Validity and Reliability Study of the Situational Interest Scale in Turkish

Can Meşe[1]
[1]Yozgat Bozok University, 0000-0002-9759-7055

To cite this article:

Validity and Reliability Study of the Situational Interest Scale in Turkish

Can Meşe[1*]
[1]Yozgat Bozok University

Abstract

Interest has a key role in the learning and teaching processes. However, interest could be categorized as individual, situational, and topic interest. Situational interest that educators could design, develop, and organize with instructional design is the most significant. The structure of situational interest consists of triggered situational interest, maintained situational interest feeling, and maintained situational interest value. The current study aimed to determine the conceptual structure of the situational interest scale by adapting it into Turkish. For this purpose, the study also aimed to determine the validity and reliability of the Turkish language adaptation of situational interest scale developed by Linnenbrink-Garcia et al. in 2010. Turkish language adaptation of the situational interest scale has a good fit in all parameters for first-order CFA analysis ($\chi2 /df = 2.349$, RMSEA = 0.078, SRMR = 0.025, CFI = 0.976, TLI = 0.969) without modification. The Cronbach Alpha internal consistency coefficient was calculated for each factor: .901 for the triggered situational interest, .949 for the maintained situational interest feeling, .945 for the maintained situational interest value, and .963 for the whole scale. In the study, it was recommended that future studies determine the validity and reliability of the situational interest scale with subjects at various education levels.

Key words: Situational interest, Situational interest scale, Computer Course.

Introduction

Interest is a psychological state that is effective in the acquisition of a certain attitude, emotion and behavior of individuals. Here, interest is vital in guiding individuals to a particular situation (Ainley, 2006). Also, studies on interest show that interest was an important factor in attention, goal setting, motivation, and learning (Hidi & Renninger, 2006). This importance of the interest in the learning can be explained as a high level of interest allows for a feeling relatively effortless of focusing attention and cognitive activities (Krapp, 2005; Schraw & Lehman, 2001; Schiefele, 2009). Interest could contribute to learning and transfer of learning, and conversely, learning could contribute to developing the individual's interest in individualizing the individual (Flowerday & Shell, 2015; Magner et al., 2014; Rotgans & Schmidt, 2014; Schraw & Lehman, 2001). Thus, it should be emphasized that interest is an important psychological variable in learning and teaching.

The interest as a motivational factor has contributed to engage student during the learning process (Dewey, 1913). In educational research, interest uses as situational, individual and topic interest. Situational interest could trigger through the organization of the learning environment, such as supporting the student by teachers, parents, and peers, planning learning-teaching activities such as group work, and developing new instructional methods (Han et al., 2020; Renninger et al., 2019). Thus, educators could develop an instructional approach that could trigger learner's interest. As Rotgans and Schmidt (2011) stated, the focus should be on what teachers should do and what they should avoid to triggered situational interest. The studies on situational interest have focused on determining the characteristics of a rich and problem-based environment that could trigger and maintain student interest (Renninger et al., 2019). Therefore, it is important to address the situational interest could trigger by organizing the environment. Also, the situational interest shaped by the environment is predictive of the variables related to academic success (Rotgans & Schmidt, 2011), but there is a need for a reliable and valid measurement tool to measure the situational interest. The present study aims to introduce a valid and reliable situational interest scale to the Turkish literature to measure situational interest.

Theoretical Framework

---

[*] Corresponding Author: *Can Meşe, canmese@gmail.com*

Interest

Although there are studies that aim to establish a theoretical framework, the literature lacks a clear definition of interest. However, the interest could be defined as an emotional state that includes the feelings of stimulation, awareness, attention, and concentration and is a key factor of learning motivation (Ainley, 2006). Although there are various descriptions of interest in the literature, this section includes a first association between interest and learning and then the studies that aimed to establish the theoretical framework for interest.

The interest is conceptualized in two dimensions: situational and individual interest. It was assumed that there was a distinction between situational and individual interest (Hidi & Renninger, 2006). Situational interest has had an important role in the learning and teaching process. According to Rotgans and Schmidt (2014), if the students have little interest in a course s/he learns less it, vice versa. Therefore, the educational research on interest shows that situational interest positively affects learning (Schiefele et al., 1992). Situational interest also motivates learners to engage with new information (Rotgans & Schmidt 2011; Schraw & Lehman, 2001) and plays an important role as a motivational variable that triggers feelings of enjoyment and increased attention (Fandakova & Gruber, 2021; Hidi & Renninger, 2006).

