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Analyzing the Relationship Between Individual Time Management Skills and Business Attitude of Sports Science Students

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A) conception and design of the study
B) acquisition of data
C) analysis and interpretation of data
D) manuscript preparation
E) obtaining funding

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Abstract

Individual time management skills and a business approach are two fundamental abilities required for success in any life. The goal of this study is to look at the connection between the individual time management skills and business attitudes of sports science students. The quantitative, descriptive study used structural equation modelling (SEM) as its methodology. Students from Tabriz city's physical education and sports sciences departments helped collect the data. IBM® SPSS® Amos™ 23 was used to process the results of the study for model and hypothesis testing. This findings revealed a substantial relationship between individual time management abilities and business views of 126 students. Other research hypotheses examining the relationship between the business attitude and its constituent elements were similarly supported. According to the findings, prioritizing the notion of planning in personal and business life is one of the most effective time management approaches, and students should educate themselves concerning time management and business attitude.

Keywords: Time planning, communication skills, attitude toward business, entrepreneurial intention, competitiveness

Introduction

Time is essential for achieving goals and fulfilling desires (Mercanlioglu, 2010). According to Claessens et al. (2007), organizational literature has shown a growing understanding of the importance of time over the past two decades. Human senses cannot understand time, which has philosophical, psychological, and sociological dimensions (Bayramlı, 2017). However, effective time management (TM) is essential to balancing our lives and improving our work and productivity (Ağduman, 2014). TM is the efficient use of resources to achieve goals (Akatay, 2003). It involves controlling time and prioritizing tasks (Cemaloğlu & Filiz, 2010) to improve performance and free up time for higher-priority jobs (Thomack, 2012). According to Kearns & Gardiner (2007), Swart et al. (2010) and Macan et al. (1990), TM has implications for academic performance, academic achievement, self-efficacy and problem-solving abilities, and has a favorable impact on physical tension and stress among pupils. In this context, having proper models and solutions for education, training and optimal utilization of the active and entrepreneurial workforce is critical (Tayebi & Fakhri, 2010), and programmes are needed to inspire students to become entrepreneurs (Engle et al., 2010). Investigating the current state of this critical element and identifying its deficiencies will assist policy-makers and planners in assisting in the development of entrepreneurial process (Khorsandi Yamchi et al., 2015).

Physical education students in general require planned and precise plans in order to develop their enterprises and overcome existing challenges and problems. The government, society, educational institutions, students and individuals must all work together to solve this problem. What is certain is that no cohesive and structured action to propagate and introduce business culture has yet been carried out, at least in the field of education in the research community. Therefore, taking account of the results of this research can not only help many planners and developers in the country in future research but also provide a general picture for physical education faculties in order to measure their success in preparing students and their employability in the fields. Physical education should be used and encouraged in order to improve employability and achieve job satisfaction of physical education students. Therefore, to fill this gap, the scientific and academic background of the present research was carried out with the aim of investigating the relationship between individual time management skills (ITMS) and the business attitude of sports science students in order to reveal the relationship between TM skills and dimensions of attitude towards business. In this paper, we identify gaps in the literature on existing research and make recommendations for future study.

Theoretical background

Time management (TM) skills

Time management is the process of planning and organizing the allocation of time for specific activities, such as gaining experience or education (Ghaffari et al., 2021). The term 'time management' refers to behaviours that are "intended to use time effectively while performing specific, goal-oriented activities" (Claessens et al., 2007). In order to succeed, managers in charge of effectively managing organization resources must make the best possible use of their time (Yılmaz, 2002). TM helps managers reduce time waste by attending meetings and making decisions (Jamshid Malek Ara, 2009). Prioritizing a regular and organized life is another aspect of TM (Williams et al., 1995). In line with subject of the study, one of the practical issues that students in particular confront is TM (Sevari & Kandy, 2011). According to specialists like Kelly (2004) and Laurie and Hellsten (2002), time is important for students because it aids in their productivity and creativity. According to Macan's model (1994), TM is determined by goals, mechanics and organizational preferences. However, time-sensitive processes are essential for managing an entrepreneur's time (Zachary et al., 2015). Some specialists, such as Kelly (2004) and Nonis and Hudson (2006), believe that mastery of TM is an important part of success in life, including employment and education. TM skills improve the effectiveness and dynamism of care organization and foster contentment (Eilam & Aharon, 2003; Gran-Moravec & Hughes, 2005; Marrelli & Hilliard, 2004; Rapp et al., 2013). More control over their time improves students' performance and life satisfaction, leading to reduced confusion in their roles and less physical tension.

Business attitude (BA)

It is essential to understand the driving forces and thought processes behind students' decision-making in order to influence them to pursue entrepreneurship. Attitude toward business is one of the most serious and key prerequisites for carrying out and developing entrepreneurial behaviours (Jones et al., 2011). It is becoming increasingly important for business success to understand the challenges and opportunities associated with society's transition to sustainability and to be able, for example, to innovate, design and build functional business models in this context (França et al., 2017). Entrepreneurship should now be viewed as a collection of mentalities. Aside from business and economics, such an approach asserts that anyone can think and behave entrepreneurially (Fuchs et al., 2008). Davidson's model suggests that the current situation and firm belief is influenced by general business attitudes (competitiveness, money orientation, willingness to change, progress and independence) and situational attitudes (efficiency, social participation and skill) (Guerrero et al., 2008). According to an international study, a variety of factors influence corporate attitudes (Kakouris, 2016). Numerous studies have been conducted on entrepreneurs, and each has taken a different approach to them, as well as categorized the reasons why people become entrepreneurs in different ways. Stewart Jr et al. (1999) believe that psychological characteristics have produced good results for predicting people's desire to become entrepreneurs. The existence of more entrepreneurs creates more competition (Fritsch, 2008), and entrepreneurship can lead to economic growth through innovation, resource diversity, invention and competitiveness (Baumol, 1993). Positive beliefs and attitudes towards business increase entrepreneurial behaviour in students after completing their education (Baharvand & Gouran, 2020). Therefore, positive and appropriate attitudes towards business can be considered an opportunity to create and expand self-employment and entrepreneurship programmes and activities among students.

