2025), who reported good reliabilities for the four subscales (alphas ranging between .70 and .80) and for the two temptation dimensions (alphas were .83 for both). In the present study, the alphas for DW and NDR were .79 and .85, respectively. Higher scores on DW and NDR reflect lower dispositional self-control.

Gender role self-concept scales (GRSC): The GRSC were developed by Altuğ and Aktan (2025). The first scale, GRSC–Traits, focuses on the extent to which an individual endorses positive and negative traits stereotypically attributed to women and men. The scale measures four subdimensions on a 6-point scale (1 = Does not describe me at all; 6 = Describes me completely): feminine positive (FP), including communion-related traits (e.g., compassionate, loving, and kind); feminine negative (FN), covering unmitigated communion-related traits (e.g., touchy, fragile, and fussy); masculine positive (MP), containing agency-related traits (e.g., leader, brave, and assertive); and masculine negative

(MN), including unmitigated agency-related traits (e.g., insensitive, rude, and unemotional). Higher scores on each subscale indicate greater endorsement of the corresponding gender-related traits. The second scale measures endorsement of daily behaviors stereotypically attributed to women and men. This scale has two subscales, rated on a 6-point scale (1 = Not at all suitable for me; 6 = Completely suitable for me): behaviors attributed to women (FB) and behaviors attributed to men (MB). Higher scores on each subscale indicate greater endorsement of the corresponding gender-related behaviors. Aktan and Altuğ (2025) reported good reliabilities for all subscales (alphas between .74 and .85). In the present study, the internal consistencies of the subscales were acceptable (between .70 and .84).

Traditional masculinity–femininity scale (TMF): The TMF was developed by Kachel et al. (2016) as a content-free measure of gender role self-concept. On a 7-point scale (1 = Completely masculine; 7 = Completely feminine), individuals are required to rate the extent to which they endorse traditional gender norms. The Turkish item wording used in the present study was based on an unpublished translation provided by N. Sakallı and Ş. Demir in 2023, and the psychometric properties of this Turkish version were examined in detail by Altuğ and Aktan (2025). Their findings revealed that the scale had a single factor and good reliability (alpha = .97), and it was argued that the scale measures core gender identity (Altuğ & Aktan, 2025). In the present study, the internal consistency of the scale was also good (alpha = .95). Higher scores on the scale indicated a more feminine core gender identity.

Rathus assertiveness scale (RAS): The RAS was developed by Rathus (1973) to measure assertiveness and was adapted to Turkish by Voltan (1980). The scale items and response format were revised by Gül (2024) to a 6-point scale ranging from 1 (Not at all suitable for me) to 6 (Very suitable for me). The internal consistency of the revised Turkish version was .83. In the present study, alpha for the scale was .87. Assertiveness refers to individuals'

ability to express their thoughts, needs, and rights in a direct and self-confident manner without violating the rights of others. The Rathus Assertiveness Scale assesses behavioral tendencies such as interpersonal confidence, self-expression, and behavioral initiative in social situations. Although these characteristics reflect taking initiative in social contexts, they do not inherently involve the potential physical, academic, or financial negative consequences that are central to risk-taking behaviors. Therefore, while assertiveness may involve interpersonal initiative, it is conceptually distinct from risk-taking. In the present study, the RAS was used to demonstrate that risk-taking tendencies measured by the Aktan–Akar Risk-Taking Scale are distinguishable from assertive interpersonal behaviors and to examine divergent validity.

Demographics

Participants' gender, age, and family characteristics were measured by a demographic form. In addition, three single-item indicators were used to assess participants' socioeconomic standing. Perceived socioeconomic status was assessed with the question "How would you describe your socioeconomic status?" rated on a 5-point scale (1 = Low; 5 = High). Perceived family purchasing power was assessed on a 4-point scale (1 = Our income does not meet our basic needs; 2 = It only covers our basic needs; 3 = We can cover our basic needs and some additional expenses; 4 = We are financially very comfortable). Finally, perceived economic security was assessed with the item "Currently, how economically secure do you feel?" rated on a 6-point scale (1 = Not at all secure; 6 = Very secure).