Since this study examines the measurement of interest in the context of its theoretical structure, it is necessary to examine the development of interest. According to Krapp et al. (1992), interest was accepted as a psychological variable and explained with a three-tier structure: 1- individual interest: interest as a personal trait, 2-situational interest: interest that originates in the learning environment, and 3- interest as a psychological state (Kaya, 2016; Krapp et al., 1992). Thus, interest is primarily associated with personal traits. It could be suggested that the interest could be improved by designing interesting learning environments to retain situational interest and its transformation into a psychological state. This development of interest is explained based on a four-phase model of interest development. In this model, interest was associated with individual and situational factors (Hidi & Renninger, 2006; Renninger & Hidi, 2011). The model emphasized the situational interest dimension that was mostly affected by environmental factors (Knogler et al., 2015; Schraw et al., 2001). According to the four-phase model of interest development, interest is primarily triggered by a situation that attracts the individual's attention, and then situational interest emerges when the initial interest is sustained by the environment.Situational attention leads to individual interest, which becomes advanced individual interest. Instructional environments and learner's traits such as emotions, autonomy, character identification, technology, groupwork, practical activities, educational lectures, innovations, ownership, and personal consistency transform the triggered situational interest into maintained situational interest (Renninger et al., 2019). Therefore, situational interest should be first triggered to achieve individual interest. In other words, situational interest is a prerequisite for developing individual interest (Yaman, 2005). Thus, it could be suggested that a focus on situational interest plays an important role in developing an individual's interest in a particular situation.

Situational interest occurs during an individual's interaction with a situation such as a topic, event, or idea (Knogler et al., 2015). Studies on the triggering/initiation of situational interest emphasized the significance of environmental properties, such as the design of the tasks and activities conducted with others with whom the individual interacts (Renninger et al., 2019; Rotgans & Schmidt, 2011). For example, in a study conducted by Pasco et al. (2017), it was reported that mobile cycling games had a positive effect on situational interest. In other words, situational interest occurs in a specific environment where environmental properties are effective. Although there are different types of interest, such as topic interest and individual interest in the literature (Hidi, 2000), the current study focused on situational interest, the instructional design contributes to the development of individual interest.

Measurement of Situational Interest

Studies on the measurement of interest have accompanied those that aimed to determine the theoretical framework of interest. In these studies, data collection instruments such as scales, questionnaires and interview forms were generally employed to measure interest, behavioral measures and neuroscientific methods were also preferred (Renninger & Hidi, 2011). However, among these methods, it was observed that the scales were the most preferred quantitative data collection instruments.

In studies on interest, the content of interest has been determined based on emotions and values (Renninger & Hidi, 2011). Linnenbrink-Garcia et al. (2010) developed a situational interest scale that could be applied in various academic levels such as middle school, secondary school, and university students. The scale was based on the theoretical framework presented in Figure 1.
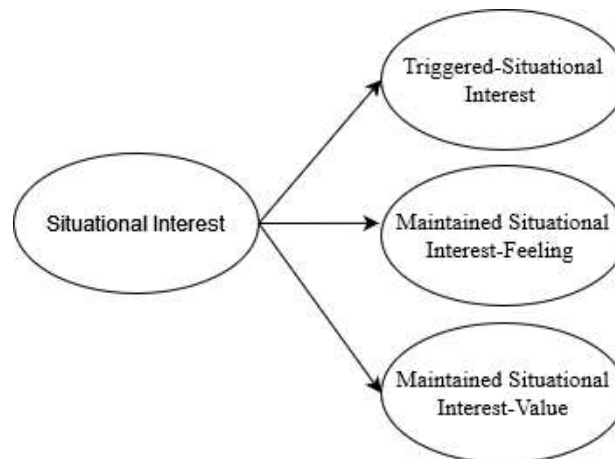
Figure 1. The theoretical framework of situational interest

As seen in Figure 1, *situational interest (SI)* includes three components: *triggered-situational interest (ST), maintained-SI-feeling (SMF), and maintained-SI-value (SMV).* Triggered situational interest could initiate the process of interest development by drawing the students' attention to the course material; however, this experience needs to be transformed into individual interest (Linnenbrink-Garcia et al., 2010). Maintained situational interest is involved in the process of the transformation of the triggered-situational interest into individual interest. Thus, when environmental factors do not support triggered-situational interest, it could be withdrawn (Linnenbrink-Garcia et al., 2010), and it should be supported by the environment and transformed into a form of maintained situational interest. Maintained situational interest develops through two mechanisms that are based on feeling and value. Maintained-SI-feeling is associated with positive emotions such as fun and excitement that instructional content triggers. In contrast, maintained-SI-value is associated with the belief that the instructional content is meaningful and important (Schiefele, 1991). In other words, it could be suggested that positive emotions could be effective on maintained-SI-feeling; however, triggered situational interest and maintained-SI-value could be independent of the emotional state (Bhandari et al., 2019). Here, situational interest is discussed based on three components: triggered-situational interest, maintained-SI-feeling, and maintained-SI-value.

The studies on interest are quite limited in Turkey. Among these studies, Deniz et al. (2014) investigated students' vocational interests attending two public universities. The study discussed interest based on vocational interest. In a study by Akın et al. (2015), who analyzed interest in the course, the interest in the Course Scale, developed by Mazer (2013), and includes the cognitive and affective factors, was adapted into Turkish language. Although environmental factors play an important role in triggering interest (Krapp et al., 1992), there were limited studies on situational interest. Thus, the present study would fill a gap in the literature by addressing situational interest that could be organized with instructional design and induced by environmental factors and adopting a scale that could be employed to measure situational interest in the Turkish language. It is expected that introducing a validity and reliability situational interest scale to the Turkish literature with the current adaptation would provide an infrastructure for future situational interest studies.