International competition has prompted everyone to pay attention to the aspect of time. We all know that time-based management has surpassed cost-based management in importance. As a result, action based on correct, timely and creative techniques can be beneficial (Ghaed Mohammadi, 2010). Today, entrepreneurship is an effective economic development technique in the face

of globalization (Keat et al., 2011). Recognizing obstacles to entrepreneurship and providing solutions to solve them helps physical education students gain employment (Golmohammadi-Zangabad & Barghi Moghaddam, 2020). According to the research, those who set priorities and goals are more likely to practice effective time management, which boosts performance (Hellsten, 2012). Because our perception of time influences our behaviour and our lives several studies (Hall, 1959; Pant, 2016) have been conducted on perceptions and management. Subsequently, there has been a lot of interest in analyzing time management and organization to ascertain how they relate to performance or income (Alvarez Sainz et al., 2019).

The findings showed that students studying sports management and development have mature views about job advancement and entrepreneurship (Jones & Jones, 2014). The association between TM and non-economic characteristics such as anxiety, health and psychological well-being has been analyzed in several studies (Boixados et al., 2012; Ho, 2003; Macan, 1994; Misra & McKean, 2000; Pérez-González et al., 2003; Strazdins et al., 2011). Students focus on short-term planning and lack long-term habits (Alvarez Sainz et al., 2019). The evidence suggests that TM practices are linked to perceived time control, job satisfaction and health, but not to stress. TM training can improve TM skills, but does not necessarily lead to improved performance (Claessens et al., 2007). In fact, students' TM has only an average relationship with academic success (Cemaloğlu & Filiz, 2010). Given the high unemployment rates among graduates, entrepreneurial skills are increasingly important for their job prospects (Jones & Jones, 2014). Consequently, further study is needed to assist non-business students in developing entrepreneurial skills.

Proposed model of the research

In Figure 1, the proposed research model is based on theoretical correlations between individual time management skills (ITMS) and business attitude (entrepreneurial intention (EI), attitude to competitiveness (AC), attitude towards change (ATC), attitude to money (AM), and attitude to entrepreneurship (AE) of sports science students to support the hypotheses.

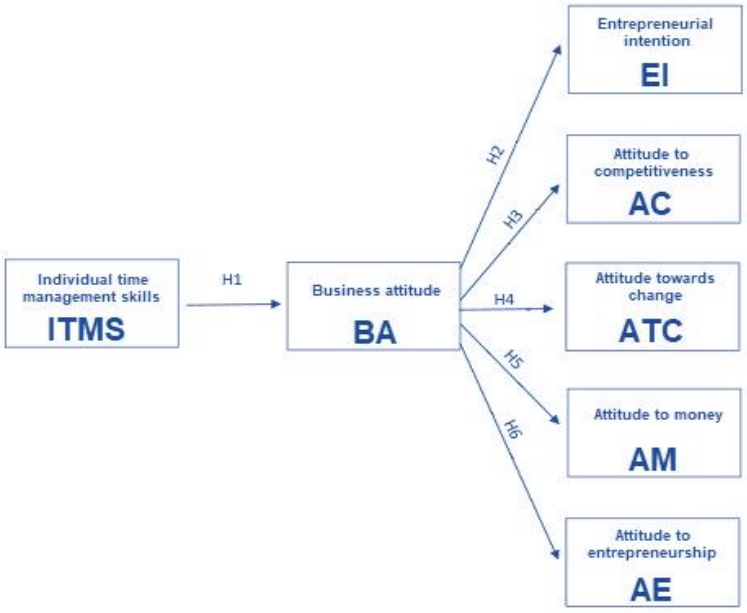


Figure 1. Hypothesized framework

Material and methods

Study design and participants

The current study is a correlational study based on field data. This research was conducted during March and April, 2023. The survey included 126 Tabriz City students majoring in physical education and sports sciences. At least one supervisor completed the questionnaire. All participants in our study participated voluntarily and their responses were recorded.

Convenience sampling was the method used in this study. It is a method used to recruit members of the target group who meet specific requirements (Pashaie & Sotiriadou, 2023). There are numerous recommendations for the optimal sample size when using SEM (Pashaie et al., 2022). As a result, a software developer can run

any model with any sample size (Memon et al., 2020). According to Mundfrom et al., (2005), a Minimum 100 and 100–400 (Ahmad, Halin, 2017) samples are needed for SEM analysis. Sample size requirements for SEM are difficult to generate universal criteria for (MacCallum et al., 1999). As a result, 126 university students studying physical education and sport in Tabriz were chosen for this study. Therefore, the sample size was consistent with the main rule of thumb cited in the scientific literature. As a result, the factor load should be 0.50 or higher for a sample size of 126 participants (Hair et al., 2006).

Measures

Two standard questionnaires were employed to meet the research objectives. The first was the ITMS standard questionnaire (Hafezi et al., 2008), which contained 30 questions. The second was a standardized questionnaire of students' BA, (Schwarz et al., 2009), comprising 20 items that use categories such as EI, AC, ATC, AM, and AE to assess students' attitudes toward business. The questionnaires were sent both electronically (e-mail) and virtually (WhatsApp and Telegram). We used a 5-point Likert scale to measure respondents' agreement level on each topic, ranging from 1 (strongly disagree) to 5 (strongly agree). Table 2 shows the key constructs and metrics.

Seven professors assessed the questionnaire for validity and made suggestions for further clarification of questions to determine validity. The final version of the questionnaire was created after the comments were summarized. Cronbach's alpha and the overall correlation of all components were assessed to examine internal consistency and dependability. This study showed a Cronbach's alpha coefficient greater than 0.7, which indicates acceptable internal consistency.

Data analysis

SEM-AMOS and covariance methods were used to examine data from 126 Tabriz City students. SEMs are used for model and theory testing and scale development (McQuitty & Wolf, 2013). A quantitative research approach was chosen to evaluate pre-specified hypotheses and allow researchers to understand the relationships between variables based on statistical data in general (Pashaie, Abbaszadeh, Abdavi, & Golmohammadi, 2023).