Procedure

The study was approved by the Afyon Kocatepe University Social Ethical Board (Date: 05.11.2025, Decision no. 2025/385). The study was conducted in accordance with the ethical principles of the Declaration of Helsinki. Participants were accessed through social media and were invited to complete the online questionnaire. All participants completed the questionnaires after providing informed consent.

Scales were presented in a random order. Scale items were also randomized within each scale. All analyses were run in JASP 0.95.4 (JASP Team, 2025). In this study, both exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) were performed to examine the construct validity of the Risk-Taking Scale. The reliability of the scale was assessed by calculating Cronbach's alpha coefficients. Criterion-related validity was evaluated through correlations with the Rathus Assertiveness Scale (RAS), Traditional Masculinity–Femininity Scale (TMF), Gender Role Self-Concept Scale (GRSC), and Dispositional Self-Control (DSC). In addition, differences across demographic variables were examined using independent samples t-tests, Mann–Whitney U tests, and one-way ANOVA, as appropriate.

Results

Construct validity

Data screening revealed that four items' distributions were not appropriate for factor analysis (i.e., "Secretly looking at a friend's private messages or photos on their phone or computer."). More than 75% of participants rated these items as 1 (Not at all likely). Thus, four items were discarded from the analysis. A principal axis factoring with oblimin rotation was used to examine the factor structure of the scale. The data were appropriate for factor analysis, $KMO = .88$, and Bartlett's test of sphericity was significant, $\chi^2(465) = 3752.20, p < .001$.

Eight factors with eigenvalues higher than 1 initially explained 43.70% of the variance. However, the Kaiser criterion is known to over extract factors, and the parallel analysis solution of up to seven factors also produced several weak and unstable factors. In these higher-factor solutions, 11 items had loadings below .40 and four of the factors were defined by only two items each, and their item content did not form coherent or theoretically meaningful domains. Inspection of the scree plot showed a clear elbow after the fourth factor, and the 4-factor solution yielded the clearest simple structure: all retained items

loaded at least .40 on a single factor without salient cross-loadings and each factor grouped conceptually homogeneous behaviors. Thus, a 4-factor solution was retained on the basis of both statistical criteria and theoretical interpretability. In this final solution, 14 items were discarded from the analysis because they had factor loadings lower than .40, were cross-loaded on different factors, or loaded on a factor that was not related to their content.

In the final solution, four factors explained 38.40% of the variance ($KMO = .86$; Bartlett's test of sphericity: $\chi^2(136) = 1562.40, p < .001$; **Table 2**). The first factor (*eigenvalue* = 4.81) contained six items related to Physical and Safety Risk-Taking (e.g.,

"Item 26. Taking part in a dangerous sports activity without having prior experience [e.g., skydiving, bungee jumping, rock climbing]."). The second factor (*eigenvalue* = 1.59) comprised four items related to Academic and Ethical Risk-Taking (e.g., "Item 2. Cheating on an exam."). The third factor (*eigenvalue* = 1.33) contained four items reflecting Social Media and Entrepreneurial Risk-Taking (e.g., "Item 8. Dropping out of your education to become a social media influencer or entrepreneur."). Lastly, the fourth factor (*eigenvalue* = 1.18) included three items related to Financial and Debt Risk-Taking (e.g., "Item 11. Taking out a loan or going into debt for a purchase such as a vacation or clothing without planning how to pay it back.").