Method

Research design

A cross-sectional survey model was used to measure the Turkish literature's situational interest scale's validity and reliability. The method (Fraenkel et al., 2012) allows the collection of data about a case from a specific sample in a certain time interval. Thus, data for the adaptation of the scale to Turkish language were collected between 16.04.2018 and 30.04.2018.

Participants

In educational research, populations are large, diverse, and widely distributed, and collecting data from all members can be time-consuming and expensive (Fraenkel et al., 2012). For this reason, it is necessary to select a

sample for the study. In order to achieve the aim of this study, which is to introduce a scale to measure situational interest in Turkish, situational interest needs to be investigated based on a course and the students enrolled in that course. Therefore, the current study was conducted with a random sample consisting of a group of individuals available for the study (Fraenkel et al., 2012). The study was conducted with students enrolled in the Computer II course at a state university of education who volunteered to participate in the study during the spring semester of the 2017-2018 academic year. The distribution of participating students in the scale adjustment phase of the study is shown in Table 1 by gender and department.

Table 1. Distribution of the students who participated in the adaptation phase of the study based on gender and department

| | Gender (n) | | Total |
	Female	Male	
Department	27	1	28 (12.6%)
Elementary Science Education	31	15	46 (20.6%)
Elementary Mathematics Education	50	4	54 (24.2%)
Preschool Education	35	18	53 (23.8%)
Preschool Education (Evening Education)	30	12	42 (18.8%)
Primary School Education			
Total	173	50	223 (100%)

As seen in Table 1, the scale was adapted with 223 undergraduate students attending Science Education, Mathematics Education, Preschool Education, Preschool Education (Evening Education) and Primary School Education programs. Among the participants, 75.6% (n = 173) were female, and most students attended the Preschool Education (Regular and Evening Education) department.

Data Collection Instrument and Process

The study used the situational interest scale developed by Linnenbrink-Garcia et al. (2010) as the data collection instrument. The scale includes 12 items, four of which aim to measure triggered situational interest (ST), four aim to measure maintained-SI-feeling (SMF), and four aim to measure maintained-SI-value (SMV). The adaptation was conducted to introduce the Situational Interest Scale to Turkish. The following steps were included in the adaptation:

- **1st Phase:** Permission of the situational interest scale developers was obtained by e-mail.
- **Phase 2:** Six experts, who can speak and write fluently in both languages, translated the English items into Turkish.
- **3rd Phase:** The author prepared the items in the Turkish version based on the advice of the experts.
- **4th Phase:** One expert made Turkish to English back-translating.
- **5th Phase:** The comprehensibility of the scale items was examined with nine students representing the sample group.
- **6th Phase:** The adopted scale, as shown in Appendix-1, was finalized.

The scale originally developed for the mathematics course was adapted to Turkish by replacing the phrase mathematics course with computer course. The scale was adapted as a five-point Likert scale, with ratings varying from "strongly disagree" to "strongly agree." To avoid data loss during the survey, data were collected online using Google Forms. In addition, participants' demographic data, such as gender and department, were recorded on the same form.

Data analysis

The collected data were analyzed with confirmatory factor analysis (CFA) to determine the construct validity of the adapted scale, and the item responses were analyzed. Confirmatory factor analysis was conducted to determine the goodness of fit of the Turkish language structure with the original.

The data in the current study was collected via Google Forms to prevent missing data. The data was exported as an XLS file and then imported into SPSS 25. According to data set, the participants completed the survey with no missing data. CFA assumptions were tested, such as normality and univariate and multivariate outliers (Tabachnick & Fidell, 2013). The sample size for CFA was sufficient. The scale items were transformed to the standard z-score for testing univariate outliers, and no one data the ±4 z score range (George & Mallery, 2010;

Mertler & Vannatta, 2016; Tabachnick & Fidell, 2013). The upper value of skewness and kurtosis scores were -1.491 and 2.740, respectively. Mahalanobis distance was used to detect multivariate outliers, and then 10 outlier data, removed from the data set. Tolerance values were expected upper than .1 (Menard, 1995); this value for the scale was upper than .165 (item-12). When the VIF values are less than 10, there probably is not a multicollinearity cause for concern (Field, 2013). VIF value for the scale is less than 6.057 (item-12). According to these results showed assumptions were met for the CFA. During the adaptation of the scale, CFA was conducted with the MPlus 8.5 software to determine the goodness of fit.

In the study, Cronbach Alpha coefficient was employed to determine internal consistency on SPSS 25 software. It was suggested that a coefficient of .70 or higher would indicate reliability in psychological tests (Büyüköztürk, 2007). A coefficient above .90 is interpreted as completely reliable, a coefficient between .80 and .90 is interpreted as very reliable, a coefficient between .70 and .80 is interpreted as reliable, a coefficient between .60 and .70 is interpreted as moderately reliable, a coefficient between .50 and .60 is interpreted as somewhat reliable, and a coefficient below .50 is interpreted as unreliable (Özdamar, 2017). In addition, the reliability of the indicator and its convergent validity were analyzed with the average variance extracted (AVE) and the composite reliability (CR).