In general, SEM is composed of measurement and structural models. A confirmatory factor analysis (CFA) measurement model evaluates latent constructs for dimensions, validity, and reliability prior to structural modeling (see Fig. 2)(Pashaie, Golmohammadi, & Hoseini, 2023).

The power of the specified model against observed data is first evaluated using CFA. In order to evaluate the fit of the measurement model, the following criteria were used: Root-Mean-Square Error of Approximation ($0.05 < RMSEA < 0.08$), Chi square to degrees of freedom ratio ($\chi 2/ df < 3.0$), Tucker-Lewis index ($TLI > 0.90$), Normed Fit Index ($NFI > 0.90$), Goodness-of-Fit Index ($GFI > 0.90$) and Adjusted Goodness-of-Fit Index ($AGFI > 0.90$) were used as the absolute fit indices. Comparative Fit Index ($CFI > 0.90$) was used as the relative fit index and Parsimony Normed Fit Index ($PNFI > 0.50$) as the parsimony fit index (Hair et al., 2009; Pashaie et al., 2021). RMSEA values less than 0.05 indicate a close fit, values of 0.08 or lower indicate a decent fit, and values greater than 0.10 should be avoided (Pashaie & Sotiriadou, 2023).

Second, SEM was used to test hypotheses about correlations between observable and latent variables. In addition, average variance extracted (AVE) values measure variance in indicators accounted for by latent construct (Hair et al., 1998). To evaluate construct validity standardized factor loadings (≥ 0.50), composite reliability ($CR \geq 0.70$) and average variance extracted ($AVE \geq 0.50$) were calculated. Additionally, we gave internal consistency measures (alpha coefficients) for each scale or subscale to show how well the items associated with one another on a particular scale. Values above 0.70 are considered to be sufficient (Pashaie et al., 2022).

IBM® SPSS® SEM with Amos™ 23 software is reliable for this study. EndNote™ 20 software was used to create bibliographies and manage references.

Results

Demographic Profiles of Respondents

When the data filtering process was completed, 126 replies were used for data analysis. Demographic questions were covered in this poll. The socio-demographic characteristics were as follows (Table 1).

In terms of sample characteristics, 57.9% are male (n=73) and 42.1% are female (n=53). In terms of age, 19.8% are under 20 years old (n=25), 42.1% are 21–25 years old (n=53), 16.7% are 26–30 years old (n=21), 11.1% are 31–35 years old (n=14) and 10.3% are over 36 years old (n=13). In education status, 15.1% have an associate degree (n=19), 50% have a bachelor's degree (n=63), 27.8% have a master's degree (n=35), and 7.1% have a doctoral degree (n=9). In terms of marital status, 84.9% were single (n=107) and 15.1% were married (n=19). Also, in employment status, 62.7 % were employed (n=79) and 37.3% were unemployed (n=47).

Table 1. Participants

Socio-Demographic Characteristics	Participants (n = 126)	
	N	(%)
Gender		
Men	73	57.9
Women	53	42.1
Age		
Under 20 years old	25	19.8
21-25	53	42.1
26-30	21	16.7
31-35	14	11.1
Over 36 years old	13	10.3
Education		
Associate degree	19	15.1
Bachelor's degree	63	50
Master's degree	35	27.8
Doctoral degree	9	7.1
Marital Status		
Single	107	84.9
Married	19	15.1
Employment status		
Employed	79	62.7
Unemployed	47	37.3

Psychometric features of the measures and measurement model evaluation

A team of professionals and specialists in sports management evaluated the face validity of the measures. Additionally, construct reliability was investigated using CFA with composite reliability (see Fig. 2 for details), as it is more frugally constructed than the Cronbach's alpha test (Bagozzi & Yi, 1988). Based on these findings, we can confirm that the scales' reliability values are appropriate, as the Cronbach's alpha and composite reliability values were all greater than 0.70 (Hair et al., 2006). The CR values for all variables ranged from 0.701 to 0.897, exceeding the 0.70 criterion (Hair et al., 2010). Convergent validity assesses how well the items genuinely represent the intended latent construct. It is evaluated using factor loadings and AVE (Hair et al., 2010). For samples of 120, all measurement items had standardized loading estimates (λ) of 0.50 or higher (range from 0.562 to 0.902) (Hair et al., 2006), demonstrating the convergent validity of the measures in each concept. AVE values exceeded minimum requirement (0.50), demonstrating convergent validity (Pashaie et al., 2022).

Table 2. Psychometric Properties of the Measures

	α	CR	AVE
ITMS	.888	.828	.600
BA	.868	.745	.588
EI	.890	.762	.687
AC	.840	.897	.522
ATC	.856	.781	.500
AM	.810	.701	.746
AE	.811	.808	.690

***Note**: CR = composite reliability, AVE = average extracted variance; α = Cronbach's Alpha*

ITMS = Individual time management skills, BA = Business attitude, EI = Entrepreneurial intention, AC = Attitude to competitiveness, ATC = Attitude towards change, AM = Attitude to money, AE = Attitude to entrepreneurship.

The data was accurately measured using confirmatory factor analysis (see Fig. 2 for further information).

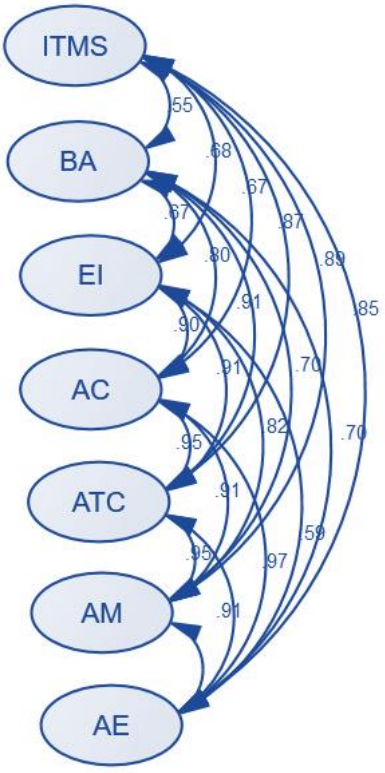


Figure 2. Measurement model

***Note**: Individual time management skills (ITMS); Business attitude (BA); Entrepreneurial intention (EI); Attitude to competitiveness (AC); Attitude towards change (ATC); Attitude to money (AM); Attitude to entrepreneurship (AE).*

Factor loadings suggest items are likely to predict the hidden variable.