Table 2. Factor structure of Risky Behaviors Scale				
	PSRT	AERT	SMRT	FDRT
26. Taking part in a dangerous sports activity without having prior experience (e.g., skydiving, bungee jumping, rock climbing)/*Deneyimin olmadığı halde tehlikeli bir spor etkinliğine katılmak (örn. paraşütle atlama, bungee jumping, kaya tırmanışı).*	.621	.112	-.073	.024
16. Riding an e-scooter or bicycle on crowded roads/*Kalabalık yollarda e-scooter/bisiklet kullanmak.*	.549	-.022	.078	.043
19. Riding a motorcycle or riding as a passenger on a motorcycle without wearing a helmet/*Kask takmadan motosiklet kullanmak ya da motosiklete yolcu olarak binmek.*	.515	-.113	.038	.011
25. Going hiking off marked trails without checking the route or weather conditions/*Rota veya hava durumunu kontrol etmeden işaretli patikaların dışına çıkarak doğa yürüyüşü yapmak.*	.480	-.041	-.066	-.079
22. Exceeding the speed limit to arrive on time (either as the driver or by asking the driver to speed up)/*Zamanında varmak için hız sınırını aşmak (sürücü olarak ya da sürücüden hızlanmasını **istemek).***	.474	-.088	.039	.158
24. Swimming outside designated/supervised areas at the beach/*Plajda belirlenmiş/gözetimli alanların dışında yüzmek.*	.407	-.031	-.199	-.005
1. Having an AI system write your thesis, assignment, or research for you even though this is explicitly forbidden in the course/*Derste açıkça yasaklamasına rağmen tez, ödev veya araştırmanı yapay **zekaya** yaptırmak**.*	-.043	**-.668**	-.006	.072
2. Cheating on an exam/*Sınavda kopya çekmek.*	.103	**-.656**	.017	.019
5. Making an audio or video recording in class without permission/*Derste izinsiz ses veya görüntü kaydı almak.*	.069	**-.514**	-.109	-.057
4. Presenting qualifications you do not actually have in your CV or internship application/*Özgeçmişinde ya da staj başvurunda aslında sahip olmadığın nitelikleri varmış gibi göstermek.*	.061	**-.426**	-.027	.233

| Table 2. Factor structure of Risky Behaviors Scale (continue)				
12. Dropping out of school and becoming a partner in a friend's business idea without informing your family/ *Arkadaşının geliştirdiği bir iş fikri için ailene haber vermeden okulu bırakıp ona ortak olmak.*	.009	.075	**-.671**	.110
8. Dropping out of my education to become a social media influencer or entrepreneur/*Sosyal medya fenomeni ya da girişimci olmak için eğitimimi yarıda bırakmak.*	-.004	-.122	**-.538**	.072
18. Taking part in online "challenges" (e.g., risky tasks or dangerous dares)/ *Online "challenge"lara katılmak (örneğin riskli görevler, tehlikeli meydan okumalar).*	.285	.069	**-.527**	.001
35. Doing things you would not normally do in order to gain followers or earn money on social media/*Sosyal medyadan takipçi kazanmak veya gelir elde etmek için normalde yapmayacağın şeyleri yapmak.*	-.033	-.235	**-.523**	-.002
11. Taking out a loan or going into debt for a purchase such as a vacation or clothing without planning how to pay it back/ *Nasıl geri ödeyeceğini planlamadan tatil ya da kıyafet gibi bir alışveriş için kredi çekmek/borç almak.*	.042	-.061	.048	**.693**
13. Using the credit card given to you by your family in an uncontrolled way/*Ailenin verdiği kredi kartını kontrolsüzce kullanmak.*	-.044	-.057	-.031	**.625**
14. Spending almost all the money you need for that month on buying a mobile phone or other technological devices/*O ay geçiminizi sağlamak için gerekli olan paranızın neredeyse hepsini cep telefonu veya teknolojik araçlar satın almak için harcamak.*	.083	.071	-.169	**.500**

PSRT: Physical & Safety Risk-Taking; AERT: Academic & Ethical Risk-Taking; SMRT: Social Media & Entrepreneurial Risk-Taking; FDRT: Financial & Debt Risk-Taking

To confirm the observed factor structure, a confirmatory factor analysis was conducted. Model fit was evaluated using multiple indices recommended in the CFA literature (Hu & Bentler, 1999; Kline, 2015; Schermelleh-Engel et al., 2003). The four-factor model yielded $\chi^2(113) = 203.97$, $p < .001$, $\chi^2/df = 1.81$, CFI = .94, TLI = .93, RMSEA = .045 (90% CI [.035, .055]), SRMR = .045, and GFI = .97, indicating an overall good fit of the model to the data. The standardized factor loadings of the four-factor solution were presented in **Figure 1**.