Findings

This section presents the validity and reliability analyses conducted on the Turkish version of the situational interest scale.

Situational Interest Scale Construct Validity

In this section, construct validity findings for the situational interest scale are presented. However, the data collected for the adaptation of the scale were primarily subjected to descriptive analysis. Descriptive analysis findings are presented in Table 2.

Table 2. Descriptive analysis results of Situational Interest Scale

	n	Lowest	Highest	$\bar{x}$	SD	Skewness	Kurtosis
ST	223	1.00	5.00	3.84	0.79	-0.95	1.34
SMF	223	1.00	5.00	3.81	0.89	-1.01	1.34
SMV	223	1.00	5.00	4.19	0.80	-1.54	3.21
Total Scale	223	1.00	5.00	3.95	0.77	-1.30	2.35

Table 2 shows that the mean scores for the situational interest dimension were quite high. It could be assumed that the skewness and kurtosis were at an acceptable level (George & Mallery, 2010). Based on these data, a confirmatory factor analysis was conducted for the adaptation of the scale to the Turkish language. The MPlus diagram of the model is shown in Figure 2.
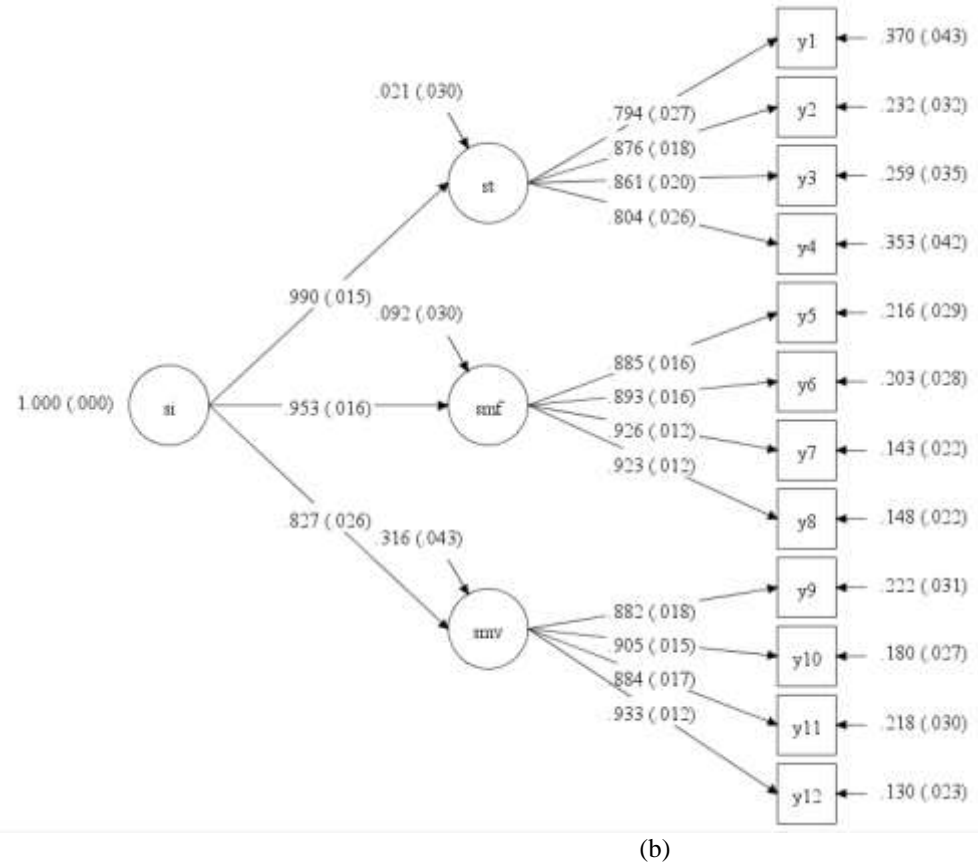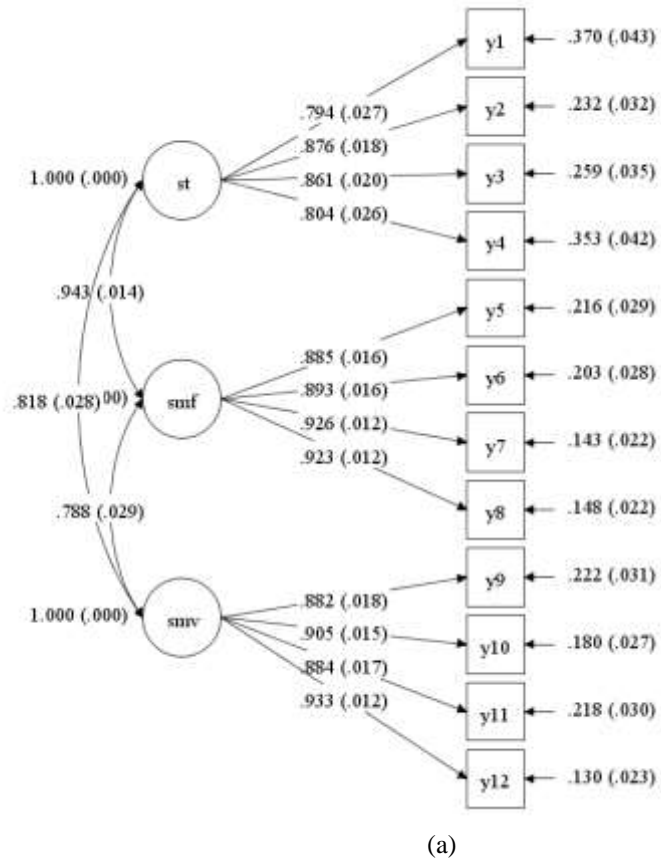
Figure 2. Standardized First Order (a) and Second Order (b) CFA Findings