Structural model analysis (SEM)

A measurement model was developed based on validity and reliability analysis. SEM was developed to test the hypotheses in this study. Model fit is a technique used to compare theoretical and experimental models. We utilized numerous fit indices to measure how well the scales constructs fit the data, such as the likelihood ratio χ2, χ2/df, RMSEA, GFI, AGFI, PGFI, NFI, TLI. It is usually enough to use 3 to 5 indicators to verify the model (Pashaie et al., 2022). The values of the final model fit indices (χ2/df = 2.83, RMSEA = 0.06, AGFI = 0.90, GFI = 0.91, PGFI = 0.82, TLI = 0.81) showed satisfactory fit of the model to the data.

The results of the data and structural analysis done in the model (Fig 3) are consistent with Table 4. Estimates greater than 0.6 indicate strong association between variables. There is a moderate correlation if it is between 0.3 and 0.6, and a weak correlation if it is less than 0.3 (Pashaie et al., 2022). In the model of significant numbers, due to the number of results obtained for "relationship between ITMS and business attitude of sports science students", estimates are 0.3 – 0.6 (ITMS, BA, EI, AC) – moderate correlation – and higher than 0.6 (ATC, AM, AE) – strong correlation between variables. In addition, the CR or t-value shows the significance of the effect of structures. A CR value greater than 1.96 indicates that there is a significant positive effect. When it is between +1.96 and -1.96, there is no significant effect, while when it is less than -1.96, there is a significant negative effect. The CR value is, in fact, the main criterion for confirming or rejecting the hypotheses in structural equations with Amos software (Badri Azarin et al., 2018). It may be

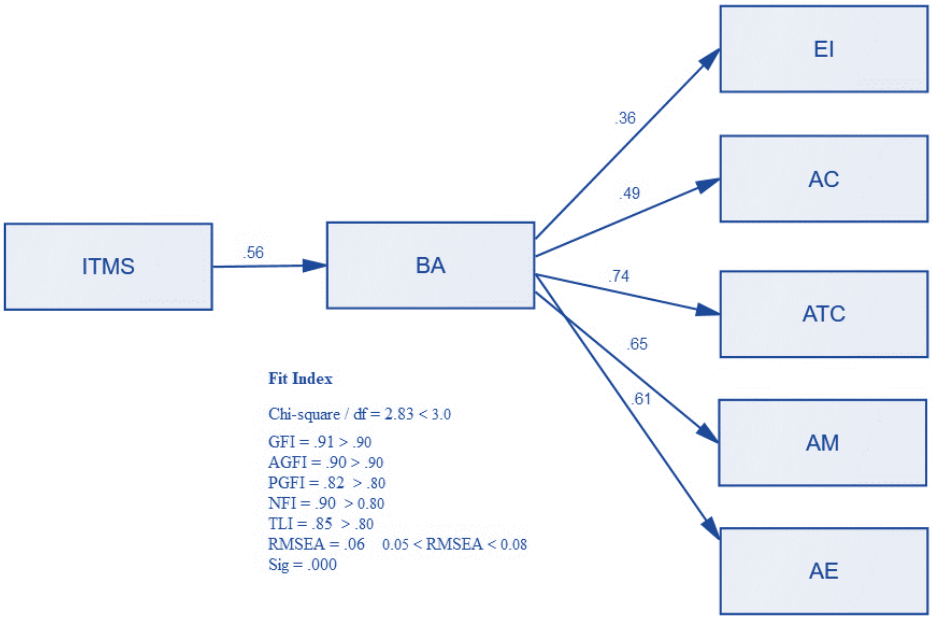


Figure 3. Results of structural model

concluded that these relationships are significant at the confidence level of 0.95 , since the number obtained for the relationships established in the model is more than 1.96.

Assessment of the hypothesized relationships

Table 3 displays a modelling method of ITMS and students' business attitudes in sports sciences. The hypothetical structural model's global model fit test yielded satisfactory findings.

The findings in Table 3 show the path coefficient of the relevant constructs along with their level of significance. All six hypotheses have a significant relationship, according to the hypothesis results. The relationship between ITMS to BA was supported (H1: Estimate = 0.568; CR = 5.605; p<.000). The study's findings support the assertion that ITMS and BA have a positive relationship. The relationship between BA and EI was supported (H2: Estimate = 0.368; CR = 5.489; p<.000). There is a positive correlation between BA and EI according to the study's results. H3 conveyed that BA significantly relates with AC and has been supported (H3: Estimate = 0.499; CR = 5.452; p<.000). According to the research findings, BA and AC are positively correlated. The relationship between BA and ATC was supported (H4: Estimate = 0.745; CR = 5.452; p<.000). According to the research results, BA and ATC have a positive relationship. The relationship between BA and AM was supported (H5: Estimate = 0.659; CR = 5.982; p<.000). BA and AM are positively correlated, according to the research results. The relationship between BA and AE was supported (H6: Estimate =0.611; C.R= 5.740; p<.000). According to the results from the last hypothesis, BA and AE are significantly related. Based on Figure 3 and Table 4, it can be concluded that all research hypotheses were confirmed at a level of 95% and that a positive and strong relationship was found between the structures. In the research model, regression coefficients are significant at 0.000. While some indices sometimes fell below the recommended level, factor loadings for all were above 0.50. Therefore, modification indices were examined in order to identify redundant items. After establishing a significant association between the dependent and independent variables, the effect of each independent variable on the dependent variable is displayed (Fig. 3) in the model stage of the standard estimation of structural equations. Therefore, SEM used was confirmed as a strong theoretical model.

Table 3. Regression Weights

Path			Estimate	S.E.	C.R.	Sig	Result
ITMS	→	BA	.568	.140	5.605	***	Confirmed
BA	→	EI	.368	.047	5.489	***	Confirmed
BA	→	AC	.499	.163	4.880	***	Confirmed
BA	→	ATC	.745	.191	5.452	***	Confirmed
BA	→	AM	.659	.181	5.982	***	Confirmed
BA	→	AE	.611	.201	5.740	***	Confirmed

S.E. = Standard Error, C.R. = Critical Ratio, Sig = Significance

ITMS = Individual time management skills, BA = Business attitude, EI = Entrepreneurial intention, AC = Attitude towards competitiveness, ATC = Attitude towards change, AM = Attitude to money, AE = Attitude to entrepreneurship.