Reliabilities, convergent and divergent validity

The internal consistencies of PSRT, AERT, and SMRT were acceptable (alphas were .71, .72, and .72, respectively; **Table 3**). Although the reliability of the FDRT subscale was marginal ($\alpha = .67$), this value is likely attenuated by the small number of items, as the subscale consisted of only three items.

The correlations among subscales ranged from .35 to .46, supporting the scale's convergent validity. The subscales' correlations with RAS were close to zero, indicating the scale's divergent validity. The only exception was the correlation between PSRT and RAS; however, this correlation was much weaker than the correlations among the subscales.
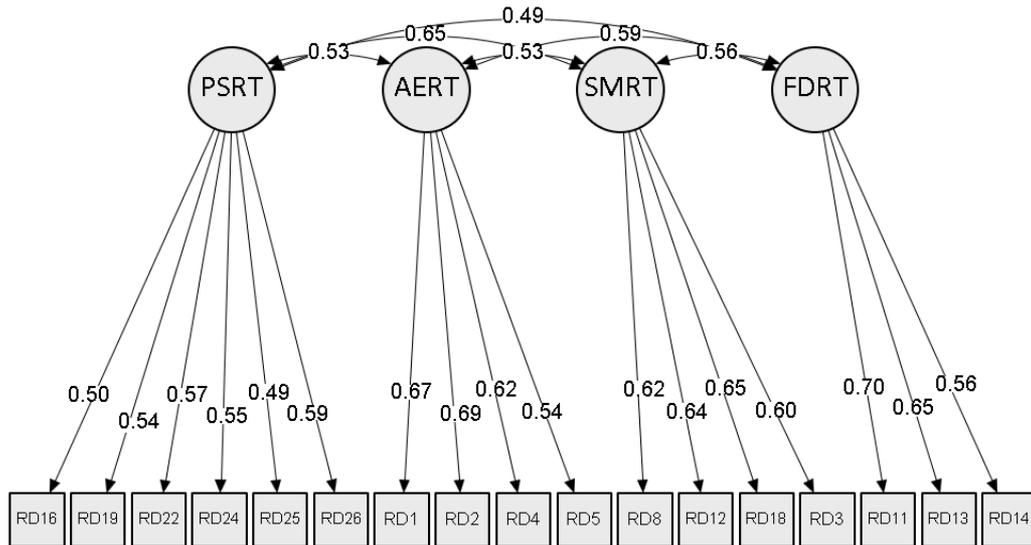
Figure 1. The standardized factor loadings of the four-factor solution in CFA
PSRT: Physical & Safety Risk-Taking; AERT: Academic & Ethical Risk-Taking; SMRT: Social Media & Entrepreneurial Risk-Taking; FDRT: Financial & Debt Risk-Taking

Table 3. Internal consistencies, descriptives and correlations among subscales										
	Alpha	Engagement		Riskiness		AERT	SMRT	FDRT	RAS
		M	SD	M	SD				
PSRT	.71	2.89[a]	1.20	5.14[a]	0.90	.39***	.46***	.35***	.19***
AERT	.72	2.51[b]	1.26	5.36[a]	0.85		.39***	.41***	.07
SMRT	.72	1.71[c]	0.95	5.51[a]	0.92			.40***	.07
FDRT	.67	2.43[b]	1.43	5.48[a]	0.73				.00

$*p < .05, ** p < .01, ***p < .001$. The mean scores that do not share the same superscript on the same column are significantly different at $p < .001$. Engagement: The extent to which participants ($n= 395$) perceived it as likely that they would engage in the behavior. Riskiness: The extent to which panelists ($n= 20$) evaluated the behavior as risky. PSRT: Physical & Safety Risk-Taking; AERT: Academic & Ethical Risk-Taking; SMRT: Social Media & Entrepreneurial Risk-Taking; FDRT: Financial & Debt Risk-Taking

Correlations with criterion variables

As shown in **Table 4**, all four risk-taking domains were positively associated with lower dispositional self-control, as reflected by positive correlations with DW. These associations ranged from small to moderate in magnitude, with the strongest association observed for FDRT. Correlations with NDR were also positive and significant for AERT, SMRT, and FDRT, whereas the association between PSRT and NDR was non-significant.