To determine the construct validity of the scale, a confirmatory factor analysis was conducted using MPlus. To determine the construct validity of the scale, model fit indices such as the ratio of chi-square value to degree of freedom (χ^2/df), Root Mean Square Error of Approximation (RMSEA), Standardized Root Mean Residual (SRMR), Comparative Fit Index (CFI), and Tucker-Lewis Index (TLI) were calculated (Hu & Bentler, 1999; Kline, 2011; Sümer, 2000; Tabachnick & Fidell, 2013). The values and ranges of scale fit are presented in Table 3 based on the previous studies in the literature.

Table 3. Results of Confirmatory Factor Analysis

Fitness Criterion	Good Fit	First Order	Reference
χ^2	$0 \leq \chi^2 \leq 2.5df$	119.848<127.5	(Kline, 2011)
χ^2 /df	$0 \leq \chi^2 /df \leq 2.5$	2.349	(Kline, 2011; Sümer, 2000)
RMSEA	$0 \leq RMSEA \leq 0.08$	0.078	(Hu & Bentler, 1999; Sümer, 2000)
SRMR	$0 \leq SRMR \leq 0.08$	0.025	(Hu & Bentler, 1999; Sümer, 2000)
CFI	$0.90 \leq CFI \leq 1.00$	0.976	(Hu & Bentler, 1999; Sümer, 2000; Tabachnick & Fidell, 2013)
TLI	$0.90 \leq CFI \leq 1.00$	0.969	(Hu & Bentler, 1999)

As seen in Table 3, the model exhibited a good fit based on all criteria (χ^2 /df, RMSEA, SRMR, CFI, TLI) without modification (Hu & Bentler, 1999; Kline, 2011; Sümer, 2000; Tabachnick & Fidell, 2013). NFI, GFI and AGFI were not reported in the study conducted by Hu and Bentler (1998), since these were not recommended. Based on these findings, it could be suggested that the three-factor structure of the scale in the model was confirmed. Standardized factor loads between first order and second-order variables and explained variance (R^2) in the model are presented in Table 4.

Table 4. Second-Order CFA standardized factor loads and explained variance

Second Order Variable	First Order Variable	λ	R^2
Situational interest	ST	0.990	0.979
	SMF	0.953	0.908
	SMV	0.827	0.684

As seen in Figure 2b and Table 4, situational interest was primarily explained by SI and SMF and the least by SMV.

Situational Interest Scale Reliability Analysis

To determine the reliability of the scale, Cronbach's alpha internal consistency and correlation between factors were examined. First, the internal consistency coefficient Cronbach Alpha was determined as part of the analysis conducted using SPSS 25 software. The internal consistency coefficient Cronbach Alpha calculated for each factor was as follows: .901 for the ST, .949 for the SMF, .945 for the SMV, and .963 for the scale. Since the coefficients for the internal consistency of the subfactors and the total scale were above .80, it can be assumed that the scale is very reliable. In addition, the total scale was completely reliable as the internal consistency coefficient was above .90 (Özdamar, 2017).

Table 5. Descriptive statistics, Cronbach's coefficient, AVE, CR and inter-factor correlations

Factor	$\bar{x}$	SD	α	AVE	CR	ST	SMF	SMV	Scale
ST	3.84	0.79	.901	0.696	0.902	-	.867**	.752**	.941**
SMF	3.81	0.89	.949	0.823	0.949		-	.743**	.944**
SMV	4.19	0.80	.945	0.812	0.945			-	.894**
Scale	3.95	0.77	.963	0.777	0.977				-

**: Correlation is significant at the 0.01 level (2-tailed).
α : Cronbach's Alpha coefficient.

To determine reliability, inter-factor correlation coefficients were also calculated. The analysis findings revealed a perfect positive correlation between ST and SMF (r = .867, *p* <.001), and a positive high correlation between ST and SMV (r =.752, *p* <.001) between SMF and SMV (r =.743, *p* <.001). Furthermore, it was observed that there was a perfect positive relationship between the scale sub-factors and the overall scale.

The average variance extracted (AVE) was investigated to determine the convergent validity of the model at the structural level, and AVE is expected to be equal to or above 0.5 (Hair et al., 2017). Furthermore, the construct reliability (CR) should be equal or above 0.7 (Fornell & Larcker, 1981). As seen in Table 5, AVE was above 0.5, and the CR was above 0.7. Thus, it could be suggested that the model exhibited both convergent validity and construct reliability.