Discussion

As previously stated, the purpose of this study was to look at the relationship between ITMS and BA of sports science students. According to the data, there is a considerable difference between ITMS and business mentality. One of the most fundamental parts of TM is maximizing time utilization. Entrepreneurs have limited time to address issues and expand their businesses (Yoo et al., 2016). However, in reality, TM takes control of our time and work rather than allowing it to drive our affairs (Ghaed Mohammadi & Nazem, 2011).

Sevari (2017) showed that teaching TM skills could increase the TM and study skills of target students. The findings of our hypothesis revealed a favorable and significant association between BA and EI. Entrepreneurial intent is a personality trait that motivates a person to hunt for a freelancing employment or to establish a new business (Fayolle & Liñán, 2014). Many people are looking for new and inventive ideas to help their businesses grow and thrive for a variety of reasons. Meanwhile, the idea of entrepreneurship as one of the ways to establish a new firm has been heavily examined. Koe (2016) investigated the level of entrepreneurial intention of Malaysian students as well as the effect of individual entrepreneurial orientation on entrepreneurial intention and concluded that the quality of pioneering and innovation (from the

dimensions of entrepreneurial orientation) has a positive effect on entrepreneurial intention.

According to previous research (Farahani et al., 2014), the entrepreneurial skills of physical education graduate students are directly and significantly affected by social, cultural, economic, political, educational, environmental, and international environmental factors, As a result, having a favorable attitude toward business can be considered to establish a proper climate for starting a new firm, and students can start the businesses they want.

The results of our hypothesis revealed that there is a positive and substantial association between BA and AC. Competitiveness is one of the most important themes that has been studied in management and marketing literature in recent years, and several viewpoints on the determinants of competitiveness have been provided (Mehri & Khodadad Hosseini, 2021). According to Kamalipour and Zeynalzadeh (2020), indicators of basic need, efficiency, and enhanced innovation had a favorable and significant impact on the business environment. Furthermore, Rostami et al. (2019) discovered that the amount of entrepreneurial activity varies across nations, based on their developmental stage in relation to competitiveness factors.

The findings of our hypothesis revealed a positive and substantial association between BA and ATC. Behavioral, cognitive, and emotional responses to change make up an attitude toward change (Bouckenooghe, 2010). Entrepreneurs are the most open to change and take the most risks (Ratten, 2011). ATC assists physical education students in adapting to changes in society and the corporate environment, as well as changing their methods in response.

The evidence from our hypothesis revealed a positive and substantial association between BA and AM.. Money can have different meanings and values for each person. It is one of the things that can affect purchasing decisions and motivations, but alone it cannot satisfy all human needs and desires (Belk & Wallendorf, 1990; Yamauchi & Templer, 1982). Money attitudes indicate a desire to earn money (Naderi et al., 2015). According to Bhardwaj and Bhattacharjee (2010), power-dignity and money-related anxiety are motivations for obtaining loan facilities and can be predictors of financial defaults. Barand and Imanian (2017) found that 59% of students had high expectations of monetary benefits: 28.5% had an average expectation and 12.5% had a lower expectation. Based on the findings of the hypothesis, it may be concluded that the purpose of all enterprises is to be profitable. As a result, attempts to increase corporate activities will attract money and result in profitability.

The evidence reveals that BA and AE have a positive and significant association. People with a good attitude toward business view entrepreneurship more positively and better equip themselves to accomplish their goals (Carr & Sequeira, 2007). Entrepreneurial mindset is a state of mind in which individuals demonstrate a desire to develop entrepreneurial behavior (Mohammadkazemi et al., 2014). Businesses with an entrepreneurial mindset are more likely to seek out unique and creative ideas that can directly aid in the growth and development of the company.

Conclusion

Time management is one of the most important skills, but it is often a concept that many businesses and people struggle with. Small businesses, in particular, cannot afford to waste time with bad time management and inefficiency. However, the benefits of good time management practices are immeasurable. Businesses that utilize good time management are better positioned to consistently deliver their product or service on time. The current study demonstrates that ITMS is important for students to develop a better attitude towards business and balance their time management skills. Attitudes towards change and business can help them deal with their competition and have a steady market. Attitudes towards money can motivate entrepreneurs to enhance and extend their business operations. A business attitude can be a stepping-stone to beginning entrepreneurial activities. Given the importance of TM skills in improving one's attitude toward business, it is critical that the country's educational institutions pay more attention to this topic and improve the ability of managers to acquire individual TM skills, which has a positive effect on student behavior and, as a result, increases productivity and positive attitudes toward businesses. We conclude that, to some extent, the amount of organizational time management behaviour can be described by students' individual TM skills. These findings have theoretical significance for understanding the relationship between ITMS and BA. Future analytical directions are determined based on the implications of the results.

Competing interests

The authors report no conflicts of interest in this work.

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References

Ağduman, F. (2014). *Üniversite öğrencilerinin boş zaman motivasyon ve tatminlerinin incelenmesi* [Examining university

students' leisure time motivation and satisfaction] (Doctoral dissertation).

Ahmad, H., & Halim, H. (2017). Determining sample size for research activities. *Selangor Business Review*, 20–34.

Akatay, A. (2003). Örgütlerde zaman yönetimi [Time management in organizations]. *Selçuk Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, (10), 281–300.

Alvarez Sainz, M., Ferrero, A. M., & Ugidos, A. (2019). Time management: skills to learn and put into practice. *Education+ Training*, *61*(5), 635–648. https://doi.org/10.1108/ET-01-2018-0027

Badri Azarin, Y., Pashaie, S., Hafezi, V., & Fateh, H. (2018). Analysis the mediating role quality of ticket sale electronic services the performance of electronic customer relationship management (E-CRM) of league football matches of Iran. *Communication Management in Sport Media*, *5*(3), 15–26.