Regarding gender role traits, FP were negatively correlated with AERT and SMRT, indicating lower engagement in these domains among individuals endorsing higher levels of communion. FN showed a negative association with PSRT and SMRT, but a positive association with AERT, suggesting a differentiated pattern across risk domains.

Agency-related traits displayed domain-specific associations. MP were positively correlated with PSRT but negatively correlated with AERT, whereas MN was positively associated with all risk-taking domains except SMRT, with the strongest associations observed for PSRT and FDRT.

Table 4. Correlations with criterion variables									
	DW	NDR	FP	FN	MP	MN	FB	MB	TMF
PSRT	.16**	.09	-.07	-.14**	.17***	.26***	-.02	.29***	-.32***
AERT	.19***	.24***	-.15**	.11*	-.11*	.18***	.03	-.02	-.07
SMRT	.15**	.13*	-.11**	-.10*	.09	.24***	.00	.15**	-.24***
FDRT	.32***	.25***	-.04	.04	-.03	.18***	.07	-.01	-.01

*$p<.05$, **$p<.01$, ***$p<.001$; PSRT: Physical & Safety Risk-Taking, AERT: Academic & Ethical Risk-Taking, SMRT: Social Media & Entrepreneurial Risk-Taking, FDRT: Financial & Debt Risk-Taking, DW: Doing Right, NDR: Not Doing Wrong; MP: Musculine Positive (agency); MN: Musculine Negative (unmitigated agency), FP: Feminine Positive (communion), FN: Feminine Negative (unmitigated communion), MB: Musculine Behavior, FB: Feminine Behavior; TMF: Traditional Masculinity-Femininity (core gender identity; 1= Masculine – 7= Feminine)*

With respect to gendered behaviors, MB were positively correlated with PSRT and SMRT, while FB were not significantly associated with any risk-taking domain. Finally, core gender identity, as measured by the TMF, showed negative associations with PSRT and SMRT, indicating that a more masculine gender identity was related to higher levels of risk-taking in these domains.

Domain comparisons

To compare the riskiness ratings of the panelists for the behaviors in the four domains, a repeated measures ANOVA was conducted. Findings revealed that mean riskiness ratings for the four domains were similar, $F(3, 57) = 0.96$, $p = .42$. $\eta p^2 = 048$ (**Table 3**). A similar repeated measures ANOVA with Bonferroni-corrected pairwise comparisons on participants' engagement ratings revealed that the behaviors they would most likely engage in were in the domain of PSRT, followed by AERT and FDRT, and then SMRT, respectively, $F(3, 1182) = 104.53$, $p < .001$, $\eta p^2 = 048$ (all ts > 6.02, $p < .001$, *Cohen's d*s > 0.38).

Relations with demographics

Age was negatively correlated with SMRT ($r = -12$, $p < .05$), indicating that as participants' age increased, they became less interested in taking risks related to social media and entrepreneurship. PSRT was positively correlated with both mothers' and fathers' education, indicating that participants with more highly educated parents were more likely to engage in risky behaviors related to physical health and safety ($r = 13$, $p < .05$; $r = 11$, $p < .05$, respectively). Family Purchasing Power was positively correlated with FDRT, indicating that as participants rated their family as having greater purchasing power, they tended to take more risks in the financial and debt domain.