To determine the reliability of the scale using item analysis, the differences between the mean item scores of the bottom 27% (n = 60) and top 27% (n = 60) percentiles obtained with the total item scores were analyzed using the independent samples t-test. The results presented in Table 6 show that there is a significant difference between the scores of the bottom 27% and the top 27% for all factors in the sub-dimensions of the scale (p <.001). To determine the internal consistency of the scale, the correlation coefficients of the corrected total items were calculated. It was found that the coefficients ranged from .753 to .875. Since the corrected total correlation coefficients of the items were above 0.30 and the items discriminated the individuals well (Büyüköztürk, 2007), it can be assumed that the scale items discriminated well and thus the internal consistency of the scale was high. Thus, all validity and reliability analyzes showed that the scale had satisfactory psychometrics.

Table 6. Item Total Correlations Based on the Dimensions and the Scale

Factor	Items	Group	n	$\bar{x}$	SD	t	df	p	Total item corrected correlation
ST	M1	Lower	60	3.27	0.989	-9.608	88.797	<.001	0.767
		Upper	60	4.65	0.515				
	M2	Lower	60	2.95	0.891	-13.504	88.595	<.001	0.839
		Upper	60	4.70	0.462				
	M3	Lower	60	2.90	0.951	-13.657	85.624	<.001	0.815
		Upper	60	4.77	0.465				
	M4	Lower	60	2.55	0.723	-14.781	118	<.001	0.753
		Upper	60	4.35	0.606				
SMF	M5	Lower	60	2.70	0.962	-15.400	80.268	<.001	0.831
		Upper	60	4.78	0.415				
	M6	Lower	60	2.67	0.816	-15.914	99.533	<.001	0.832
		Upper	60	4.65	0.515				
	M7	Lower	60	2.92	1.013	-13.554	76.121	<.001	0.875
		Upper	60	4.82	0.390				
	M8	Lower	60	2.70	0.962	-15.594	79.125	<.001	0.872
		Upper	60	4.80	0.403				
SMV	M9	Lower	60	3.33	1.052	-10.732	71.383	<.001	0.793
		Upper	60	4.87	0.343				
	M10	Lower	60	3.35	0.899	-11.795	79.024	<.001	0.796
		Upper	60	4.83	0.376				
	M11	Lower	60	3.38	1.043	-10.639	70.263	<.001	0.765
		Upper	60	4.88	0.324				
	M12	Lower	60	3.30	0.944	-12.500	70.988	<.001	0.827
		Upper	60	4.90	0.303				

Discussion and Conclusion

The study contributed a scale that was determined to be valid and reliable to the Turkish literature. The scale was determined to be acceptable in the Turkish sample for the measurement of situational interest. Thus, it was observed that the measurement instrument exhibited good fit in all criteria (χ^2 /df = 2.349, RMSEA = 0.078, SRMR = 0.025, CFI = 0.976, TLI = 0.969) without modification (Hu & Bentler, 1999; Kline, 2011; Sümer, 2000; Tabachnick & Fidell, 2013). It could be assumed that the three-factor structure of the Situational Interest Scale, which includes the factors SI, SMF, and SMV, has been confirmed. It was noted that previous studies in the literature focused on measuring professional interest (Deniz et al., 2014; Hoff et al., 2020), thematic interest, and content interest (Schraw & Lehman, 2001). However, the present study contributed to the measurement of students' general perceptions and reactions during classroom activities, as suggested by Linnenbrink-Garcia et al. (2010). Thus, the confirmatory factor analysis findings were consistent with the conceptual structure of the scale,

namely the triggered-situational interest, maintained-SI-feeling, and maintained-SI-value structures reported in the literature (Hidi & Renninger, 2006; Renninger et al., 2019; Rotgans & Schmidt, 2017). It could be suggested that the theoretical structure proposed in the literature was confirmed in the Turkish language.

It could be argued that the scale could be employed for reliable measurements since Cronbach Alpha internal consistency coefficient was high (α> .80) for both the sub-factors and in the overall scale (Büyüköztürk, 2007; Özdamar, 2017). The high and positive correlation between the scale sub-factors was important for determining the reliability of the measurement instrument. In another reliability analysis, it was determined that the items discriminated the individuals well since the total item corrected correlation coefficient was higher than .30 (Büyüköztürk, 2007). Based on these findings, it could be suggested that the reliability of the scale was high.

Limitations and Recommendations

Linnenbrink-Garcia et al. (2010) recommended that the scale be used to reflect students' general experiences in the classroom rather than a specific time period. Another limitation of the present study was related to the sample. It is recommended that the reliability and validity of the situational interest scale be determined in future studies with larger samples, different age groups, and random samples.

It is recommended that the survey be conducted with paper and pencil in the event that study participants engage in cyberfaking behavior (Grieve & Elliott, 2013), as the data in the current study was collected online via Google Forms.

References

Ainley, M. (2006). Connecting with learning: Motivation, affect and cognition in interest processes. *Educational Psychology Review*, *18*(4), 391–405. https://doi.org/10.1007/s10648-006-9033-0.

Akın, A., Uğur, E., & Akın, Ü. (2015). The validity and reliability of Turkish version of the student interest scale. *Kastamonu Eğitim Dergisi*, *23*(4), 1471–1480.