Bagozzi, R. P., & Yi, Y. (1988). On the evaluation of structural equation models. *Journal of the Academy of Marketing Science*, *16*(1), 74–94. https://doi.org/10.1007/BF02723327

Baharvand, F., & Gouran, M. (2020). Explaining the Relationship between Spiritual Intelligence and Business Attitude in Students (Case Study: Students of Management and Accounting Department in Velayat University). *Journal of Business Management*, *12*(45), 272–293.

Barand, M., & Imanian, M. (2017). The effect of life satisfaction and assessment of benefit on attitude to money among college students. *Journal of Fundamentals of Mental Health*, *19*(5), 567–573. https://doi.org/10.22038/jfmh.2017.9313

Baumol, W. J. (1993). Formal entrepreneurship theory in economics: Existence and bounds. *Journal of Business Venturing*, *8*(3), 197–210. https://doi.org/10.1016/0883-9026(93)90027-3

Bayramlı, Ü. (2017). Zaman yönetimi: Öz yönetim, zaman tuzakları, zaman yönetim teknikleri [Time management: Self-management, time traps, time management techniques]. 2. Baskı, Ankara: Seçkin Yayıncılık.

Belk, R. W., & Wallendorf, M. (1990). The sacred meanings of money. *Journal of Economic Psychology*, *11*(1), 35–67. https://doi.org/10.1016/0167-4870(90)90046-C

Bhardwaj, S., & Bhattacharjee, K. (2010). Modeling Money Attitudes to Predict Loan Default. *IUP Journal of Bank Management*, 9.

Boixados, M., Hernandez, E., & Fernandez, M. P. (2012). Personal Time-Management and Quality of Life in the Network Society. Chapters. https://doi.org/10.5772/37320

Bouckenooghe, D. (2010). Positioning change recipients' attitudes toward change in the organizational change literature. *The Journal of Applied Behavioral Science*, *46*(4), 500–531. https://doi.org/10.1177/0021886310367944

Carr, J. C., & Sequeira, J. M. (2007). Prior family business exposure as intergenerational influence and entrepreneurial intent: A theory of planned behavior approach. *Journal of Business Research*, *60*(10), 1090–1098. https://doi.org/10.1016/j.jbusres.2006.12.016

Cemaloğlu, N., & Filiz, S. (2010). The relation between time management skills and academic achievement of potential teachers. *Educational Research Quarterly*, *33*(4), 3–23.

Claessens, B. J., Van Eerde, W., Rutte, C. G., & Roe, R. A. (2007). A review of the time management literature. *Personnel Review*. https://doi.org/10.1108/00483480710726136

Eilam, B., & Aharon, I. (2003). Students' planning in the process of self-regulated learning. *Contemporary Educational Psychology*, *28*(3), 304–334. https://doi.org/10.1016/S0361-476X(02)00042-5

Engle, R. L., Dimitriadi, N., Gavidia, J. V., Schlaegel, C., Delanoe, S., Alvarado, I., ... & Wolff, B. (2010). Entrepreneurial intent: A twelve-country evaluation of Ajzen's model of planned behavior. *International Journal of Entrepreneurial Behavior & Research*, *16*(1), 35–57. https://doi.org/10.1108/13552551011020063

Farahani, A., Ghasemi, H., & Mohammadi, N. (2014). The study of Environmental factors affecting the entrepreneurial spirit of students graduate in Physical Education. *Applied Research in Sport Management*, *2*(3), 61–74.

Fayolle, A., & Liñán, F. (2014). The future of research on entrepreneurial intentions. *Journal of Business Research*, *67*(5), 663–666. https://doi.org/10.1016/j.jbusres.2013.11.024

França, C.L., Broman, G., Robèrt, K.H., Basile, G., Trygg, L. (2017). An approach to business model innovation and design for strategic sustainable development, *Journal of Cleaner Production*, *140*(1), 155–166. https://doi.org/10.1016/j.jclepro.2016.06.124

Fritsch, M. (2008). How does new business formation affect regional development? Introduction to the special issue. *Small Business Economics*, 30, 1–14. https://doi.org/10.1007/s11187-007-9057-y

Fuchs, K., Werner, A., & Wallau, F. (2008). Entrepreneurship education in Germany and Sweden: what role do different school systems play? *Journal of Small Business and Enterprise Development*, *15*(2), 365–381. https://doi.org/10.1108/14626000810871736

Ghaed Mohammadi, M. J. (2010). Time management and its components among Islamic Azad University students. *Social Research*, *3*(6), 57–73.

Ghaed Mohammadi, M. J., & Nazem, F. (2011). The Relationship between Entrepreneurship and Time Management of Islamic Azad University Students (Branches of the 12th Educational District). *Journal of Iranian Social Development Studies*, *3*(4), 107–116.

Ghaffari, S., Ghaseminezhad, F., & Zakiani, S. (2021). Investigating the Relationship between Time Management and Staff Training in Kerman Public Libraries. *Library and Information Science Research*, *11*(2), 250–267. https://doi.org/10.22067/infosci.2021.24244.0

Golmohammadi-Zangabad, H., & Barghi Moghaddam, J. (2020). Review and Comparison of Challenges, Conflicts, and Innovation on the Start-up Qualification of Independent Business (Case study on physical education students of Islamic Azad University, Tabriz Branch). *Research in Sport Management and Marketing*, *1*(1), 1–9. https://doi.org/10.22098/rsmm.2020.1107

Gran-Moravec, M. B., & Hughes, C. M. (2005). Nursing time allocation and other considerations for staffing. *Nursing*

& Health Sciences, *7*(2), 126–133. https://doi.org/10.1111/j.1442-2018.2005.00230.x

Guerrero, M., Rialp, J., & Urbano, D. (2008). The impact of desirability and feasibility on entrepreneurial intentions: A structural equation model. *International Entrepreneurship and Management Journal*, 4, 35–50. https://doi.org/10.1007/s11365-006-0032-x

Hafezi, S., Naghibee, H., Naderi, E., Najafi Mehri, S., Mahmoodi,S. (2008). The correlation between personal skill and organizational behavioral time management among educational administrators. *International Journal of Behavioral Sciences*, *2*(2), 183–192.