Discussion

In this study, the psychometric properties of the Aktan–Akar Risk-Taking Scale, which was developed to assess individuals' risk-taking tendencies across different life domains, were examined. Risk-taking behaviors are conceptualized as a multidimensional construct associated with self-control and gender role orientations. The present study aims to contribute to the literature by presenting evidence for the construct validity, reliability, and associations of a newly developed, domain-specific measure of risk-taking behaviors with various psychological and demographic variables. The findings were discussed within the framework of construct validity, reliability, convergent and divergent validity, and criterion-related validity.

Construct validity

Both the exploratory and confirmatory factor analyses supported a four-factor structure for the Aktan–Akar Risk-Taking Scale. Overall, the four domains—Physical–Safety, Academic–Ethical, Social Media–Entrepreneurial, and Financial–Debt risk taking—are broadly consistent with the risk domains assessed by the DOSPERT (Blais & Weber, 2006; Dinç & Tez, 2019). However, the present

scale has important advantages over the DOSPERT in that it is more closely aligned with the everyday experiences of emerging adults in the Turkish context. For instance, some DOSPERT items ask about the likelihood of engaging in behaviors that are not particularly relevant or appropriate for emerging adults in Turkey (e.g., Item 6: "Taking some questionable deductions on your income tax return"), and the DOSPERT does not cover risky behaviors in the digital domain. The present scale also differs from the Risk Behavior Scale–University Form (Gençtanırım, 2014), which was likewise developed for Turkish university students but focuses on the frequency of actually performed behaviors (e.g., "I smoke cigarettes"). In contrast, the Aktan–Akar Risk-Taking Scale assesses the perceived likelihood of engaging in risky behaviors. Because actual behaviors are constrained by contextual factors and opportunities, the present scale provides a more direct indicator of risk-taking propensity.

The correlations among the subscales ranged from .35 to .46, supporting the convergent validity of the scale (see Kline, 2015). These findings suggest that, although the subscales reflect a common underlying tendency toward risk taking, the moderate magnitude of the correlations indicates that each subscale represents a distinct and domain-specific aspect of risk-taking behavior.

To evaluate divergent validity, the relationships between the subscales and assertiveness were examined. The results showed that, with the exception of PSRT, none of the subscales were significantly correlated with assertiveness. Given that assertiveness concerns taking initiative in social contexts and expressing one's rights confidently without infringing on others' rights (Rathus, 1973), it could be expected that individuals with a high propensity for risk taking might also be more assertive. However, risk taking typically involves behaviors that may provide short-term benefits but carry the potential for long-term negative consequences (e.g., Blais & Weber, 2006). In this respect, risk taking is a related but conceptually distinct construct from assertiveness. The findings supported this argument

for AERT, SMRT, and FDRT. The weak but significant association observed between PSRT and assertiveness suggests that this domain of risk taking may partially overlap with traits such as assertiveness and courage, yet the fact that this association was weaker than the correlations among the subscales indicates that PSRT does not substantially overlap with assertiveness at the construct level.

Reliability of the subscales

In this study, the reliability of the Risk-Taking Scale was assessed at the subscale level using Cronbach's alpha coefficients. The results indicated that the Cronbach's alpha coefficients for the PSRT, AERT, and SMRT subscales ranged between .71 and .72, which fall within the acceptable range for psychological measurement instruments. In the literature, Cronbach's alpha values of .60 and above are considered acceptable, while values of .70 and above indicate good internal consistency (Alpar, 2022; Tavşancıl, 2019). These findings suggest that the three subscales measure risk-taking behaviors in a consistent manner.

The FDRT subscale yielded a marginal level of internal consistency ($\alpha = .67$), which is lower than that of the other subscales and should therefore be interpreted with caution. Although this value may be partially attributable to the small number of items in the subscale, as internal consistency estimates are known to be sensitive to item count (Tavşancıl, 2019), the possibility of increased measurement error cannot be ruled out. Consequently, findings related to financial and debt-related risk-taking should be considered preliminary. While the items demonstrated conceptual coherence and showed meaningful associations with criterion variables, future research should aim to strengthen this dimension by expanding the item pool and re-evaluating its psychometric properties in independent samples.