Bhandari, S., Hallowell, M. R., & Correll, J. (2019). Making construction safety training interesting: A field-based quasi-experiment to test the relationship between emotional arousal and situational interest among adult learners. *Safety Science*, *117*, 58–70. https://doi.org/10.1016/j.ssci.2019.03.028.

Büyüköztürk, Ş. (2007). *Sosyal bilimler için veri analizi el kitabı* (8. Baskı). Pegem A Yayıncılık.

Deniz, K. Z., Türe, E., Uysal, A., & Akar, T. (2014). Investigation of vocational interest and preference in terms of gender and socio-economic status. *Eurasian Journal of Educational Research*, *14*(57), 91–112. https://doi.org/10.14689/ejer.2014.57.1.

Dewey, J. (1913). *Interest and effort in education*. Boston, MA: Riverside Press.

Fandakova, Y., & Gruber, M. J. (2021). States of curiosity and interest enhance memory differently in adolescents and in children. *Developmental Science*, *24*(1), 1-15. https://doi.org/10.1111/desc.13005.

Field, A. (2013). *Discovering statistics using IBM SPSS statistics* (4th ed.). London: SAGE.

Flowerday, T., & Shell, D. F. (2015). Disentangling the effects of interest and choice on learning, engagement, and attitude. *Learning and Individual Differences*, *40*, 134–140. https://doi.org/10.1016/j.lindif.2015.05.003.

Fraenkel, J. R., Wallen, N. E., & Hyun, H. (2012). *How to design and evaluate research in education.* (8th ed.). New York: McGrawHill.

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, *18*(1), 39. https://doi.org/10.2307/3151312

George, D., & Mallery, M. (2010). *SPSS for windows step by step: A simple guide and reference, 17.0 update* (10th ed.) Boston: Pearson.

Grieve, R., & Elliott, J. (2013). Cyberfaking: I can, so I will? Intentions to fake in online psychological testing. *Cyberpsychology, Behavior, and Social Networking*, *16*(5), 364-369.

Han, J., Kim, K. H., Rhee, W., & Cho, Y. H. (2020). Learning analytics dashboards for adaptive support in face-to-face collaborative argumentation. *Computers & Education*, *163* (104041). https://doi.org/10.1016/j.compedu.2020.104041.

Hair, J. F. Jr., Hult, G. T. M., Ringle, C. M., Sarstedt, M. (2017). *A primer on partial least squares structural equation modeling (PLS-SEM)* (2nd ed.). Sage Publications.

Hidi, S. (2000). Intrinsic and Extrinsic Motivation : The Search for optimal motivation and performance. In C. Sansone & J. M. Harackiewicz (Ed.), *The search for optimal motivation and performance* (pp. 309–339). Academic Press.

Hidi, S., & Renninger, K. A. (2006). The four-phase model of interest development. *Educational Psychologist*, *41*(2), 111–127. https://doi.org/10.1207/s15326985ep4102_4.

Hoff, K. A., Song, Q. C., Wee, C. J. M., Phan, W. M. J., & Rounds, J. (2020). Interest fit and job satisfaction: A systematic review and meta-analysis. *Journal of Vocational Behavior*, *123*(103503). https://doi.org/10.1016/j.jvb.2020.103503.

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, *6*(1), 1–55. https://doi.org/10.1080/10705519909540118.

Kaya, G. İ. (2016). Eğitimde merak ve ilgi. *Hasan Ali Yücel Eğitim Fakültesi Dergisi*, *13–2*(25), 103–114.

Kline, R. B. (2011). *Principles and practice of structural equation modeling* (3rd ed.). New York, NY: Guilford.

Knogler, M., Harackiewicz, J. M., Gegenfurtner, A., & Lewalter, D. (2015). How situational is situational interest? Investigating the longitudinal structure of situational interest. *Contemporary Educational Psychology*, *43,* 39–50. https://doi.org/10.1016/j.cedpsych.2015.08.004.

Krapp, A. (2005). Basic needs and the development of interest and intrinsic motivational orientations. *Learning and Instruction*, *15*(5), 381–395. https://doi.org/10.1016/j.learninstruc.2005.07.007.

Krapp, A., Hidi, S., & Renninger, K. A. (1992). Interest, learning and development. In A. Krapp, S. Hidi, & A. Krapp (Eds.), *The role of interest in learning and development* (pp. 3–25). Psychology Press.

Linnenbrink-Garcia, L., Durik, A. M., Conley, A. M. M., Barron, K. E., Tauer, J. M., Karabenick, S. A., & Harackiewicz, J. M. (2010). Measuring situational interest in academic domains. *Educational and Psychological Measurement*, *70*(4), 647–671. https://doi.org/10.1177/0013164409355699.

Magner, U. I. E., Schwonke, R., Aleven, V., Popescu, O., & Renkl, A. (2014). Triggering situational interest by decorative illustrations both fosters and hinders learning in computer-based learning environments. *Learning and Instruction*, *29*, 141–152. https://doi.org/10.1016/j.learninstruc.2012.07.002.