Hair Jr., J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (1998). *Multivariate Data Analysis* (5th ed.). Upper Saddle River, NJ: Prentice Hall.

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2009). *Advanced diagnostics for multiple regression. Multivariate Data Analysis* (7th Edition). Pearson Prentice Hall Publishing.

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Canonical correlation: A supplement to multivariate data analysis.* In *Multivariate data analysis*: A global perspective (7th ed.). Pearson Prentice Hall.

Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate Data Analysis*: Pearson Prentice Hall. Upper Saddle River, NJ, 1–816.

Hall, E. T. (1959). *The Silent Language*. New York, NY: Anchor Books.

Hellsten, L. (2012). What Do We Know About Time Management? A Review of the Literature and a Psychometric Critique of Instruments Assessing Time Management, Time Management Todor Stoilov, IntechOpen, https://doi.org/10.5772/37248

Ho, B. (2003). Time management of final year undergraduate English projects: supervisees' and the supervisor's coping strategies. *System*, *31*(2), 231–245. https://doi.org/10.1016/S0346-251X(03)00022-8

Jamshid Malek Ara, B. (2009). The Relationship between Time Management and Vocational Burnout in the Employees of West Azerbaijan Tax Affairs Head Office (2007). *Journal of Tax Research*, *17*(4), 81–98. Retrieved from http://taxjournal.ir/article-1-148-fa.html

Jones, P., & Jones, A. (2014). Attitudes of Sports Development and Sports Management undergraduate students towards entrepreneurship: A university perspective towards best practice. *Education+ Training*, *56*(8/9), 716–732. https://doi.org/10.1108/ET-06-2014-0060

Jones, P., Miller, C., Jones, A., Packham, G., Pickernell, D., & Zbierowski, P. (2011). Attitudes and motivations of Polish students towards entrepreneurial activity. *Education+ Training*, *53*(5), 416–432. https://doi.org/10.1108/00400911111147721

Kakouris, A. (2016). Exploring entrepreneurial conceptions, beliefs and intentions of Greek graduates. *International Journal of Entrepreneurial Behavior & Research*, *22*(1), 109–132.

Kamalipour, M., & Zeynalzadeh, R. (2020). Competitiveness and Business environment. *Journal of Business Management*, *12*(46), 149–164.

Kearns, H., & Gardiner, M. (2007). Is it time well spent? The relationship between time management behaviours, perceived effectiveness and work-related morale and distress in a university context. *High Education Research & Development*, *26*(2), 235–247. https://doi.org/10.1080/07294360701310839

Keat, O. Y., Selvarajah, C., & Meyer, D. (2011). Inclination towards entrepreneurship among university students: An empirical study of Malaysian university students. *International Journal of Business and Social Science*, *2*(4).

Kelly, M. (2004). Get time on your side. *Careers & Universities*, *24*(4), 28.

Kelly, W. E. (2004). As achievement sails the river of time: The role of time use efficiency in grade-point-average. *Educational Research Quarterly*, *27*(4), 3.

Khorsandi Yamchi, A., Arefi, M., Bayat, N., Soleimani Motlagh, K., & Roshani Alibenehsi, H. (2015). Evaluating the entrepreneurship knowledge, abilities, attitudes and creativity of students (Case Study: Universities of Esfahan and Zanjan). *Higher Education Letter*, *8*(29), 59–83.

Koe, W. L. (2016). The relationship between Individual Entrepreneurial Orientation (IEO) and entrepreneurial intention. *Journal of Global Entrepreneurship Research*, 6, 1–11.

Laurie, A., & Hellsten, M. (2002). What do we know about time management. *A Review of the Literature and a Psychometric Critique of Instruments Assessing Time Management University of Saskatchewan, Canada*, *7*(8), 9.

Macan, T. H. (1994). Time management: Test of a process model. *Journal of Applied Psychology*, *79*(3), 381. https://doi.org/10.1037/0021-9010.79.3.381

Macan, T. H., Shahani, C., Dipboye, R. L., & Phillips, A. P. (1990). College students' time management: Correlations with academic performance and stress. *Journal of Educational Psychology*, *82*(4), 760.

MacCallum, R. C., Widaman, K. F., Zhang, S., & Hong, S. (1999). Sample size in factor analysis. *Psychological methods*, *4*(1), 84. https://doi.org/10.1037/1082-989X.4.1.84

Marrelli, T. M., & Hilliard, L. S. (2004). *The nurse manager's survival guide: practical answers to everyday problems*: Gulf Professional Publishing.

McQuitty, S., & Wolf, M. (2013). Structural equation modeling: A practical introduction. *Journal of African Business*, *14*(1), 58–69. https://doi.org/10.1080/15228916.2013.765325

Mehri, A., & Khodadad Hosseini, H. (2021). Designing a Competitive Advantage Model for Automotive Industry in Iran. *Management Research in Iran*, *9*(2), 189–212.

Memon, M. A., Ting, H., Cheah, J. H., Thurasamy, R., Chuah, F., & Cham, T. H. (2020). Sample size for survey research: Review and recommendations. *Journal of Applied Structural Equation Modeling*, *4*(2), 1–20.

Mercanlioglu, Ç. (2010). The relationship of time management to academic performance of master level students. *International Journal of Business and Management Studies*, *2*(1), 25–36.

Misra, R., & McKean, M. (2000). College students' academic stress and its relation to their anxiety, time management,

and leisure satisfaction. *American Journal of Health Studies*, *16*(1), 41.

Mohammadkazemi, R., Mirzaei, F., & Ziviar, F. (2014). Identifying the Factors Affecting Entrepreneurial Attitude in Athletics Students (High Schools of Tehran). *Sport Management Studies*, *6*(25), 145–158

Mundfrom, D. J., Shaw, D. G., & Ke, T. L. (2005). Minimum sample size recommendations for conducting factor analyses. *International Journal of Testing*, *5*(2), 159–168. https://doi.org/10.1207/s15327574ijt0502_4

Naderi, N., Amiri, S., Delangizan, S., & Jafari, H. (2015). Conceptual modeling of the effect of the components of entrepreneurship education on students' attitude to business in professional conservatories. *International Journal of Research in Entrepreneurship and Sustainable Agricultural Development*, *2*(2), 17–34.