Relations with self-control

The criterion-related validity of the Risk-Taking Scale was examined through its associations with

the dispositional self-control (Akar, 2025; Ein-Gar & Sagiv, 2014). The results indicated that tendencies toward DW and NDR were positively and significantly correlated with all subscales, with the exception of the relationship between PSRT and NDR. These findings suggest that a higher propensity for risky behavior is generally associated with lower levels of self-control, given that higher DW and NDR scores reflect greater difficulty resisting these temptations. The results are consistent with theoretical approaches emphasizing the close link between risk-taking tendencies and self-regulatory processes (Akar, 2025; Magar et al., 2008). However, the non-significant association between PSRT and NDR suggests that physical and safety-related risks do not always stem from difficulties in initiating or maintaining goal-directed behavior (i.e. NDR). Such risks may, in some cases, be more closely related to sensation seeking, courage, or socially rewarded forms of behavior. Consistent with this interpretation, PSRT showed a small but significant positive correlation with assertiveness, indicating that this domain may partly capture a tendency to engage in bold or self-confident actions rather than solely reflecting deficits in self-control. This pattern further indicates that academic–ethical, social media–entrepreneurial and financial–debt risk-taking tendencies are more strongly associated with deficits in self-control, thereby providing additional support for the criterion-related validity of the Risk-Taking Scale.

Relations with Gender role self-concept and core gender identity

Findings related to gender role self-concept suggest that risk-taking behaviors are embedded in a nuanced pattern of gendered traits and behaviors. Positive traits typically associated with agency and communion appeared to play a protective role, particularly in the AERT domain, which is consistent with the moral and normative nature of this risk area. In contrast, unmitigated agency and unmitigated communion were associated with increased risk taking in this domain, suggesting that

extreme and unbalanced personality orientations may facilitate violations of ethical boundaries (Altuğ ve Aktan, 2025; Athenstaedt vd., 2009; Spence vd., 1979).

The PSRT and SMRT domains were more clearly situated along the axis of masculinity. Masculine traits, masculine behaviors, and a more masculine core gender identity (lower TMF scores) were consistently associated with higher levels of risk taking in these two domains. Conversely, unmitigated communion was negatively associated with risk taking in these areas, indicating that dependent and other-oriented personality patterns may be linked to greater risk avoidance. Consistent with this pattern, PSRT also showed a small but significant positive correlation with assertiveness, suggesting that physical–safety risk taking partly overlaps with a tendency to engage in bold, self-confident actions. This is in line with prior work showing that masculine self-descriptions are associated with a greater tendency to engage in risky behaviors, including health-risk and antisocial activities (e.g., Athenstaedt et al., 2009).

In the FDRT domain, unmitigated agency was the only gender role self-concept dimension that showed a significant association with risk taking. This finding suggests that financial and debt-related risk taking may be more strongly linked to self-centered and self-focused tendencies. Within the context of university students living with limited financial resources provided by their parents, this pattern may indicate that engaging in financial risks requires prioritizing one's own needs and desires over those of others.

Domain comparisons

Findings from the domain comparisons indicate that risk-taking behaviors are differentiated more strongly in terms of behavioral tendencies than perceived risk levels. The absence of significant differences in the riskiness ratings provided by the panelists across the four domains suggests that these behaviors are generally perceived as similarly risky. In contrast, participants' tendencies to engage in these behaviors differed markedly across domains.

The highest engagement tendency was observed in the PSRT domain, suggesting that despite their high perceived risk, such behaviors may be evaluated as more socially acceptable or rewarding.

The finding that AERT and FDRT showed lower engagement tendencies compared to PSRT, yet higher tendencies compared to SMRT, indicates that these risk domains may be evaluated in a more controlled and context-dependent manner. The lowest engagement tendency observed in the SMRT domain may be related to the long-term, uncertain, and potentially irreversible consequences associated with these risks. This pronounced differentiation across domains suggests that the Risk-Taking Scale is a sensitive measurement tool capable of distinguishing between perceived risk and behavioral engagement tendencies.