Mazer, J. P. (2013). Validity of the student interest and engagement scales: Associations with student learning outcomes. *Communication Studies*, *64*(2), 125–140. https://doi.org/10.1080/10510974.2012.727943.

Menard, S. (1995). *Applied logistic regression analysis: Sage University Series on quantitative applications in the social sciences.* Sage.

Mertler, C. A., & Vannatta, R. A. (2016). *Advanced and multivariate statistical methods.* Los Angeles, CA: Pyrczak Publishing.

Özdamar, K. (2017). *Eğitim, sağlık ve davranış bilimlerinde ölçek ve test geliştirme yapısal eşitlik modellemesi IBM SPSS, IBM SPSS AMOS ve MINITAB uygulamalı.* Eskişehir: Nisan Kitabevi.

Pasco, D., Roure, C., Kermarrec, G., Pope, Z., & Gao, Z. (2017). The effects of a bike active video game on players' physical activity and motivation. *Journal of Sport and Health Science*, *6*(1), 25–32. https://doi.org/10.1016/j.jshs.2016.11.007.

Renninger, K. A., Bachrach, J. E., & Hidi, S. E. (2019). Triggering and maintaining interest in early phases of interest development. *Learning, Culture and Social Interaction*, *23*(100260), 1–17. https://doi.org/10.1016/j.lcsi.2018.11.007.

Renninger, K. A., & Hidi, S. (2011). Revisiting the conceptualization, measurement, and generation of interest. *Educational Psychologist*, *46*(3), 168–184. https://doi.org/10.1080/00461520.2011.587723

Rotgans, J. I., & Schmidt, H. G. (2011). Situational interest and academic achievement in the active-learning classroom. *Learning and Instruction*, *21*(1), 58–67. https://doi.org/10.1016/j.learninstruc.2009.11.001.

Rotgans, J. I., & Schmidt, H. G. (2014). Situational interest and learning: Thirst for knowledge. *Learning and Instruction*, *32*, 37-50.

Rotgans, J. I., & Schmidt, H. G. (2017). Interest development: Arousing situational interest affects the growth trajectory of individual interest. *Contemporary Educational Psychology*, *49*, 175–184. https://doi.org/10.1016/j.cedpsych.2017.02.003.

Schiefele, U. (1991). Interest, learning, and motivation. *Educational Psychologist*, *26*(3–4), 299–323. https://doi.org/10.1080/00461520.1991.9653136.

Schiefele, U. (2009). Situational and individual interest. In K. R. Wenzel & A. Wigfield (Eds.), *Handbook of motivation at school* (pp. 197–222). Routledge/Taylor & Francis Group.

Schiefele, U., Krapp, A., & Winteler, A. (1992). Interest as a predictor of academic achievement: A meta-analysis of research. In K. A. Renninger (Ed.), *The role of interest in learning and development* (Vol. *461*, pp. 183–212). Mahwah, NJ: Erlbaum.

Schraw, G., Flowerday, T., & Lehman, S. (2001). Increasing situational interest in the classroom. *Educational Psychology Review*, *13*(3), 211–224. https://doi.org/10.1023/A:1016619705184.

Schraw, G., & Lehman, S. (2001). Situational interest : A review of the literature and directions for future research. *Educational Psychology Review*, *13*(1), 23–52. https://doi.org/10.1023/A:1009004801455

Sümer, N. (2000). Yapisal eşitlik modelleri: Temel kavramlar ve örnek uygulamalar. *Türk Psikoloji Yazıları*, *3*(6), 49–74. https://doi.org/10.1007/s10591-013-9271-5.

Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics* (6th ed.). Boston: Pearson.

Yaman, M. (2005). Solunum zinciri konusunda simülasyonla desteklenmiş bir bilgisayar programının öğrenme ve ilgiye etkisi. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi*, *29*(29), 222–228.

Appendix

Appendix-1: Factors and items of the Situational Interest Scale in Turkish language

Factor	Item Number	Items
ST	1	Bilgisayar öğretmenim beni derse heveslendirir.
	2	Bilgisayar dersinde öğretmenim dikkatimi çeken etkinlikler yapar.
	3	Bu yıl bilgisayar dersim genellikle eğlenceli geçiyor.
	4	Bilgisayar dersi o kadar heyecan verici ki derse dikkatimi kolayca verebiliyorum.
SMF	5	Bu yıl bilgisayar dersinde öğrendiklerimiz bende büyük ilgi uyandırıyor.
	6	Bu yıl bilgisayar dersinde öğrendiklerimiz beni heyecanlandırıyor.
	7	Bu yıl bilgisayar dersinde öğrendiklerimiz hoşuma gidiyor.
	8	Bu yıl bilgisayar dersinde yaptıklarımızı ilgi çekici buluyorum.
SMV	9	Bilgisayar dersinde öğrendiklerimizi bilmek benim için yararlıdır.
	10	Bu yıl bilgisayar dersinde yaptıklarımız benim için önemlidir.
	11	Bu yıl bilgisayar dersinde öğrendiklerimiz gerçek yaşama uygulanabilir.
	12	Bu yıl bilgisayar dersinde değerli bilgiler öğreniyoruz.