Nonis, S. A., & Hudson, G. I. (2006). Academic performance of college students: Influence of time spent studying and working. *Journal of Education for Business*, *81*(3), 151–159. https://doi.org/10.3200/JOEB.81.3.151-159

Pant, B. (2016). Different cultures see deadlines differently. *Harvard Business Review*, 23.

Pashaie, S., & Sotiriadou, P. (2023). The Anticorruption Effects of Information and Communication Technology in Sport Organizations: The Role of Organizational Health Mediation and Organizational Transparency. *International Journal of Sport Communication*, 1(aop), 1–12 https://doi.org/10.1123/ijsc.2023-0058.

Pashaie, S., Abbaszadeh, M., Abdavi, F., & Golmohammadi, H. (2023). Improving the Validity of Mixed and Multi-Methods through Triangulation in New Sports Management Research. *Research in Sport Management and Marketing, 4*(2), 16–27. doi:https://doi.org/10.22098/RSMM.2023.12593.1216

Pashaie, S., Abdavi, F., BadriAzrine, Y., Cincimino, S., & Fişne, M. (2021). Designing and providing the appropriate structural model for success of customer relationship management in the sports service sector places in Iran: Multi-Method Analysis. *Applied Research in Sport Management*, *9*(3), 41–56. https://doi.org/10.30473/arsm.2021.7386

Pashaie, S., Golmohammadi, H., & Hoseini, M. D. (2023). Social Customer Relationship Management Capabilities in Sports Facilities. *Journal of New Studies in Sport Management*. doi:10.22103/JNSSM.2023.21459.1191

Pashaie, S., Piątkowska, M., Hoseini, M. D., Dostimehr, A., & Jahanbakhsh, I. (2022). Sociological Analysis of Branding of Professional Football League Players. *Physical Culture and Sport. Studies and Research*, *96*(1), 1–11. https://doi.org/10.2478/pcssr-2022-0014

Pérez-González, F., García-Ros, R., & Talaya González, I. (2003). Learning styles and management skills of academic time in secondary education. *Revista Portuguesa de Educação*, *16*(1), 59–74.

Rapp, A. A., Bachrach, D. G., & Rapp, T. L. (2013). The influence of time management skill on the curvilinear relationship between organizational citizenship behavior and task performance. *Journal of Applied Psychology*, *98*(4), 668–677. https://doi.org/10.1037/a0031733

Ratten, V. (2011). Sport-based entrepreneurship: towards a new theory of entrepreneurship and sport management. *International Entrepreneurship and Management Journal*, 7, 57–69. https://doi.org/10.1007/s11365-010-0138-z

Rostami, N., Mohammadi Khiyareh, M., & Mazhari, R. (2019). Investigating the Impact of Competitiveness on entrepreneurial activities (Case study of Factor-driven, Efficiency-driven and innovation-driven countries). *New Economy and Trad*, *14*(1), 1–38. https://doi.org/10.30465/jnet.2019.4278

Schwarz, E.J., Wdowiak, M.A., Almer-Jarz, D.A. and Breitenecker, R.J. (2009), The Effects of Attitudes and Perceived Environment Conditions on Students' Entrepreneurial Intent: An Austrian Perspective, *Education + Training*, *51*(4): 272–291. https://doi.org/10.1108/00400910910964566

Sevari, K. (2017). The effect teaching of Time Management Skills on Time Management and Study Skills of Students in the Psychology Department of Payame Noor University in Ahvaz. *Educational Development of Judishapur*, *8*(3), 300–309.

Sevari, K., & Kandy, M. (2011). Time management skills impact on self-efficacy and academic performance. *Journal of American Science*, *7*(12), 720–726.

Stewart Jr, W. H., Watson, W. E., Carland, J. C., & Carland, J. W. (1999). A proclivity for entrepreneurship: A comparison of entrepreneurs, small business owners, and corporate managers. *Journal of Business Venturing*, *14*(2), 189–214. https://doi.org/10.1016/S0883-9026(97)00070-0

Strazdins, L., Griffin, A. L., Broom, D. H., Banwell, C., Korda, R., Dixon, J., . . . Glover, J. (2011). *Time scarcity: another health inequality? Environment and Planning A*, *43*(3), 545–559. https://doi.org/10.1068/a4360

Swart, A. J., Lombard, K., & de Jager, H. (2010). Exploring the relationship between time management skills and the academic achievement of African engineering students–a case study. *European Journal of Engineering Education*, *35*(1), 79–89. https://doi.org/10.1080/03043790903480316

Tayebi, S. K., & Fakhri, M. (2010). The effects of globalization and international trade on the development of entrepreneurship (case study: OECD countries). *Journal of Entrepreneurship Development*, *3*(3), 37–45.

Thomack, B. (2012). Time management for today's workplace demands. *Workplace Health & Safety*, *60*(5), 201–203. https://doi.org/10.1177/216507991206000503

Williams, R., Verble, J., Price, D., & Layne, B. (1995). Relationship between time management practices and personality indices and types. *Journal of Psychological Type*, *34*(1), 36–42.

Yamauchi, K. T., & Templer, D. J. (1982). The development of a money attitude scale. *Journal of Personality Assessment*, *46*(5), 522–528. https://doi.org/10.1207/s15327752jpa4605_14

Yilmaz, A., & Aslan, S. (2002). Örgütsel Zaman Yönetimi [Organizational Time Management]. *CÜ İktisadi ve İdari Bilimler Dergisi*, *3*(1), 25–46.

Yoo, O. S., Corbett, C. J., & Roels, G. (2016). Optimal time allocation for process improvement for growth-focused entrepreneurs. *Manufacturing & Service Operations Management*, *18*(3), 361–375. https://doi.org/10.1287/msom.2015.0568

Zachary, M. A., Gianiodis, P. T., Payne, G. T., & Markman, G. D. (2015). Entry timing: Enduring lessons and future directions. *Journal of Management*, *41*(5), 1388–1415. https://doi.org/10.1177/0149206314563



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