Limitations of the study

This study provides important findings regarding the psychometric properties of the Risk-Taking Scale developed to assess university students' risk-taking tendencies across different life domains. Nevertheless, several limitations should be acknowledged. First, the study sample consisted primarily of university students, with a substantial proportion drawn from psychology programs. The relatively narrow age range of the sample and the predominance of female participants limit the generalizability of the findings to populations with broader age ranges, diverse occupational backgrounds, and more balanced gender distributions. Second, all measures used in the study were based on self-report. Self-report methods are susceptible to biases such as social desirability, recall errors, and individual differences in self-awareness. These limitations may be particularly salient in domains involving normative and moral evaluations, such as risk-taking behaviors, potentially constraining the accuracy of participants' responses. Third, the cross-sectional design of the study does not allow for causal interpretations of the relationships between Risk-Taking Scale scores and self-control, gender role self-concept, or demographic variables. In addition, the present study

did not examine the test–retest reliability, predictive validity, or cross-cultural validity of the scale. Finally, the limited number of items in the FDRT subscale may have contributed to its relatively lower internal consistency compared to the other subscales. This limitation may be addressed in future research by adding new items and examining financial risk-taking behaviors in larger and more heterogeneous samples. Taken together, these limitations suggest that further studies are needed to re-evaluate the psychometric properties of the Risk-Taking Scale across different samples, age groups, and cultural contexts, thereby providing more comprehensive evidence for its validity and reliability. In the present study, EFA and CFA were conducted on the same sample. Although the sample size was sufficient for each analyses, this approach may increase the risk of overfitting and limits the cross-validation of the factor structure. Future studies should replicate the factor structure using independent samples or apply split-sample validation strategies to provide stronger evidence for the structural validity of the scale. The use of assertiveness as a discriminant validity criterion, while conceptually related to risk-taking yet theoretically distinct, may nonetheless be considered a limitation when interpreting the discriminant validity findings. A major limitation of the present study is the composition of the sample, which consisted predominantly of women and psychology students. This uneven gender distribution and disciplinary homogeneity may have resulted in restricted variance and potential sampling bias, thereby limiting the generalizability of the findings to more diverse university populations. Future studies should validate the scale using samples with more balanced gender distributions and greater disciplinary diversity to strengthen the external validity of the findings. Some items, particularly those related to academic and ethical misconduct, may be subject to social desirability bias. Participants may have underreported their likelihood of engaging in such behaviors due to normative pressures, which could have led to an underestimation of risk-taking tendencies in these domains. Future studies may

reduce this bias by using indirect or less explicit item wording, incorporating social desirability measures, or employing alternative assessment methods such as implicit or behavioral indicators.

Conclusion

The Risk-Taking Scale developed in the present study offers a practical and multidimensional assessment tool that allows for the domain-specific evaluation of individuals' risk-taking tendencies. Its brief and easy-to-administer format makes it particularly suitable for research and applied settings involving university students and emerging adults, enabling the systematic assessment of risk-taking behaviors. By differentiating among academic–ethical risks, physical and safety-related risks, social media and entrepreneurial risks, and financial and debt-related behaviors, the Risk-Taking Scale may contribute to the development of more targeted intervention and prevention programs. Moreover, the significant associations observed between the Risk-Taking Scale, self-control, and gender role self-concept suggest that the scale can be used not only as a descriptive assessment tool but also as a means of understanding the psychosocial determinants of risk-taking behaviors. Psychological counselors, educators, and mental health professionals may use the Risk-Taking Scale as a supportive tool to identify individuals' risk-taking profiles and to design interventions that are sensitive to individual differences. Finally, applying the Risk-Taking Scale across different age groups, cultural contexts, and clinical or at-risk populations may further expand its scope of use. Such applications may contribute to a more comprehensive understanding of the developmental and contextual dynamics of risk-taking behaviors and enhance the effectiveness of preventive and protective mental health practices.

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